THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION

REPORT OF THE FINDINGS, JUSTIFICATIONS AND DECISION OF THE WATER RESOURCES COMMISSION Relating to the Approval of the Massachusetts Water Resources Authority's Request for an Interbasin Transfer Pursuant to M.G.L. Chapter 21 § 8C

DECISION

On February 24, 2005, by a unanimous vote, the Water Resources Commission (WRC) approved the Massachusetts Water Resources Authority's (MWRA) request, under the Interbasin Transfer Act, replace and rehabilitate the Cummingsville Branch Sewer. This vote was taken after review of the facts provided by the applicant, analysis of the associated data, and consideration of public and agency comments concerning the proposal.

BACKGROUND

On September 15, 2004, the Massachusetts Water Resources Commission (WRC) received a request for approval of an action to increase the present rate of interbasin transfer under the Interbasin Transfer Act (M.G.L. Chapter 21 §§ 8B-8D) from the MWRA for the proposed Cummingsville Branch Replacement Sewer Project. MWRA proposes to enlarge the capacity of the Cummingsville sewer in Woburn and Winchester to alleviate present and future wet weather overflow problems that occur in Burlington and Woburn.

Facts pertaining to the application are:

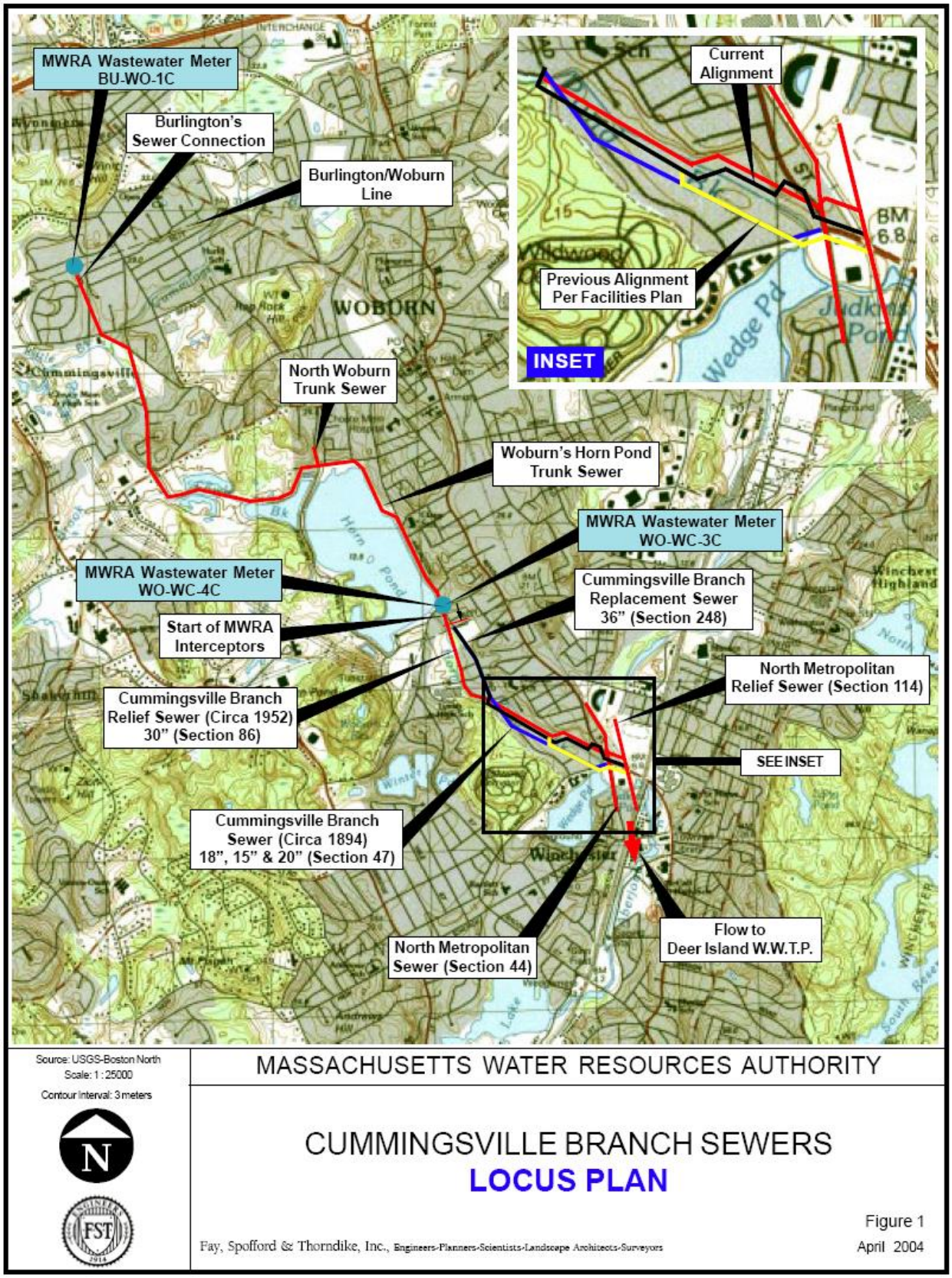
1. An Environmental Notification Form was submitted to MEPA in October 1994 for the project, before the MEPA regulations were amended to require an Environmental Impact Report (EIR) for "significant" Interbasin Transfer applications. The Secretary of Environmental Affairs issued a Certificate on November 10, 1994 determining that the project did not require preparation of an EIR. A Notice of Project Change was filed in July 1999 and the Secretary issued a Certificate on September 9, 1999.
2. The WRC accepted the application as complete in November 2004.
3. Two required public hearings were held to take comment on this application, in Woburn, the donor basin and in Boston, for the receiving basin, on December 16, 2004.

4. On January 13, 2005, Staff recommended that the WRC approve the MWRA's application to increase the capacity of the Cummingsville Branch Replacement Sewer Project under the Interbasin Transfer Act.
5. A public hearing on this Staff Recommendation was held on January 20, 2005.
6. The MWRA is applying for permission to increase the present rate of Interbasin Transfer by increasing the capacity to the existing Cummingsville Branch Relief Sewer through the construction of a new Cummingsville Branch Replacement Sewer, in the Mystic River subbasin of the Boston Harbor basin. An antiquated sewer known as the Cummingsville Branch Sewer (built circa 1894) will be abandoned in the process. Wastewater will be transferred to the MWRA Deer Island plant, which discharges to the Massachusetts Coastal basin.
7. DEP issued Administrative Consent Orders (ACO's) to the Towns of Burlington and Woburn for combined sewer overflows that occurred at Vine Brook in Burlington (in the Shawsheen basin) and Horn Pond in Woburn (in the Mystic basin) during certain storm events. The ACO's focused on inflow and infiltration (I/I) reduction and mandated Sewer System Evaluation Surveys. While progress has been made, MWRA's IBT application indicates that feasible reductions in I/I in these systems will not be capable of eliminating overflows for design storms.
8. Wastewater from Burlington, most of Woburn, and a small portion of Winchester flows through the Cummingsville sewer. The existing rate of wastewater transfer through the Cummingsville sewer is 20.3 MGD. The new system capacity will be 24.7 MGD. The additional capacity will only be used during wet weather storm events.
9. Construction of the replacement sewer results in an increase over the present rate of interbasin transfer of wastewater by approximately 4.4 million gallons per day (mgd).

DESCRIPTION OF THE PROJECT

The MWRA Cummingsville sewer serves the community of Burlington, most of Woburn, and a small portion of Winchester (Figure 1). Flows into the system are from the Horn Pond Trunk Sewer and the Arlington Road/Water Street Interceptor, which collect wastewater from the Mystic River, Shawsheen River, and Ipswich River basins. Burlington and Woburn had significant I/I problems during the 1980s. DEP issued Administrative Orders to the towns and required connection moratoriums. In 2001, DEP Administrative Orders were reissued to Woburn and Burlington. These required system-wide Sewer System Evaluation Surveys (SSES), and plans for cost-effective I/I removal. Overflows occur at Woburn's Horn Pond, where a portion of the City's public water supply wells are located. When overflows occur in Woburn, Burlington is ordered to discharge sewage (treated with chlorine) to Vine Brook. Burlington has public water supply wells located in the Vine Brook area. Since 1996, there have been five documented incidents of sewer overflows of up to 4.2 mgd at Vine Brook in Burlington, and three incidents at Horn Pond up to 7.5 mgd, all related to rainfall events.

Peak flow for the design rain event (1-year, 6-hour storm) is 21.6 mgd. The current Cummingsville system has a total capacity of 20.3 MGD. Therefore, the current deficit is 1.3 MGD for the design rain event. The Cummingsville Branch Relief Sewer (Section 86), constructed in 1952 of concrete, will continue to be used. Project improvements include


MWRA Wastewater Meter BU-WO-1C
Burlington's Sewer Connection
Burlington/Woburn Line
WOBURN
North Woburn Trunk Sewer
Woburn's Horn Pond Trunk Sewer
MWRA Wastewater Meter WO-WC-3C
MWRA Wastewater Meter WO-WC-4C
Cummingsville Branch Replacement Sewer 36" (Section 248)
Start of MWRA Interceptors
North Metropolitan Relief Sewer (Section 114)
Cummingsville Branch Relief Sewer (Circa 1952) 30" (Section 86)
SEE INSET
Cummingsville Branch Sewer (Circa 1894) 18", 15" & 20" (Section 47)
Flow to Deer Island W.W.T.P.
North Metropolitan Sewer (Section 44)
Current Alignment
Previous Alignment Per Facilities Plan
INSET
Wedge Pd
Judkins Pond
Horn Pond
Winchester
Source: USGS-Boston North
Scale: 1 : 25000
Contour Interval: 3 meters
N
FST
MASSACHUSETTS WATER RESOURCES AUTHORITY
CUMMINGSVILLE BRANCH SEWERS
LOCUS PLAN
Figure 1
Fay, Spofford & Thorndike, Inc., Engineers-Planners-Scientists-Landscape Architects-Surveyors
April 2004

cleaning and joint sealing of this sewer. The Cummingsville Branch Sewer (Section 47) was constructed circa 1894, of 15-, 18-, and 20-inch clay pipe and will be abandoned and replaced with the 36-inch Cummingsville Branch Replacement Sewer (Section 248). The new system capacity will be 24.7 MGD. This increased capacity will reduce surcharging and will only be used during wet weather events. The improvements will not entirely eliminate all overflows during storms of greater magnitude than the design storm, but will more readily accommodate the design storm flow and will reduce the amounts of overflows that currently exceed the system's capacity.

This is an existing interbasin transfer that is proposed to be increased to accommodate flows during high rain events. The IBT application states that engineering studies have determined that even with aggressive inflow/infiltration removal within the tributary systems in Burlington and Woburn, the overflow would not be substantially reduced because of the insufficient capacity within the MWRA's Cummingsville Branch trunk sewer. Therefore, the purpose of this project is to reduce the overflows to the Vine Brook and Horn Pond and improve system capacity to handle existing flows. The replacement sewer project will be physically located primarily in Winchester. Sewage flows out of the system into the North Metropolitan and North Metropolitan Relief Sewers and to the MWRA Deer Island treatment plant, where it is discharged to the Massachusetts Coastal Basin.

This project will result in the transfer of the sewage overflows that have historically occurred at Vine Brook in Burlington (Shawsheen basin) and Horn Pond in Woburn (Mystic River section of the Boston Harbor basin). Once the new sewer system is in use, the overflows that occurred during design storm events will be diverted out of these basins to the Massachusetts Coastal basin.

EVALUATION OF THE PROPOSED INTERBASIN TRANSFER

The Interbasin Transfer application was reviewed on its own merits. This Decision was made on facts relevant to the Interbasin Transfer Act and its regulations. The application was evaluated against the eight criteria outlined in the regulations (313 CMR 4.05), as well as the Interbasin Transfer Act Performance Standards. The application and associated data have undergone careful review and analysis. Consideration has been given to the agency and public comments received concerning this proposal.

SYNOPSIS OF THE EVALUATION CRITERIA (313 CMR 4.05)

Criteria	Application Meets?
Criterion #1: MEPA Compliance	Yes
Criterion #2: Viable In-Basin Sources	Yes
Criterion #3: Water Conservation	Yes
Criterion #4: Watershed Management	Not Applicable
Criterion #5: Reasonable Instream Flow	Yes
Criterion #6: Groundwater/Pumping Test	Not Applicable
Criterion #7: Local Water Resources Management Plan	Yes
Criterion #8: Cumulative Impacts	Yes

BASIS FOR THE DECISION

The application was reviewed by the Department of Conservation and Recreation (DCR)'s Office of Water Resources, the Department of Environmental Protection (DEP)'s Boston and Northeast Regional Office (NERO), the Department of Fish and Game (DFG)'s Division of Fisheries and Wildlife, and Riverways Program.

This WRC Decision was made after an extensive evaluation of the project and of MWRA's compliance with the six applicable criteria of the Interbasin Transfer Act regulations. The following section describes compliance with the criteria. Attachment 1 goes into greater detail concerning compliance with the criteria and performance standards.

Criterion #1 MEPA Compliance
The project is in compliance with MEPA requirements. An Environmental Notification Form was submitted to MEPA in October 1994 for the project. The Secretary of Environmental Affairs issued a Certificate on November 10, 1994 determining that the project did not require preparation of an Environmental Impact Report. A Notice of Project Change was filed in July 1999 and the Secretary issued a Certificate on September 9, 1999, stating that no further MEPA review was necessary.

Criterion #2 Viable In-Basin Sources
In 1987, the WRC adopted interpretations for some of the definitions in the Interbasin Transfer Act regulations to clarify how certain criteria would apply to a wastewater transfer. Based on these interpretations, a viable local wastewater source is a cost-effective, technologically feasible, environmentally sound wastewater treatment system that treats and discharges wastewater within the basin of origin, and has been approved by DEP. Such systems can include, but are not limited to, conventional Title 5 systems, groundwater discharge systems, NPDES-regulated surface water discharge systems, alternative/innovative on-site systems or package treatment plants.

In order to evaluate a wastewater transfer against this criterion, "That all reasonable efforts have been made to identify and develop all viable sources in the receiving area", the WRC interpreted

"receiving area" to mean "the community(ies) or portion of community(ies) whose wastewater is collected for discharge out of basin via an interbasin transfer".

The areas served by the Cummingsville Branch sewer system are almost fully built-out. The purpose of this project is to address capacity issues within the existing wastewater collection system, not to develop a new system to serve previously unserved areas. Therefore an extensive evaluation of treatment alternatives is not relevant. The proponent provided a discussion of the 1975 Eastern Massachusetts Metropolitan Area Wastewater Management Study (EMMA) and the 1984 Boston Harbor Supplemental Draft Environmental Impact Statement. These documents found that a potential satellite wastewater treatment facility would not provide sufficient flow relief and had significant potential water supply/public health dangers associated with the discharge.

The purpose of this project is to address overflow and surcharging issues within that system, caused by wet weather flows. In-basin methods to address wet weather flows include stormwater management programs and I/I removal. Stormwater management programs are discussed below. I/I removal programs will be discussed in the next section.

The Interbasin Transfer Performance Standards require that "…the proponent … complete… a DEP-approved facilities plan which evaluates potential in-basin sources of disposal, including Title 5, groundwater and surface water discharges, as described in DEP's Comprehensive Wastewater Management Planning (CWMP) Guidance. If a proponent's facilities plan was completed prior to development of DEP's Comprehensive Wastewater Management Planning Guidance, but is being actively implemented, and DEP concurs that these issues have been adequately addressed, this can be substituted for a more recent plan." The MWRA's Facilities Plan for the Cummingsville Branch Sewer was completed in 1995, prior to development of DEP's Comprehensive Wastewater Management Planning Guidance. It is being actively implemented. DEP concurs that it has addressed the relevant issues.

The Performance Standards also direct the proponent to investigate the feasibility of implementing DEP's wastewater reuse policy. DEP's Interim Guidelines on Reclaimed Water require that any wastewater to be considered for reuse must first be processed at a wastewater treatment facility. The wastewater collected by this system is treated at the MWRA facility on Deer Island. It is not feasible to return it to the tributary communities for reuse.

The MWRA, as proponent of this project, is not responsible for the stormwater management programs in the affected communities. However, a discussion of the stormwater programs in these communities was provided.

Burlington, Winchester and Woburn, the three tributary communities, are actively implementing the six (6) Best Management Practices (BMPs) for stormwater required by the Federal Phase II Storm Water Regulations. These are:

1. Public Education and Outreach
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff

5. Post construction Management
6. Pollution Prevention

A summary of the stormwater programs being implemented by each community is available from WRC Staff.

Criterion #3 Water Conservation
In order to evaluate a wastewater transfer against this criterion, "That all practical measures to conserve water have been taken in the receiving area ...", in 1987, the WRC interpreted "receiving area" to mean "the community(ies) or portion of community(ies) whose wastewater is collected for discharge out of basin via an interbasin transfer".

The WRC further required that in the case of wastewater, a practical measure to conserve water should include an I/I removal program.

The MWRA has a Regional Infiltration/Inflow (I/I) Reduction Plan, developed in 2002. The plan combines the recommendations from the I/I Task Force Report (March 2001) and MWRA's ongoing I/I reduction initiatives. The plan was approved by DEP in November 2002. Tributary communities (Burlington, Woburn and Winchester) have ongoing Sewer Rehabilitation and I/I removal programs. MWRA has awarded these communities approximately $8 million (combined) under its Local Financial Assistance Program for I/I removal.

The I/I removal programs in the tributary communities are not under the jurisdiction of the proponent, therefore they are beyond the jurisdiction of this Interbasin Transfer Act review. However, the MWRA provided descriptions of tributary community I/I removal programs as part of its Interbasin Transfer application for this project.

Burlington
Burlington's I/I removal program is governed by the terms of its Administrative Consent Order (ACO) with DEP. Burlington has been implementing sewer system improvements since the mid-1980s, when it first entered into an ACO with DEP. The most recent ACO was signed in 2000.

Burlington has completed a Sewer System Evaluation Survey Report (SSES) and town-wide I/I study. The town has an ongoing sump-pump removal program. Since its inception in 1990, over 200 sump pumps have been eliminated. The town also has a developer flow reduction program, which requires a 10:1 offset for any proposed wastewater flow increase.

The MWRA has allocated Burlington $1,949,800 in Local I/I Financial Assistance.

Winchester
Winchester began a sewer rehabilitation program in 1994. The town has a private inflow removal program which has targeted the removal of sump pumps, roof leaders, driveway and floor drains from the sewer system. To date, 130 sump pumps have been disconnected.

Winchester is currently in the process of updating its SSES report.

The MWRA has allocated Winchester $1,704,000 in Local I/I Financial Assistance.

Woburn
Woburn's I/I removal program is governed by the terms of its Administrative Consent Order (ACO) with DEP. Woburn first entered into an ACO with DEP in 1987. The most recent ACO was signed in 2000.

Woburn's initial SSES was completed in 1988. It was updated in 1994. Sewer rehabilitation actions recommended in the 1994 report were implemented over the next five years. A sewer study conducted subsequent to this work focused on the Horn Pond Interceptor. This study found excessive I/I problems in smaller local sewers tributary to the Horn Pond Interceptor, though no major problems in the Horn Pond Interceptor itself. Work to correct these problems has been on-going since 1995.

The MWRA has allocated Woburn $4,302,500 in Local I/I Financial Assistance.

MWRA has approximately 200 flow meters designed to measure wastewater flow generated by each of its 43 sewer communities. In 2004, a $5 million upgrade of wastewater metering equipment and software was implemented.

Although Winchester and Woburn are partially supplied by the MWRA Water Works System, water conservation plans are administered by the individual towns and are not the responsibility of the proponent, the MWRA. However, MWRA requires contract communities to have a conservation program that meets state standards. Winchester and Woburn participate in MWRA's Local Pipeline Assistance Program, which provides interest-free loans for improvements to local water distribution systems.

Criterion #4 Watershed Management
This criterion is not applicable to a wastewater transfer.

Criterion #5 Reasonable Instream Flow
The environmental analysis for an interbasin transfer involves evaluating the impact of the transfer on certain flow statistics, flood flows, intermediate flows, and low flows. This review focuses on the potential impact on the hydrograph of overflows being routed into the sewer system during high flow events. Impacts to intermediate and low flows are not expected as a result of this interbasin transfer, as the flow reductions are limited to occurrences during high flow events. The impacts of several overflow events were evaluated with respect to interbasin transfer criteria.

The area served by the Cummingsville sewer is located in portions of two basins: the Shawsheen River basin and Mystic River/Boston Harbor basin. The locations of the basins and the overflows associated with this project are shown on Figure 2.

Overflows in Burlington occur to Vine Brook near the upper end of the Shawsheen River. This location has a drainage area of 6.37 square miles. There is a USGS stream gage on the

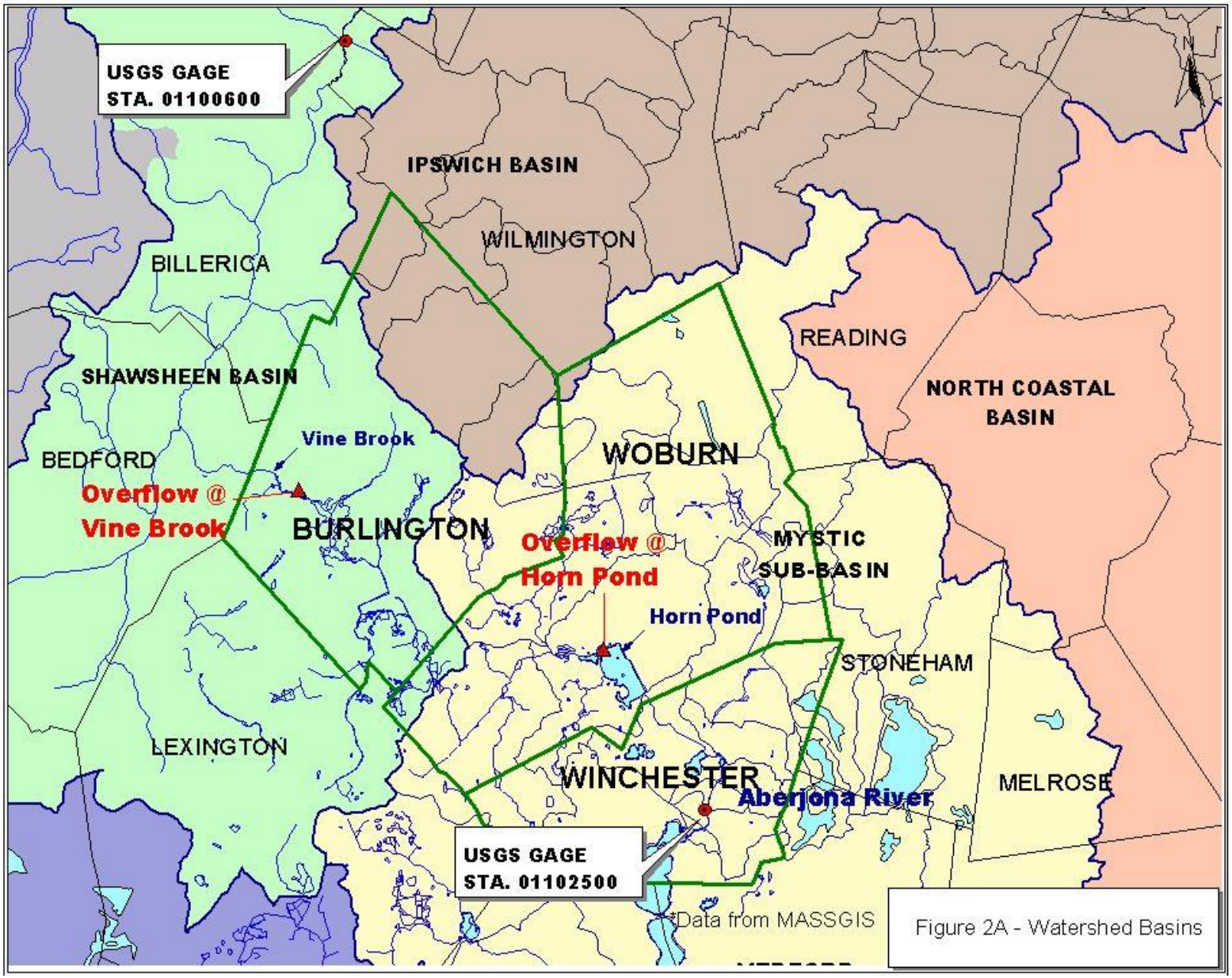


Figure 2A - Watershed Basins

Shawsheen River near Wilmington, downstream of the overflow, which has a drainage area of 36.5 square miles.

Uncontrolled overflows in Woburn occur at the low point of its system, at a manhole near Horn Pond, which is located within the Mystic River subbasin of the Boston Harbor basin. The Horn Pond area is part of the water supply system for Woburn. Horn Pond discharges to Horn Pond Brook, a tributary to the Aberjona River. Horn Pond is approximately one mile upstream of the Aberjona River and has a drainage area of about 9.36 square miles. A USGS gage is located approximately 0.5 miles downstream of Horn Pond Brook's confluence with the Aberjona River. The Aberjona River at Winchester gage has a contributing drainage area of 24.7 square miles.

Analysis

Vine Brook Overflows
Overflows were documented at Vine Brook in Burlington on five events since 1996. Hydrographs were developed by the applicant for Vine Brook based on the Shawsheen River gage for four different storm events and compared to the estimated volumes of the overflows during each of the storm events. The results of this analysis are summarized in Table 1. It is estimated that the transfer of all of the overflow water would reduce Vine Brook flows during storm events by up to 8.3 percent, and at the downstream Shawsheen gage by less than two percent. Note that during storms that exceed the design rates, some amount of overflows may actually continue at Vine Brook and/or Horn Pond and less of an interbasin transfer of water will occur.

Table 1. Analysis of Overflows at Vine Brook, Burlington
(MWRA Cummingsville IBT Application)

Event Dates	Average Estimated Overflow Rate (MGD)	Average Estimated Overflow Rate (cfs)	Average Estimated flow at Vine Brook Discharge (cfs)	Average Estimated percent of Vine Brook flow (%)	Average Flow at Shawsheen River gage (cfs)	Average Estimated percent of Shawsheen River gage flow (%)
October 20-24, 1996	4.00	6.19	158	3.79 %	907	0.68 %
May 11-12, 1998	0.41	0.63	31.1	1.98 %	178	0.36 %
April 22-23, 2000	4.21	6.52	75.9	8.33 %	435	1.50 %
March 30-April 2, 2001	3.07	4.75	69.3	7.20 %	366	1.30 %
April 1-4, 2004	3.04	4.71	108	4.20 %	622	0.76 %

During the overflow events, average flows at the Shawsheen gage ranged from 178 to 907 cfs. These flows are on the order of 4.86 to 24.8 cubic feet per second per square mile (cfsm) of drainage area. The reductions in flow caused by removal of the sewage overflow are projected to diminish flow by a maximum of 0.2 cfsm at the Shawsheen gage. This reduction is

insignificant at these high flows. The river flows that occur and that will continue to occur during the peak storm events are above US Fish & Wildlife Service's spring Aquatic Base Flow of 4.0 cfsm.

The reduction in flow due the capture of the additional wastewater is negligible and is far outweighed by the benefits to water quality.

Mystic River
Hydrographs were developed by the applicant for the Aberjona River to demonstrate the impacts of the wastewater overflow at Horn Pond during overflow events. The overflow rates are more difficult to estimate accurately at this location because the overflow occurs from the top of a manhole. The results of the analysis are shown in Table 2. The estimated reduction in flow at the outlet to Horn Pond would be on the order of 2 percent at the Aberjona River gage, during the highest flow events. The estimated flow reductions at the outlet of Horn Pond are up to 5 percent (during the March-April 2001 overflow event). MWRA characterizes the March 2001 rain event as in excess of the 100-year storm.

Table 2. Analysis of Overflows at Horn Pond, Woburn
(MWRA Cummingsville IBT Application)

Event Dates	Average Estimated Overflow Rate (MGD)	Average Estimated Overflow Rate (cfs)	Average Estimated flow at Horn Pond outlet (cfs)	Average Estimated percent of Horn Pond outlet flow (%)	Average Flow at Aberjona River gage (cfs)	Average Estimated percent of Aberjona River gage flow (%)
March 21-25, 2001	7.48	11.57	220	5.14 %	580	1.99 %
March 30, 2003	0.012	0.02	75.8	0.02 %	200	0.01 %
April 1-4, 2004	1.75	1.75	180	0.95 %	475	0.37 %

During the overflow events, average flows at the Aberjona gage ranged from 200 to 580 cfs. These flows are on the order of 8.3 to 24.1 cubic feet per second per square mile (cfsm) of drainage area. The reductions in flow caused by removal of the sewage overflow are projected to diminish flow by a maximum of 0.48 cfsm at the Aberjona gage. This reduction is insignificant at these high flows. The river flows that occur and that will continue to occur during the peak storm events are significantly above US Fish & Wildlife Service's spring Aquatic Base Flow of 4.0 cfsm. Also note that during storms that exceed the design rates, some amount of overflows may actually continue at Horn Pond and/or in Burlington and less of an interbasin transfer of water will occur.

The applicant estimated that at the design storm, the impact of removing the overflow would be less than one percent at both Horn Pond and at the Aberjona gage.

The reduction in flow due the capture of the additional wastewater is negligible and is far outweighed by the environmental benefits to water quality.

Other Instream Flow Criteria

The proposed interbasin transfer is not projected to have any significant impact on ground water or surface water elevations, primarily because the transfer will occur sporadically and infrequently, and was found not to involve significant proportions of water relative to the basin sizes.

Although anadromous fish are known to use the Mystic River, indigenous and anadromous fisheries are not expected to experience negative impacts associated with the proposed interbasin transfer. Improvements to water quality and aquatic habitat are expected as a result of the proposal.

Wetlands and dependent flora and fauna are also expected to benefit from improved water quality as a result of the proposed interbasin transfer and are not expected to experience negative impacts given the low proportion of high flow events being transferred.

Effects on water quality, recreational uses, aesthetic values, areas of critical environmental concern, and areas protected under Article 97 are expected to be positive as a result of the proposed interbasin transfer.

Negative impacts to established riparian uses and uses dependent on recharge from streamflow are not expected as a result of the proposed interbasin transfer. The proposed project may slightly mitigate existing flooding of the Aberjona River in Winchester and the Shawsheen River.

No impact to hydropower production is expected as a result of the proposed interbasin transfer.

No impact to other water withdrawals or undeveloped water rights in either of the Shawsheen or Aberjona basins are expected since the transfers are infrequent and a low proportion of high flow events.

No negative effects on other instream uses are expected as a result of the proposed interbasin transfer. Improvements to water quality will likely cause positive environmental effects to both the Shawsheen and Mystic basins.

Criterion #6 Groundwater/Pumping Test
This criterion is not applicable to a wastewater transfer.

Criterion #7 Local Water Resources Management Plan
The MWRA's Local Water Resources Management Plan was reviewed and approved by the WRC as a condition of the Braintree-Weymouth Relief Sewer Interbasin Transfer Decision, issued in June 1999.

Criterion #8 Cumulative Impacts
The area of the proposed transfer is highly developed and fully sewered. The Aberjona River at Winchester was classified as High Stress in the WRC's 2001 Stressed Basins in Massachusetts report. However, the reduction in flow due the transfer is negligible and is far outweighed by the benefits to public health and safety and water quality. Staff does not expect that this transfer will result in unacceptable cumulative impacts to water quantity.

The purpose of this transfer is not to expand the sewered area but to improve system capacity and performance during wet weather flows. The MWRA and tributaries communities have aggressive I/I removal programs, which are addressing the issue of excessive I/I in the system, however I/I removal alone will not eliminate the overflows that are currently experienced during storm events.

EO 385

This Decision is consistent with Executive Order 385, which has the dual objective of resource protection and sustainable development. This Decision does not encourage growth in areas without adequate infrastructure nor does it cause a loss of environmental quality or resources.

OTHER ISSUES CONSIDERED

The MWRA has shown a commitment to improving its wastewater system through rehabilitation of antiquated facilities, aggressive I/I removal and financial and technical assistance to its member communities. The Authority is required by its NPDES permit to submit an annual report to DEP and EPA summarizing all actions taken to reduce I/I during the previous fiscal year. This report is posted on the MWRA's website. The WRC endorses these actions and encourages the MWRA to continue with these programs.

The MWRA must also obtain and abide by all other state, federal, or local permits and approvals required for this project.

ATTACHMENT 1
Cummingsville Branch Replacement Sewer

INTERBASIN TRANSFER ACT
CRITERIA FOR EVALUATING AN APPLICATION

CRITERION #1: An environmental review pursuant to MGL, c. 30, §§ 61 and 62H, inclusive has been complied with for the proposed IBT.

- *The Secretary's Certificate on the ENF for this project was issued on November 10, 1994.*

CRITERION #2: All reasonable efforts have been made to identify and develop all viable sources in the receiving area.

The WRC performance standard for a wastewater viable local source is a cost-effective, technologically feasible, environmentally sound wastewater treatment system which treats and discharges wastewater within the basin of origin, and has been approved by DEP. Such systems can include, but are not limited to, conventional Title 5 systems, groundwater discharge systems, NPDES-regulated surface water discharge systems, alternative/innovative on-site systems or package treatment plants. Receiving area is the community(ies) or portion of community(ies) whose wastewater is collected for discharge out of basin via an interbasin transfer.

The proponent should have completed a DEP-approved facilities plan which evaluates potential in-basin sources of disposal, including Title 5, groundwater and surface water discharges, as described in DEP's Comprehensive Wastewater Management Planning Guidance. If a proponent's facilities plan was completed prior to development of DEP's Comprehensive Wastewater Management Planning Guidance, but is being actively implemented, and DEP concurs that these issues have been adequately addressed, this can be substituted for a more recent plan. The proponent should have also investigated the feasibility of implementing DEP's wastewater reuse policy. Analysis of viable inbasin sources should be part of the alternatives analysis of the EIR.

- *The MWRA's Facilities Plan for the Cummingsville Branch Sewer was completed in 1995.*
- *This plan was completed prior to development of DEP's Comprehensive Wastewater Management Planning Guidance, but is being actively implemented.*
- *DEP concurs that it has addressed the relevant issues.*

CRITERION #3: All practical measures to conserve water have been taken in the receiving area...

For a wastewater transfer, receiving area is the community(ies) or portion of community(ies) whose wastewater is collected for discharge out of basin via an interbasin transfer.

The WRC performance standards require:

1) An active program to eliminate sources of inflow and infiltration that are cost- and value-effective to remove in the donor basin. These sources should have been identified in an Inflow and Infiltration (I/I) study or Sewer System Evaluation Study (SSES) that has been developed in accordance with DEP's "Guidelines for Performing Infiltration/Inflow Analyses and Sewer System Evaluation Survey".

This program should have received approval from the governing sewer system authority (DEP, MWRA or other regional sanitary district). The value effective analysis should be based on factors including, but not limited to: whether the basin or subbasin(s) from which the wastewater is being transferred is characterized as stressed (refer to DEM basin report or other appropriate document), the existence of sewer overflow conditions and magnitude of impacts on public and environmental health, and the overall levels of infiltration and inflow. The amounts of water lost through I/I should be placed in the context of the donor basin and reflect impacts to the environmental resources listed under 313 CMR 4.05(5) (Criterion 5).

- *The MWRA has a Regional Infiltration/Inflow Reduction Plan, developed in 2002.*
- *The plan combines the recommendations from the I/I Task Force Report (3/01) and MWRA's ongoing I/I reduction initiatives.*
- *The plan was approved by DEP in November, 2002.*

2) If an existing wastewater transfer is in place, the proponent should have installed flow meters at location(s) sufficient to document wastewater flows out of basin. Use of regional sewer meters which document wastewater flows out of basin is acceptable where these meters are in place. Documentation on meter calibration should be included with the application.

Proponents should provide at least two years of data on the components of existing wastewater flow (sanitary, inflow, infiltration) with the application. Refer to DEP's 1993 Guidelines for Performing Infiltration/Inflow Analyses and Sewer System Evaluation Survey (Section 5) for a methodology for estimating the components of wastewater flow.

- *MWRA has approximately 200 flow meters designed to measure wastewater flow generated by each of its 43 sewer communities.*
- *In 2004, a $5 million upgrade of wastewater metering equipment and software was implemented.*
- *At least two years of data on the components of existing wastewater flow (sanitary, inflow, infiltration) was provided with the application*

3) To the extent the EIR identifies impacts that may need to mitigated, the proponent should propose measures to mitigate these impacts. Proponents should consider such measures as additional I/I reduction, impervious surface remediation, groundwater recharge, or stormwater management programs consistent with DEP stormwater guidance that keep water in the donor basin.

- *An EIR was not required for this project however, tributary communities (Burlington, Woburn and Winchester) have ongoing Sewer Rehabilitation and I/I removal programs.*
- *MWRA has awarded these communities approximately $8 million (combined) under its Local Financial Assistance Program for I/I removal.*

4) The proponent must demonstrate a commitment to continue to implement recommendations of the I/I removal program. For transfers that are approved, proponents can expect to be requested to submit annual reports to the WRC on these measures

- *MWRA has demonstrated a commitment to continue to implement its Regional Infiltration/Inflow Reduction Plan.*
- *Annual summaries of MWRA's I/I reduction activities are submitted to DEP and EPA on September 1 of each year, as required by its NPDES permit.*
- *This report contains community wastewater flow component estimates for each sewer member community and is posted on MWRA's webpage.*

5) A DEP-approved Operation and Maintenance plan for the wastewater system, as described in DEP's "Guidelines for Performing Operations and Maintenance on Collection Systems" (August 1989 or latest edition) should be in effect and should have been developed or updated within the five years of submitting an application for Interbasin Transfer.

- *MWRA is actively implementing its Collection System Operation and Maintenance Manual.*
- *This Manual was submitted to DEP and EPA in June 2001, as required by MWRA's NPDES permit.*

6) For wastewater transfers where the proponent has control over the water supply system, the proponent should describe its program for implementing a water conservation program based on the state water conservation standards.

- *Although Winchester and Woburn are partially supplied by the MWRA Water Works System, water conservation plans are administered by the individual towns and are not the responsibility of the proponent, the MWRA.*
- *MWRA requires contract communities to have a conservation program that meets state standards.*
- *Winchester and Woburn participate in MWRA's Local Pipeline Assistance Program, which provides interest-free loans for local water distribution system improvements.*

CRITERION #4: A comprehensive forestry management program which balances water yields, wildlife habitat, and natural beauty on watershed lands presently serving the receiving area and under control of the proponent has been implemented.

This criterion is not applicable to a wastewater transfer

CRITERION #5: Reasonable instream flow in the river from which the water is transferred is maintained.

- *The reduction in flow due the capture of the additional wastewater is negligible and is far outweighed by the benefits to water quality.*

CRITERION #6: The results of the pump test have been used to indicate the potential impacts of this project on other environmental resources and adjacent wells.

This criterion is not applicable to a wastewater transfer

CRITERION #7: Communities have adopted or are actively engaged in developing a local water resources management plan.

- *The MWRA's Local Water Resources Management Plan was reviewed and approved by the WRC as a condition of the Braintree-Weymouth Relief Sewer Interbasin Transfer Decision, issued in June 1999.*

CRITERION #8: The Commission shall consider the impacts of all past, authorized or proposed transfers in the donor basin.

- *The purpose of this transfer is not to expand the sewered area but to improve system capacity and performance during wet weather flows.*
- *The MWRA and tributaries communities have aggressive I/I removal programs, which are addressing the issue of excessive I/I in the system.*
- *I/I removal alone will not eliminate the overflows that are currently experienced during storm events.*
- *The reduction in flow due the transfer is negligible and is far outweighed by the benefits to public health and safety and water quality.*
- *Staff does not expect that this transfer will result in unacceptable cumulative impacts to water quantity.*

EO 385

- *This Decision is consistent with Executive Order 385, which has the dual objective of resource protection and sustainable development. This Decision does not encourage growth in areas without adequate infrastructure nor do they cause a loss of environmental quality or resources.*