

SUMMARY FACT SHEET FOR CITY OF CHELSEA COMBINED SEWER OVERFLOWS (CSO)

U.S. EPA | WATER PROGRAM AT EPA NEW ENGLAND

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THE EPA AND MASSDEP are proposing to reissue a National Pollutant Discharge Elimination System (NPDES) permit to the City of Chelsea for the discharge from four (4) Combined Sewer Overflows (CSOs). The City is operating under an NPDES permit that was last issued in 2003. Although this permit has expired, the City has reapplied for a new permit and the expired permit remains in effect until EPA issues a new one.

CSOs are discharges from combined sewer systems, which are designed to collect rainwater runoff, domestic sewage, and industrial wastewater in the same pipe. Most of the time, combined sewer systems transport all of their wastewater to a sewage treatment plant, where it is treated and then discharged to a water body. During most conditions, these flows are sent to the Massachusetts Water Resources Authority's (MWRA) Deer Island Treatment Facility. During periods of heavy rainfall or snowmelt, however, the wastewater volume in a combined sewer system can exceed the capacity of the sewer system or the treatment plant. For this reason, combined sewer systems were designed with built-in overflows (CSOs) which release excess flows into the nearest body of water. CSO discharges prevent sewage backups into homes and onto area streets, but can impact water quality. Since CSOs contain not only stormwater but also untreated human and industrial waste, and debris, they are a major water pollution concern for over 700 cities in the U.S. that have combined sewer systems.

The location of the four (4) Chelsea CSOs are shown below. Outfall 002 discharges to Boston Inner Harbor and Outfalls 003, 004, and 008 discharge to the Chelsea River.

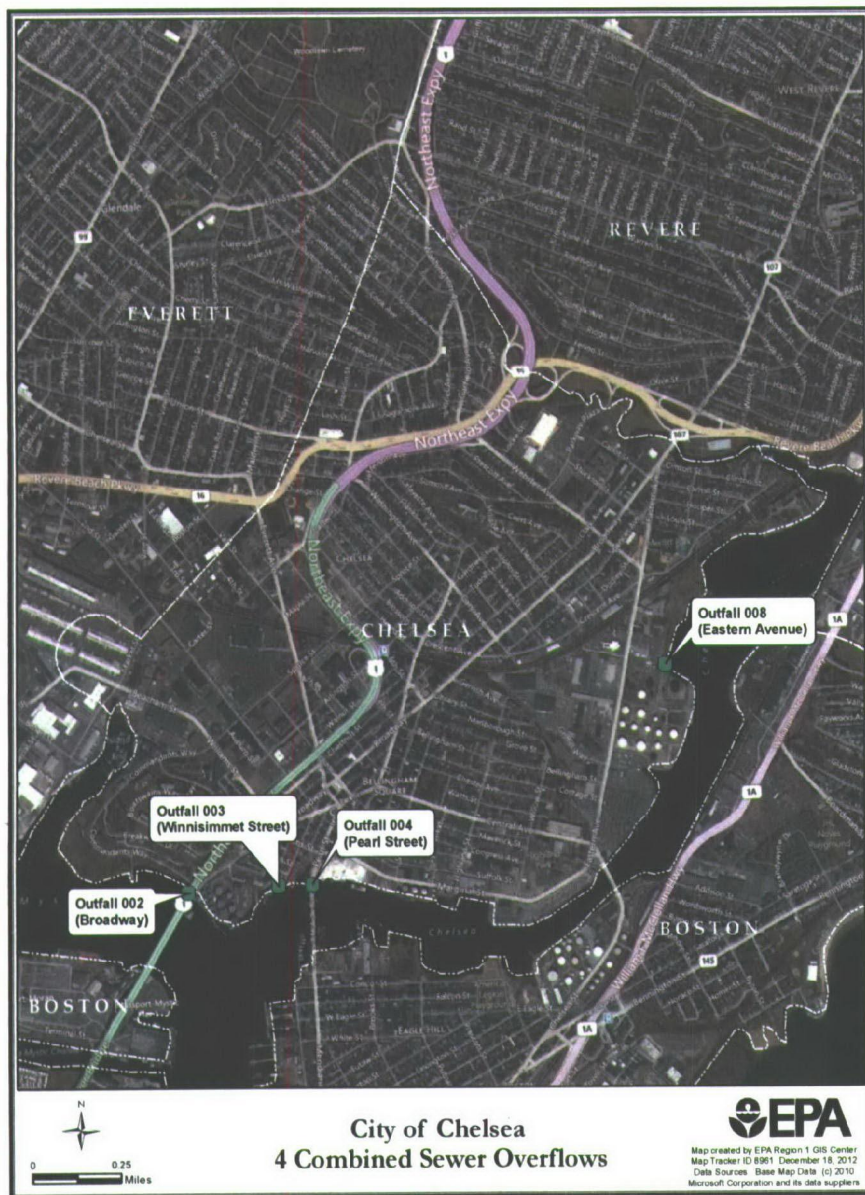
The MWRA was created in 1985 and is a public authority which provides water and sewer services to 2.5 million people and more than 5,500 large industrial users in 61 greater Boston communities. Solving the problems relat-

ed to CSOs has been a top priority for MWRA and it is currently operating under a Federal Court Order to do so.

EPA requires each combined sewer system to prepare and implement a Long Term Control Plan (LTCP) that will result in attainment of Federal and State water quality standards (WQS). MWRA is responsible for all CSOs hydraulically connected to its collection system, which includes CSOs owned and operated by the communities of Boston, Cambridge, Chelsea, and Somerville. In 1987, a total of 84 active, uncontrolled CSOs discharged combined flows into Boston Harbor as well as the Charles, Mystic, Chelsea, and Neponset Rivers.

In 1994, MWRA completed its LTCP, which was refined in the 1997 "Facilities Plan." The recommended CSO control projects included sewer separation, hydraulic relief, and floatables control projects. The MWRA used modeling to estimate the activation frequency and volume for the remaining CSOs under baseline (1992) conditions and after completion of the projects recommended by the Facilities Plan.

With all of the sewer improvement and separation projects that have been undertaken as part of the LTCP, to date, CSO discharges have been completely eliminated from 32 of the 84 outfalls in the MWRA system and mostly eliminated from five (5) others. Since 1987, there has been an 84% reduction in annual CSO volume from



the entire system and 82% of all CSO flows receive some form of treatment before being discharged.

All of the LTCP-related construction projects in Chelsea have been completed and have resulted in major reductions in CSO flows. These projects:

- Consisted of two (2) sewer pipe enlargement projects and repairs for Outfall 008.

- Cost about \$30 million and were expected to result in the receiving waters meeting the Class B Water Quality Standards at least 95% of the time.

- Reduced the discharge frequencies for all four outfalls from eight (8) to four (4) per year and reduced the total volume of CSO discharged from about nine (9) million gallons/year (MGY) to about 0.58 MGY.

The City of Chelsea also continues to have additional sewer separation projects under construction or under investigation and design, which will result in additional discharge reductions.

The City must also comply with the following requirements of its NPDES permit:

- Continue implementation of the applicable Nine Minimum Controls (NMCs):
 - *Proper operation and maintenance of sewer system and CSOs*
 - *Maximizing use of collection system for storage*
 - *Maximizing flow to the treatment plant (Deer Island)*
 - *Prohibiting dry weather overflows*
 - *Controlling solid and floatable materials/Monitoring of CSOs*
 - *Pollution prevention programs/Public notification of discharges*
- Submit Annual Report on CSO discharges
 - *Report all CSO activations and discharge amounts*
 - *Outline efforts related to complying with the NMCs*
 - *Discuss ongoing separation projects*
- Meet estimated CSO discharge frequency and volume amounts