



Boston CSO Project

Boston, Massachusetts, USA



As part of its two-year program to upgrade the city's sewers, drains and pipes, the Boston Water and Sewer Commission approved the use of Xypex [Admix C-500](#) as the concrete waterproofing and protection ingredient in the pre-cast culvert boxes of the new combined sewer overflow system (CSO) at Dorchester Morrissey Boulevard in downtown Boston.

With the ultimate objective of improving water quality in North Dorchester Bay, the project involves the construction of a new storm drainage tunnel comprised of 2,810 lineal feet of 12' x 12', 100 lineal feet of 9' x 8', and 660 lineal feet of 8' x 8' concrete box culverts buried some 20 feet into the ground.

Early on, the many benefits of [Xypex Crystalline Technology](#) were recognized and recommended by Concrete Systems Incorporated (CSI), the manufacturers of the pre-cast culvert boxes. Added to the concrete at the time of batching, Xypex Admix C-500 forms a non-soluble crystalline structure throughout the concrete, waterproofing and protecting it from the moment it's poured. Prior to project start-up, CSI installed mechanical mix equipment that allows the concrete mix crews to monitor and quality check the quantity of Xypex Admix added to each pre-cast box. As the concrete cures, Xypex permanently seals the box to prevent the flow of liquids from the outside in, and the inside out—important considerations in this ecologically-sensitive New England area.

Further advantages to using Xypex were enthusiastically outlined by John Bauld, senior project manager with D'Allessandro Construction who said that, "this innovative process saved us considerable manufacturing time and virtually eliminated any environmental impact common in the preparation process—and it's more cost effective. We cut the time of manufacturing to shipping from 30 days to less than 10".

Other environmental advantages of Xypex were also important. In previous CSO projects, Boston Water and Sewer relied on a coal-tar-epoxy application which created environmental and liability issues associated with the application process. This process is applied after the pre-cast culverts are cured and the coating requires significant ventilation and drying time. However, with Xypex Admix, there are no environmental concerns as the product is non-toxic to begin with and produces no waste in the manufacturing process. Once added to the mix, the concrete is protected against deterioration from the harsh chemical contents of the sewer environment. When complete in 2009, the new CSO system will provide additional storm drainage for Boston during extreme weather, and surface flow water storage.