

# North Dorchester Bay CSO Storage Tunnel and Facilities

**Client:**

Massachusetts Water  
Resources Authority

**Location:**

Boston, MA

**Services Provided:**

Installation of  
extensometers, observation  
wells, piezometers, and  
inclinometers

**Value Provided:**

- Instrumentation and monitoring provided essential data for assessing deformation during construction

## Background & Project Challenges

The construction of the North Dorchester Bay Combined Sewage Overflow (CSO) Storage Tunnel is expected to eliminate combined sewer overflows and stormwater discharges to the beaches in South Boston. Construction in the soft ground using a tunnel boring machine (TBM) and situated close to residential and historic structures required a geotechnical and structural monitoring program.



## Geocomp Role & Accomplishments

Geocomp provided installation and monitoring services for the Massachusetts Water Resources Authority's project to construct a 17-ft diameter, 2.1-mile-long soft ground tunnel in South Boston. This tunnel virtually eliminates combined sewer overflows and storm water discharges to the beaches in South Boston.

Geocomp installed borehole extensometers; observation wells; deep bench marks; vibrating wire piezometers; in-place inclinometers; and more than 10,000 feet of surface and building monitoring points. Geocomp collected data from 500 sensors located on the TBM. This data, which was updated every 3 seconds, was processed through Geocomp's *iSiteCentral*<sup>TM</sup> data management system. This system combined data from the TBM and from the geotechnical instrumentation into graphs for the user to see the effects of TBM operations on geotechnical parameters.