



STORMWATER ACTION CENTER FACT SHEET

Name of Project:

Central Wharf Plaza

Location:

Boston, Massachusetts

County:

Suffolk

Watershed:

Charles River Watershed

Website:

<https://www.landscapeperformance.org/case-study-briefs/central-wharf-plaza>

CENTRAL WHARF PLAZA – BOSTON, MASSACHUSETTS

OVERVIEW:

This tiny plaza, shaded by 25 mixed-species oaks, connects Boston's Rose Fitzgerald Kennedy Greenway with the waterfront of the Inner Harbor. 12 slot drains collect all excess runoff from the site and carry the stormwater directly to 13 trees for passive irrigation, with any water not taken up by tree roots continuing to percolate down through the soil. In addition, the drains convey air to the root zone through a perforated lattice below the surface. Flood bubblers provide an efficient deep root mechanical watering system for the trees. A rain sensor automatically adjusts irrigation based on the level of precipitation, while moisture sensors installed on select trees allow for periodic manual adjustment depending on soil moisture. The continuous layer of sand-based structural soil below the surface allows for an unobstructed root zone by providing additional support for seat walls and stairs with shallow spread footings, filters stormwater as it percolates down, and enables better distribution of moisture across the site.

BENEFITS:

- Prevents 369,000 gallons of annual stormwater runoff from entering the city's combined sewer system by infiltrating all runoff for up to a 25-year, 24-hour storm event.
- Sequesters over 3,600 lbs. of carbon annually in the 25 oak trees. Increases the tree growth rate by 57% when compared to a typical urban oak by providing over 1,500 cubic feet of soil per tree.
- When the trees reach their projected mature size in about 33 years, they will sequester over 13,000 lbs. of carbon and intercept almost 87,000 gallons of rainwater annually.

FUNDING SOURCES:

- A local philanthropy

-  - Water Storage
-  - Bio-Filtration/Green Infrastructure
-  - New/Improved Drainage Infrastructure

