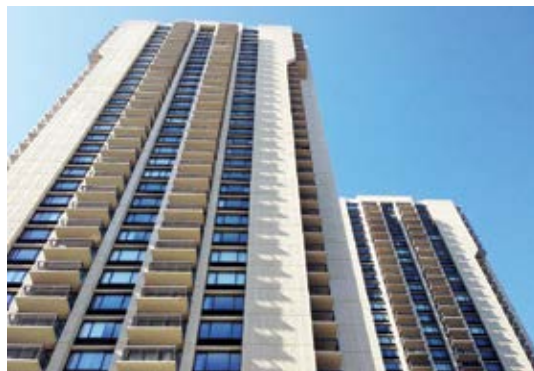


# Longfellow Towers — 10 Years Later

Boston, MA

Submitted by Sika Corporation



The prestigious Longfellow complex (now called West End Apartments) is located in the heart of downtown Boston, MA, on the Charles River. The complex consists of two 38-story apartment buildings (the focus of this project and constructed between 1970 and 1972), two mid-rise apartment/office buildings, and four underground parking garages. Inspections conducted in 1997 identified numerous areas of concrete spalling due to corrosion of the steel reinforcement. Sealant joints at the sliding glass doors, AC units, and windows were also failing and allowing water to leak into the apartments.

In 2001, a comprehensive engineering investigation was performed to determine the extent and cause of the concrete deterioration. It was determined that concrete spalling had increased by 25% since 1996. Exposed column faces, balcony edges, and floor slab edges had the least amount of concrete cover over the reinforcing steel and the most spalls. Chloride contamination, carbonation, and low concrete cover existed throughout the structure. Wherever the concrete cover was less than 2 in. (51 mm), high levels of active corrosion were detected.

A restoration program was completed to repair the concrete spalls and leaking joints, and protect the building by mitigating active corrosion through the use of corrosion inhibitors and an elastomeric coating. Tower 4 was completed in November 2003, and Tower 1 in November 2004. Additionally, areas of the building were remotely and continuously monitored since the project was completed.

In the spring of 2015, both buildings were visually inspected from the ground and photographed using high-powered lenses. No signs of corrosion damage (cracking or spalling) were observed, and the remote monitoring confirmed this observation as all areas remained passive. The protective coating is still in good condition and the sealant, while generally in good condition, showed some signs of aging. Most importantly, the owner is very pleased with the performance of the project.

## Longfellow Towers

**OWNER**  
**Equity Residential**  
*Boston, MA*

**CORROSION CONSULTANT**  
**C-Probe Systems, Ltd.**  
*Cheshire, UK*

**REPAIR CONTRACTOR**  
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**MATERIAL SUPPLIER/MANUFACTURER**  
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