



Project

Bay Street Redevelopment,
Emeryville, CA

Application

Site Remediation

Scope

Perimeter air monitoring for PM₁₀ dust and VOC emissions during demolition and construction.

Regulations

Bay Area Air Quality Management District (BAAQMD), National Ambient Air Quality Standards (NAAQS), California Department of Toxic Substances Control (DTSC).



Equipment and services

3x Aeroqual AQS monitors
Aeroqual Cloud software
PM₁₀, VOC, Wind Speed/direction

Equipment partner

Specto Technology

Consultant

Ramboll

Date

2022 - 2026

Transforming a Neglected Site into a Premium Retail Destination

The Bay Street redevelopment in Emeryville, California, transformed a neglected retail plaza and former brownfield site into a modern, premium retail destination.

Project challenges

Due to its proximity to hotels, apartments, and a busy shopping center, the redevelopment required a comprehensive Community Air Monitoring Plan (CAMP) to protect residents and businesses during demolition and construction. Air monitoring targeted particulate matter (PM₁₀) and volatile organic compounds (VOC) in line with Bay Area Air Quality Management District (BAAQMD) and California Department of Toxic Substances Control (DTSC) guidelines.

The site's industrial history left behind contaminants such as PCBs, PAHs, and heavy metals, raising concerns about airborne toxins during demolition and excavation. Other challenges included variable wind conditions, background freeway pollution, site equipment emissions, humidity affecting monitor accuracy, lack of mains power, and the presence of sensitive receptors, including residents, visitors, and shoppers. Ramboll addressed these issues by deploying three automated Aeroqual air monitoring stations, one upwind and two downwind of the site perimeter. The stations were equipped with real-time PM₁₀ and VOC sensors, solar power, heated inlets to reduce humidity-related false positives, auto-orienting wind sensors, and Auto Baseline Correction technology to minimize VOC sensor drift.

Project outcome

The seven-month CAMP achieved strong environmental and operational results. Data uptime achieved 95% and no exceedances of regulatory action levels were recorded. Monitoring identified PM₁₀ spikes during demolition and elevated VOC levels from equipment emissions. However, the software generated alerts that informed responsive mitigation controls. The project was completed successfully, and the redeveloped site opened to the public as a premium Japanese specialty supermarket, in January 2026.

"Using this system, we were able to monitor air quality remotely and get reliable data in real time. That allowed us to quickly respond to any issues, keep the project running smoothly, and avoid unnecessary costs or downtime."

Douglas Herlocker - Ramboll

Principal/Global Air & Climate Air Monitoring Program Lead