



## Project

Urban Air Monitoring  
Breda

## Application

Community Air Monitoring

## Scope

Community air quality monitoring during the replacement of the sewerage system in the Dutch municipality of Breda.



## Equipment and services

Aeroqual AQS 1

MetOne Met Sensor

Sonitus EM2030

PM<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, TSP, NO<sub>2</sub>,  
Noise

Temp. RH, wind direction

## Client

Municipality of Breda

## Supplier

Enviromen

## Date

2019-2022

# Urban Air Monitoring in Breda

Enviromen chose Aeroqual's urban air quality monitoring solution to track pollution in the Dutch city of Breda. Real-time data collection and automatic alerts helped stakeholders enhance public safety and ensure regulatory compliance.

The sewerage system in the Princenhage West neighborhood of Breda was constructed in the late 1970s and early 1980s using concrete pipes with stainless steel (RVS) inlets. However, these inlets are no longer functional, causing sand infiltration and leading to significant subsidence in public areas. The municipality of Breda was addressing the replacement of this sewer system while simultaneously upgrading the pavement and green spaces. As part of this effort, residential drainage systems and street drainage were being replaced. Sidewalks, greenery, and roadways are also being redeveloped.

## Project challenges

To minimize inconvenience and health risks for residents and construction workers, predefined thresholds for fine dust (PM) and nitrogen emissions could not be exceeded during the construction activities. Additionally, residents of the Princenhage neighborhood couldn't experience noise pollution from the work, as regulated by the Bouwbesluit 2012 (Building Decree 2012).

Enviromen was commissioned to monitor noise, fine dust, and nitrogen levels during all phases of the project. Simultaneously, meteorological parameters were being monitored to determine the direction of any potential pollution. Enviromen needed a durable solution that could withstand changeable weather patterns in the region, while gathering simultaneous real-time data on PM<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, TSP and NO<sub>2</sub>. Enviromen chose the AQS 1 due to its ability to simultaneously measure a range of particle fractions and gas pollutants. The AQS 1 also comes housed in a robust, weatherproof enclosure built to withstand harsh or unpredictable weather.

## Project outcome

Thanks to continuous noise and air quality monitoring, timely interventions could be made to keep noise levels and dust concentrations below the threshold values, thereby safeguarding public health. Enviromen remarked on the durability and remote data acquisition capabilities of the AQS 1, resulting in a reduction in on-site visits. Predefined alarm thresholds ensured timely warnings if dust concentrations or noise levels exceeded acceptable limits. Alerts were sent via SMS and email. This allowed work to be adjusted or temporarily halted as needed.