



## Case Study – Bespoke Solutions: Protecting Children and Employees in a South London Nursery School located on a Busy Road, from Pollution.

### Circumstance

Airclean were approached by a South London Nursery School to help design a scheme to protect children and employees from the potential ingress of outdoor pollution being brought into the building. The Nursery School was located on a busy road with both NOx levels and Particulate Matter Levels that exceeded target limit concentrations from the local authority.

### Solutions

#### Reception Area

The Reception area of the nursery school had no opening windows, but it had an external door which opened frequently to the roadside. The building could not be changed to introduce an airlock around the main entrance door. It was recognised that pollution was going to enter the reception area and a method of removing harmful pollutants was required.



*Picture 1 Recirculation Indoor Air Quality Filtration System*

An Ezee Breathe XL and Indoor Air Quality Filtration System were combined into a “Low Profile” Air Handling Unit which was installed to recirculate and filter the air within the Reception. The system was speed controllable to allow the team to increase the capacity of the unit during busy periods as parents dropped off and collected their children.

The system incorporated G4, F7 and Type 1 Gas filters to ensure the air passing through the system was treated for harmful pollutants including PM10, PM2.5 and Nitrogen Dioxide.

#### Class Rooms

Two class rooms in the Nursery School were fitted with open louvre air grilles to the outside within “air cupboards”. The air cupboards were the only option for drawing air into the classrooms, but in the process would draw in polluted air from the roadside. There were no other openable windows or air conditioning within the room.

A plenum was installed over each of the louvred air grilles, and a fan unit with Indoor Air Quality Filtration System and speed controller were installed within each air cupboard.

The system provided the room occupants with clean filtered air drawn mechanically into the room as required. The Indoor Air Quality Filtration System was fitted with G4, F7 and Type 1 Gas Filters to remove harmful pollutants including PM10, PM2.5 and Nitrogen Dioxide.



*Picture 2 Air Drawn from Outside, and Filtered to Supply Fresh and Clean Air*