NVA CASE STUDY:

ST PETER'S PRIMARY SCHOOL

Application:

Vented Facade

Requirement:

BB93

Key Products/Services:

Consultancy

NAT Vent Attenuator (NVA)

Partners:

Gloucestershire County Council

Craddy Pitchers Davidson

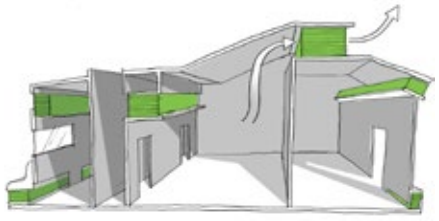
B3 Architects

MACH PRODUCTS

St Peters school is located in relatively close proximity to the M5 and as such, environmental noise levels are too high to allow for natural ventilation through openable windows.

MACH Acoustics was employed by South Gloucestershire Council to provide a range of design options to prevent noise ingress into this classroom. A unique discrete facade vent, contained within a bench seat was employed.

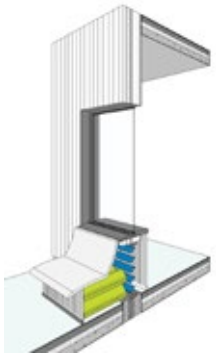
Facade Details.



The simplest method of enhancing the acoustics of a vented facade is to place the NVA behind an open-able vent/window. In this instance, the vent/window is used to control the air flow into the building, maintaining the thermal performance of the facade as well as keeping the weather out.

In this case study, a horizontal ground level vent is used. The vent is discretely installed within wood bench seating. All the necessary louvres, dampers and actuators can be contained within the vent containing the NVA.

Discrete Installation.



As forward thinking acoustic consultants, we have done many alternative and discrete facade installations.

The NVA's unique flexibility means that it can be installed under bench seating, in flower boxes, play boxes or small steps within the facade.

Sustainable Acoustics

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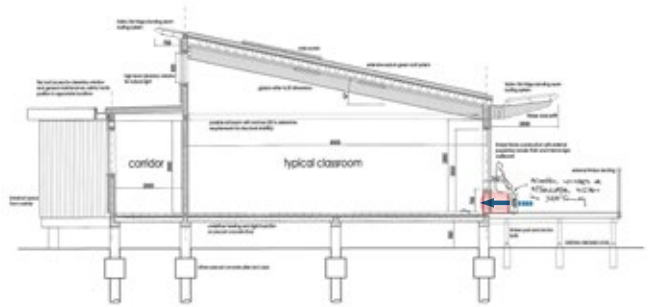
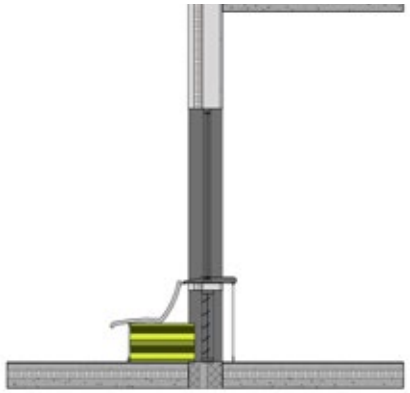
Design.



One of the unique elements of this project was a considerable slope across the site. Working with B3 and Craddy Pitchers Davidson, the solution was to pile the site and use suspended slabs to form the classrooms. To provide an external play/learning area to each of the classrooms, a suspended timber deck was employed.

The solution here was to accommodate the attenuator within bench seating. Air was brought in from under the timber decking and then cross vented across the classroom before being released at high levels on the quiet side of the building.

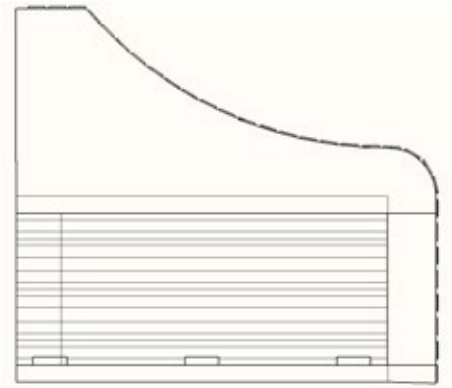


Install.

Installation of the NVA into a fabricated duct such as this is extremely quick and simple.

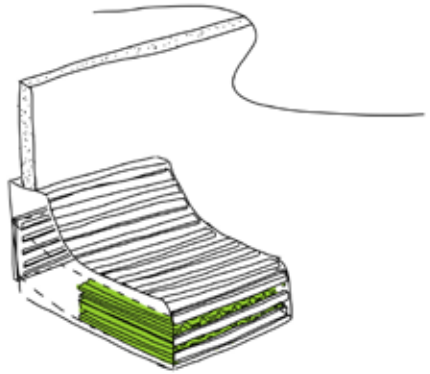
A slatted wooden benched was constructed with ducting built into the open area. A thermal damper was installed on the internal side, with the NVA positioned through the external opening. Finally, the lower slats for the bench were installed as a grill.

An added benefit of this installation was a 45^0 bend in the duct, adding to the acoustic attenuation level.v



Result.

The school met all BB93 requirements and BB101 ventilation specifications. Not only this but the finished design was pleasing and added function to the facade besides ventilation.



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