Press Release
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SE Controls Provides Comfort for Students and Staff at Carshalton

As a colourful addition to Carshalton College, The Mavis Peart Building is a new learning centre for people with learning difficulties, the first to be opened in Sutton. The facility offers a purpose built education centre for young people and adults with special education needs, teaching essential life skills such as social skills and independent use of public transport.

The new three-story building was named The Mavis Peart Building, in recognition of the dedicated work by Mavis Peart OBE, who was instrumental in bringing the project to life.

The Mavis Peart Building will accommodate up to 80 learners each year offering academic and vocational courses to students with a broad range of needs, including those with an autistic spectrum disorder. Facilities of this type are rare in the UK, meaning that people with profound learning difficulties often attend a specialist residential college outside of their local community, a great distance from the family home.

The three-storey building is provided with mixed mode cross flow ventilation fed through automated windows on one side of the classroom, and interfaced with low energy VAV ducted extract via modulating dampers on the other. The window and damper positions are controlled with temperature, CO_2, wind and rain sensors. Underfloor heating is installed in each classroom and interfaced into the natural ventilation controls to minimise energy waste, ensuring windows and dampers do not open for temperature control while there is heating demand.

There are four top hung open out Velfac windows in each of the 11 classrooms. The windows are each fitted with a single SE Controls' TGCO 24 30 chain actuator, using bespoke brackets to suit the frame profile and materials and catering for the unusual pivot stays of these windows. The actuator flexes are concealed behind the dry-lined reveal to a junction box located above the ceiling grid. As always, the occupants don't notice any noise from the window automation within a week or two of occupation.

Each classroom is provided with an OS2 control panel located in the adjacent storeroom. These provide power and digital control inputs from the room's combined CO_2 and temperature sensor. When the indoor conditions exceed the system setpoints, windows gradually open in small increments, with suitable delays in between, until the classroom environment improves. Each

classroom is provided with a teacher's key-operated manual override switch giving an hour uninterrupted override. A central 'whole system' kill switch allows for simple holiday or engineer lock down.

Each of the OS2 control panels is linked to a LON network via an OS2 OSLON board. Coupled into the network are a rain sensor, wind speed and direction sensor and outdoor temperature sensor located on the roof feeding weather data into the system.

These sensors, along with an occupancy time clock, allow a night time ventilation strategy to be enabled; this allows excess heat to be expelled during summer nights and coolth to be stored in the high thermal mass the building offers, giving extended thermal comfort during the day. An allied strategy of early morning fresh air purge flushes the building with fresh air for a few minutes before the students and staff arrive in the morning, giving a more invigorating start to the day. Should the wind speeds reach nuisance levels on the glazed elevation, the windows are gradually closed to prevent annoying draughts or damage to the windows. The completed system offers a battery back-up in case of a power outage to ensure safety and security of the building.

The college's facilities management team can monitor the system remotely anywhere on campus, using any of their own networked computers, due to a password protected webserver that provides a real-time dynamic graphic user interface. This also allows setpoints to be adjusted for each room and for the various strategies, to suit the special needs of the different student groups, some of whom are highly active and others very sedentary. Indeed the facilities team could use standard off-site vpn logins to access the system from anywhere on the internet at no extra cost.

SE Controls offers a complete service of design, installation, commissioning and maintenance of smoke and adaptive natural ventilation control systems for any building. Visit the website at www.secontrols.com for further information To discuss a requirement with SE Controls, or request literature, please call the head office in Lichfield on 01543 443060.

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