

Acoustic alchemy turns leaden surfaces into musical gold



THE HISTORY AND stories to be found in heritage buildings have long provided inspiration for musicians and performers alike. However, modern standards of acoustics and technical systems demand that these spaces are upgraded. Such was the case at St Peter's.

In the first phase of the project Sound Space Design (SSD) led a collaborative process to test the feasibility of converting the church to a permanent rehearsal venue with space to accommodate the largest ensembles of over 100 musicians and to include an audio monitoring room, acoustically isolated from the main space for professional quality recording.

SSD worked with The Hallé on a number of preliminary uses to test various options for the acoustics and orchestra layouts. One project was particularly exciting, for a television recording for BBC 4's documentary programme *Symphony* (pictured). The Hallé wanted to improve the clarity of sound, both for the orchestra ensemble playing and for the quality of the recording. The solution was to provide sound reflecting surfaces close to the orchestra, below the high nave ceiling of the church, and to reduce the reverberation of the space to an appropriate level.

Any acoustics treatment had to be non-invasive, with no material effect on the building fabric, so SSD and Anne Minors Performance Consultants (AMPC) designed and built a series of sound reflecting 'SoundSails'. Constructed of specially chosen and tested fabric, the SoundSails went on to become a key part of the acoustic solution and architectural statement for St Peter's. SSD guided the architects to use the existing qualities of the church for acoustical benefit, for instance the retention of the raw brickwork inside to provide acoustical warmth.

With a city centre location and an increasing number of apartment buildings springing up around the site, noise intrusion was a concern. Secondary glazing was installed, along with acoustically treated passive ventilation ducts. Together those elements silence the sound of traffic from outside so that every delicate note is heard clearly with no disruptions. □

Teamwork makes the most of a shared space

ACROSS THE ATLANTIC in Toronto, the world-renowned Tafelmusik Baroque Orchestra and Choir have for decades shared Trinity St Paul's Church with the local congregation. Tafelmusik approached SSD and AMPC to see what improvements could be made for music performance, acoustics, staging and sightlines.

Constrained by a very tight budget, a holistic concept was developed with the church and orchestra leaders through careful briefing sessions and attendance at concerts, rehearsals and church services – thereby building understanding of the priorities for religious and performance uses.

As experienced musicians and churchgoers themselves, Anne Minors and Robert Essert of AMPC and SSD guided improvements both for performers and audiences, with AMPC supplementing the acoustic concept with designs for new seating and pews to improve sightlines, and a new stage that would lessen the time and workload involved in changing from church to performance use, and with better acoustical response for the musicians.



Last year momentum was finally behind the project and a first phase of improvements was carried out with local heritage architects ERA. Tafelmusik is overjoyed at the improved acoustics for their orchestra and choir, and Trinity St Paul's enjoys improvements to their choir sound and congregational singing, as well as a close and flexible relationship between clergy and congregation.

As was the case with the Hallé St Peter's project, the close relationship with the musicians and building operators has resulted in exceptional acoustic, technical and practical improvements, while the time invested in understanding the historic architecture in both projects has resulted in designs which are particularly sensitive to the existing structure.

The AMPC/SSD team currently has renovation projects under construction at the Grade Two-listed Friends' Meeting House in Euston, London and the Grade Two*-listed, Basil Spence-designed Attenborough Centre for the Creative Arts at the University of Sussex. □

SHAPING THE SOUND

Clockwise from far left: Hallé Orchestra record at St Peter's Church, Manchester for the BBC • Zofu PSM Performing Arts Centre, Istanbul • Godolphin & Laymer School, London

Acoustics and Theatre Planning for the Performing Arts

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Redundant church lives again as Hallé's new rehearsal space

THE HALLÉ RANKS AMONG the world's foremost symphonic ensembles. Based in Manchester – and since 1996 at the iconic Bridgewater Hall – it is now in its 155th season and has long held an ambition to have a permanent base for rehearsal, recording and education activities.

Sited in the Ancoats area of the city, St Peter's Church was built in 1859 in a Romanesque style. It has a basilica-type plan and is constructed of brick with ornate cast-iron columns supporting clerestory arches between nave and aisles. Following World War Two and the relocation of the population away from the city centre its congregation declined, leading to its closure in 1960 and final abandonment in the early 1990s. By that time the building had received Grade Two-listed status as part of the designation of the Ancoats Conservation Area.

Architects MBLA – now part of Buttress – were appointed by the North West Development Agency in February 2009 to work on a feasibility study for the potential conversion of St Peter's Church into a rehearsal base and intimate performance venue for The Hallé.

The condition of the building envelope was good prior to the project, having been safeguarded by restoration and holding repairs undertaken by the Ancoats Buildings Preservation Trust in the mid-1990s. The accommodation requirements for the Hallé were relatively simple: a large flexible space to accommodate choirs and orchestras of varying sizes for a range of rehearsals and performances as well as outreach programmes. Suitable welfare facilities and full access within the listed building were also needed.

A new raised timber floor was inserted and exposed brickwork retained. Secondary glazing was added to the windows and a number of permanent and flexible elements were designed. Key to the client brief, though, were the acoustic and lighting design strategies within the remodelled space.

The acoustic performance of the space needs to be dry and analytical for rehearsals, so that the musicians can hear themselves, and 'wetter' and more reverberant for recitals. A flexible solution was sought to meet those needs within the budget and listed building parameters. Specialist consultants Sound Space Design and Anne Minors Performance Consultants were tasked with delivering that solution.

The lighting design is driven by the needs of the musicians and choristers, who spend long hours studying sheet music. As the project architect remarked: "In our client briefing we were informed that in some rehearsal spaces with inadequate lighting the musicians have resorted to wearing head torches, a compromise we were keen to avoid. The lighting is easily adjustable for rehearsal and performance levels and has been made a feature in the designs."

The development of the new resource was completed last year and now provides rehearsal and recording facilities for the main orchestra as well as a base for the Hallé Choir, Youth Orchestra, Youth Choir and Children's Choir. It forms the first phase of an ambitious project that will involve the creation of an extension onto an adjoining site to provide workshop, archive and other facilities. □



Specialist designers put the musicians centre stage



THE HALLÉ'S NEW rehearsal base at St Peter's required a purpose-built demountable stage to match the ecclesiastical setting. Doncaster-based CPS were enlisted to design and supply the equipment.

The stage consisted of Alu Combi platforms used in conjunction with Alu Rapids, where bespoke platforms were needed to fit around pillars. It was fitted with a high-quality, durable Karndean floor which blended in with the surroundings.

CPS are leading manufacturers and suppliers of seating and staging systems which have been professionally designed, developed, tried and tested. The project was one of a number of prestigious projects CPS have recently completed. □