

# **COVID, SEPARATION & ALL THAT JAZZ. TWO EXAMPLES OF HOW RESPONDING TO A PANDEMIC STRENGTHENED THE PROJECT & COMMUNITY BONDS.**

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## **1 INTRODUCTION**

This paper describes two projects started prior to the Pandemic of 2020 and 2021. One whose trajectory was diverted and enriched by the demands of Covid; the other whose community mission became increasingly necessary as a result of the separation imposed by the Pandemic. In both cases sound insulation was of great importance to the surrounding residential areas. Both performance spaces have multiple configurations for the audience. One has variable and mobile acoustic panels and the other has fixed acoustic panelling of differing scales with electro acoustic enhancement. Both projects have found jazz music a thread that can weave their communities together.

## **2 SOUTH LONDON SITES BUILT ON HISTORY**

The two sites are on the south side of the River Thames, one east and one west; one with Hawkesmoor's Royal Military Academy & Arsenal buildings dating from 1718 – 1887: the other near a massive brick Art Deco power station dating from 1929 by Giles Gilbert Scott and adjacent to the new American Embassy in London.

Both councils, Greenwich & Woolwich (in the east) and Wandsworth (in the west) had housing targets to meet, both wanted a positive outcome from their developments with the potential to foster a cohesive community from the development of the land. Both were relying on private developers to build the housing. Woolwich sold their land to the developer except for the cultural quarter; Wandsworth retained the land on a long lease. Both Councils have invested in good public transport routes via new underground stations at Woolwich on the new Elizabeth Line and Battersea Power Station on the Northern Line.

Battersea Power Station (derelict since 1982) is part of a large land area for redevelopment in London. Many star architects were asked to design luxury housing around and within the power station which has attracted a lot of overseas owners.

In both projects Sound Space Vision's priority was to explore and define a series of activities that could live happily alongside the adjacent residential blocks. In addition to make the spaces attractive for use by local residents to become an active part of developing a new community.

In the UK the residents have enormous power in silencing live music in the late evening. In the last decade, 35% of private music clubs have had to close as a result of complaints, even if the existence of the music club predated the residential development.

### 3 ROYAL ARSENAL WOOLWICH

During the project, Sound Space Vision had 3 roles; Theatre Consultants for the feasibility; technical infrastructure design and loose equipment for the main building contract; seating design and delivery for the Covid Recovery work. During the feasibility study, we worked alongside Gillieron Scott Acoustics and Bennetts Associates architects, to evaluate the four arsenal buildings' potential as a Cultural Centre to provide a focus for both the local community and Londoners generally. Three of the spaces were originally used for heavy manufacturing and our study was to establish what activities would be appropriate to their natural attributes.

In the case of Woolwich Works and the ammunition factory its main attributes were:

- a sawtooth north facing glass roof to see well by and also for any explosion to burn through;
- a 10 foot thick (3m) concrete floor to resist any explosion and also to support the heavy machinery;
- a cast iron structural frame that supported the engineering equipment;
- internal rainwater drainage down the cast iron columns;
- a large floor area with medium height space.

To envision the future for Woolwich, the design team visited other European industrial sites in Madrid, Spain; Nantes, France and researched German examples in Bochum, Duisburg and Essen of industrial buildings repurposed for the arts. The feasibility study demonstrated a constellation of performing and rehearsal spaces for many art forms including a ballet school within the Royal Military Academy; a multipurpose space within the Arsenal and studios within the adjacent courtyard building around a ramped outdoor space; a studio theatre and workshops in the 2<sup>nd</sup> & 3<sup>rd</sup> buildings (which are currently leased to a theatre company for immersive performances).

For dance events and concerts, the client needed to know what capacities would be possible. With this in mind SSV looked at the arrangement of the audiences, the size of the stage, the sightlines restrictions of the columns and the height of the stage with a flat floor for end on, thrust and traverse performances as well as flat floor events and banquets. These configurations would be created from a kit of loose chairs, platforms and tables. The maximum seat count would be 1200 with up to 100 performers on stage and the minimum 300 seats with a small stage accommodating 1-10 players..

Orchestral rehearsal within London is scarce. The arts consultants' intention to have a series of Resident Companies regularly using the Woolwich spaces, where they would form the anchors to a wider group of users.

Within the South Range, Gillieron Scott made a CATT model of the space, and put forward a strategy of no fixed treatment on the room surfaces in order to allow the widest possible range of acoustic conditions. From an  $RT^{500}$  of 2.5s for audiences of 500 to support early music and choral performances to  $RT^{500}$  1.8 s for 1200 audience for orchestral performances;  $RT^{500}$  at 1.5s for orchestral rehearsal and 1.2- 1.4 sec for conference and amplified music with audiences of 500 - 1000.

#### 3.1 Live Test in Space with Aurora Orchestra

Aurora Orchestra, known for playing programmes from memory, agreed to play at a public rehearsal. Local residents were invited as well as members of the council and the design team.

Having initially proposed banners suspended from the roof pitch, Gillieron Scott found from the CATT model that they were less efficient in their absorption and proposed floor mounted drapes instead for the live test. Following the test, they proposed movable panels of Varisorbers 3m x 3m high with absorption on one side and reflective surfaces on the other. Again testing the number of panels and

where to place them for different seating configurations was examined and 16 were purchased within the main building contract. If further ones were required they could be purchased after the building opened.

An unexpected characteristic of the north facing sawtooth with steeply angled glass roofs and gently sloping timber roof to the south was the immediacy of the room responses and the clarity of sound. The live test was important for the design team as it gave a clear indication of how the space could sound to all. Design proceeded with this layout as one of 5 different seating configurations.



### 3.2 Completion of Fireworks Factory architecture & Infrastructure

As the building neared completion in the spring of 2020, the full lockdown due to Covid was in place. Contractors were allowed to continue working on site while respecting social distancing rules and working in bubbles. Later that year, orchestral music was cancelled for performers within enclosed spaces. When music performances started again, a standard orchestral stage could only hold 30 -35 people. The number of singers in a choir was limited to 6, singing 3 m apart in open space. The business plan for Woolwich works was under threat. On top of that, the new Central Line of the Underground which would provide the direct door to door transport was delayed for another year.

### 3.3 Effect of Covid on Programming of Space

At the time we were all learning about the nature of the Covid disease and what would be possible to continue performing. We were looking at practical scenarios working with the spirit of the guidelines.

The government announced a programme of Covid Recovery Grants. The Trust operating Woolwich Work applied and was lucky enough to qualify for one. The case made was that if the planned use of orchestral rehearsals and chorus rehearsals could not take place due to the limit on musicians at the time, then a smaller number of musicians playing together would be advantageous. Jazz ensembles are smaller, need only discrete amplification and would occupy a smaller stage around which the

audience could be surround on all 3 sides with a rake so that the space felt more intimate. The solution would be designed to both cater for the Covid situation, including any pandemics in the future, and an increased seat count when sitting next to people was allowed again.

### 3.4 Future-proofing audience capacity & performance types

During Covid, venues that were continuing to have performances had 1m spacing between rows of people. Some London west-end theatres took out their stalls seating and rearranged them to smaller capacities at the right spacing. Theatres with 800mm or 900mm row to row seat spacings had to leave out every other row of seats and more than halve their capacities.

The brief from the operating client was for a dinner theatre, a mixture of cabaret seats and tables and surrounding raised up retractable seating with a dinner shelf. The quality of finishes should add some intimacy within the factory surroundings. We decided to build on the mechanism of a retractable bench unit, to add to the height of the seat back, enhance the cushioning comfort and with the increased dimensions, make the space like a booth. This helped to increase the absorption in the space. Woven brass handrails punctuate the space and contain the sides of the bench unit- a reflective and translucent use of the material – different from its past use. To avoid any rattle the manufacturers used rubber grommets to prevent any metal-on-metal contact. Perforated brass light shades, every 2 seats, important in creating a glow and patterns across the room, were also checked for potential sound details. In all the configurations, the 16 Varisorbers were part of the movable elements, sometimes augmented by a backdrop curtain behind the stage.

The 3-sided seating configuration achieves 900 seats when all seats are occupied and 600 when spaced for Covid with 1m between pairs of audience.

We were able to incorporate an in-room sound mixing tower at the back of the seating block for the amplified sound. Together with the dinner shelf and lighting per 2 audience, an intimate atmosphere can be created that puts the audience at their ease. There is good rapport between the audience in cabaret tables and those in the raised seats and as people recognize each other across the room, conversation happens spontaneously.

Since its opening in September 2021, the Fireworks Factory, as it is now called, has helped to cement local relationships with its community choir. The National Youth Jazz Band has regular concerts there and it is also developing a reputation as an attractive stand-up comedy venue and art show destination. Now that the public transport strategy is complete, there is no excuse for not attending from any part of London.



## 4 WORLD HEARTBEAT ACADEMY

World Heartbeat Academy has existed and trained generations of young local musicians over the previous 20 years. The founder offered young people instruments, a music education and a safe place to spend their time outside school. World Heart Beat has their own orchestra, a series of bands and performed in local community spaces until they found space over an engineering works in Wandsworth 10 years ago. The opportunity to expand their horizons came about when Wandsworth Council advertised for cultural organisations to bid for a commercial unit at a peppercorn rent in exchange for developing a community programme within the vast Nine Elms development in south London. World Heartbeat successfully outbid tens of other applicants.

The commercial unit, 22m x 16m x 5m high was subdivided into 2 floors by the architects with accommodation for:

- a 100 seating/ 200 standing capacity performance space,
- a recording suite with studio, separate percussion space and control room
- a piano store, a chair store
- foyer and reception area
- upstairs toilets, 2 rehearsal rooms and a third separate rehearsal/changing room
- backstage stairs and front of house stairs.

When SSV joined the project team, Hann Tucker was already providing sound isolation and services noise consultancy. Rory Aikenhead was the designer of the fit out; White Light were undertaking the technical installation and D&B the electro acoustics. Sound Space Vision were appointed acousticians for the concert hall and advisers to the client in Autumn 2020.

### 4.1 Sound Isolation from Residencies- a musical approach

The client was eager that the facility accommodates a wide range of musical styles, and this was a big ask, as the studio was being developed in a residential tower that was being finished and occupied ahead of the WHB project.

As the link between artistic and technical, SSV / ISL provided typical sound spectra ranges for different types of music for Hann Tucker to use in their assessment of the sound isolation to the adjacent residential units. As we joined the project after completion of the base build design – including the box-in- box, this was less about driving the design and more a matter of estimating what the limits would likely be. The isolation has been quite successful and the operations have not been limited.

### 4.2 Concert Hall visual and performance considerations

Having demonstrated that a seated audience of 100 could be accommodated in end on, side thrust and corner locations for the stage within the 97 sq m floor area, we looked further at ways of visually uniting the room with its high level balcony at 2.8m above the performing area. This together with the ventilation bulk head at one end of the room needed integration into the overall design. The walls also had to incorporate the surround speakers of the electro-acoustic rig. Having full height curving elements in the space that emphasised the 5m height helped to visually balance the horizontal nature of the intrusions. The designer's idea of dividing the walls into interlocking surfaces from the floor up and the ceiling down helped to keep this balance.

The balcony level related to the first floor level accommodation and was to be used by musicians as well as VIP guests. In other words, the seats could be removed and standing musicians could be playing up against the rail. This led to a dilemma with the height of the balcony rail, which in terms of regulations, can only be at a low height if all the seats are fixed down within a certain distance from the rail. We coached the architect towards a balcony front design that could be high when



there were no chairs and low when the chairs were fixed to the floor, and visually open to give a view to the floor. The photos show the rails up but they can be lowered to 800mm.

### **4.3 Concert Hall Acoustic strategies and goals**

The space is intended for solo and piano recitals, jazz trios and bands, folk, recording. A range of reverberation was proposed between 0.5s and 0.95s at 500Hz, depending on occupancy, with relatively flat frequency response.

The family of materials to create a balanced tonal spectrum on the walls included:

- Deep hollow boxes with air and boxes working together as low frequency absorbers with different depth cavities from the wall.
- Perforated timber panels at various distances from the wall.
- Woodwool slabs to absorb mostly high frequency sound. On the ceiling three sock air supply ducts provided further high frequency absorption.

There is mineral fibre in the cavities behind all three types to spread the cavity resonance. A further refinement is the provision of supports for a curtain to be erected temporarily behind the band to help balance the instrumentation.

### **4.4 Education & Community bridge between social extremes**

Around the American Embassy and the Battersea Power Station, there are multi-million pound luxury flats within a stones' throw of estates housing families with limited means. WHB is providing a place for those communities to meet by offering free music lessons to the children on the estates and inviting the neighbours to professional concerts.

Many of the young people at World Heartbeat play, rehearse, serve in the café and help set up for concerts. It is their home outside school.

The founders of World Heartbeat Academy are passionate that musicians should have the best equipment to perform at the highest level. They have been very successful in securing 3 Steinway pianos, professional recording equipment, and instruments, as well as becoming a testing ground for the d&b soundscape electro acoustic enhancement. Through their musical connections, they introduce the young performers to composition, recording as well as performing. As the community matures, several are starting careers in related fields of audio and recording.

Several community groups have come from other parts of London to use the concert hall, being creative in placing the audience at tables between the instrumentalists and the chorus.

## **5 CONCLUSION**

Covid upended many aspects of musical life and live performance yet it also introduced audiences to different genres of music, different instrumentation, musicians to different repertoire.

For both of these urban projects, repurposing an old factory and fitting out a commercial unit for community use, jazz proved to be both a popular attractor for audiences and an appropriate neighbour to the community. In future surges of infection, Woolwich Works can still function as a venue with a commercially viable audience capacity. We hope that World Heart Beat can serve as an exemplar project for the growth of high quality music making and recording, supported by the community and encouraging a reversal of the erosion of local music venues in the UK of the last decade.



