CASE STUDY: SOMERSTOWN COMMUNITY HUB

BAM designed and built the iconic Somerstown Community Hub as part of Portsmouth Council’s regeneration of the Somerstown estate. Spanning the dual carriageway into Portsmouth, the elliptical glulam building now links the north and south sides of the community.

SUSTAINABLE DESIGN

The two storey, BREEAM Excellent building involved a complex design, so Building Information Modelling (BIM) was extensively used throughout the project. It helped with clash detection and allowed greater co-ordination between the various components of the building.

The 90m long building is constructed from a glulam spruce timber frame, which is more sustainable than a conventional steel frame. The frame was manufactured by Just Swiss, who were the only company able to produce a timber frame with tight curves, without the need to add additional up stand supporting beams. Their patented GSA Technology for the assembly of their timber frame uses less steel than conventional assembly, all of which allowed us to make significant CO₂ savings and also ensure the aesthetic design of the building was not compromised.

Natural light reduces the dependency on artificial lighting

The new hub spans the main road enabling existing green spaces to be preserved, creating new external community areas at either end of the building. We retained many of the existing trees, and those that were removed were done carefully outside of the birds nesting season.

CARBON

The design uses a ‘fabric first’ approach and passive design principles to minimise carbon emissions in use. We went well beyond buildings regulations standards to achieve high levels of insulation and air tightness.

The building’s base heat requirement is met by a gas fired micro Combined Heat and Power system, supplemented by high efficiency gas boilers. Due to high levels of noise from the dual carriageway, natural ventilation was not possible. Instead, high efficiency mechanical ventilation and control systems are used.

The building makes full use of natural light. Sky lights, fully glazed gable ends and a fully glazed mid-section flood the building with natural light, while advanced lighting controls minimise energy use form artificial lighting.

RESOURCE EFFICIENCY

The timber frame was manufactured off site and delivered flat-packed, ready for installation. This method of construction was very efficient, with all 14 internal curved frames erected within six weeks, and with no timber waste produced during this stage of the build. Other excess timber was sent for recycling and reuse, including 10 tonnes provided to the Community Wood Recycling Scheme and plywood hoarding sent to Portsmouth University and the County Council for reuse.

‘PUBLIC CONSULTATION RAISED THE NEED TO HAVE AN ICONIC STRUCTURE IN THE MIDDLE OF TOWN. THEY ARE SIMPLY BUILDINGS BUT I THINK THE COMMUNITY HERE DESERVES SOMETHING THAT GIVES THEM HEART, GIVES THEM FOCUS AND WHICH ENCAPSULATES THE WHOLE AREA. I THINK WE’VE DONE THAT.’

Kevin Hudson, Project Manager, Portsmouth City Council
The building’s 3,500m² of aluminium covering was also manufactured offsite, then bent and shaped into a curve onsite. The 11m long aluminium sheets were then simply lifted into position and ‘clamped’ together to produce a standing seam, which produced very little wastage.

The final building includes two attenuation tanks as part of a sustainable urban drainage system (SUDS). A 10,000 litre rainwater system helps provide water for flushing toilets and waterless urinals have been used to further reduce the use of potable water.

**SOURCING RESPONSIBLY**

Over 348m³ of timber was used throughout the project with over 96% being from Chain of Custody sources. The massive spruce glulam timber frame was supplied by Just Swiss Timber Construction Ltd and was 100% FSC certified, ensuring it was from a sustainable source.

The aluminium standing seam roof was manufactured by Kalzip and was chosen for its sustainability credentials. A BRE Green Guide A/A+ rated product, the aluminium roof can be recycled at the end of its life in a single process, saving 95% of energy compared to primary aluminium production. The recycling process has no loss in quality or quantity and so aluminium presents a very good material for the construction industry.

**HEALTH AND WELLBEING**

Somerstown Community Hub was awarded BAM’s South East Region Gold Award for Health and Safety, for excellent health and safety communication with both the workforce and the public.

We employed over 75% of our operatives from within a 50 mile radius of the site, and provided a bike shelter and showers for those who wanted to cycle to work.

A site labourer was sponsored to undertake their CIOB Site Management certificate, and is now studying towards a diploma in Site Management and a NVQ4 qualification.

**COMMUNITY**

The project invested £5,323 into the community projects they ran, including giving 103 hours of their time.

The site team worked with Portsmouth City Council’s Somerstown Regeneration team to run eco workshops, giving local children the opportunity to get ‘hands-on’, building bird boxes and insect hotels from recycled wood for them to take home.

By working with schools, churches and youth and community clubs, local children had the opportunity to paint and create pictures along the theme of ‘We love Portsmouth because...’. These were then framed and displayed on the site hoardings.

School children were invited to site to help bury a time capsule. Local children wrote stories, drew pictures and made videos of their schools to tell future generations about their lives in Somerstown.

The local fire brigade came to site to complete a deep trench evacuation training exercise, something they had never had the opportunity to do before. The fire brigade were extremely positive about this day; lessons were learnt from the exercise and they will be able to carry forward these skills if a similar real life rescue occurred.