**DATA SHEET LECTURE THEATRE 1**

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Lecture Theatre 1 Refurbishment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sector:</strong></td>
<td>Education</td>
</tr>
</tbody>
</table>

**Project particulars:**

- **Client**
  - University of Dundee

- **ISG Group Company**
  - Scotland Construction

- **Value**
  - £1.4m

- **Area (sq ft)**
  - 4,736 sq ft

- **Procurement route**
  - Traditional

- **Form of Contract**
  - SBCC With Quants 2011 ed With CDP

- **Is it part of a framework?**
  - No

- **Programme (weeks)**
  - 19 weeks

- **Contract start date:**
  - 13\textsuperscript{th} May 2013

- **Completion date**
  - 20\textsuperscript{th} September 2013

- **Project Manager**
  - David Adamson & Partners

- **Architect**
  - Archial

- **Quantity Surveyor**
  - David Adamson & Partners

- **Structural engineer**
  - Morgan Associates

- **M&E engineer**
  - The Keenan Consultancy

- **Any other key team members**
  - Contract Manager: Brian McDermott. Project Manager: Craig Bulloch.
  - Surveyor: Ian Todd. Planner: John Hollern

**Building Information**

<table>
<thead>
<tr>
<th>Building costs</th>
<th>£992.62 per m\textsuperscript{2}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical and Electrical costs</td>
<td>£443.92 per m\textsuperscript{2}</td>
</tr>
<tr>
<td>External works costs</td>
<td>£202 per m\textsuperscript{2}</td>
</tr>
<tr>
<td>Total area of site Over 3 levels</td>
<td>4,736 sq Ft = 0.044 hectares</td>
</tr>
<tr>
<td>Function areas (Open teaching area)</td>
<td>1,619 sq Ft = 150m\textsuperscript{2}</td>
</tr>
<tr>
<td>Storage Area</td>
<td>430 sq Ft = 40m\textsuperscript{2}</td>
</tr>
<tr>
<td>Circulation area</td>
<td>772 sq Ft = 72m\textsuperscript{2}</td>
</tr>
</tbody>
</table>
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### Energy Performance

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predicted electricity consumption</td>
<td>42.01 KWh/m²</td>
</tr>
<tr>
<td>Predicted fossil fuel consumption</td>
<td>3.12 KWh/m²</td>
</tr>
<tr>
<td>Predicted renewable energy consumption</td>
<td>0 KWh/m²</td>
</tr>
<tr>
<td>Predicted renewable energy generation</td>
<td>0 KWh/m²</td>
</tr>
<tr>
<td>Predicted water use</td>
<td>3.10 m³ per person</td>
</tr>
<tr>
<td>% of water supplied by rainwater or Greywater</td>
<td>0%</td>
</tr>
</tbody>
</table>

### Introduction:

The University of Dundee’s prestigious School of Medicine is consistently rated as one of the top performing medical schools in the UK. Following on from our project to extend and refurbish the library and teaching facilities at the medical school we were awarded the contract to refurbish Lecture Theatre One (LT1).

### The Requirement:

LT1 is one of the largest lecture theatres in the medical school with a capacity of almost 400 students. Dating back to the 1970s it was no longer suitable for modern teaching purposes, with an old fashioned appearance, seating set at a 40° angle and no disabled access.

The quality of its teaching space and facilities are of key importance to our customer. By completely remodelling the area and upgrading the facilities we were able to provide a bright, modern and more flexible teaching facility.

### The Project:

The refurbishment commenced with extensive demolition works and the removal of asbestos containing materials. In total 50 tonnes of reinforced concrete were removed. A hydraulic crusher was used which removed the risk of excessive noise and dust pollution, allowing operations to continue during normal working hours.

The new layout of the lecture theatre had a two tier design to allow the angle of the seating to be reduced. A structural steel frame was installed to support the new design. The level of the lower tier was raised, and a sloping top tier created. The focal point of the theatre is a spiral staircase constructed of glass and stainless steel which links the two levels.

The M&E facilities were upgraded and linked into the existing systems in the building. This included new air conditioning, audio visual and lighting installation. As part of the brief to upgrade the area’s disabled facilities an induction loop was installed to assist students with hearing difficulties.

To reduce the impact of the busy areas adjacent to LT1 acoustic panelling was installed around the perimeter of the room.

New furniture and seating was installed. On the lower tier group style desking was used to allow students to work collaboratively during lectures.
DATA SHEET LECTURE THEATRE 1

The Added Value:

LT1 was situated in the middle of the teaching hospital, only 10 metres from the main operating theatres and adjacent to other lecture theatres and a large cafeteria. The customer’s proposed access route was highly risky with 140m of shared access corridors and no access for large materials. As we were concurrently working on the extension of the medical library we were able to propose a new access route running through areas already under construction which reduced the amount of shared corridor space and allowed large materials to be hoisted onto the roof. Full height fire rated screens were erected around the perimeter of the area to assist with minimising dust pollution.

The installation of the structural steel originally required significant temporary works, including back propping into live changing rooms below the area. By engaging with the steelwork contractor and the structural engineer we were able to design a new system which removed the need for temporary works and allowed the steel to be installed early. As no access was available for mechanical plant we designed a system which utilised the existing concrete frame to hoist the 35 tonnes of steel required into place.

At the commencement of the project areas of asbestos had been identified by the customer. We instructed a comprehensive survey which identified further spots not previously identified. While this did have an impact on the project programme we were able to mitigate this by taking the furniture package into our contract, allowing the facility to be opened as planned.

Engaging with the university and the hospital was a crucial part of the success of this project and weekly coordination meetings were held with customer. We engaged with the medical students to keep them up to date on progress, and third year students carried out a variety of health briefings with our workforce. Topics covered included asbestosis, testicular cancer and the effects of silica dust.

The project has been awarded multiple accolades. These include a Gold Award from the British Safety Council; a Silver Award from the Royal Society of Prevention of Accidents and a Performance Beyond Compliance Certificate from the Considerate Constructors Scheme. Our project manager was runner up in the British Safety Council Safety Champion of the Year 2014 and has been nominated for Construction Manager of the Year Awards 2014.
**Sustainability: (Above & beyond added value)**

LT1 was been designed to achieve a BREEAM rating of Good (45%), and whilst not a contract requirement we are assisting the client to achieve this rating for the project. The concrete removed from site was crushed and recycled and all waste was segregated on site.

The mahogany panelling and desks were donated to a member of staff who has recycled the materials by making furniture out of the wood.