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CASE STUDY

University of Liverpool - School of Architecture Extension

INSIGHT ● INNOVATION ● INCLUSIVITY ● INVESTMENT ● INTEGRITY

University of Liverpool - School of Architecture Extension

Provision of temporary access solutions to support ULCCO Special Projects Ltd. with refurbishing the existing Leverhulme building and constructing the new contemporary extension.

Location: **Liverpool**

Multiple temporary access solutions for refurbishing the existing School of Architecture building and constructing the new modern extension.

The University of Liverpool - School of Architecture, founded in 1894, was the first university in the UK to award an RIBA (Royal Institute of British Architects) accredited degree in architecture. Since 1933, the school has been based at 25 Abercromby Square, occupying a grand historic Georgian-fronted terrace that connects to the purpose-built Budden extension at the rear. This extension, constructed when the school opened, was designed by former Head of School Sir Charles Reilly, in collaboration with Lionel Budden and James Ernest Marshall. Collectively, they are known as the Leverhulme Building, and the school has produced many influential architects who have earned the establishment an international reputation for excellence in education and research. Among its graduates and former staff are six RIBA Gold Medal winners.

To build on this legacy, the University of Liverpool launched an international design competition in 2019, inviting proposals for a new extension to expand the Liverpool School of Architecture. The winning design, by award-winning architects O'Donnell & Tuomey, has been completed by ULCCO Special Projects Ltd., a subsidiary of the University of Liverpool.

This new three-storey extension has been constructed adjacent to an existing car park on Peach Street and is linked to the Leverhulme Building. Spanning over 27,000 square feet, the extension houses research spaces, studios, an exhibition area, and a café. To create a focal point for the development, the main entrance has been relocated into this building on Bedford Street, with an additional entrance to the extension on Peach Street. The extension is further complemented by the development of green open park space to the north and west of the central campus.

Structural and civil engineers AKT II supported the project, alongside principal design advisors IM2 and access appraisers E3Cube.

Information reference sources include:
https://www.liverpool.ac.uk/architecture/about-us/polish/
https://www.placenorthwest.co.uk/autumn-start-for-23m-liverpool-university-school-of-architecture-extension/
https://investliverpool.com/news/23-million-liverpool-school-of-architecture-extension-to-soon-begin-construction/
https://odonnell-tuomey.ie/liverpool-university-school-of-architecture





Project Summary

On completion of Phase One, which involved supporting ULCCO with scaffolds and RMD formwork propping solutions to install 16-metre-long interlocking wooden beam trusses that form the roof structure designed to span the full 34-metre interior space. We further supported the client by erecting a series of scaffolds that were fully or partially clad with high-permeability debris netting to aid refurbishment works on the existing building and support the construction of the new extension, designed to replicate the modern geometry of the nearby Liverpool Metropolitan Cathedral.

The project delivery involved erecting an independent 6-lift-high, fully boarded tube and fitting scaffold that completely enveloped the new extension to enable bricklayers to finish the external facade. Then, to further enhance site safety, we secured brick guard protective panels to all boarded lifts to prevent the risk of falling debris or materials. We also integrated up-and-over loading bays to support the efficient delivery of materials for both external and internal works, as well as the removal of waste.

Finally, to further support the construction of the contemporary building, we incorporated integrated HAKI staircases to improve on-site efficiency by providing scheduled trades, including bricklayers and glaziers, with safe access and egress across all levels simultaneously to enable the fit-out works.

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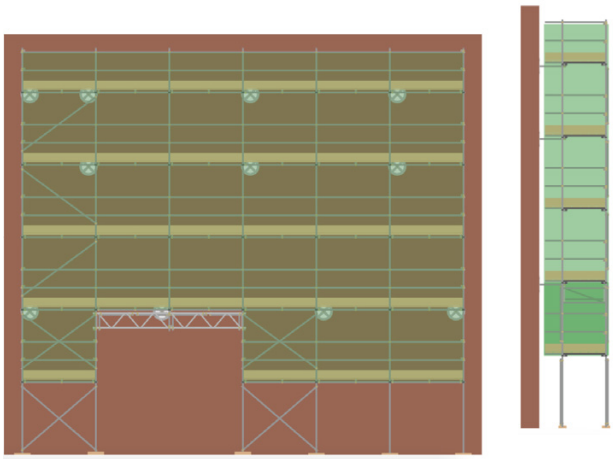
Value Engineering

The award-winning architectural design of the new extension pushes the boundaries of structural building engineering. With the extension offering large open-plan internal spaces, a southwest area that overhangs the ground and first-floor exterior, and a slab that cantilevers northwards out of the building to create an external terrace space.

This meant Enigma's in-house design and engineering team had to develop a scaffold solution to follow the changing direction of the building's angular walls on the upper levels above balcony areas. Careful planning was needed to evaluate the structural integrity of building the temporary structures upwards, off the slab.



A bridge spanning two bays was inserted into the external scaffold, utilising a pair of beams to support the 4 lifts above. This permitted unobstructed access into the building interior for the delivery of equipment and plant machinery.

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