

Lafferty: Scotch House

Lafferty
www.lafferty.ie

**Central Dublin renovation delivers light-filled office space
BIM helps deliver complex Central Dublin office renovation project.**

Careful coordination and collaboration has transformed a brick and concrete 1970s office block in the heart of Dublin into a bright and light-filled space fit for modern businesses.

Owner MF Properties, part of Irish developer Castlepark, approached Dublin-based architectural practice Lafferty in 2013 with a brief to completely refurbish and extend the property to create premium office accommodation available to let.

This was the first time a private sector client had approached Lafferty with a clear BIM aspiration for the project. The client had already procured a point cloud survey of the existing property and prepared an IFC 3D model of the building.

Following a protracted planning and appeals process, planning permission was granted in 2016 and MF Properties gave Lafferty the go-ahead in March 2017. The building is expected to be completed in early 2019.

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Adding height and light

Comprising six storeys and a basement level, the original building was a concrete structure with brick façades. The project involved an extensive overhaul including the replacement of two of the façades, substituting the brick with an elegant Portland stone, enhanced with powder-coated aluminium floor-to-ceiling glazing.

The two upper floors provide penthouse accommodation with full-height, double-glazed façades, offering uninterrupted views of the river Liffey and surrounding area. External roof terraces at the penthouse levels offer attractive landscaped outside space.

According to Ronan Carroll, associate director at Lafferty, the floor-to-ceiling heights within the building were a complex challenge. As the original building was constructed with concrete, there was little opportunity to change the heights. This was of particular concern to the client, who was keen that the new space should feel both light and open.

After several investigations, Lafferty's solution was to route the ventilation and services through the recessed profiles on the underside of the existing concrete slabs, instead of via the ceiling void, saving valuable height along the way.

"ARCHICAD has been invaluable for this project," explains Ronan. "The ability to view the building from all angles and to understand its complexity and geometry – I can't imagine how we'd have done this using old school 2D."



“Lafferty used ARCHICAD’s renovation filters extensively throughout the project, which made it much easier to immediately see the impact of alterations to the design.”



Complex project requires temporary steel frame

As part of the renovation, Lafferty worked with the structural engineer and steel subcontractor to construct a replacement structural frame on the two principal facades of the building. This required the construction of an additional temporary steel frame to hold up the floors until the new structural frames were put in place

The structural and services engineers produced their model using Revit and this, was transferred to Lafferty’s ARCHICAD model via IFC.

In this way, the team was able to coordinate the models and check for any coordination issues early on and throughout the project. During construction the steel fabrication model was provided for approval in a 3D format which greatly assisted the approval process.”

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BIM coordination and collaboration

Lafferty employed an external BIM consultant for the project, who undertook the clash detection between the structural, architectural and services models using Solibri. Lafferty worked on the detailed design stage until the end of July 2017. IFCs extracted from the structural and mechanical and engineering models were imported into ARCHICAD and overlaid.

Every Friday the different parties shared their respective models via IFC and every fortnight Lafferty hosted a formal BIM coordination workshop with the BIM consultant. In between, the teams shared information via screengrabs and email.

Close collaboration with the building contractor

Lafferty has also been heavily involved throughout the construction phase due to the complex nature of the project.

Ronan says: "There were no straight lines in the existing building, so it's been a constant work in progress – we've continued to regularly update the BIM model and worked closely with the main contractor, Flynn Management, at every stage throughout the build."

Ronan says: "Although this project wasn't tendered as a BIM project, we have in fact followed the BIM process informally at every stage throughout. This has proved very useful in enabling us to deliver such a complex renovation."

Collaboration, communication and coordination have been the critical factors throughout this challenging renovation. The end result will be an elegant building that both respects and enhances its prominent location in



About Lafferty

Founded in 1997 and headquartered in Dublin, Lafferty is a design-led organisation offering core services in architecture and project management.

Combining its expertise in design, construction and project management, Lafferty works across a broad range of sectors from commercial and retail through to residential, leisure and healthcare.

Lafferty has used ARCHICAD since 2003 and it has been the practice's default software on all projects since 2009.

About Graphisoft

GRAPHISOFT® ignited the BIM revolution in 1984 with ARCHICAD®, the industry first BIM software for architects. GRAPHISOFT continues to lead the industry with innovative solutions such as its revolutionary BIMcloud®, the world's first real-time BIM collaboration environment, EcoDesigner® STAR, the world's first fully BIM-integrated "GREEN" design solution and BIMx®, the world's leading mobile app for BIM visualization. GRAPHISOFT has been a part of the Nemetschek Group since its acquisition in 2007.

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