



CGI's by Alchemy Imaging



# Impressive New Retail and Residential Development

## Project in brief

This project entailed the demolition of a single storey section of the Ilac Centre, built 1979, and the construction of a new eight storey structure. This building consists of a basement car park (1,340 m<sup>2</sup>), retail units on the ground floor (1,700 m<sup>2</sup>) and eight floors of 126 apartments over. The structure is supported on piled foundations and is constructed in situ concrete up to 1<sup>st</sup> floor level. The upper floor levels consist of pre-cast concrete wideslabs with structural topping.

## Challenges

The basement was constructed tight to a section of the remaining Ilac Centre structure. This provided the challenge of inserting a secant pile wall beside existing foundations built of vibration compacted "stone columns" without disturbing them. This was achieved by insertion of a grout curtain between the existing foundation and the secant pile wall.

This curtain consisted of 225mm diameter bores at 300mm centres drilled to the proposed depth of the secant pile wall, into which grout was pumped forming a curtain to prevent undermining of the existing foundations.

The structure was constructed over the entrance to the existing Ilac Centre service yard and ESB sub-station, both of which had to remain "live" at all times.

## Innovative Solutions:

The precast balcony units were secured to the main structure using proprietary load-bearing thermal insulation elements. Conventional balcony attachments create thermal bridges and a source of thermal outflow, whereas our design achieved extremely low thermal conductivity, and offers an ideal insulation solution. Fibre mesh reinforced concrete walls were used as a cost-effective alternative to conventional masonry.



**LeeMcCullough**  
Consulting Engineers

*Project 3450: Retail & Residential - New Build*  
**Greeg Court, Dublin**

**Client:** South Dublin Construction

**Architects:** Anthony Reddy Associates

**Value:** €32m (2006)

## LeeMcCullough team:

Frank Lee

Norman Irvine

## Project scope:

- *New build in city centre location*
- *Basement Car Park*
- *Ground floor Retail units*
- *Eight floors of Luxury Apartments*

## Retail & Residential

Over the years, at LeeMcCullough, we have worked on many retail projects, often combined with residential or office accommodation. These projects often require innovative engineering solutions that balance style with functionality, construction cost-effectiveness and flexibility for future needs.

In delivering retail-driven projects we are conscious of:

- The importance of close and collaborative teamwork at every stage of the project
- The need for ambiance, space, air and light, and how innovative engineering can facilitate these; and
- How important it is to provide value, both in terms of materials and ease of construction, towards enabling efficient completion and early opening of all facilities

Our extensive experience has given us a clear understanding of the requirements of developers and architects in the area of retail, office and residential construction, we bring this knowledge to the benefit of our clients in all of our new projects in these sectors.