



## Restoration of historic dwelling on South Circular Road

### Project in brief

This Georgian building was built in the 1820s and is a designated Protected Structure. The building was a two storey end-of-terrace structure comprising external and internal load-bearing masonry walls, slated timber double-pitched roof, timber floors and stairs.

The dwelling was in a very advanced state of disrepair and required extensive remedial work. The existing structural fabric was retained and repaired where feasible, and only replaced where lost or beyond repair.

The front wall, in particular, was significantly bowed and out-of-plumb and deemed to be dangerously unstable. The roof had already collapsed, and had taken most of the first floor with it.

The restoration contract included the repair of defective masonry, the repair or replacement of degraded structural timber, and the integration of a new extension to the rear.

### Key features

#### Bowed front wall

The front wall was surveyed to produce a three-dimensional contour survey in order to assess its stability. The wall was then stabilised by using stainless steel *heliforce* bars carefully grouted into masonry joints and made good with lime mortar. The front wall was stitched back to the return walls in the same way, and the new timber floor and wallplate were tied to carefully cast padstones to gently grip the weak masonry.

#### Restoration

Cracked masonry was carefully stitched together to restore structural integrity.



**LeeMcCullough**  
Consulting Engineers

*Project 3757: Residential - Restoration*

**69 South Circular Road**

**Client:** Private Client

**Architects:** Paul Arnold

**Value:** €1.5m (2008)

### Project scope:

- *Restoration of historic structure*
- *Integration with new extension*

### Historical Renovation

At LeeMcCullough we have exceptional experience of revitalising existing buildings, which is often more complex than the structural engineering of new buildings.

Over many projects we have addressed and resolved a wide range of issues, including:

- Strengthening historical joists and beams to carry increased loading
- Masonry Decay/Delamination
- Threading modern services into old structures

At LeeMcCullough we always seek to identify and resolve issues early, innovatively address demanding building difficulties and deliver our solutions on time and cost efficiently.

When it comes to renovation and refurbishment, anticipating and resolving engineering issues effectively is the key to a successful outcome.