PETRUF
Consulting Engineers Ltd.

COMMUNITY CENTRE

A contemporary two-storey community hub
Sand Wood, Portlaoise, 2026

The challenge

The project was relatively small, but the architecture was demanding. The precast structure had to follow the architect's form faithfully, including a main staircase with a circular landing supported on a single central circular column. The façade featured full-height, floor-to-ceiling glazing with no lintels, combined with long spans and loads from a steel portal-frame roof.

Client: Hollybrook **Precast Manufacturer:** Croom Concrete **Architect:** Cantrell & Crowley Architects & Interior Designers

Key elements

- Lintelless Full-Height Glazing
- Integrated Steel-Precast Hybrid Roof
- The Sculptural Precast Spiral Staircase
- Invisible High-Robustness Connections

What we did

We successfully resolved all **complex structural demands** entirely within the advanced Precast Concrete system, managing demanding spans, intricate geometry, and critical load paths.

Our team engineered **highly specific, bespoke connection details** tailored to provide optimal lateral stability and structural robustness, fully meeting safety criteria against disproportionate collapse. Furthermore, these connections were rigorously optimized to be **highly cost-effective and easily buildable** within extremely tight site tolerances.

By maximizing the s**tructural efficiency** of the limited space available, we eliminated the need for additional bolts or secondary structural fixings, streamlining the entire manufacturing and onsite erection process.

The result

- No additional columns or downstand beams were needed
- This was one of the precaster's first cross-wall structures
- Our 3D design input was key to allowing them to manufacture quickly and to a high standard, and to erect the panels just as efficiently
- The architect's design intent was delivered in full, without structural compromises visible in the finished building

Why it matters for MMC systems

Precast Concrete is often seen as suited only to repetitive, standard buildings. This project shows that, with careful engineering of spans and connections, a precast system can deliver architecturally ambitious forms while keeping the speed and quality benefits of offsite manufacture.

+353 45 498 201 www.petruf.ie info@petruf.ie