



PRECAST SOLUTIONS

Est. 1973



Custodial
Award Winning Precast Concrete Solutions

Warren Hill Young Offenders Institution

Client: HM Youth Justice Board

Precast Supplier: Creagh Concrete, The Marble Mosaic Company Ltd, Charcon Precast Solutions.

Structural Steelwork: Archer Structures Ltd

Main Contractor: Kier Eastern

The design, procurement and erection of a new youth offenders' house block on behalf of main contractor Kier Eastern, using PCE's well-proven formula for offsite manufactured accommodation.

Warren Hill presented a unique challenge as it combined all the typical features associated with a larger prison – kitchen, offices, medical, dental and learning facilities – along with a 60 cell capacity inside a much smaller and bespoke footprint than usual.

PCE responded to with a clever combination of both precast concrete and steel structures; delivering the architect's version without compromise.

The solution features brick-faced external insulated composite panels, precast internal walls, floors and stairs, amounting to 600-plus components of various types, all erected and finished to schedule by PCE's experienced team.

PCE also used its expertise and supply chain to design, fabricate and install the main roof steelwork, a complex arrangements of mono-pitched, dual-pitched sections.

The overall design provides a complete turn-key solution by integrating as much of the building's services and

security measures in to the casting process. These include under-floor heating mats, cast-in cell windows and grilles, cell door frames, electrical conduits, shower features and drainage channels.

This innovative approach increased the robustness of the finished Building and further reduced the construction programmes of PCE and follow on trades' by minimising labour resource and designing out or reducing potential health and site safety issues.

Off-site manufacture also assisted with the quality control and uniform aesthetic appearance of units, ensuring dimensional accuracy and a concrete finish suitable to take a direct decoration with minimal site works.

PCE's composite panels, combining two wall skins and insulation, exceeded Building Regulations U-value target and assisted in achieving the building's air tightness requirements.

PCE were also responsible for co-ordinating the supply chain for the diverse range of components, and for planning the logistics of strict timed deliveries from suppliers.

PCE's approach to the management of the project meant the key challenge of delivering Kier's tight timescale requirements were ably achieved, with just 16 weeks to complete the design, and an erection programme spanning just 15 weeks.

