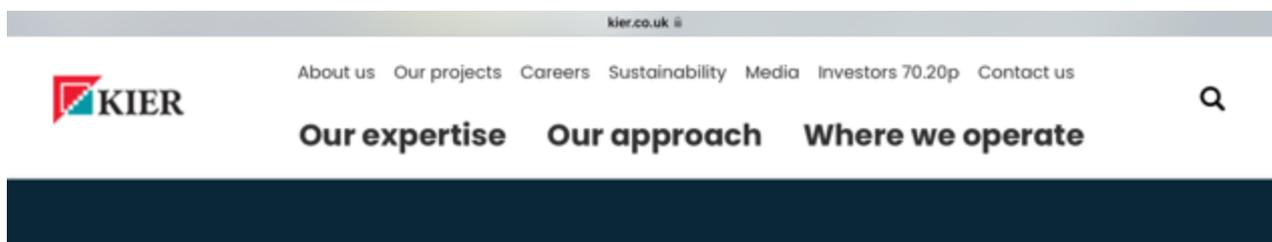


SCREENSHOTS FROM CONTRACTORS' WEBSITES
kier.co.uk/our-projects/hmp-five-wells
www.constructingexcellence.org.uk/
<https://pceltd.co.uk/wellingborough-prison-development/>
<https://fpmccann.co.uk/>



The Result

HMP Five Wells represents a step change in the evolution of Design for Manufacture and Assembly (DfMA), offering technological and operational improvements over two preceding prisons, achieving a platform for delivering future prisons more quickly and efficiently with better outcomes.

The HMP Five Wells facility was built 22% faster than traditional construction methods. Offsite manufacture reduced on-site labour by a third compared with traditional construction, with prefabricated MEP alone saving 54,000 working hours on site.

The legacy for HMP Five Wells is already being realised on the 10,000 places prison programme, where the platform design is being used at a new 1,680-place prison at Glen Parva.



PCE and Offsite supply chain set to beat production plans for large custodial project Glen Parva

Scale and flexibility are key benefits that PCE Ltd bring to its clients, and there is no better demonstration of this than with the HybridDfMA **Secure Prisons System** currently being delivered at the **Glen Parva project**, where more than 13,000 precast concrete components are being manufactured in just 10 months.

The precast concrete elements are being supplied by no fewer than 7 factories, allowing PCE to take advantage of the entire capacity within the precast manufacturing market along with the capability of each respective factory.



In total over 50,000 offsite manufactured components from multiple locations around the UK and Southern Ireland went through PCE and Kier's stringent quality regimes prior to being delivered to site. This was only possible through effective collaboration and the adoption of sophisticated digital tracking tools linked to the BIM model. Duplication was avoided through resource sharing and real time data capture at the manufacturing and assembly stages meant that the project team maintained control at every stage of the process.

DfMA and offsite manufacture

A core feature of the programme is to optimise how the MoJ's assets are designed, procured, delivered and operated, through a Design for Manufacture and Assembly (DfMA) or 'platform' approach.

As project integrator, Kier is driving a manufacturing mindset for Wellingborough by bringing together a diverse team to deliver this component-led approach. The scheme incorporates repeatable, standardised components and assemblies across the thirteen buildings on site. Circa 80% of the design has been standardised, leaving just 20% as site-specific design. This means that the component assemblies designed for Wellingborough can and will be used on subsequent MoJ prison projects, leveraging economies of scale for the programme.

Kier is making extensive use of precast concrete components (15,183 precast panels plus more than 60,000 sub-components), bringing together three separate precast suppliers, Bison Precast, FP McCann and Banagher – a total of six different factories across the country – as well as precast management company PCE. This approach is reducing risk, as well as enabling a high level of innovation and collaboration between Kier and its supply chain partners.

John Handscomb, procurement lead at Kier, said: "Beyond bricks and mortar, our approach at Wellingborough is facilitating high levels of collaboration across our supply chain. By collaborating across several different suppliers, each business is able to work to their strengths to deliver offsite excellence and a better product for our client."

FP McCann's crosswall system of constructing multi-unit accommodation has been used extensively in prison construction over the last fifteen years.

The advantages of the precast concrete modular building system are many when compared with other forms of construction and in particular with in-situ concrete. Door frames, window grills, electric conduits and boxes are all cast within the concrete wall and floor units.

The speed of construction allows all follow-on trades to commence work almost simultaneously without one waiting for another. Roof cladding, windows, brickwork, services, decoration and fit-out sub-contractors all work together to drastically reduce the time required to complete the final construction.

With FP McCann's vast experience of manufacturing prisons and the benefits of precast concrete including the robustness of structure, the obvious security benefits which together produce a relatively maintenance-free structure with good fire resistance, acoustics and longevity, all equate to the ideal solution for any custodial project.

We can ensure that a fully co-ordinated design solution can be achieved to meet any criteria.