



HMP Five Wells



Winner of
**Building Project
of the Year Award**

Project Details

Location	Wellingborough
Contract value	£253m
Type of work	New build
Construction product	Prison
Client	Ministry of Justice
Start date	April 2019
End date	November 2021
Area	65,000m ²



Project Background

HMP Five Wells was completed on time, to budget and provides around 1700 prison places. It truly represents the evolution of offsite manufacture, featuring a design that will be used to deliver a further five new prisons in coming years, with 80% standardised components.

The prison was constructed on the site of the former HMP Wellingborough, which closed permanently in 2012. The site faced challenging topography so regular drone surveys were scheduled to record via photogrammetry; providing survey data 70% faster and saving two days per survey. This method proved less expensive and safer; taking people out of dig areas with heavy machinery.

An additional challenge faced in the delivery of this project was the location of the site. It is bounded by the River Nene and the A45, as well as fishing lakes, a crematorium and a housing estate. Careful consideration of the local area was therefore required.

Benefits

- Offsite manufacture saved 30% in on-site resource
- 80% standardised design to aid repeatability
- Pre-Manufactured Value (PMV) of 70%
- BREEAM Excellent
- 90% construction waste diverted from landfill

Outcomes

Digital design and offsite manufacture minimised onsite accidents



15,183 precast components weighing 27,055 tonnes



Precast contained 20-30% recycled content



241,705 KWH renewable energy generation per year



£135m social return on investment



On time and on budget, continued working during Covid-19 pandemic



Project Delivery

A core aim of the project was to optimise how MoJ assets are designed, procured, delivered and operated, through a Design for Manufacture and Assembly (DfMA) or 'platform' approach. Compared with traditional construction, this involved forming an integrated, cohesive team much earlier in the process, bringing in specialist input to maximise value. Kier worked in true collaboration with MoJ, Mace, WTP and supply chain partners to achieve outstanding results. The project achieved a 99.3% precast quality rate and partnering team surveys show 100% satisfaction for 'working together'.

This project's delivery through a Partnering Contract represents the first use of a Project Partnering Contract (PPC2000) across multiple Tier 1 contractors, providing a fantastic example of integration and collaboration.

HMP Five Wells was awarded a CCS Ultra Site recognition plaque and certificate at the National Site Awards for maintaining the highest standards in considerate construction. The project achieved highest marks for 'Respect the Community' and 'Value the Workforce', testament to the collaborative approach of the project team. This achievement was supported by the use of a Community Liaison Manager who provided regular updates to the local community, including newsletters, phone calls and emails.

With the support of digital design and offsite manufacture, reducing onsite delivery time by 22% and onsite labour by 33% (compared to in situ concrete and brickwork), construction was able to continue during the Covid-19 lockdown. Production was also able to continue at pace, with precast factories proving adaptable to new safety requirements.

HMP Five Wells was completed with over 3.1 million RIDDOR-free hours, despite the vast scale of the 36-acre site and the approximately 1,300 daily operatives on site at peak times. To achieve this, the project team made use of innovative technologies to address health and safety challenges.

This project embodies innovation through its use of a DfMA approach, collaboration, cutting edge technologies and sustainable features and deserved its win as Building Project of the Year 2022.