

# BIM PROJECT OF THE YEAR

## WINNER 2014

### Her Majesty Young Offenders Institute (HMYOI) Cookham Wood New Houseblock and Education Facility



**HMYOI Cookham Wood near Rochester, Kent houses young offenders. The project involved the construction of a 3-storey stackable concrete pod houseblock and a new 2-storey education building and was the first Government BIM Early Adopter project and arguably defined what Level 2 BIM is today.**

It was a steep BIM learning curve from the outset, balancing the various BIM maturity levels of team members, while minimising adverse impact. However, the partnering ethos of the PPC2000 contract lent itself to the adoption of BIM – adapting existing processes to place BIM at the core: learning to apply, do, review, innovate and re-apply; and revising working practices to create efficient issue resolution and processes.

A BIM Execution Plan (BEP) was developed from scratch, detailing the efficient use of compatible, cross-discipline federated models with comprehensive data, clash detection, and defining the procedure for model exchange.

The team used a virtual walk-through and tagging process to review live design issues which proved more efficient than automated clash detection. 4Projects 3G provided a secure collaborative platform to exchange/share 3D model information.

The 3D model allowed non-technical personnel to understand and contribute to the scheme early in the process. This drove operational FF&E cost/time efficiencies and supported the preparation

of new operational staffing regimes – achieving cost savings of £850k.

BIM delivered project design co-ordination improvements resulting in: reduced risk and increased certainty of outcomes; improved clarity of design; streamlined construction; and transparent end-user operation. Increased design confidence enabled the team to fully exploit design for off-site manufacturing. The houseblock cell pods were formed as three-sided boxes, resulting in a reduced building footprint, while BIM ensured the pods were manufactured to the correct dimensions and specification. A subsequent establishment report records fewer defects than expected for this type of scheme. Off-site manufacturing delivered a £26k saving, against an allowance of £36k. The design resulted in a reduced programme of 44 weeks – delivering time and overhead savings.

The incorporation of BIM, alongside other initiatives, contributed to savings made at HMYOI Cookham Wood, which when benchmarked were approximately 20% of the total build cost.

Cookham Wood's impact reverberates throughout the industry. The team sought to identify lessons learnt from the outset and this continued throughout the project – changing the way in which some deliverables were approached and provided live feedback to the industry. These have provided some of the foundations for the development of PAS 1192-2:2013, which informs best practice guidelines used by the industry today.

#### Judges' comments

**This is a compelling example for the future of the industry. The client provided a clear vision and the benefits of BIM were extended into the operational phase.**

**Cookham Wood demonstrates that 'legacy' is not just about the project. The commitment from this team is the basis for a new rule book for the design and build industry.**

#### FINALISTS

- **Berewood Primary School:** Hampshire County Council (HCC) Property Services
- **Gravesend Station Remodelling:** Schofield Lothian and Oakwood Engineering
- **Headmaster's House, The Oratory Preparatory School:** Francis Construction and Michael Aubrey
- **HMYOI Cookham Wood – New Houseblock and Education Facility:** Ministry of Justice
- **LUL Victoria Station Upgrade; BIM for Ground Treatment – Tunnelling Interface:** Transport for London



Ministry  
of Justice

