

Mark Turbutt BEng (Hons) CEng MICE

Director

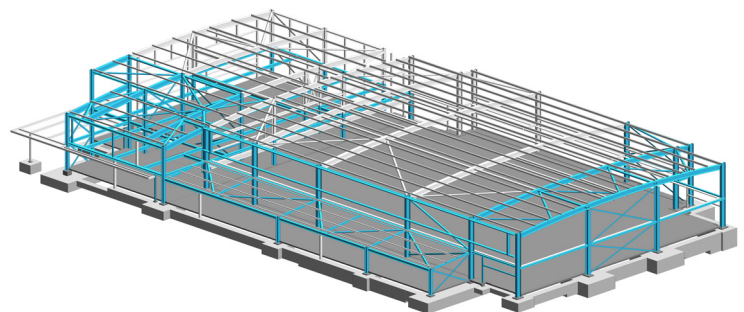


Mark is a keen and practical engineer, who prides himself on being able to balance the sometimes very scientific side of this profession with other very important factors such as buildability, and not least economy. A strong background in different disciplines gained over his time in the industry means he is able to confidently deal with various aspects of a single scheme and provide clients with the single point of contact which JPP as a company always aims for.

Mark is a motivated team leader, passionate about getting others involved in all aspects of engineering. He has the ability to converse with the general public, contractors, clients and other professionals, and clearly explain what issues are being faced and how to resolve them, allowing him to draw all parties together to achieve their common goal.

Mark undertook the design and coordination of the civil and structural engineering design of the new sports hall and associated two storey offices and changing facilities at St John's Boy's School Sports Hall. JPP worked together with sister company WEA Architects to deliver this scheme as Designers for the Contractor. Challenges throughout the scheme included; significant cut and fill requirements, with the sports hall located within an existing embankment; reducing the steelwork tonnage required by exploring braced a frame solution working with the end client team with regard acceptable bracing locations; accommodation of a green roof systems and; designing foundations for significant trees influence within shrinkable soils.

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Forterra Desford Brickworks, Leicestershire



JPP was in charge of delivering the civil and structural engineering design of Forterra's new Desford factory in Leicestershire which, officially opened in May 2023.

Our team provided engineering and consulting advice to Forterra as they progressed the multi-million-pound state of the art plant to be integrated into this new operation, where coordination and clear communication lines were key. JPP were involved from the very concept of the scheme assisting with potential site layouts and advising on key engineering matters such as the complex mix of ground conditions and how to phase a staged demolition and new build construction on the site, to maximise production continuity.

Structural Engineering works included interfacing with large site lagoons, construction of clay preparation buildings, conveyors, 30m tall chimney stacks, scrubbers, extensive external storage yards and at the heart of the scheme the 200m x 90m new main product building.



FORTERRA

This building will house 3 separate heavy crane systems, horizontal kiln lines and associated plant, a phased demolition / temporary works scheme was required over the construction period.

JPP's role also included pre-planning, temporary works design, civil, structural and architectural support.

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Kingston Park, Peterborough



JPP led the civil and structural design for 3 industrial units located in Kingston Park, Peterborough to produce a RIBA Stage 3 package.

The developer, Firethorn Trust, is constructing the distribution centres, the largest of which is 168m x 122.5m in plan with 15m clear internal storage height and two stories of offices.

Internal offices were included in all 3 units, with the third also accommodating a transport office.

The large portalised steel frames and suspended ground floor slabs are all supported by a piled solution. 3D modelling allowed for efficient spatial co-ordination between disciplines throughout the project, as well as enabling clear visualisation of the units through the design process.

Clear communication with the architect ensured alterations were identified early and incorporated quickly, even at a later stage.

Key design issues included very poor ground conditions identified by JPP Geotechnical, which require specialised ground remediation to enable external yards and car parking to be construction.

Extensive fire boundaries also provided a variety of challenges to the final foundation solution. Other issues included close proximity to a railway line which required close communication Network Rail.



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Bison Precast, Nottingham



One of the main casting shops at this precast concrete production facility operated by Bison (part of Forterra Building Products) includes a series of four overhead gantry cranes supported off the main building structure.

JPP Consulting's involvement began with design checks of the existing structure to enable replacement of an existing 12.5T SWL crane with a new 20T SWL model, to increase efficiency and productivity in a competitive marketplace. This included a site survey to obtain as-built information needed for creating a computer model for analysis of the effects of this increased load, followed by detailed calculations of the reserve strength available in the existing steelwork.

Over the course of JPP's works, Bison identified the need to further increase their overall lift capacity by using a pair of 20T SWL cranes to undertake 40T 'tandem lifts' of some of their largest products. Developing the previous analysis model further, JPP checked the existing structure and determined where strengthening works would be required to enable these lifts. Detailed drawings for a variety of areas requiring works were then prepared, ranging from additional restraints on building columns, to significant full-height stiffening of the frame.



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