David Biddulph IEngIMIStructE
Associate

David has experience in a multi-disciplinary role across Structural and Civil Engineering from individual domestic properties to low rise commercial warehouse and industrial units.

Being one of the longest serving employees of the original John Parkhouse and Partners, David has over thirty years' experience and has helped to progress the company to its current status within the JPP Group.

David is conscientious and prides himself on delivering a good quality service that invariably results in repeat business.

His areas of expertise are structural alterations, steel and masonry low rise domestic and commercial buildings, structural surveys and investigations including subsidence investigations, insurance claims and emergency/ temporary works design for typical fire and vehicle impact damage claims and quarry plant safety inspections. He also carries out the role of Party Wall Surveyor as required under the Party Wall etc.Act 1996.

T: 01604 781811
M: 07786 032157
E: david.biddulph@jppuk.net

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Anaerobic Digestion Plant, Northamptonshire

Anaerobic digestion (AD) is a biological process similar in many ways to composting, but without air. It is a natural treatment process and, as in composting, bacteria break down organic matter and reduce its bulk or “mass”. Its huge advantage is that it produces a gas called biogas which is just over 15% methane, and a clean-burning gas with huge potential for reducing carbon dioxide emissions.

We designed the steel frame structure, which includes pits and jib arms for sorting the waste and push walls for removal/ loading of the fertiliser by-product.

The structure was designed to incorporate all the mechanical and electrical plant used to generate electricity from the biogas to feed back into the national grid.

Our Infrastructure Design team were also involved from the outset with Fernbrook Bio assisting with overall plant layout, waste entry, treatment and storage of by-products. We contoured the site to provide the necessary containment bunds in the event of spillage. Any spillage will also trigger the designed/ detailed fail safe site drainage layouts.

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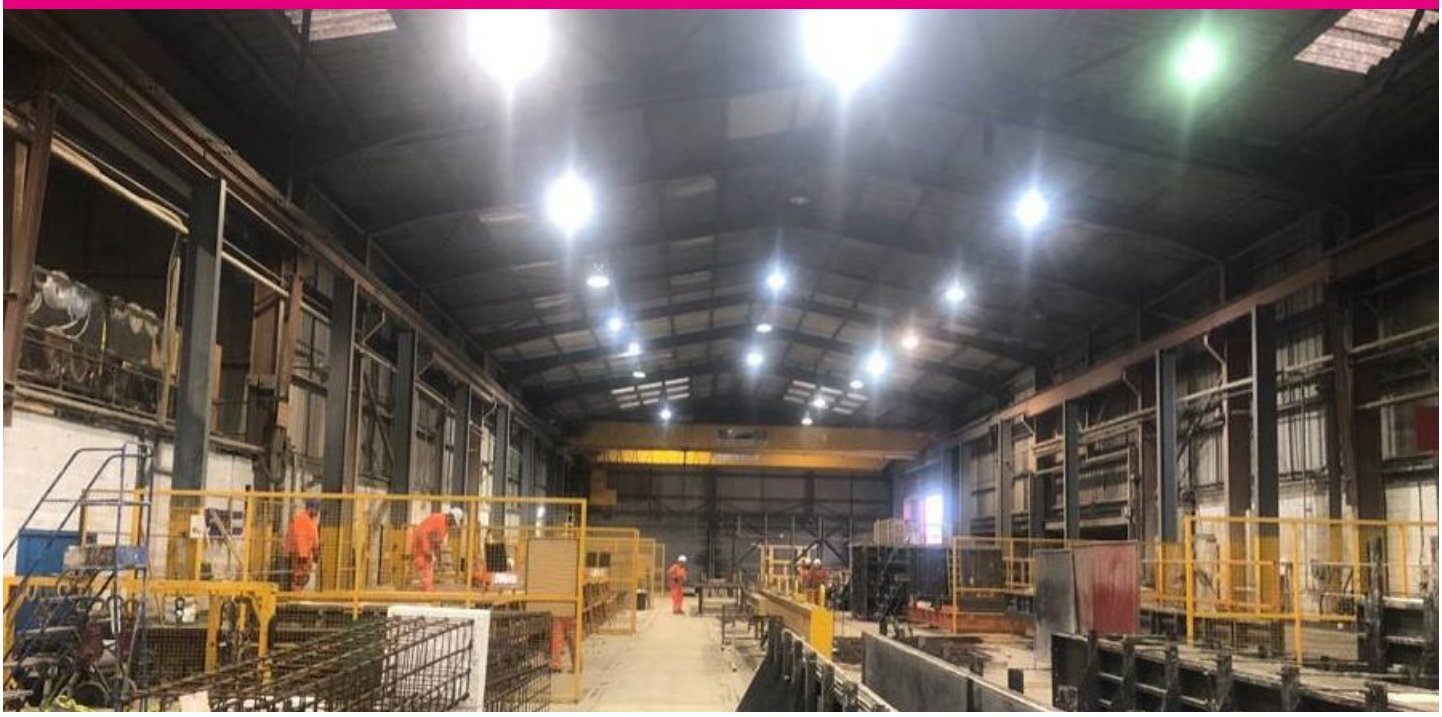
Bison Precast, Nottingham



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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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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