



Hinxtion Hall

Company Profile

Oscar Faber Consulting Engineers Ltd. provides a wide range of engineering design services from feasibility through building design to facilities management. Like many leading consulting engineers, Oscar Faber relies on computer-based technology to improve the accuracy, quality and efficiency of the design process.

The Project

A recent £50 million construction project, Hinxtion Hall, clearly demonstrates the advantages. Funded by the Wellcome Trust and the Medical Research Council, Hinxtion Hall is a campus-style research complex alongside an 18th Century Cambridgeshire mansion. Led by project manager and principal engineer Steve Gunning, the structural design program for the main 32,000 m² laboratory complex began in October 1993.



Poised to become an international centre for Genome research, the low-rise campus also includes conference, seminar and residential facilities. Having chosen an in-situ concrete frame, Oscar Faber is using Graitec UK'S SuperCONCRETE and SuperCAD to design and detail the structure.

The Design Concept

In undertaking the design from the architect's General Arrangement drawings, Gunning emphasises the intuitive thinking required to use the highly practical design tool, SuperCONCRETE.

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Once complete, the designs are transferred through an SCX link to SuperCAD. In Oscar Faber's experience, close cooperation between designer and detailer helps boost productivity levels. An AO 1:50 drawing, bar bending and weight schedule for eight beams takes just two days to compile. The speed and clarity of presentation allows 6,400 m² of complicated flat slab to be detailed on a single AO drawing at 1:100.

Like the engineers, Oscar Faber's detailers are "very impressed" with Graitec UK's software. Using SuperCAD- RC design, individual design elements are detailed, combined into finished drawings and the bar bending schedules automatically produced.

"SuperCAD's editing facilities are very powerful and useful. For example, geometric changes are modified using stretch commands on an existing detail to create new elements thus saving time and providing a library of details for the future," said Gunning.

Project Outcomes

From the manager's point of view, Gunning believes that Graitec UK has the right solutions. "In the hands of experienced staff" he says, "the clarity of the design and detail drawings produced by SuperCONCRETE and SuperCAD is excellent." Integration between the two suites allows Oscar Faber to "be totally in control".

"We had not used electronic RC detailing on such a large project before. We invested in SuperCAD for Hinxton Hall and the future. Our decision has proved very successful to date."

According to Gunning, good productivity has been essential. By completion, Gunning estimates that 75 AO 1:100 and 1:50 reinforced concrete drawings will have been produced. These detail 3,000 tonnes of reinforcement in pile caps, slabs, walls, columns and beams.

Oscar Faber's software investment also extends to structural steelwork design. Not surprisingly, this includes Graitec UK's SuperSTRESS frame analysis, SuperSTEEL for design and SuperMODEL for detailing links to AutoCAD. Used with the RC software suites, Gunning says that Oscar Faber has enjoyed a totally integrated engineering solution. With the valuable experience gained at Hinxton Hall, many future projects will undoubtedly benefit, from the earliest presentation stages to the final production of construction drawings.

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