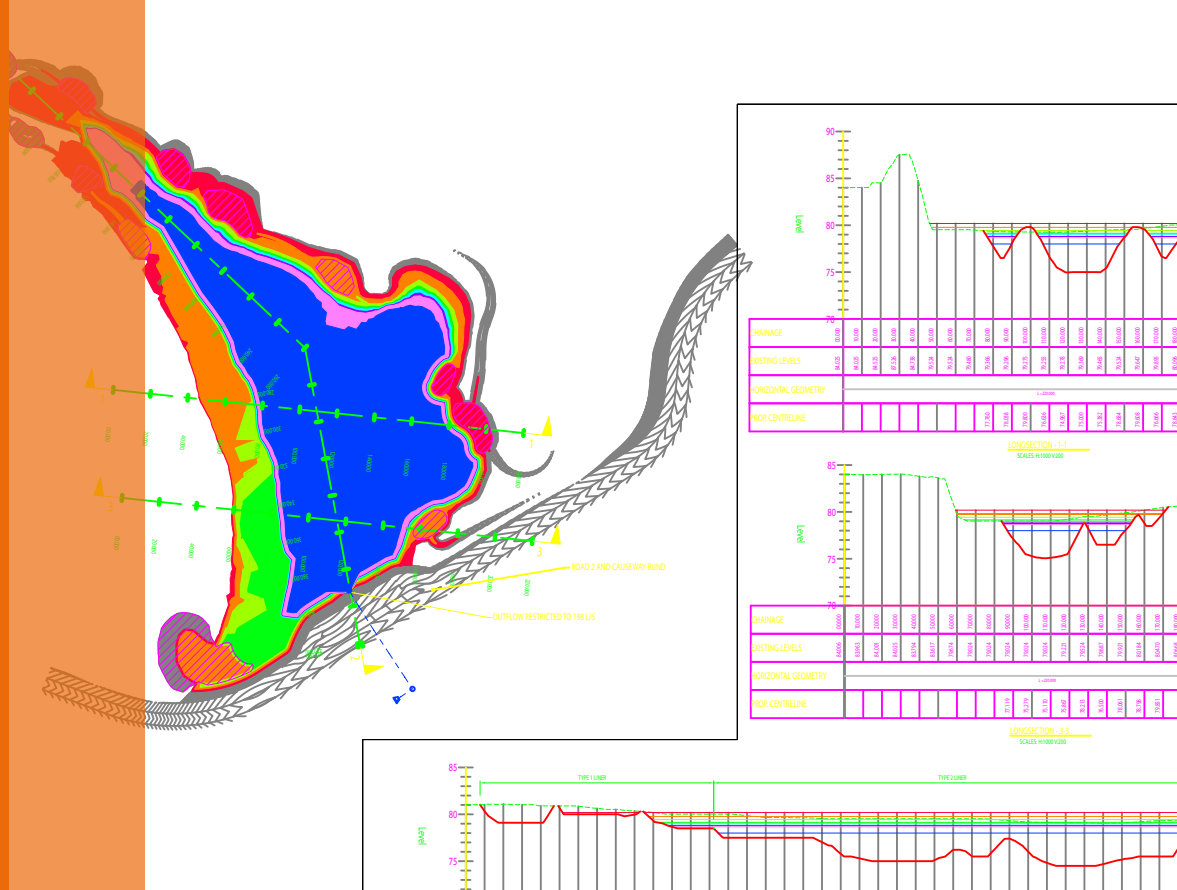


Clarke Bond

AutoCAD® Civil 3D®



Moving the earth for a new, sustainable community

Clarke Bond maximises the benefits of AutoCAD Civil 3D

“We’ve found it very easy to use – you have to think slightly differently, but once you’ve mastered that it’s far faster. We’re flying through the work now and saving at least three or four days on each individual project within the grand scheme.”

Daniel Kretschmer

Senior Technician, Clarke Bond

The current trend for creating entire new communities, often on regenerated land, has led to a whole new class of project. These are far more than housing developments – instead they have much in common with the new towns of the 1950s and 60s, but with one difference. This time the emphasis is on scale and sustainability.

The fact that these developments are generally built on brownfield sites means they bring with them plenty of work for the civil engineering community. For example, Clarke Bond has been appointed as the engineering consultant for the design and management of £100 million of infrastructure to support the £1 billion-plus Priors Hall development at Corby, Northamptonshire.

Helping the team in their work on this huge 15-year programme is AutoCAD Civil 3D. Faruk Pekbeken, Clarke Bond associate director, explains that after surveying the market, this was the solution that most suited their needs. “We wanted something that would help us with the major earthworks connected with such a development, but also provide us with a roads package. But the main criteria was that it had to be easy to learn.

Many of our staff were using AutoCAD LT, so the fact that Civil 3D is AutoCAD-based is really helping to eliminate the hassle we would otherwise have when migrating to a new solution.”

Double plus

The 385 hectare Priors Hall site is located to the east of Rockingham Speedway, north of the A43 at Weldon. The site has had a colourful past. From the 1940s, large parts were quarried for ironstone for the use in local steelworks, but when these closed in 1982, planning permission was granted for something entirely different; a “WonderWorld” theme park.

For one reason or another, WonderWorld never materialised but the area remained earmarked for development. Now, there are plans for 5,100 residential units, three primary schools, an academy, three district centres, a 300 bed hotel and commercial units. In fact, Priors Hall is expected to create around 3,000 jobs itself, all helping to form a vibrant and sustainable community.

Clarke Bond’s brief includes providing strategic support and detailed design of the project. This includes access roads and bridges, several kilometres of spine roads, provision of utility services, design of all drainage measures and major earthworks modelling.

Pekbeken and his colleague, senior technician Mike Evans, describe how they did a very thorough market analysis to decide which software to use. “We investigated around four solutions and then narrowed it down to Civil 3D and Bentley MX,” says Evans

Autodesk®



"However, the AutoCAD connection was a double plus for Civil 3D. Firstly, it seems very familiar to anyone who has used AutoCAD so there's no long learning curve – and secondly it's totally compatible with AutoCAD so there was no need to migrate everyone to the new solution."

They both add that the dynamic model and the way it manages changes was also a major factor in the decision. Pekbeken continues: "The work is complex – because the site was originally a quarry, we need to stabilise the ground in critical areas."

"We're also creating an area of natural beauty – with amenities such as a lake within the development. This also involves significant earthworks and precise volume calculations. For example, we are considering developing the lake so the surface water run off can be used for rain water harvesting," he says.

Civil 3D is not the only solution to calculate earth volumes but it does it in a way that is simple, fast – and also very accurate, because the database behind the dynamic model updates itself automatically every time a change is made. This also means that precise engineering costings are available very early on in the process.

"At this stage of the development, it is extremely valuable to be able to make the client aware of the cost implications of essential land clearing or design features such as the lake. Yes, of course we did this before using Civil 3D, but you had to make assumptions and estimates – now we can give more realistic assessments," says Pekbeken.

Daniel Kretschmer, senior technician, is particularly appreciative of the way the dynamic model works: "The project planning process always involves many changes – but previously we would have to waste time re-drawing sections. Now changes aren't such a major issue and can be dealt with quickly and efficiently."

Kretschmer is certain that using Civil 3D has improved productivity and general workflow. "We've found it very easy to use – you have to think slightly differently, but once you've mastered that it's far

faster. We're flying through the work now and saving at least three or four days on each individual project within the grand scheme.

"It reduces the many tedious and time-consuming tasks we used to have to do, such as changing labels. Therefore, we have much more time to do the more satisfying jobs," he says.

The project is now in its third year and moving onto the road design and the next stages of infrastructure development for zone one of Priors Hall. The client, Catalyst Corby, is beginning to pass on the first plots to individual developers.

Clarke Bond continues to play a key role – working with Corby Borough Council to ensure developers stick to the stringent planning rules, with Northamptonshire County Council on the highways and with Connect Utilities on the drainage.

Meantime, Evans is looking to the future. "When we first tried Civil 3D we fed our comments and requirements back to Autodesk and several of our suggestions have been incorporated in the 2009 release. Now we are confident that Civil 3D will develop with us."

But, he does have one small issue with the software: "Its speed is excellent – when you make a change, you can see the difference immediately.

"However, this means there's not so many opportunities to go and make a cup of coffee while the program catches up," he says.

For more information

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