



# The Dirt Digger



## Welcome...

**t**o the December 2001 issue of the Dirt Digger. As predicted in our last issue, Christmas is suddenly well and truly on its way, having crept up even faster this year it seems!

We have an exciting issue for you, with a variety of news from Australia and around the world.

To start with, we could not pass up the opportunity to sing our praises to that terrific trio of Queensland, Ian Cameron (4D Solutions Distributor of the Year again!), Peter Taynton, support person for our Queensland customers, and surveyor Noel Burton.

Next, we're sure you'll be interested, if not surprised, to hear the grand total number of countries in which 12d Model software is now being used - a magic number which we hope will continue to rise in the coming years!

We also take you to the United Kingdom where 12d Model is being used by Waterman Civil & Transportation Group and associated firms, and to New Zealand where architecture firm Gary Pidd Architect Ltd has jumped aboard our bandwagon to assist them in building a database of more than 200 NZ schools.

We must apologise for not being able to include all our new customers in the 'Welcome Aboard' section straightaway, but there are so many that they overwhelm the available space!

Our final feature this issue moves to Victoria where our distributor, Steve Crossley, has run training courses for over 200 final year Civil Engineering students from RMIT and the University of Melbourne.

We hope you enjoy this issue of the Dirt Digger and look forward to any suggestions you may have for future issues. Remember, if you are a 12d Model user and have any technical tips, we would love to hear them so we can share them with other users.

Merry Christmas and Happy New Year!

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## Distributor of the Year

**W**ell, they've done it again! Ian Cameron of Technical Solutions, Queensland, supported by Peter Taynton and Noel Burton, is the 4D Solutions Distributor of the Year for the second year in a row!

2001 proved no problem for Ian as he again topped our charts in the sales department, as well as continuing his impeccable service to our Queensland users of 12d Model.

Ian's real-world experience in the fields of civil engineering and surveying have continued to serve him well in his work with a variety of customers.

Peter Taynton, a veteran 12d user, continued to give tremendous support to our customers, as well as giving many excellent training courses. Peter has also been involved with developing options in 12d Model.

Noel Burton, a more recent addition to the Queensland team, has helped our development and introduced 12d Model to surveyors through demonstrations and training.

Your service has been invaluable to us, Ian, Peter, and Noel. Keep up the great work!

## 12d expands around the world!

**M**ost of you are probably aware that 12d Model has been marketed outside Australia as well as within our shores, but just how far have we reached out?

We decided recently to figure out how many countries now have 12d Model users. The grand total: 32!

The list:

Algeria, Australia, Bangladesh, Canada, China, Egypt, Ethiopia, France, Fiji, Ghana, Hong Kong, India, Indonesia, Ireland, Korea, Lebanon, Malaysia, Mauritius, Morocco, New Zealand, Pakistan, Papua New Guinea, the Philippines, Seychelles, Singapore, Sri Lanka, Tanzania, Thailand, Tunisia, the United Arab Emirates, the United Kingdom, and the United States of America. Phew!

We've had numerous reports of 12d Model operators from Australia obtaining positions in the UK and Ireland as soon as they've contacted our local distributor.

12d Model is now truly an international product.

## Waterman flood the UK

**W**aterman Civil & Transportation Group (WCT) was one of the original 12d users in the UK and have finalised an initial study for a housing development of 3000 homes at Waterlooville on the South Coast of England.

This study involved a detailed assessment of flood risk in the area. The Environment Agency had done rough flood outlines based on a 50m grid using the Flood Studies Report, but a detailed assessment was required for planning to determine the existing flood plain and to compare this with another 'post development' flood study.

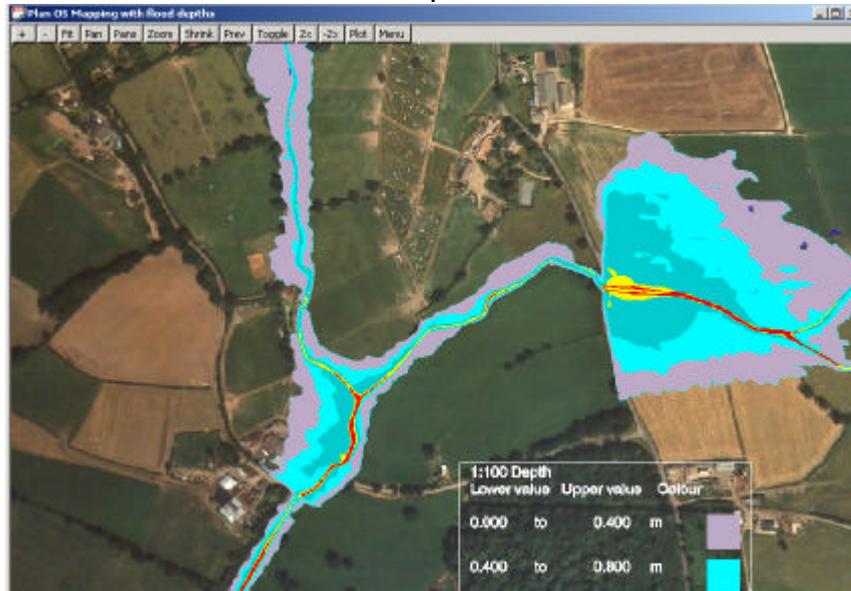
For cost and speed, aerial photogrammetry was ordered to cover the entire site and local surveyors were used to locate the property boundary using traditional means. The resultant photogrammetry (dgn format) and boundary (dxf format) were merged into a single 12d digital terrain model of several hundred thousand points.

To obtain finer detail of the river and to verify the model of the plain, further detailed river cross sections were then surveyed. In the office, work began on building the HEC RAS project inside 12d.

After ensuring concurrence on hydrological methodologies with the local Environment Agency office, WCT carried out the back water hydraulic study.

Graduate Engineer and 12d user Richard Russell said, "Using 12d with HEC RAS I was able to devote more time to sensitivity tests in HEC RAS and in 12d. I had the luxury of time to try different roughness coefficients and to test if ground cover picked up with the photogrammetry had a significant impact on the results. This gave us better confidence in the final results".

In addition to creating the HEC RAS project, 12d was used to present the water level results. Detailed drawings were produced for submission to the Environment Agency. Internally the visualisation abilities in 12d allowed quick checking at all stages including the final water levels.



*Aerial photography for this article courtesy of Infoterra.*

Project Director for WCT, Stuart Aldridge, commented, "12d cut the time taken for this type of study significantly. This was the first time we had used 12d for flood modelling and we were very impressed.

"Previously, significant resources were devoted to what I now view as laborious and unnecessary data entry. We

also get to use survey data at a much earlier stage, which is proving useful on such a big development. We still propose a detailed survey for a later date, but for now our client can defer the significant cost of the survey until much later."

While WCT and their client were benefiting from using 12d on this project, the two other parties involved also had

the opportunity to see 12d in action on a live project. Although both have different interests and uses for 12d,

surveyors Julian Brotherton & Partners and the Environment Agency were both impressed with 12d's quick manipulation of data and 3d abilities. Within a few months both parties became 12d users themselves.

## COMING SOON - new Survey features

Since releasing 12d Model for Surveying this year, 4D Solutions have been rapidly adding new survey features to 12d Model.

Some features, such as increased support for Topcon instruments, are already available in Version 5. Other features currently under Beta testing and due for release in the new year include:

- extra field codes including shape pickup
- least squares adjustment for horizontal and level nets
- height adjustments using plane or difference tins
- interactive traverse creation and editing
- traverse spreadsheets, including reports to the New Zealand standard
- conversions between NZ49 and NZ2000 using the NTv2 grid.
- Building Facade pickup & drawing
- Panterra Interface

We'll keep you informed on future progress.



## Forethought takes NZ architects to the forefront

**12** year old New Zealand firm Gary Pidd Architect Ltd has jumped on the cutting edge of technology with its innovative use of 12d Model for an ongoing project to build a database of over 200 schools.

The project involves surveying each site and recording all buildings and features such as paving, ramps, trees, play equipment, covered ways, car parking facilities, sealed areas, and grass areas. This information is then converted into DWG files for supply to the customer.

The firm had previously won a smaller contract to survey schools, but had completed this by hand. When competing for this larger contract, Gary Pidd Architect investigated modern equipment to see what it could do for them.

True first-time users, the firm had not previously used any surveying software, and had only used manual theodolites. Mr Pidd initially found the New Zealand distributor for 12d Model on the Internet using a search engine. Sokkia in Wellington gave the firm a demonstration of Sokkia instruments and 12d Model software. Mr Pidd was impressed right from the outset. "With Sokkia, we went to a school site, took some measurements, then went back to our office and downloaded it straight onto our computer from the data recorder," he said.

"We wanted a system which functioned so that when we coded the data in the field, it was automatically given colours, linestyles, symbols such as trees and flagpoles at points when downloaded and reduced. With no extra work, it was then all there as a basic outline of the school!"



Other choices of equipment for the contract included an aerial photograph system and GPS, which Gary Pidd Architect discovered couldn't give them the accuracy they needed for this job. Using a Practise Version of 12d Model combined with the intended use of Sokkia instruments, the firm put together their proposal, and their chosen methodology won them the contract.

The company has completed plans for 20 schools to date, and estimate the project will take about 9 more months to complete. They have calculated the amount of time saved

using 12d Model rather than previous methods as being around 20%!

"The program is so tailorable," Mr Pidd said. "You don't have to know all the codes that are in there; just use the one system that you have set up! It's brilliant! Some of the sites have up to 400 measurements, yet you come back into the office with them, and 15 minutes later, there you are with a plan!"



Another aspect of this modern technology the firm found particularly helpful was the ability to download data files on-site, and email them back to their main office. "Some of the schools are miles away, so this is a great feature for us," said Mr Pidd.

The firm plans to use 12d Model on all future work. In the words of Mr Pidd, "We will never use just the old theodolite equipment again!"

Anyone wishing to contact Gary Pidd Architect Ltd may do so on: [garypidd@xtra.co.nz](mailto:garypidd@xtra.co.nz)

## STOP PRESS - Increased support in NZ

Due to the tremendous response to 12d Model in New Zealand, Lane Irwin is now operating full time as 12d NZ Limited, selling and supporting 12d Model.

Lane is currently touring both Islands of New Zealand, giving demonstrations and running training courses.

Further Civil Engineering and Surveying seminars and training courses will be conducted throughout New Zealand in the new year. To advise your interest in these or any other 12d Model activities in New Zealand, please contact Lane on 027 477 7787 or send an email to [lane@12d.co.nz](mailto:lane@12d.co.nz).

Note that 12d Model is still available from Sokkia in New Zealand.

*Stay tuned for further announcements regarding our progress in New Zealand!*

## Welcome aboard

*Sorry, but due to lack of space, many of our new licences/ additions must be left until the next Dirt Digger.*

A C Surveying Company - NSW  
 Adamson Land Surveyors - NZ  
 Advanced Surveys - Ireland  
 A V Spagnolo & Associates - NSW  
 Barossa Council - SA  
 Baseline Consulting- Qld  
 Bligh Tanner - Qld  
 Brierty Contractors - WA  
 Brown & Root - Bundaberg, Brisbane  
 Buckton Lysenko - NSW  
 Caloundra City Council - Qld  
 Cardno MBK - Brisbane, Sunshine Coast, Gold Coast  
 City of Charles Sturt - SA  
 Civil Site Services - NSW  
 Coffs Harbour City Council - NSW  
 Connell Wagner - Darwin, Perth, Sydney  
 Coomes - Vic  
 Cossill Webley - WA  
 CRS Geomatics - Qld  
 David Ayriss - Qld  
 Dept for Planning & Infrastructure - WA  
 Dezign Works - NZ  
 District Council of Ceduna - SA  
 District Council of Lower Eyre Peninsula - SA  
 District Council of Loxton Waikerie - SA  
 District Council of Yankalilla - SA  
 Environment Agency - UK  
 Eurobodalla Shire Council - NSW  
 Flanagan Consulting - Qld  
 Gary Pidd Architect - NZ  
 GSC Environment - France  
 GHD - Brisbane, Perth  
 Graham Scott & Associates - Qld  
 Gundagai Shire Council - NSW  
 Halpern Glick Maunsell - WA  
 Hyder Consulting - NSW  
 Jeff Brown Surveys - NSW  
 Jim Stirk - WA  
 John Wilson and Partners - Qld  
 Hawkes Bay Regional Council - NZ  
 Hinchinbrook Shire Council - Qld  
 Horizons M W - NZ  
 Jacobs Gibb - UK  
 Jones & Zorn - NZ  
 Keith Altmann & Associates - Vic  
 KLM Development Consultants - Vic  
 Kolan Shire Council - Qld  
 Liquid Measure - Qld  
 Lousville Army Corps - USA  
 Logan City Council - Qld  
 Lynton Surveys - NSW  
 Michael Bereza  
 Midland Tafe - WA  
 Muir Associates - Ireland  
 New Zealand Police - NZ  
 Noosa Shire Council - Qld  
 Ove Arup - Sydney, Adelaide  
 Onkaparinga Institute of TAFE - SA  
 Otak Inc - USA  
 Pacific Survey Teams - NSW  
 PH & KE Gow - WA  
 Philip Xeros - NSW  
 Pine Rivers Shire Council - Qld  
 Richard McClure - NSW  
 Ross Campbell & Assoc - Qld  
 Rowen Meyer & Assoc - Qld  
 RTA - Grafton  
 Scott Wadley - NSW  
 SEH Inc - USA

Shadforth Computing - Vic  
 Shire of Campaspe - Vic  
 Taranaki Regional Council - NZ  
 Tomkinson - Vic  
 Town of Narrogin - WA  
 United Water - SA  
 Watkins Group - Qld  
 Wellington Regional Council - NZ  
 Wide Bay Engineering Surveys - Qld  
 Yandilla Park Services - SA

## More 12d operators on the way!

# 4

D Solutions Victorian distributor Steve Crossley of SCS Software in Melbourne has recently run training courses for over 200 final year Civil Engineering students from Melbourne's RMIT and the University of Melbourne.

The training courses included a two-hour lecture presentation followed by a two-hour tutorial presentation, after which an assignment was set to pick up where the tutorial left off.

"During the tutorials, students worked through a reasonable amount of the 12d Model program, then were able to use the skills gained to complete their assignments in their own time on university computers," Steve reported.

"The training program became an important part of their Civil Engineering courses because it counted toward their final marks. This really helps the students to stay focused and realise the value of proficiency in a Civil Engineering package such as 12d, not only while studying, but also for the future."

## Top sales & support

# 4

D Solutions is committed to providing not only the best surveying/civil engineering software on the market, but also the best service and support.

Expert sales support is available from:

**Tony Ingold** at Lakeshead Services in NSW  
 tingold@12d.com Ph. (02) 9970 7117

**Maria Bernhagen** at Critical Image in WA  
 critical.image@hutch.com.au Ph. 0411 601 066

**Steve Crossley** at SCS Software in Vic  
 steve911@ozemail.com.au Ph. (03) 9802 8849

**Ian Cameron** at Technical Solutions in Qld  
 techsol@tpgi.com.au Ph. (07) 3378 8702

**Richard Worrow** at Waterman IT in UK  
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**Lane Irwin** at 12d NZ in NZ  
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**Anthony Kuch** at XP Software in Canada  
 anthony@xpsoftware.com Ph. (877) 533 4533

**Marina Buchot** at XP Software in USA  
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**Francis Sibenaler** at Sokkia in Singapore  
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*For further details on our sales and support representatives, see our website [www.12d.com](http://www.12d.com)*