



The Dirt Digger



Welcome...

to the August 2002 issue of the Dirt Digger. What a year it's been so far, and hasn't it flown by? It's a wonder we can find our newsletter-typing fingers in the wake of Easter egg wrappings, and through the post- Christmas-in-July haze! Watch out for our new company name, 12d Solutions, on upcoming emails and invoices. Since changing our product name from 4d Model to 12d Model was such a success, the company name is following suit!

In this issue, we are pleased to announce that, although 12d Model version 5 was released just one year ago, version 6 is already on its way! The expected release date is September 2002.

Also in recent exciting news, Main Roads Western Australia has announced that 12d Model easily passed tests of its volume calculations against Main Roads standards.

In this Dirt Digger, we return to Australian shores after our international issue, to talk about Queensland firm Max Padovan and Associates, whose successful project has given Brisbane a brand-new busway.

After our interlude in sunny Queensland, however, we travel back to the United Kingdom, where an Australian operator is making us proud in Northala Fields land redevelopment.

South Australian Surveyors should take note that the 12D team has a new addition - Michael Brehmer (ex Sokkia) is now available for 12d Model sales and support.

You may note that we have devoted more space than usual to our Welcome Aboard list. This has been done as a 'catch-up' since we always leave so many of you off due to lack of space. Nonetheless, we still could not fit everyone on! If sales continue on this bent, we may need a 6-page newsletter! We take this opportunity to thank our valued customers for your continued support.

We hope you enjoy this issue of the Dirt Digger, and look forward to updating you once more in time for Christmas.

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12D Solutions takes flight

Customers may notice in the near future that information from us will say '12d Solutions' instead of '4D Solutions'. This is not an error - the marketing arm of our firm is now called 12D Solutions Pty Ltd. The company 4D Solutions still exists, but will concentrate on R&D.

Version 6 is on its way!

We are pleased to announce that the latest version of 12d Model, version 6, will be released in September 2002.

Those on maintenance will automatically receive a copy of the latest version. Please be patient if yours doesn't arrive immediately, as there are many upgrades to take care of and this will take some time. Rest assured it is on its way.

Upgrade seminars are being held around Australia and overseas. Please refer to our website www.12d.com for details of seminar dates and locations.



Image from the Visualisation module in 12d Model V6

WA Main Roads

The Department of Main Roads, Western Australia, has recently undertaken a study testing volume calculations using 12d Model against their departmental standards.

It is now official that 12d Model passed the tests with flying colours and can be used for volume calculations on the Department's projects.

Busway success

Founded by Max Padovan in January 1988 and incorporated in November 1995 in response to increased demand for its services, Max Padovan & Associates (MPA) continues to expand and now has offices in Brisbane, Maleny, Mackay, and Charters Towers. The firm can best be described as being in the business of providing surveying services to increase the productivity and reliability of Project environments through the assessment, implementation and ongoing support of surveyors, survey crews and in-house surveying computer services. MPA's key strength has been the ability to provide a surveying consultancy service with particular emphasis on the standards and practices used on each Project.

From initial assessments through to final implementation, MPA has undertaken and completed several medium-to-large Mining and Construction Projects during recent years, including Projects for several large corporate clients.

Recent Projects include the Roma Street Parklands, Queensland University Convention Centre, the Gold Coast Rail Line – Civil 7, the Roy Wallace Building at Southbank Institute of TAFE, and the Southeast Transit Authority – Package 4 – for which 12d Model was used with great success.

MPA was the survey consultant to the principal contractor Henry Walker Eltin for the South East Transit project SET4. The project consisted of 6km of busway from Brisbane's Nathan to Eight Mile plains with the addition of transit lanes to the Pacific Motorway. Associated with the construction was approximately 8km of retaining walls, 13 bridges, and 2 bus stations.

12d Model was chosen as the main software package used by MPA on site, a decision which was never regretted as more features were added throughout the project and greater reliability was placed on it.

As progress claims are submitted by the contractor at the end of each month, quantities are required quickly and in such a way as to allow future auditing and justification of the claim. The use of supertins in 12d Model allowed MPA to complete their field survey using predominately GPS, then produce a surface which combined all of the previous months' surveys. Often the requirement for detail and bulk quantities to be broken down by geographical area and type meant that 80-100 separate quantities were reported that month in their survey report.



As an aid for construction planning and mass haul calculation, the remaining quantities to end of project were also reported. This entire process could be completed within 2 days from the start of the end-of-month process.

“Often there is a need to relate the design concept to field supervisors and Engineers,” said MPA's Ken Cross. “12d's three-dimensional visualisation capabilities were useful in this regard and they made constant use of dynamic sectioning and drive throughs for this purpose. The drive through method was also useful when checking for gross error in end-of-month surveys.”

On the dynamic section through the data, MPA would typically turn on models representing the original surface, the latest end-of-month surface, design to subgrade and design finished level. The ease and speed with which this information could be displayed and updated on screen made it extremely useful for design visualization.

MPA provided the quantities and geometry for traffic switches during the different phases of construction. 12d's simple editing of horizontal and vertical geometry made this a far simpler task, as usually the designs were altered several times to suit cost, constructability and time constraints. At each change, quantities were able to be rapidly provided and costs determined for asphalt, paving etc.

Several design changes were made to the original in order to produce cost or time savings, particularly with the retaining walls, and 12d proved quite useful here for the rapid display of construction elements in the cross sections.

During the project, many times per day, Engineers or Supervisors would require spatial information pertaining to design relative to current construction, and 12d Model has several useful tools for providing quick answers to questions such as: ‘How much material do I need to order

for a retaining wall backfill?’ and ‘How far down is it to the existing stormwater pipe from our current position?’ The dynamic depth between tin surfaces, flow arrows, and dynamic display of crossfall between strings were just a few of the features MPA utilised constantly for this purpose. Another feature MPA used frequently is the ability to

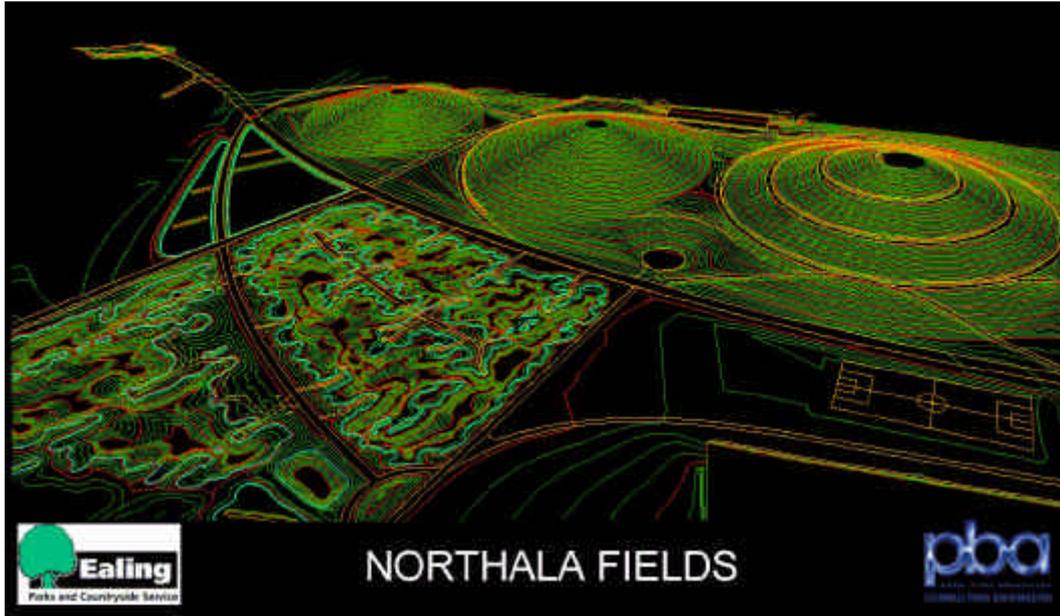
use pipe linetypes in cross section and therefore check clearances to existing services during construction.

“We have used 12d Model every day for 2 years,” Mr Cross said. “In south-east Queensland, for any roadworks that we're involved in, and even for construction work, we use 12d. It's going really well.”

12d ideal for Northala Fields

Northala Fields occupies some 18.5 ha in the Northolt area of the London Borough of Ealing (LBE) and is at the heart, both physically and strategically, of the larger development of the Northolt and Greenford Countryside Park (an area of over 100 ha). The site has long been recognised as the central

Peter Brett Associates, consulting engineers, were approached to provide the necessary geo-technical and earthworks engineering information for the project. It was quickly decided that due to the size and complexity of the project, 12d Model software would be a definite advantage as it allows quick and accurate surface modelling, volume calculations and high quality output of both engineering drawings, as well as 3D public display images. Given the extremely tight deadline for the project, without the support of 12d Solutions the project would not have been the success that it has become.



component, connecting the surrounding areas, facilities and features for the community, and as such the LBE wished to develop the area using a very creative solution.

In order to achieve the vision for Northala Fields, it was proposed that the development generate its own funding, through the importation onto site of a substantial volume of select quality fill (approximately 500,000 cubic meters). The new landform created by this importation would then enable a number of other development goals for the site to be achieved, including:

- a series of separate lakes of different depths for fishing and model sail boats
- an ecological area to the south of the site which will also form part of the Northolt Golf Club extension
- modifications to Northolt Golf Club
- improved sporting facilities (hard surface area for basketball, football wall etc)
- a children's playground
- seats and picnic tables throughout the park in key locations
- car parking areas
- a footbridge across Kensington Road
- a grassed amphitheatre.

STOP PRESS - Increased support in South Australia

Because of the growing number of 12d Model customers in South Australia, Michael Brehmer (ex Sokkia) will now be selling and supporting 12d Model for Surveyors in South Australia.

Michael will be heading up '3D Measurement Solutions', and will be focusing on the needs of Surveyors. Michael can be contacted on:

(08) 8212-9300 (Office), 0418 825 478 (Mobile), or mb@3dmeasurementsolutions.com.au (Email).

Tony Ingold of Lakeshead Services will continue to be active in South Australia, catering to the needs of Road and Stormwater Drainage Designers, Water Reticulation and Sewer Engineers, and Water Resource (Flood Modelling) Professionals. Tony can be contacted for sales inquiries, support and training on:

(02) 9970 7117 (Office), 0419 607 941 (Mobile), or tony.ingold@12d.com (Email).

Welcome aboard

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

Abigroup – NSW
 Alan J. Cochrane – Qld
 Alexander Browne Cambridge and Partners - Qld
 Asset Mapping & Surveying – NSW
 Australian Inland Energy & Water – Broken Hill NSW
 Baseline Consulting – Qld
 Black Creek Engineering Surveys
 Bligh Tanner - Qld
 BMD Group – NSW
 Buckton & Associates Ltd – NZ
 Burchill Partners Pty Ltd – Qld
 Buro Happold - UK
 Cameron Morgan – Qld
 Cardno MBK – NSW
 City of Perth - WA
 Civil Services (HB) Ltd – NZ
 Coomes Consulting – Vic
 Daly Services Pty Ltd - Qld
 David Ayriss - Qld
 David Maunder – NSW
 Department of Transport - WA
 Development Engineering Consultants – WA
 DM Gerloff - WA
 DPI Forestry – Qld
 Dungog Shire Council - NSW
 Earth Surface Systems – USA
 Earth Tech Engineering – Brisbane
 East Coast Surveys Pty Ltd - Qld
 Egis Consulting – NSW
 Environment Agency (Wallingford) - UK
 FR Daniel, Huston & Associates Pty Ltd - Qld
 Fredrikson MacLean & Associates - Qld
 Gilbert Rose Consulting Pty Ltd – WA
 Gladstone City Council – Qld
 Goulburn City Council - NSW
 Grey District Council - NZ
 Grogan Richards Pty Ltd – Qld
 GT Surveys – ACT
 Halcrow International Partnership
 Helensburgh Coal – NSW
 Halpern Glick Maunsell – WA
 Hughes Trueman - NSW
 Hyder Consulting – NSW
 Ipswich City Council - Qld
 Kehoe Myers Consulting Engineers - Qld
 Keith Altmann & Associates – Vic
 JKR Public Utility Board – Singapore
 John Holland Constructions - NSW
 Jones Flint & Pike Pty Ltd - Qld
 Jurutera Konsult Maju – Malaysia
 KGS Group – Canada
 Kokusai Kogyo Co Ltd – Japan
 Koukourou Engineers – Qld
 Larkin Teys Consulting – Qld
 Lustot – NSW
 Mackay City Council - Qld
 Mark Clancy – Qld
 Matt Ascenza Design Drafting - Vic
 MMS Drafting - Vic
 Moira Shire Council - Vic
 Muir Associates – Ireland
 Neo Kim Liok - SNG
 Northern Midlands Council - Tas
 Northrop Holmes – NSW
 NSW National Parks & Wildlife Service
 Ove Arup – SA
 Peter Brett Associates Ltd - UK
 Peter Leversedge – Qld
 Peter Robinson & Associates – Qld

Polytechnic Medan – Indonesia
 Port of Brisbane Corporation – Qld
 PPK – Qld
 PT Berav Coal – SNG
 Public Utilities Board – Singapore
 Quantm Limited - Vic
 Richard Green Consulting - NSW
 Robert Cook - NSW
 Ross Campbell & Associates – Qld
 RTN Drafting Services - Vic
 Sean Tighe – Qld
 Sinclair Knight Merz – Newcastle
 Skanska UK Ltd - UK
 SMEC – WA
 South Gippsland Shire Council – Vic
 Stephen Davey – NSW
 Streat Developments Ltd - NZ
 Sultan Qaboos University – Oman
 Swainson & Associates Ltd - NZ
 Swanhaven Pty Ltd - ACT
 TABEC – WA
 Thiess - Qld
 Timaru District Council – NZ
 Tonkin & Taylor – NZ
 United Consulting Engineers & Architects – USA
 United Water – SA
 University of Melbourne Transportation Department - Vic
 University of Otago - NZ
 Vinnicombe & Associates - Qld
 Water Technology Pty Ltd – Vic
 WBM Oceanics Australia – Qld
 Webb McKeown – NSW
 Wellington Shire Council - Vic
 Western Power Corporation – WA
 Whitaker Civil Engineering Ltd – NZ
 Wood & Grieve Engineers - WA
 Woollahra Municipal Council – NSW
 Worley Infrastructure – Vic

Top sales & support

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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@bigpond.net.au Ph. (03) 9802 8849

Ian Cameron at Technical Solutions in Qld

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Michael Brehmer at 3D Measurement Solutions in SA

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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

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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