

## Bland & Jackson Surveyors Ltd

Mark Bland

CLIENT: Fernbrook (2011) Ltd

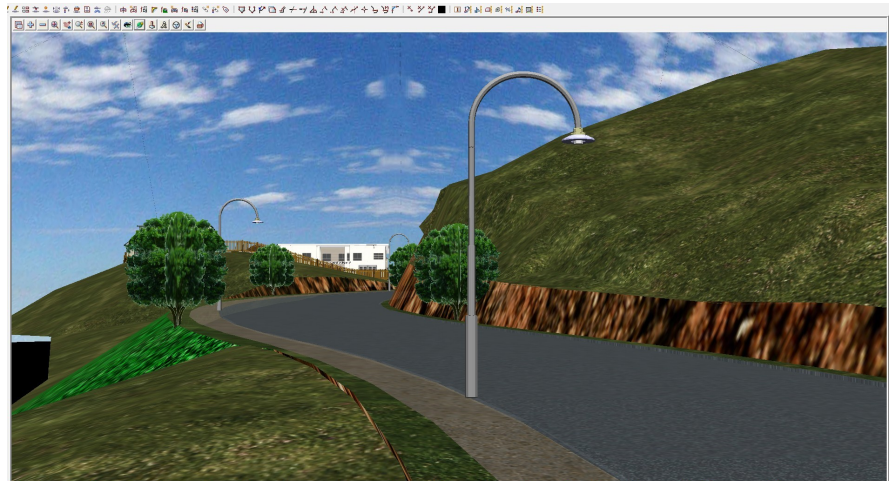
### SCOPE:

Produce a 47-Lot, 3-Stage urban subdivision in New Plymouth.

### 12d DIMENSIONS:

- Surveying

# Fernbrook Development



## Project Summary

"The Fernbrook Development is located just west of one of New Plymouth's most famous original streets (Carrington Street) and is accessed from the southern end of Huatoki Street. The Fernbrook Development started in 2011 and has been a multi-staged development with four stages of residential development having been completed in the period between 2011 and 2014. A further stage has just been completed to extend Fernbrook Drive southwards to provide a complete road frontage for the Summerset Retirement Village development currently underway."

--Bland and Jackson website

## The Challenge

The problems faced with the design included:

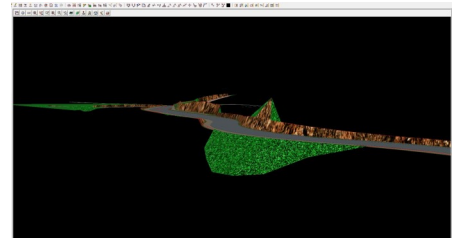
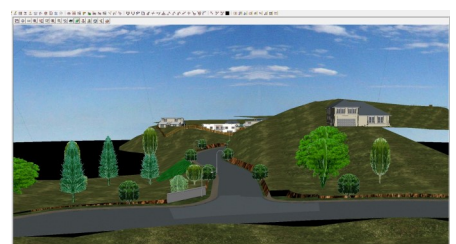
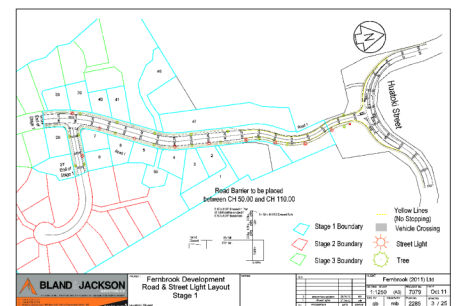
- Access to the site required 200m of road through challenging site terrain.
- The first 160m of the access road required a reduced width carriageway - 8m as opposed to 11m Council standard.
- A large fill batter was required on the left hand side of the road with a creek running at the toe of the batter.
- A large cut batter from 160m with a utility pole on top – the pole had to remain in place
- Due to the site constraints, the road alignment design used a minimum curve radius to minimise the fill batter dimensions and reduce the impact on the cut face.

The Territorial Authority was concerned about whether the proposed design would work with the above constraints; hence a 3D Visualisation was necessary with the design.

## The Solution

The visualisation with 'drive through' option was prepared and shown to the Council engineers. The visualisation alleviated their concerns about the effect of the transition between the 8m to 11m carriageway.

3D perspective screen shots were printed to assist, showing the design effect on the fill and cut batters.



## For more information

To find out more about how you can create better designs faster with the 12d Model solution for civil engineering design, visit [www.12d.com](http://www.12d.com).



Australasia: Sydney  
P: sales@12d.com  
M: +61 2 9970 7117

## Result

The combination of 'drive through' and 3D visualisation assisted in gaining Council approval for the design, and in gaining client confidence in the company's ability to perform the work.



## Roads and Highways

12d Model's design option is the smarter solution for the design, modification and maintenance of Road and Highway projects.

Enjoy advanced 3D tools to design local and major roads, intersections, roundabouts, highways, interchanges and much more.



## Ports and Dredging

12d Model is the solution for port infrastructure and dredging, easily managing the very large datasets and complex volume calculations often required by these projects.

A complete range of flexible and customisable volume calculation tools allow teams to extract and present the information quickly and easily.



## Land Development

12d Model is the most versatile solution for the creation of sustainable land development projects, including residential, commercial and industrial developments, recreational areas, landfills, and agriculture projects.

Easily manage all aspects of your land development project from earthwork quantities, road design utilities and drainage design.



## Airport Infrastructure

12d Model provides a solution for the design, construction and analysis of new airports, as well as the upgrade and maintenance of existing runways and airport infrastructure.

Easily manage large airport infrastructure projects and share data across multi-disciplinary teams.



## Rail

12d Track has been specifically designed for the survey, design and construction of light, heavy and high speed rail projects.

Extensive railway tools in 12d Track allow the rail designer to quickly and easily design their projects. These options are built on the existing 3D modelling and design tools available in 12d Model.



## Mining Infrastructure

12d Model's powerful set of exploration, site investigation, survey and analysis tools are crucial for the initial design, construction and ongoing operation of mining projects.

Comprehensive tools for the survey, design and construction of access roads, railways, earthworks and services allow for the coordinated design and management of mining infrastructure from within 12d Model.



## Drainage, Sewer and Utilities

12d Model provides comprehensive tools for the design, analysis and optimisation of stormwater and sewer projects using rational, dynamic (hydrograph) and 2d drainage methods.

Powerful clash detection management allows for efficient 3D modelling of service networks such as gas, electricity, telecommunications and water prior to construction.



## Surveying

12d Model is a complete surveying package providing the tools to manage all facets of surveyed data including LIDAR, topographical, as-built, conformance, traversing, geodetics, data mapping, labelling and much more.

The 12d Field option runs on a ruggedized tablet and gives the user access to full 12d Model functionality, allowing you to take the entire project into the field with the most comprehensive pick-up and set-out tools.



## Oil and Gas

12d Model assists with the design, construction and mapping of oil and gas pipelines, original site exploration and the wide range of infrastructure required for oil and gas projects.

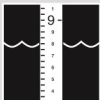
Accurate 3D modelling and the ability to share data between users allow teams to quickly and easily coordinate designs.



## Construction

12d Model is the ultimate software for construction with powerful set-out options, direct interfaces to machine control and detailed conformance reporting and auditing.

Manage 3D data and control volumes, quantities and progress claims with 12d Model. Set-out your project and undertake conformance and as-built surveys live on-site using 12d Field.



## Rivers, Dams and Hydrology

12d Model handles very large datasets and interfaces with a wide range of analysis packages, making it perfect for flood studies and the management of rivers and dams.

12d has partnered with industry leading analysis software, allowing users to apply 2D drainage analysis from within 12d Model.



## Environmental

12d Model's ability to handle very large datasets combined with flexible and comprehensive 3D analysis and modeling tools make it perfect for a wide variety of environmental projects.

Existing workflows can adopt 12d Model easily as it allows users to directly interface with GIS systems and most software packages and file formats.

## Why Choose 12d?

- Powerful data processing & intelligent functionality.
- Modular, easy to update & completely customisable.
- Seamless integration with major industry software and hardware.
- Used in over 55 countries worldwide.
- Friendly support & training from industry experts.

**Australasia:** Sydney

P: sales@12d.com

M: +61 2 9970 7117

12d Solutions Pty Ltd  
 PO Box 351 Narrabeen  
 NSW 2101 Australia  
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