



# 12d<sup>®</sup> International Innovation Awards

## Entry Form (Sample)

**Name** Wilf Bedford

**Position** Lead Surveyor

**Company** XYZ Surveyors

**Name of Project** Landsdale to Widjimorphup Water Main Duplication

**Client** Widjimorphup District Council

**Category** Design & Visualisation

### Description of Project

Survey of 9km route for a new water main, using photogrammetry followed by a proofing ground survey.

### Relevant 12d screenshots and/or data attached

Proof\_survey.12da (reduced ground survey)

4459.dat (xyz of photogrammetry data)

Snap1.jpg (screenshot showing original survey tin, and corrected survey tin, coloured by depth)

### Description of problem faced / task undertaken

After completion of the ground survey we found that the vertical control for the photogrammetry was wrong. At the start and end of the job the control was correct, but in the centre of the job the control was roughly 150mm too high. All of the elevations from the photogrammetry were out, but the error varied along the length of the job.

### How the problem was solved

We used 12d Model's settlement routine to adjust the elevations of the photogrammetry data. The settlement routine works by using a tin of the original survey, and a tin created from the new (correct) control and adjusting the survey points by the difference in these two tins. The control survey comprised some 22 stations over the 7km. These provided sufficient for control of the survey, but it was felt that the tin of these points was too coarse to provide a good result when adjusting the survey. Additional points were introduced, and assigned elevations so that the control tin was tight and well conditioned.

