

Realigning the Christchurch Digital Cadastre after the Canterbury Earthquake Sequence

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Key words: Digital cadastre; Canterbury Earthquakes, Christchurch

SUMMARY

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Abstract

The Digital Cadastre Parcel Dataset is produced and maintained by Land Information New Zealand (LINZ). This dataset is a fundamental base layer used extensively not only by surveyors but also throughout the wider geospatial community through Landonline and the LINZ Data Service. This data is now made more readily available and users such as landowners and other spatial professionals expect the digital cadastre to accurately reflect the legal location of their boundaries.

As part of the maintenance of the digital cadastre, LINZ periodically carries out Wide Area Cadastral Adjustments (WACAs) to realign data covering large geographical areas. The existing WACA process is primarily used where new or improved geodetic control or a large amount of new cadastral data has been added to an area which can be used to generate a more consistent set of coordinates.

The 2010-2011 Canterbury earthquake sequence had a significant impact on the digital cadastre and meant LINZ could not use the standard WACA process to realign the cadastre in areas affected by shallow land movement. As a result of the earthquakes, pre and post-earthquake data does not fit very well together in these areas of shallow land movement.

To realign the digital cadastre in Christchurch, LINZ developed an alternative WACA process with

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the aim of ensuring that the digital cadastre is as consistent as practicable with post-earthquake boundary locations.

This paper provides an overview of the problem and the process used to realign the digital cadastre and presents findings from a series of pilot adjustments that LINZ carried out.

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