

Commercial Building Subsidence Remediated

INDUSTRY

Commercial

STRUCTURE

Office building

PROBLEM

Earthquake remediation

LOCATION

Christchurch New Zealand

DURATION / YEAR

23 days / 2014

TECHNOLOGY

JOG Computer-Controlled Grouting

BUSINESS UNIT

Mainmark New Zealand



Summary

A building in this commercial complex of ten units in Christchurch had suffered differential settlement of up to 178mm with the 2010-2011 earthquakes.

It was rectified using JOG Computer-Controlled Grouting to raise the building up precisely to the required level.

Objectives

The task was to raise one of the buildings in this complex evenly without compromising the structure in any way, and so correcting the settlement and re-leveling the building.

A particular consideration was the need to avoid moving the next door building that was less than a metre from the back of the affected building.

Solution

The JOG Computer-Controlled Grouting levelling system was used to level the tilted, differential settlement of the structure. The fine degree of control offered by JOG allowed the substantial lift of the building to not affect the adjacent property.

Robotic survey stations were established above the other building of the complex to pick up level data from the many survey prisms set up on the building being lifted.

74 JOG injection ports were installed through the concrete foundations, where the high mobility grout was introduced. The maximum lift was 178mm and the average was 110mm.

The structure was re-levelled successfully, returning the building to design levels, while leaving the neighbouring property unaffected.