

Large Building Re-levelled by JOG & UDI

INDUSTRY

Commercial

STRUCTURE

Office building

PROBLEM

Earthquake remediation

LOCATION

Christchurch, New Zealand

DURATION / YEAR

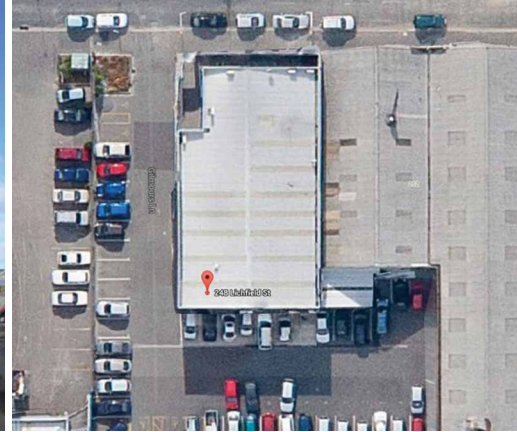
3 weeks / 2014

TECHNOLOGY

JOG Computer
Controlled Grouting &
Uretek Deep Injection

BUSINESS UNIT

Mainmark New Zealand



Summary

This two-storey commercial building with a footprint of 510m² had walls built of precast tilt-panels and had suffered significant earthquake subsidence.

In three weeks, Mainmark rectified the settlement, by applying JOG integrated computer grouting and injections of Uretek expanding structural resins.

Objectives

To raise and re-level the building precisely. It was essential to avoid any disturbance to the neighbouring building which was only 200mm from the rear wall.

Solution

A continuous JOG circuit of 64 injection ports was installed. We proceeded with a sustained sequence of injections of JOG cementitious grout. And over 14 days of very careful lifting the building was gradually raised and re-levelled.

Continuously monitored and computer-controlled, the lifting of this heavy structure was uniform and gentle. The average total lift was 59mm and the maximum lift in one location was 82mm.

Uretek Deep-injection was then undertaken to fill any voids in the foundations and to ensure full support for the floor slabs. Injections were made to a depth of 4,000mm; this part of the project taking 16 days, partly overlapping with the JOG work. The project was completely successful. The building was raised and re-levelled to the client's complete satisfaction. There was no disturbance to the neighbouring building.