

# Wartime Explosives Magazine Re-supported

## INDUSTRY

Infrastructure

## STRUCTURE

Historical building

## PROBLEM

Ground subsidence

## LOCATION

Sydney, Australia

## DURATION / YEAR

2 days / 2003

## TECHNOLOGY

Uretek Slab Lifting &  
Uretek Deep Injection

## BUSINESS UNIT

Mainmark Australia



## Summary

Located in a National Park, on the banks of Sydney's Middle Harbour, the old, wartime explosives magazine had fallen into disrepair and was especially in need of major footing releveling and foundation compaction to maintain its safety.

As there was no access to the site by road, a Mainmark self-contained operations unit was brought in by barge and the footings of the building were completely re-levelled and resupported.

## Objectives

The overall objective was to return the building footings to a level, safe and stable condition.

The specific objectives were: firstly to raise and re-level the structure to within 10mm of its assumed design levels; and secondly to compact and improve the bearing capacity of the wall footings and so minimise the potential for further settlement of any poorly compacted soils.

## Solution

With subsidence of up to 70mm evident in some locations, the foundation ground of the entire

80m<sup>2</sup> area of the building was injected with Uretek expanding structural resin. The 180mm thick reinforced concrete floor slabs were raised, correcting several areas of dishing and re-leveling the whole floor area.

To compact and strengthen the wall foundations, and to return the walls to plumb, Uretek Deep-Injection was applied beneath 20 lineal metres of the wall footing beams.

Constant monitoring and control ensured the correct amount of lifting and compaction during both processes.

The foundations of the building were returned to a stable condition with level floors and plumb, resupported walls.

Pictured above: The deterioration of the structure is apparent in these photos taken at commencement of the project.