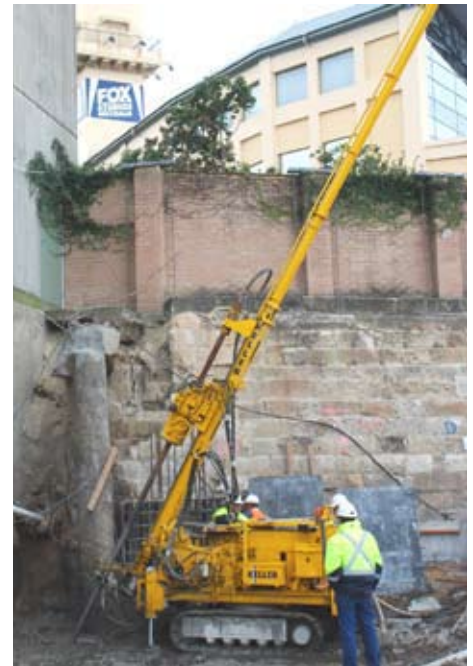


Sydney Cricket Ground, NSW - Jet Grout underpinning for the Hill Stand Redevelopment



Keller installed 1m diameter Jet Grout columns for the underpinning of existing O'Reilly grandstand to allow excavation for the redevelopment of the Hill Stand.

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Project

Keller Ground Engineering was requested to provide proposals for underpinning of the existing O'Reilly Stand to facilitate excavation for the new Hill Stand concourse level approximately 1.5m deep and immediately adjacent to the O'Reilly Stand pad foundations.

Soil Conditions

The soil conditions in the area consisted of 1m to 2m of loose fill overlying medium dense becoming dense Sand. Immediately below the footings to be underpinned the soils consisted of Sand previously compacted by Vibro-compaction during the construction of the O'Reilly Stand.

Solution

To ensure the stability and integrity of the existing stand during the excavation, Jet Grouting columns were installed in sequence to depths of up to 4m below the existing footing levels.

Verification of column diameters and strengths achieved had to be carried out on working columns due to the fact that the Vibro-compacted soils could not be replicated elsewhere on site for test columns.

This required a specification with a number of hold points to provide ongoing confirmation that the requirements were being achieved.

Construction

Due to the sensitive nature of the work area, Keller worked closely with the client to ensure all works were achieved with minimal disturbance to the other construction activities on site as well as maintaining the structure within the strict movement limits required. The structure was monitored throughout the works for vertical and lateral displacements.

Jet Grout columns were installed in an interlocking sequence, with columns installed with a mobile KBO drill rig which was able to access difficult areas within the works.

Post installation testing and excavation was carried out, with coring results indicating that the required UCS of greater than 3MPa had been achieved.

**Principal Contractor:
AW Edwards Pty. Ltd.**

**Engineering Consultants:
Pells Sullivan Meynink Pty. Ltd.**

**Specialist Geotechnical
Constructor:
Keller Ground Engineering Pty Ltd**