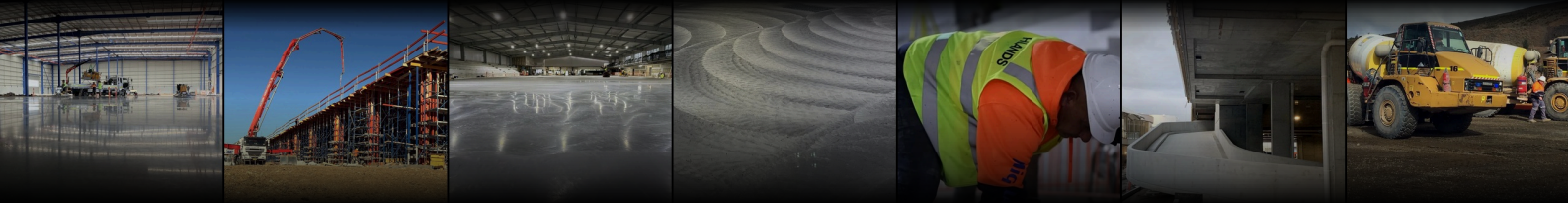


FLAT FLOORS. STRAIGHT STRUCTURES.

A specialist concreting contractor since 2009, placing concrete to the tolerance and finish the specification calls for across New South Wales. Family owned, family run.



36,000^{m²}

LARGEST SINGLE PROJECT,
APPROX.

2009

SPECIALIST CONCRETING
SINCE

1,800^{m²}

SUPERFLAT FLOOR, ONE
CONTINUOUS POUR

20^{hrs}

LONGEST POUR, TRUCK ONE
TO FINISHED SLAB

6

SPECIALIST DISCIPLINES

4

REGIONS SERVED ACROSS
NSW

WHAT WE DO

- 01 SUPERFLAT FLOORS
- 02 STRUCTURAL CONCRETE
- 03 CONCRETE PUMPING
- 04 CIVIL & EXTERNAL WORKS
- 05 ARCHITECTURAL FINISHES
- 06 FORMWORK & STEEL FIXING

Pumping, placement and finishing is the core of the business. Where a job calls for the whole structure under one contract, formwork and steel fixing are coordinated with it.

COMPANY-OWNED PLANT

Callaghan concrete boom pumping. **Somero** laser screeds guided by 3D profiling. **Allen** ride-on and walk-behind power trowels. **Dipstick** floor profiler for measuring the finished floor. Flatness, finish and programme stay in our hands, and the core plant is our own. Where a programme calls for more reach or more capacity than our own fleet, plant is brought in for the job.

SECTORS DELIVERED

Industrial warehouses and distribution floor plates · cold storage and coolrooms · data centres · competition ice and sports facilities · multi-level carparks · residential apartments · aged care communities · education precincts · civic and community buildings · mining and remote sites · patterned external pavements.

HOW WE DELIVER

- 01 **TENDER**
Priced from your drawings and programme, against the specification and the sequence the job needs.
- 02 **PLANNING**
Sequencing, access, labour and plant locked in before day one on site.
- 03 **POUR**
Placed to the specification, from footings to full floor plates.
- 04 **FINISH**
Worked to the finish the design calls for, consistent across every element.
- 05 **HANDOVER**
Checked against the specification and handed over on programme.

QUALITY AND RECORDS

Quality control is not the last step. The work is checked against the specification while it is being placed, not only once it has set. Finished floors are profiled and measured against the specification rather than judged by eye. Issued at handover: floor flatness reports, inspection and test plans with signed checklists, and photographic and site records.

SAFETY AND SYSTEMS

Safe work method statements are produced and issued by Highlands for every scope of works. Highlands works in the head contractor's own systems, from tender to site: **EstimateOne**, **Procore**, **Simpel**, **HammerTech** and **Breadcrumb**, and to their site requirements and inductions.

ENTITY

**Highlands Concrete
Constructions Pty Ltd**
ABN 52 138 139 456
NSW Licence No. 230872C

INSURANCE HELD

Public liability
Workers compensation, NSW
Industrial Special Plant
Certificates of currency on request

AREAS SERVED

Sydney
Southern Highlands
Illawarra
Regional New South Wales

LEADERSHIP

Peter Gualtieri Director
Daniel Venuto General Manager

ENQUIRIES AND TENDER DOCUMENTS

info@highlands.com.au

HIGHLANDS.COM.AU

Referees available on request. Office Monday to Friday, 9am to 5pm. What is promised at tender is what is built on site.



ONE SLAB. NO JOINTS.

COMPETITION ICE RINK AND SPORTS FACILITIES · CANTERBURY, NEW SOUTH WALES

Kilometres of glycol pipework inside the slab meant a weight restriction, and the weight restriction took the obvious plant off the table. All 1,800 m² still went down as a single continuous pour, with no joints in the finished surface, and closed out in 20 hours. Six months of programme and method sat behind those twenty.



1,800 m²

PLACED AS ONE CONTINUOUS POUR

20 hrs

FIRST TRUCK TO FINISHED SLAB

6 mths

METHOD BEFORE THE FIRST TRUCK

0

JOINTS IN THE FINISHED SURFACE

01 THE CONSTRAINT

WHAT WAS UNDER THE SLAB DECIDED HOW IT WENT DOWN

That pipework is the fact everything else follows from. The restriction it brought ruled out the large screeds, and it had to be one slab besides: no construction joints, no saw cuts, nothing in the finished surface to work around later.

So the floor went down under **Somero S-485s, which carry no auger**, and came up under Highlands' own **Allen MSP475 riding trowels**. Not a preference. What was left once the restriction had taken the obvious plant off the table.

02 SIX MONTHS BEFORE THE FIRST TRUCK

FLATNESS IS WON BEFORE ANYONE FINISHES ANYTHING

Concrete Methods was engaged as specialist consultant on the method going in, and **Flat Floor Technologies**, independent and certified, on what came out.

Reinforcement went in to the design: SL81 mesh over the pipework, N12 bar at 300 mm each way below with 625 mm laps, and paired N12 closers at the perimeter. Screed rails were set on 3 × 50 × 3000 mm steel shims with levels checked every 3 metres across the sheet. The mix was a **40 MPa** blend of 10 and 20 mm aggregate, a minimum 400 kg/m³ of cement and a maximum 0.45 water-cement ratio, with drying shrinkage held to 600 microstrain at 56 days.

03 TWENTY HOURS

ONE CONTINUOUS POUR IS A LOGISTICS PROBLEM BEFORE IT IS A CONCRETE PROBLEM

Placement started at four in the morning under a minimum of 200 lux and ran continuously from there, which means it ran straight through a full working day on a built-up inner-Sydney site. There is no version of it where the trucks are late.

Concrete arrived at **15 to 20 minute intervals** against a hard limit of 90 minutes from dispatch to discharge, and went down in 4 to 4.5 metre strips. The surface was closed with a minimum of five overlapped riding-trowel pan-float passes. Cylinder, slump, air and bleed tests were taken every 50 m³, from the first truck to the last.

04 CURED, COOLED, MEASURED

INDEPENDENTLY MEASURED

The slab was wet cured for a minimum of seven days and then dry cured through to day 28. Only at day 28 did the refrigeration begin its thermal pull-down, at 1 to 2 °C per day.

The finished floor was profiled and **independently measured to ASTM E1155 by Flat Floor Technologies**, engaged and paid for by Highlands, and came back above the flatness the specification called for. Issued at handover: the floor flatness report, and hundreds of pages of inspection and test records, signed checklists and photographic evidence.

HIGHLANDS SCOPE

Reinforcement install, steel shims, pumping, placement and finishing. Olympic size competition sheet, 60 m x 30 m, 150 mm nominal slab.

THE FULL CASE STUDY, WITH THE POUR FILMED ON THE NIGHT

highlands.com.au/case-study-ice-rink.html

Enquiries and tender documents: info@highlands.com.au

