direct inject

CAPABILITY STATEMENT

Specialists in concrete remediation, carbon fibre Reinforced Polymer strengthening systems, complex injection solutions and robotic hydro-demolition.

ABOUT US.

Direct Inject is an Australian specialist concrete contractor delivering remediation, strengthening, complex injection and robotic hydro-demolition services across the transport, water, defence, marine and industrial sectors.

Founded in New South Wales, we are now delivering projects across Australia and continue to expand our presence interstate, supporting Tier 1 contractors, government agencies and asset owners with specialist solutions throughout the lifecycle of critical concrete infrastructure.

By combining experienced personnel with industry-leading equipment and strong relationships with leading material manufacturers, we deliver technically challenging projects safely, efficiently and to the highest standard.

BACKED BY A TEAM OF EXPERIENCED PROFESSIONALS AND INDUSTRY-LEADING TECHNOLOGY, DIRECT INJECT IS COMMITTED TO DELIVERING QUALITY OUTCOMES AND LONG-TERM VALUE ON EVERY PROJECT.

OUR MISSION.

Our mission is to support owners and constructors of critical concrete infrastructure throughout the entire asset lifecycle.

From defect inspection and mapping leading to repair, strengthening and modification works, to end-of-life asset renewal and decommissioning, we deliver specialist solutions that improve durability, restore structural integrity and extend service life.

OUR COMMITMENT.

We are committed to delivering safer, smarter and more sustainable solutions for the construction industry.

By investing in specialist equipment, innovative repair techniques and robotic technologies, we improve quality, reduce project risk, minimise disruption and help create safer working environments for our people and our clients.

WHY DIRECT INJECT.

High retention of highly trained and experienced technicians.

SPECIALIST WORKFORCE

Rapid mobilisation across Australia.

NATIONAL DELIVERY

Robotic hydro-demolition, mobile water filtration systems and specialist injection equipment.

INDUSTRY LEADING EQUIPMENT

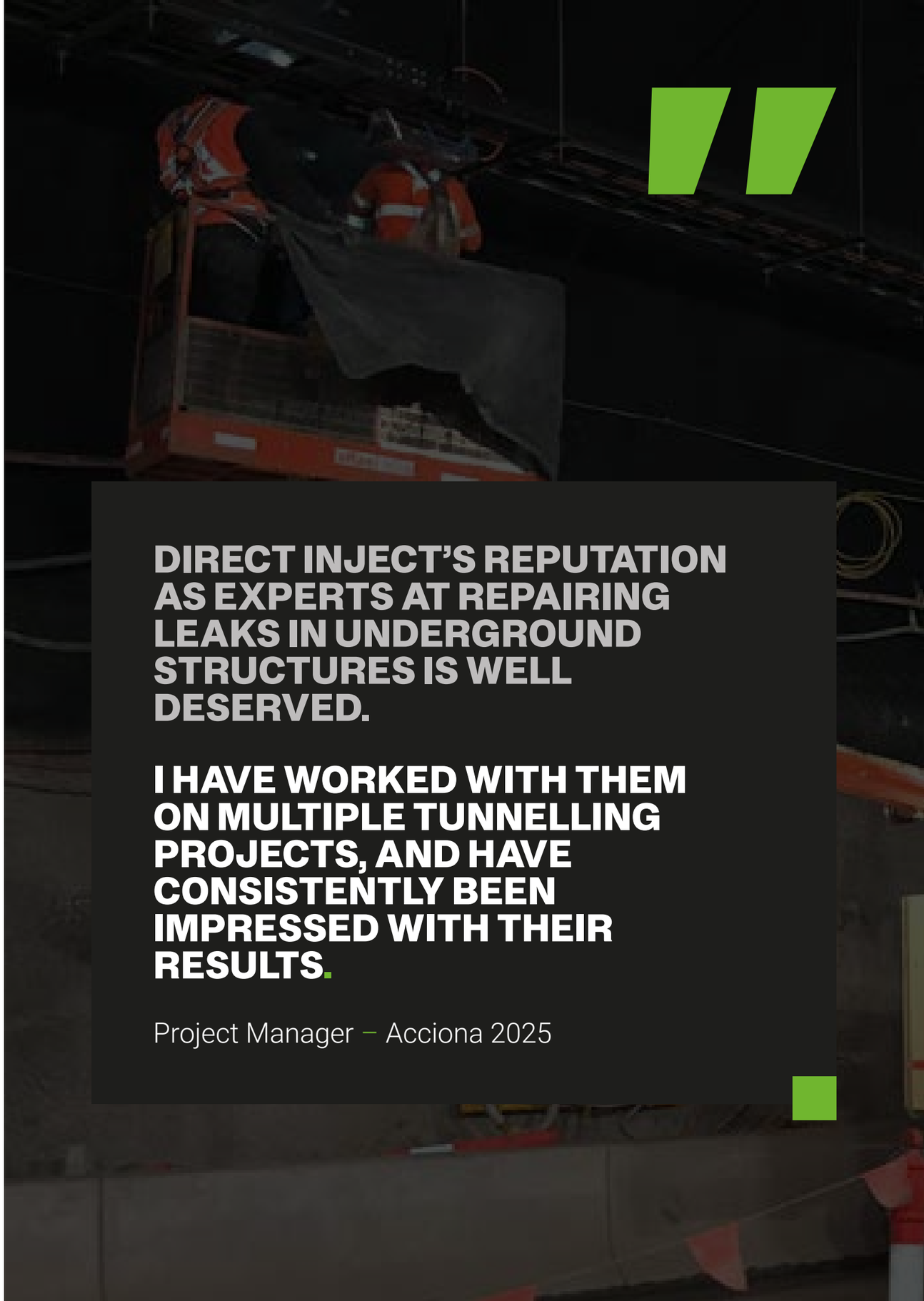
Supporting projects from new construction through to asset renewal

TECHNICAL CAPABILITY AND SCOPE OF SERVICES

TRAINING AND COMPETENCY.

Direct Injects workforce are fully trained and certified in accordance with Australian legal and safety standards, including but not limited to:

- **RIIWHS204E** – Work Safely at Heights
- **RIIHAN301E** – Operate Elevating Work Platform
- **High Risk Work Licence (WP)** – Boom-Type Elevating Work Platform (Over 11 m)
- **RIIWHS202E** – Enter and Work in Confined Spaces
- **MSMWHS216** – Operate Breathing Apparatus
- **PUASAR022** – Participate in a Confined Space Rescue
- **MSMWHS217** – Gas Test Atmospheres
- **HLTAID009** – Provide Cardiopulmonary Resuscitation (CPR)
- **HLTAID010** – Provide basic emergency life support
- **HLTAID011** – Provide First Aid (if held)
- **MSMPER200** – Work in Accordance with an Issued Permit
- **MSMSS00017** – Use High Pressure Water Jetting Equipment
- **MSMSS00018** – Operate a High-Pressure Water Jetting System
- **High Risk Work Licence (C6)** – Slewing Mobile Crane (Up to 60 Tonnes)
- **HR Licence** – Heavy Rigid Vehicle
- **HC Licence** – Heavy Combination Vehicle
- **MC Licence** – Multi Combination Vehicle
- **Verification of Competency (VoC)** – Plant and Task-Specific Operations



DIRECT INJECT'S REPUTATION AS EXPERTS AT REPAIRING LEAKS IN UNDERGROUND STRUCTURES IS WELL DESERVED.

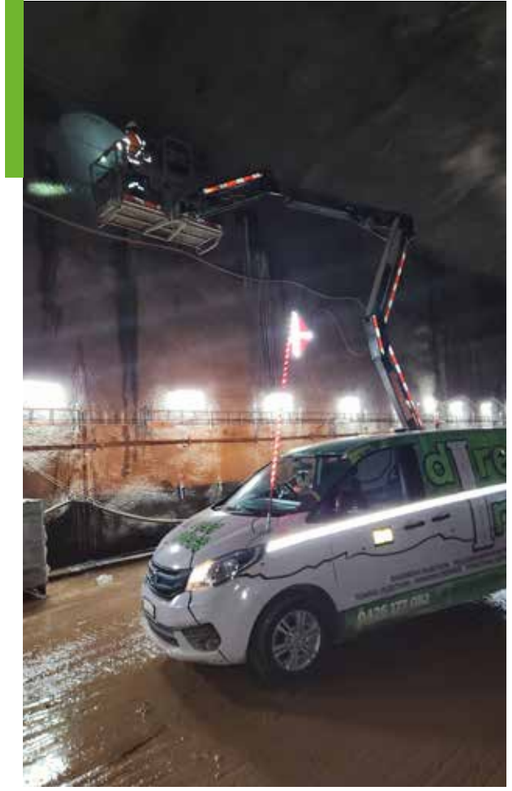
I HAVE WORKED WITH THEM ON MULTIPLE TUNNELLING PROJECTS, AND HAVE CONSISTENTLY BEEN IMPRESSED WITH THEIR RESULTS.

Project Manager – Acciona 2025

/ OUR SERVICES

CONCRETE REPAIR.

Concrete defects can occur at any stage of an asset's lifecycle, from newly constructed infrastructure requiring remediation before handover through to ageing structures affected by deterioration, corrosion and damage. Direct Inject delivers specialist concrete repair solutions that restore structural integrity, durability and long-term performance while minimising disruption to construction and operational activities



CONCRETE REMEDIATION

- Specialist concrete repair systems to restore the geometry, functionality, durability and long-term performance of damaged concrete structures.

DRY CRACK INJECTION

- Injection systems to restore structural integrity and permanently repair dry cracks within reinforced concrete structures.

WET CRACK INJECTION

- Advanced injection systems to permanently seal active water-bearing cracks and protect concrete structures from groundwater ingress

/ OUR SERVICES

CONCRETE STRENGTHENING.

Changing operational requirements, increased loading demands and evolving design standards often require existing structures to perform beyond their original capacity. Direct Inject delivers engineered concrete strengthening solutions that increase structural capacity, improve resilience and extend service life, helping clients adapt infrastructure for future demands

CARBON FIBRE STRENGTHENING

- Engineered carbon fibre systems to increase structural capacity, accommodate changing operational requirements and extend asset service life.

FRP STRENGTHENING

- Engineered FRP strengthening systems to increase or modify structural capacity while extending the service life of existing concrete assets.

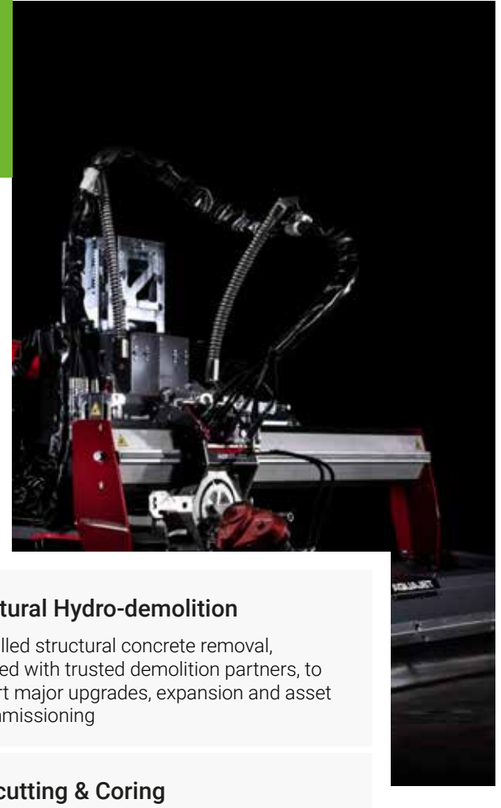
CONTACT GROUTING

- Specialist grouting solutions to fill voids, stabilise surrounding ground and restore support beneath and around concrete structures.

/ OUR SERVICES

CONCRETE REMOVAL.

Whether facilitating repairs, accommodating new construction, modifying existing assets or supporting end-of-life decommissioning, controlled concrete removal requires precision and planning. Direct Inject combines robotic hydro-demolition, ultra-high-pressure water jetting and specialist cutting techniques to remove concrete safely while protecting surrounding structures and maintaining operational continuity wherever possible.



SERVICES

→ Surface Preparation

High-pressure water jetting to prepare concrete surfaces for repairs, strengthening systems, construction joints and protective coatings.

→ Structural Hydro-demolition

Controlled structural concrete removal, delivered with trusted demolition partners, to support major upgrades, expansion and asset decommissioning

→ Non-Structural Hydro-demolition

Precision concrete removal for refurbishment, maintenance and asset modifications while preserving reinforcement and surrounding structures

→ Saw cutting & Coring

Precision concrete cutting and diamond coring to create penetrations, structural modifications and openings for new services and asset upgrade.

FLEET

→ 2 x AquaJet 750V Robots

For precision concrete removal.

→ 2 x circular pile trimming units

→ 3 x Aquajet Ergo units

Rail guided robot offering flexibility in confined or complex workspaces.

→ 2 x containerised HP pumps

Capable of operating at up to 1000 bar and 261 l/min.

→ Aquajet Ecoclear

20ft containerised mobile water treatment plant purpose-built for treating high-solids hydro-demolition wastewater. Utilises CO_2 for pH neutralisation and chemical dosing with lamella clarification to remove total suspended solids (TSS) down to 5 microns, processing up to 20 m³/hr.

→ 2 x UHP trailer pumps and hand lancing equipment

Capable of 2500 bar @ 32l/min

1 x Brokk 200 fitted with a UHP lance

For remote detailed excavation in rock or reprofiling of shotcrete linings in underground structures without excessive vibration or structural damage. This machine ideal for applications where traditional rock and concrete breaking methods are too aggressive, imprecise, or pose safety & environmental risk.

Osmoflo Water Treatment Plant

20ft containerised mobile water treatment plant purpose-built for treating large volumes of hydro-demolition wastewater with moderate suspended solids. Utilises CO_2 for pH neutralisation and membrane filtration to remove total suspended solids (TSS) down to 1 micron, processing up to 80 m³/hr.

/ OUR SERVICES

COMPLEX SOLUTIONS.

Some challenges require more than a standard repair methodology. Direct Inject is often engaged early to help contractors and asset owners work through technically complex construction and asset management challenges, developing practical strategies that can be safely delivered in the field. Whether supporting planned works or responding to emergency situations where programme, safety or asset integrity are at risk, we combine specialist equipment, technical expertise and practical experience to rapidly develop and execute solutions that minimise disruption and keep critical projects moving

HIGH-FLOW GROUNDWATER CONTROL

→ Specialist injection solutions to control significant groundwater ingress during trench, shaft and basement excavation, Tunnel Boring Machine (TBM) launch, open face tunnel excavation, ground anchor installation and at failed construction joints.

SPECIALIST GROUND TREATMENT

→ Engineered chemical grouting solutions to improve ground conditions, reduce permeability and stabilise soils for complex underground construction.

RE-INJECTABLE HOSES

→ Targeted injection of re-injectable hose systems to seal stubborn localised leaks, damp areas and failed waterproofing interfaces within concrete structures.

/ PROJECTS

UNIVERSITY OF SYDNEY - F20 PEDESTRIAN FOOTBRIDGE.

Client
Baseline Projects

Scope
Replacement of damaged concrete restraint blocks and concrete remediation of footbridge

Location
University of Sydney

Scope
Direct Inject was engaged by Baseline Projects to replace six damaged reinforced concrete restraint blocks across three piers supporting the pedestrian footbridge connecting the Life, Earth and Environmental Sciences Building with the SciTech Library. The bridge spans City Road, requiring works to be carefully planned while maintaining operation of the surrounding university precinct and road network.

The existing restraint blocks were removed using specialist hand-lance hydro-demolition, allowing concrete to be selectively removed without damaging the existing reinforcement or bridge structure. Due to the noise associated with hydro-demolition, the works were completed during night shifts under road lane closures following extensive community consultation and stakeholder notification.

Direct Inject established an independent water supply and removed all demolition wastewater and concrete spoil using vacuum trucks before each lane closure was lifted, ensuring the roadway was reopened to traffic at the end of every shift.

The restraint blocks were reconstructed by installing and welding additional reinforcement in accordance with the revised design before erecting formwork and placing high-flow micro-concrete. The project was completed safely while maintaining full operation of the bridge, university facilities and City Road.

/ PROJECTS

ALKIMOS SEAWATER DESALINATION PLANT - WA.

Client
Alkimos Sea Water Alliance

Scope
High flow water stopping, ground improvement and tunnel leak injection

Location
Outfall tunnel portal

Scope
During tunnelling works, failure of the steel keeper plate seal at the tunnel portal caused significant seawater ingress, forcing tunnelling operations to be temporarily suspended. Direct Inject carried out targeted injection works to seal the tunnel annulus and stop the active water inflow, allowing tunnelling to safely resume.

Location
Tunnel wide

Scope
Completed tunnel leak injection across the 6km of intake and outfall tunnel.

Location
Intake tunnel riser connections

Scope
Complete site trials testing various acrylate materials to identify the most suitable product. Carried out systematic acrylate injection at the tunnel to riser connections via ram injection lances to reduce permeability at the riser connection prior to breakout.

/ PROJECTS

THORNLEIGH PIPELINE DUPLICATION.

Client
Vaughan Infrastructure

Scope
Removal of a concrete thrust block around a live water main via robotic hydro-demolition

Equipment used
Aquajet 750v robots, Brokk 200 robot with UHP lance, WOMA HP pumps, Osmoflo WTP.

Location
Thornleigh Reservoir - NSW

Scope
Direct Inject recently completed robotic hydro-demolition works on the Thornleigh Pipeline Duplication Project in NSW, removing approximately 100m³ of concrete from around a live water main.

The works were carried out using a combination of demolition robots from Aquajet and Brokk Australia, together with one of our mobile water treatment plants manufactured by Osmoflo. The treatment system continuously filtered the hydro-demolition wastewater, allowing it to be recirculated back to the hydro-demolition equipment throughout the works.

/ PROJECTS

STACEY ST BRIDGE SHEAR STRENGTHENING.

Client
Martinus Rail

Scope
Additional shear strengthening of existing road bridge through the installation of the SikaWrap Carbon Fibre Polymer Reinforced wrap system.

Location
Stacey Street Bridge - Bankstown

Scope
Direct Inject was engaged to complete strengthening works using the SikaWrap carbon fibre strengthening system to increase the shear capacity of an existing road bridge to safely accommodate revised loading requirements while extending its operational service life.

Prior to commencing strengthening works, all concrete girders were thoroughly inspected for existing defects, with identified cracks repaired using Sikadur-31 epoxy mortar and Sikadur-52 low-viscosity injection resin to restore substrate integrity and provide a suitable foundation for the strengthening system.

Following concrete repairs, the internal faces of both webs of each bridge girder were prepared and primed using Sikadur-330 epoxy. SikaWrap-600 C carbon fibre fabric was then fully impregnated with Sikadur HEX-300 structural epoxy prior to installation, ensuring complete saturation of the fibres and optimum bond performance. Once cured, the strengthened surfaces were protected with Sikagard-550 W Elastic, providing a durable protective coating suitable for long-term exposure.

Works were completed across day and night shifts, including throughout the Christmas shutdown period, to meet the client's programme requirements. Activities adjacent to live traffic were carefully coordinated, with works directly above the roadway undertaken during planned lane closures under approved traffic management arrangements, ensuring the strengthening works were completed safely while minimising disruption to the travelling public.

/ PROJECTS

M7-M12 INTEGRATION.

Client
John Holland

Scope
Hydro-demolition of existing bridge decks and soft saw cutting

Equipment used
AquaJet 750V Robot, Containerised UHP pump (100 bar / 260 l/m) and water recycling system

Location
North Section

Scope
Controlled hydro-demolition of existing bridge deck to expose bar reinforcement in preparation for future concrete stitch pours.

Location
South Section

Scope
Soft-cutting concrete CRCP pavements to meet R83 specification.

/ PROJECTS

SYDNEY METRO WEST – WESTERN TUNNEL PACKAGE.

Client
Gamuda / Laing O'Rourke JV

Scope
Metro Tunnels and station boxes - Concrete remediation and polyurethane injection

Location
Sydney Olympic Park Station

Scope
Polyurethane injection of d-wall panel joints prior to the construction of cast in-situ waler beams.

Location
Tunnels

Scope
Completed defect repairs throughout the full 9km of tunnels between Sydney Olympic Park and Westmead stations. Repairs included structural crack injection and patching of pre-cast tunnel segments and polyurethane injection of gasket joints.

Location
Cross Passages

Scope
Contact grouting of in-situ lining, acrylic chemical injection of fuko tubes and polyurethane injection to address ground water ingress from earthing points and construction joints.

/ PROJECTS

SYDNEY METRO WEST – CENTRAL TUNNEL PACKAGE.

Client
Acciona / Ferrovial JV

Scope
Metro Tunnels and station boxes - Concrete remediation, contact grouting and polyurethane injection

Location
The Bays Station

Scope
Polyurethane injection to stop ground water ingress from exposed ground anchors that form part of the station boxes retaining structure. The injection works carried out by DI were required to meet strict inflow criteria stipulated in the project specification.

Location
Five Dock Station

Scope
Polyurethane injection to stop ground water ingress in the cross over caverns to prevent water pressure build up behind sheet waterproof membrane installed in the crown.

Location
Tunnels

Scope
Completed all types of defect repairs throughout the full 11km of tunnels between the Bays and Sydney Olympic Park stations. Repairs included structural crack injection and patching of pre-cast tunnel segments and polyurethane injection of gasket joints.

Location
Cross Passages

Scope
Contact grouting of the cast in-situ lining to fill voids, seal water paths and ensure proper load transfer from the surround rock to the structure. Works also included and acrylic chemical injection of fuko tubes to address leaks and damp patches.

/ PROJECTS

WESTERN SYDNEY AIRPORT – STATION BOXES & TUNNELS.

Client
CPB Contractors / Ghella JV

Scope
Metro Tunnels, Shafts and Station Boxes - Concrete remediation, Contact Grouting and polyurethane injection

Location
Tunnels

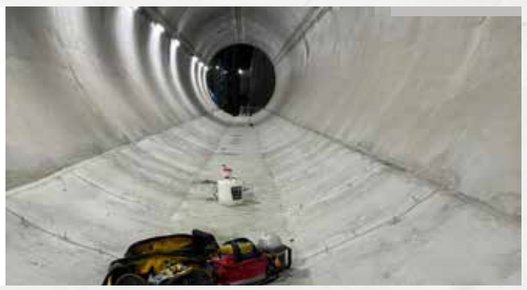
Scope
Completed defect repairs throughout the full 19.6km of tunnels between the St Mary's and Orchard Hills (north section) and Airport Business Park and Aerotropolis (south section). Repairs included structural crack injection and patching of pre-cast tunnel segments and polyurethane injection of gasket joints. DI played a crucial role in helping the principal contractor achieve contractual handover of numerous portions of the project.

Location
Cross Passages

Scope
Termination preparation prior to the installation of sheet waterproof membrane, contact grouting of the cast in-situ lining to fill voids, seal water paths and ensure proper load transfer from the surrounding rock to the structure. Works also included and acrylic chemical injection of fuko tubes to address leaks and damp patches.

Location
St Mary's and Aerotropolis cross over stub tunnels.

Scope
Structural crack injection and concrete patch repairs to achieve the required class II finish.



/ PROJECTS

SYDNEY METRO CITY & SOUTHWEST – TUNNELS & STATIONS EXCAVATION.

Client
CPB Contractors / John Holland / Ghella JV

Scope
Metro Tunnels, shafts and stations - Concrete remediation, Contact Grouting and polyurethane injection

Location
Tunnels between Marrickville and Chatswood

Scope
Completed tunnel defects throughout 31km of tunnels. Repairs included patching of damaged segment erector cones, Segment lips, structural crack injection and polyurethane injection to stop ground water ingress.

Location
Barangaroo Station

Scope
Polyurethane injection to stop high flowing ground water ingress at the cross over cavern headwall adjacent to Sydney Harbour.

Location
Victoria Cross Station

Scope
Polyurethane injection to stop ground water ingress around the cast in-situ linings in the caverns.

Location
Tunnels between Marrickville and Chatswood

Scope
Polyurethane injection to leaking grout ports during planned rail shutdowns.

/ PROJECTS

OTHER PROJECTS.

Project
M12 Motorway

Client
EMC Civil

Scope
Hydro-demolition of existing concrete barriers to expose cast in items.

Equipment used
AquaJet Ergo-go and UHP trailer pump (2500 bar / 50 l/m).

Project
Sydney Metro West – Eastern Tunnel Package (ETP)

Client
CPB Contractors / John Holland / Ghella JV

Scope
Metro Tunnels - Concrete remediation, structural crack injection and polyurethane injection.

Project
WestConnex – Rozelle Interchange

Client
CPB Contractors / John Holland / UGL JV

Scope
Road Tunnel - Polyurethane injection of shotcrete lining.

Project
Central Station Upgrade

Client
Laing O'Rourke

Scope
Station ticket hall – Structural crack injection

Project
NorthConnex

Client
Lendlease / Bouygues JV

Scope
Road tunnels – Structural crack injection

Project
Sydenham Station Upgrade

Client
Laing O'Rourke

Scope
Bridges and culverts – Structural crack repairs

/ PROJECTS

OTHER PROJECTS.

Project
Parramatta Light Rail

Client
CPB Contractors / Downer JV

Scope
Bridges and culverts – Structural crack repairs.

Project
6 Parramatta Square

Client
Built / Obayashi JV

Scope
D-wall repairs – Polyurethane Injection.

Project
One Sydney Harbour

Client
Lendlease

Scope
D-wall repairs – Polyurethane Injection.

Project
Northwest Rail Link (NWRL)

Client
John Holland / CPB Contractors JV

Scope
Tunnels – Contact grouting, structural crack repairs and polyurethane injection.

Project
Mulgoa Road Upgrade

Client
Seymour Whyte

Scope
Structural crack repair and patching of existing culverts and contact grouting of new culverts.

Project
Sydney Science Park

Client
Guidera O'Connor

Scope
Structural crack repair and polyurethane injection of concrete Sydney Water storage tanks.

CUSTOMERS.

PARTNERS & SUPPLIERS.

INJECTION AND GROUTING

HYDRO

directinject.com.au
(02) 72 390 808

Direct Inject's reputation as experts at repairing leaks in underground structures is well deserved. I have worked with them on multiple tunnelling projects, and have consistently been impressed with their results.

Project Manager – Acciona 2025

I have worked with Direct Inject on multiple projects across Sydney. The expertise, quality and resources their team provides has always ensured successful project outcomes. Their crews embed themselves seamlessly into the project team and always strive to hit the aggressive targets we set them.

Project Engineer – Gamuda, 2025

I have utilised Direct Inject on two Major Projects in Sydney and in different capacities. Firstly, PU Injection and secondly robotic hydro demolition. What impresses me the most is their no fuss attitude and commitment to getting the right outcome for their Client. In both instances they have delivered and exceeded on what has been expected. I'll certainly be engaging their services again

Project Manager – John Holland, 2025