



Egis Consulting Pty Ltd

Water, Environment and Energy Transition

# Capability Statement

IMAGINE  
CREATE  
ACHIEVE  
*a sustainable future*

# Egis

Egis is a leading global, consulting, construction engineering, operations and mobility services firm. Our 22,000 employees operate across over 70 countries, deploying their expertise to develop and delivery cutting-edge innovations and solutions for clients. Egis has offices located in NSW, VIC, QLD, SA and WA, and an office based in Newcastle. Egis has been working in the Hunter Region for 10+ years and has experts who have been working in the NSW region for 25+ years.

Engineering Design

Electrical Design – Lines and Substations

Structural Engineering

Civil Engineering

Stormwater and Flooding

Water and Sewer

Environmental Approvals and Management

Surface Water Assessments

Groundwater Assessments

# Engineering Designs

A team of engineers and designers based in Newcastle, Melbourne and Brisbane, who provide design services to all offices in Australia, including NSW. Our design team aims to provide innovative and fluid solutions across the entire design process from concept through to detailed design and construction support.

## Key outcomes

- Concept and feasibility studies.
- Multi-criteria option assessments.
- Tender design.
- Detailed design.
- Asset Management Plans.
- Cost benefit analysis.
- Road and carpark geometric design including swept path analysis, line marking and signage.
- Unsealed, sealed, flexible, and rigid pavement design,
- Pavement seal design.
- Footpath and Cycleway Design.
- Earthworks Design Cross Drainage Culverts and Floodways.
- Pit and Pipe Underground stormwater design.
- Dams, Levees and Retarding Basins.
- Water Sensitive Urban Design (WSUD).



# Electrical Design – Lines and Substations

Experience designing lines and substations in NSW, QLD, VIC, WA and New Zealand. Our local capabilities are backed by our substantial international experience.

## Key outcomes

- Substation Primary Design up to 132kV, Plant Specification and Layout Design.
- Transmission Line and Cables Design to AS7000, pole top arrangement, tower structural design, detailed lines design, route selection, line loss calculations.
- Substation Earthworks, Civil and Structural Engineering.
- Substation Secondary Systems Design and Equipment Selection.
- Protection Design, Setting and Configurations.
- Distribution overhead and underground lines design ranging from LV up to 66kV, feeder route selection, detailed design.
- Earthing studies including EPR and LFI assessments, custom and detailed earthing designs, CDEGS modelling, soil resistivity testing.
- Telecommunications Design, Impact & Feasibility Studies, Network Infrastructure Design, Asset Protection & Relocation, Commercial Works.



# Structural Engineering

A structural design team of 50 staff. Our structural design team have expertise in seismic assessments, ductile design, sustainability design and technical peer review works.

## Key Outcomes

### Concrete:

- Detailed Concrete Analysis and Design.
- Footings, Retaining Walls.
- Slab on Ground.
- Drive in Sumps.
- Pavements.
- Culverts and Pipes.
- Weirs.
- Spillways, chutes, and channel linings.

### Steel:

- Structural Steelwork Analysis and Design.
- Process Plant Structural Design.
- Conveyors Steelwork.
- Materials Handling Structures.
- Walkways and Platforms.
- Pipe Supports.
- Concept Design and Feasibility Studies.
- Detailed Design.
- Construction Quality Assessments and Auditing.
- Third Party Reviews.



# Civil Engineering

A Civil Design team of 165 engineers across NSW, QLD, VIC, WA and SA. Our Civil Team offer planning, management, and concept development through to the detailed design of civil infrastructure and construction phase services.

## Key Outcomes

### — Planning:

- Concept Design.
- Feasibility Studies.
- Multi-criteria option Assessments.
- Tender Design.
- Detailed Design.
- Asset Management Plans.
- Cost Benefit Analysis.

### — Project and Construction Management:

- Project Engineering and Project Management.
- Superintendent and Principal's Representative.

- Scheduling and Cost Estimation.
- Construction Quality Assurance.
- Operational Monitoring and Management.

### — Design

- Road intersection, rehabilitation, major corridor and cap park upgrades.
- Active travel upgrades including shared paths, cycleways and bus stops.
- Pavement investigations, assessment and design.
- Earthworks Design.
- Cross Drainage Culverts and Floodways.
- Pit and Pipe underground stormwater design.
- Dams, levees and retarding basins.
- Water Sensitive Urban Design (WSUD).
- Creek Diversion Design.
- Natural Channel Design.
- Erosion protection and sediment control measurement design.



# Stormwater and Flooding

**A team of 60 engineers dedicated to stormwater and flooding located in NSW, QLD and VIC. Our Stormwater and Flooding team have the capability to deliver a wide variety of projects from the due diligence and feasibility stage through to concept and detailed engineering design and construction support.**

## Key Outcomes

- Hydrologic analysis (catchment rainfall / runoff) and hydraulic (1D and 2D) flood modelling.
- Flood risk and impact assessment.
- Flood forecasting, flood emergency response and flood warning systems.
- Floodplain management including mitigation planning and design.
- Dambreak analysis, consequence assessments and dam safety reviews.

- Development of flood overlays for Planning Schemes and Local Environment Plans.
- Preparation of stormwater / flood management plans.
- Stormwater and flood management policy and strategy.
- Planning and design of integrated stormwater management systems.
- Stormwater infrastructure planning including preparation of local government infrastructure plans.
- Stormwater drainage design.
- Design of stormwater quality treatment assets including bioretention systems and wetlands.
- Stormwater quality modelling.



# Water and Sewer

A team of 25 engineers dedicated to water and sewer infrastructure located in NSW, QLD and New Zealand. Our NSW team is accredited with Sydney Water and is experienced in delivering trunk and reticulation water and sewer infrastructure.

## Key Outcomes:

- Drinking Water, raw water, sewerage and recycled water services from rural to bulk supply, industrial and agricultural applications.
- Strategy development, planning and design of integrated water supply systems, from catchment to tap and back.
- Drought management, water security, climate change assessments and contingency planning.
- Treatment process design, modelling and troubleshooting of drinking water, wastewater and recycled water

systems.

- Odour modelling and management.
- Biosolids management and strategy.
- Hydraulic and water quality network modelling, model build, calibration, verification and operational performance.
- Asset management including reliability and criticality assessment and risk-based planning.
- Operational assessments and support for water and wastewater systems.
- Pumped hydro projects water supply impact assessments.
- Expert witness support.
- Customised engineering tools and bespoke technical applications developed for individual projects.



# Environmental Approvals

**A specialist and innovative team who deliver quality environmental assessment, approvals and compliance services to the private, government and resources industry. Our team analyse and develop strategies to support end-to-end environmental approvals and support compliance with regulatory and corporate requirements.**

## Key outcomes

- Environmental Impact Statement (EIS) processes and Initial Advice Statements (IAS).
- Environmental Impact Assessments including specialist assessments of Groundwater, Surface Water, Ecology etc.
- Environmental Approval Pathways and Support for Environmental Planning Approvals / Permits.
- Environmental Due Diligence Assessments.
- Development Applications.
- Site Environmental Support and Monitoring Services.
- Subsidence and Watercourse Diversion Monitoring.
- Environmental Management Plan Development.
- Erosion and Sediment Control.
- Environmental Authority Compliance Assistance, Amendments, Applications and Audits.
- Federal (EPBC) Self Assessments and Referrals.
- Regulatory Engagement Support.
- Receiving Environment Monitoring Program (REMP) Development and Monitoring.



# Surface Water Assessments

**Experienced water resources specialists - commonwealth, state significant and local developments.**

## Key Outcomes

- Provide an understanding of surface water interactions and risks associated with each project.
  - Consideration of waterfront land and controlled activity approval assessment requirements.
  - Water demand sourcing assessments.
  - Compliance and licensing reviews, including harvestable rights and water take.
  - Support for project approval processes.
- Surface water flow and/or quality modelling (using a range of industry standard software and approaches)
  - Review of gauge data and statistical analysis.
  - 1D and 2D flood/watercourse modelling.
  - Erosion and sediment control assessment and plans, by Certified Professional in Erosion and Sediment Control (CPESC).
  - Preparation of Water Resources Impact Assessments and Surface Water Impact Assessments.
  - Preparation of post approval management plans for erosion and sediment control, soil and water management, licensing, and flood emergency access/evacuation.



# Groundwater Assessments

**Delivery of evidence-based groundwater assessments that support environmental approvals in NSW and QLD. We apply groundwater science, modelling, hydrogeology, risk assessment and monitoring to create clear, defensible pathways through regulatory processes.**

## Key outcomes

- Clear linkages between groundwater, environmental impacts and approval conditions.
- Decision-support options, risk assessments, triggers and practical next steps.
- Evidence-based groundwater assessments to support environmental approvals.
- Technical inputs for approvals and compliance reporting.

modification applications, and technical reports.

- Works approvals/licensing technical memos, regulatory-ready reports, and response-to-RFI support.
- Post approval reporting and construction phase services
- Predictive groundwater modelling (inflows, drawdown, scenario testing, uncertainty).
- Assessment of groundwater-dependent ecosystems and interaction with surface water.
- Groundwater investigation design, drilling supervision and monitoring network design.
- Pumping-test design and interpretation (sustainable yield, aquifer parameters).
- Contaminant transport analysis, seepage evaluation, and monitoring program design.

