
CAPABILITY STATEMENT

CONTACT DETAILS

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Year Est.	2005
ABN	98 115 414 643

CAPABILITY INFORMATION

MAIN BUSINESS ACTIVITIES AND INDUSTRIES SERVED

Orana Engineering is an engineering consultancy that is large enough to respond to our client's needs while being small enough to develop and maintain close business relationships. Orana Engineering personnel have extensive experience in projects, operations and maintenance activities in heavy industry including Coal & Metalliferous mining and processing. Orana Engineering's excellent reputation is built on the commitment and dedication of all of its employees working toward understanding our client's needs and delivering outcomes that consider the uniqueness of every site.

Orana Engineering has a head office in Townsville and successfully serves its clients throughout Northern and Central Queensland, within the Bowen Basin and western remote Queensland. Orana Engineering also has an office in Chinchilla dedicated to serving the oil and gas, mining and surrounding heavy industries in the Surat Basin.

Orana Engineering operates in demanding environments and has a reputation for delivering projects and services on time and on budget. Our personnel have a unique combination of technical and practical ability and understand from previous employments and site experience that mistakes during the engineering design and drafting stage have cost implications that can far exceed the design cost and sometimes even the project budget. It is for this reason that since its foundation, Orana Engineering has been driven to operate as an engineering, drafting and document management resource with robust, refined and efficient quality assurance processes to ensure the utmost quality and accuracy of all deliverables.

Quality assurance is not a cliché statement used at Orana Engineering, it is at the core of what we do and as such evidence of these transparent QA systems can be provided for all projects.

Safety in our designs and in our everyday activities is an integral focus of our business. Our extensive experience and exposure to operating in heavy industrial and mining sectors has helped us to build and develop a culture that places the highest priority on safety.

Orana Engineering is quick to realise opportunities within a process and our experience promotes a holistic approach to every project to ensure that value for money is achieved in the end project result. With our engineers drawing from many years' experience in site based roles, Orana Engineering routinely delivers practicality in our designs, providing us with a highly competitive advantage over that of our competitors. Our people are acutely aware of the complexities involved in scheduling projects at remote sites with narrow shutdown windows.

KEYWORDS

Mechanical Engineering Consultant, Electrical Engineering Consultant, Control System Engineering Consultant, Structural Engineering Consultant, Design Drafting, Drawing Management.

PRODUCTS AND SERVICES

Orana Engineering capabilities and services include but are not limited to:

- Project Management;
- Mechanical, Structural, Electrical & Control System Engineering;
- Detailed Engineering Designs and Calculations;
- Electrical & Control System Detailed Design;
- Tailored Control System Training Courses;
- Mechanical & Structural Detailed Design;
- AutoCAD 2D Drafting (multi-discipline);
- Autodesk Inventor 3D Modelling (multi-discipline);
- Ongoing Site Support and Maintenance for Control Systems;
- Client Document and Drawing Office Management and Maintenance;
- Audit and Establishment of Client Document Control Systems and Procedures;
- Registration of Drawings, Drawing Register Management and Revision of Drawings;
- Concept Design, Budget Estimates, Feasibility Studies;
- Technical Document Writing: Scopes of Work, Functional Description, Engineering Specifications etc.;
- Engineering Investigations, Inspections, Assessments and Audits;
- Client Engineering Representative, Project Management and Project Scheduling; and
- Site Installation Management and Commissioning.

To ensure the security of project data, Orana Engineering's Data Network system has the features and capabilities typical of major global businesses. The network includes an offsite backup storage system that in real-time securely backs-up the entire business such that in the unlikely event of a major catastrophic failure, Orana Engineering would lose no more than 30 minutes of client data.

PREFERRED BUSINESS

Orana Engineering has mechanical, structural, electrical and control system engineering and drafting resources capable of providing detailed design, engineering and drafting services for medium sized projects (typ. project values up to \$2.5M), while recognising that what sets us apart from our competitors is how we effectively and efficiently perform brownfields “breadcrumb” projects. Typical projects completed have design costs in the order of \$1k - \$50k with Orana Engineering having the capacity and systems to effectively perform projects with design costs of up to \$100k - \$500k.

APPROACH

Orana Engineering prides itself on excellence in communication and understands this is a key component to a project’s success and client satisfaction. Orana Engineering has a team dedicated to providing services in all project climates, including but not limited to, arranging services after hours and non-work days and scaling up to match increased demand as required to meet project needs. Orana Engineering personnel will always provide a timely response to all communications as it is our goal to be a preferred supplier. Offering a committed and thorough document control service using the latest technologies, combined with our professional engineering and drafting resources, we have the capability of managing and resourcing sites entirely and holistically from a technical perspective.

We uphold the highest standard in multidisciplinary engineering, project management, drafting and document control services, but it is the customer service, attention to detail, quality assurance processes and the background of the people at Orana Engineering that makes our company unique and the preferred supplier to our wide range of clients. We find our clients appreciate our company values.

COMPETITIVE SKILLS

Among other traits Orana Engineering prides itself on attention to detail, which we have proven that in conjunction with our quality assurance systems and through accuracy, we create a higher quality product at a lower overall cost to the project. Orana Engineering is focused on building long term relationships. We adopt a “*do it right the first time*” approach so that everyone benefits and the client - consultant relationship prospers. Orana Engineering’s growth since 2005 has been as a result of upholding our values, which has allowed us to maintain close working relationships with our clients.

SOFTWARE

Orana Engineering operates using Microsoft software business products for network, server and computer applications and MYOB for accounting and financial management of the business.

Orana Engineering utilises the latest in design drafting technology with 2D and 3D AutoCAD, programs and simulators allowing us to provide a multidisciplinary drafting resource backed by our professional engineers and project managers.

To achieve flexibility and presentation in design, Orana Engineering utilises specialist software modelling packages for modelling and analysis of designs and structures (AutoDesk Inventor), High Voltage systems (SKM PTW) and pumping/flow systems (Pipeflow Expert). Orana Engineering does not assume accuracy in modelled designs, we also perform spot manual calculation checks to satisfy ourselves that the information is reliable.

EQUIPMENT

As a design consultancy, after our people, the network, servers and computers are most critical to the operation of the business. Reflecting this, Orana Engineering has since inception standardised the use of Dell servers and computers, with business critical server equipment having 24/7 4hr same day warranty support and computers having 24/7 next business day warranty support. Orana Engineering’s IT system is fully duplicated, providing full standby redundancy and we keep onsite all necessary spare network hardware.

For monitoring and logging of power usage and power supply conditions, Orana Engineering has a Powermonics 3-Phase Power Meter available for hire and setup by our electrical engineers, with data analysis services available if required. We also have our own surveying equipment such that if only a small number of measurements are required, we can cost effectively during a site visit obtain levels and measurements necessary for our design.

Orana Engineering also has a wide range of printing and scanning equipment suiting all drawing and documentation requirements up to and including A0 paper size.

CERTIFICATIONS HELD

In accordance with the Professional Engineers Act 2002 (Queensland), all engineering designs delivered by Orana Engineering are performed under the direction of engineers possessing RPEQ (Registered Professional Engineer of Queensland) status.

TRAINING AND SKILLS

Orana Engineering budgets to annually provide all staff with training that is strategic and relevant to their field of expertise for the purpose of ongoing professional development and maintaining the highest possible quality of service.

MANAGEMENT SYSTEMS AND RISK MANAGEMENT

GENERAL

Orana Engineering personnel have extensive site work experience at a wide range of sites including those owned by Glencore, BHP Billiton, BMA, AngloAmerican, Rio Tinto, QGC, Origin Energy etc. Our employees hold safety in the highest regard and have comprehensively used onsite risk management and management of change processes. Orana Engineering utilises and maintains to the highest standard policies and procedure systems in health, safety, environment and quality assurance.

ACCREDITATION

At Orana Engineering we pride ourselves on our quality assurance systems, and we currently hold accreditation to ISO 9001, ISO 14001 and AS/NZS 4801.



INSURANCES

Orana Engineering maintains the following insurances:

- \$20M Public Liability Insurance;
- \$5M any one claim and \$10M in the aggregate Professional Indemnity Insurance; and
- Workcover Queensland.

WORKING WITH INDUSTRY AND OTHERS

NETWORKS

Orana Engineering is proficient in the utilisation of subcontractors to meet statutory requirements in our designs. As required we utilise our network of subcontractors for tasks such as civil/structural RPEQ project verification and signoff, architectural design, HV overhead power line design, substation earthing designs, lighting design and hazardous area project verification and certification.

INDUSTRY ASSOCIATION MEMBERSHIP

Orana Engineering employees with engineering qualifications are members of Engineers Australia and are kept up to date with the latest processes and movements in the industry. We encourage excellence in our staff, and have engineers that hold Chartered Professional Engineer (CPEng) status with Engineers Australia, and RPEQ status with the Board of Professional Engineers Queensland.

TRACK RECORD

The following references have been supplied as a brief background of past and current work performed by Orana Engineering. Referees can be provided upon request.

Client	Project Profile
AngloAmerican (Moranbah North)	<ul style="list-style-type: none"> ➤ CHPP Electrical Drawing Audit ➤ CHPP Train Loadout Automation PLC configuration ➤ CHPP Control Voltage Upgrade ➤ HV Remote Switching Design and Drafting ➤ Reclaimer, Conveyor and Breaker Upgrade Electrical Design ➤ CHPP Reclaim Tunnel Hazardous Area Classification ➤ CV004 Conveyor Upgrade Scope of Works
BHP Billiton (Cannington)	<ul style="list-style-type: none"> ➤ Overhead Gantry Crane Rail Realignment Project Management ➤ QB80 Fan HV Switchroom design ➤ H2SO4 Tank Repairs and Control System Upgrade ➤ Grinding Substation Air-Conditioning Upgrade ➤ High Voltage Audit ➤ RO Plant Controls Upgrade ➤ Substation Fire Suppression Systems Project ➤ Site Safety Shower System Reticulation & Upgrade Project ➤ Yurbi Stormwater System Upgrade Project Management ➤ Tailings Reclamation Process FEED and Estimating ➤ Paste Plant Piping RPEQ Certification ➤ SAG Mill Cover Corrosion Remediation
BHP Billiton (Port Facility)	<ul style="list-style-type: none"> ➤ Storage Shed Extension Project Management ➤ Stormwater System Upgrade Project Management ➤ Recycled Water System – Elect & Mechanical Design, Scope & Commission ➤ Water Treatment Plant – Electrical Design, Scope & Commission ➤ Water Polishing Plant – Electrical Design, Scope & Commission ➤ General PLC & SCADA Configuration, Maintenance & Site Support ➤ Site Drawing Management ➤ Fire System Investigation and Design ➤ Water Polishing Plant Access Platform – Design Drafting

Client	Project Profile
BMA (Gregory Crinum)	<ul style="list-style-type: none"> ➤ Drawing Management Audit ➤ Underground Mine Dewatering Hydraulic Modelling ➤ Investigation & Testing of Earth Leakage Systems for Variable Speed Drives ➤ VVVF Drive Earth Leakage Relay install Electrical Design and Drafting ➤ Fire System Audit
BMA (Blackwater)	<ul style="list-style-type: none"> ➤ Industrial Area Services Audit
BMA (Broadmeadow)	<ul style="list-style-type: none"> ➤ Shuttle Car Earth Fault Current Limitation Study
BMA (Daunia)	<ul style="list-style-type: none"> ➤ Helipad Landing Area Civil Design Drafting
BMA (Saraji)	<ul style="list-style-type: none"> ➤ Reagents Upgrade System Audit and Commissioning Assistance
BM Webb	<ul style="list-style-type: none"> ➤ Office & Warehouse Main Distribution Board Electrical Design and Drafting
Carpentaria Gold (Ravenswood)	<ul style="list-style-type: none"> ➤ Tank Access Static Line System ➤ Feed and Tails Slurry Sampler Installation ➤ Leach Tank Bypass Piping ➤ Cyanide Tank Design
Condamine Electric Company CEC (Dalby)	<ul style="list-style-type: none"> ➤ QGC Kenya WTF Power Island Transformer and Load Bank Electrical Engineering and Drafting ➤ APA Wallumbilla Capital Budget Estimates ➤ APLNG Condabri Capital Budget Estimates
EM Solutions	<ul style="list-style-type: none"> ➤ Radio Wave Propagation Simulation for Indonesian Link
Ergon Energy	<ul style="list-style-type: none"> ➤ Pole Condition Data Program - Software Application Development ➤ Defect Reduction Program - Software Application Development
FMR Investments (Eloise Copper Mine)	<ul style="list-style-type: none"> ➤ Crushing Plant Upgrade Mechanical & Structural Design Drafting ➤ Flotation Cell Installation Elect, Mech & Structural Design and Drafting ➤ Jaw Crusher Access Platform Engineering Design and Drafting ➤ Ball Mill Reloading Skip Monorail Engineering Design and Drafting
Fuel Fix	<ul style="list-style-type: none"> ➤ Broadmeadow Fuel Farm Electrical Design Drafting
Glencore Coal (NCA)	<ul style="list-style-type: none"> ➤ Collinsville Drawing Registration Project and Ongoing Management ➤ Newlands Northern Underground – Compressed Air Network Desktop Audit

Client	Project Profile
Glencore Coal (Oak Creek Coal)	<ul style="list-style-type: none"> ➤ Yokogawa CS3000 DCS Upgrade ➤ 17M Conveyor Gantry Upgrade ➤ MIBC & Diesel Facility Upgrade Project Management and Design ➤ Electrical and Mechanical Drawing Registration and Ongoing Management ➤ CHPP Fines Upgrade – Electrical & Control Project Management ➤ Recirc Water Upgrade Concept and Detailed Design ➤ Product Sampler Upgrade – Electrical & Control Design and Commissioning ➤ Site Security System – Conceptual Design & Installation Project Management ➤ CHPP Power Factor Correction - Elect & Ctrl Design and Commissioning ➤ Tailings Disposal System Modelling and Detailed Design ➤ Accommodation Facility Water and Power Design and Commissioning ➤ RO Water Treatment Plant Feed Electrical Design ➤ CHPP Reclaim Tunnels Hazardous Area Classification & Design ➤ Lake Keith Pump Station – Scopes of Work and Electrical Design
Glencore Coal (Oak No.1 Mine)	<ul style="list-style-type: none"> ➤ Underground Conveyor Installation Drawings ➤ LOM Water Supply Study ➤ LOM Compressed Air Supply Study ➤ Underground Dewatering Pump Station Design ➤ Drawing Registration Project and Ongoing Drawing Management ➤ Structural Integrity Audit and Reporting ➤ AS 1657 Platforms, Walkways, Stairways and Ladders Australian Standards Compliance Audit and Reporting
Glencore Coal (Oak North Mine)	<ul style="list-style-type: none"> ➤ Underground Workshop Design ➤ Drawing Registration Audit Assessment ➤ Prepare Conveyor Installation Work Procedures & Commissioning Documents
Glencore Port Operations (Port Facility)	<ul style="list-style-type: none"> ➤ New RMU and Transformer Compound Design ➤ Mechanical & Electrical Project Engineering Services ➤ 11kV Incomer and Transformer Upgrade Project ➤ Gantry Loader Electrical Upgrade Investigation and Preliminary Design ➤ Recycled Water Project Detailed Design and Scoping ➤ Wharf Crane Mother Spreader Beam Modelling and Detailed Design ➤ Tippler Sump Pump Mechanical and Electrical Design ➤ HV Metering and Substation Earthing Detailed Design ➤ Site Arc Flash Study
Glencore Townsville Operations (CRL)	<ul style="list-style-type: none"> ➤ High Voltage Audit and Protection Setting Review ➤ Shaft Furnace Gas Conversion – Control System Configuration ➤ Redraw Hardcopy Drawings into AutoCAD Format
Incitec Pivot Dyno Nobel Moranbah	<ul style="list-style-type: none"> ➤ Prepare Drawing Template ➤ Redraw Ammonia Plant Single Line Diagrams into AutoCAD Format ➤ Develop Site HV Switching Diagram
Hutchinson Builders (Toowoomba)	<ul style="list-style-type: none"> ➤ QGC Aquifer Injection Water Treatment Project Design Review

Client	Project Profile
Incitec Pivot Phosphate Hill	<ul style="list-style-type: none"> ➤ Anhydrous Ammonia Loadout Facility Functional Specification ➤ Train Loadout PLC-DCS Data Transfer ➤ Bagging Plant – PLC & SCADA Configuration, Maintenance & Site Support ➤ Port Facility – PLC & SCADA Configuration, Maintenance & Site Support ➤ Port Facility – Rebuild Citect Servers
MBD Energy (James Cook University)	<ul style="list-style-type: none"> ➤ Tank Farm Area Civil Detailed Design ➤ Site PLC & SCADA Network Conceptual Design ➤ 10m BAGS Sled Electrical, Mechanical and Control System Design ➤ Ayr Prawn Farm – High Recovery Algal Pond Civil and Electrical Design
Metal Maintenance (Currumbin Waters)	<ul style="list-style-type: none"> ➤ QGC Kenya WTF Sediment Pond Piping Design Drafting
MMG (Century Mine)	<ul style="list-style-type: none"> ➤ Concentrator Upgrade Project Electrical Project Engineering ➤ Concentrator Upgrade Project Mechanical Project Engineering ➤ Jameson Cell Electrical and Instrumentation Design and Drafting ➤ Detritor Mill Electrical and Instrumentation Design and Drafting ➤ Flotation Tailings Parallel Line Design and Drafting ➤ Lifting Beam Design and Drafting ➤ IMT Project Site Engineering and Commissioning Support ➤ Mill Gear Box As-Built Drafting ➤ Lead Dam Vehicle Wash – Civil, Structural and Electrical Engineering and Drafting ➤ Lead Re-slurry Project Management
MMG (Karumba)	<ul style="list-style-type: none"> ➤ Sealant Plant Technical Review, Design and Drafting ➤ Recycled Oil Elec Engineering Design, Drafting and Project Engineering ➤ Vehicle Wash Pad Design and Drafting
Monadelphous Group Limited	<ul style="list-style-type: none"> ➤ APLNG Talinga PCF Plant Structural Inspections and Form 16's ➤ APLNG Wandoan IF Plant Structural Inspections and Form 16's
Origin Energy (Mt Stuart)	<ul style="list-style-type: none"> ➤ Fire Pump System Flow Testing and Analysis ➤ ICES Water Treatment Plant – Electrical Design & SCADA Configuration
O'Donnell Griffin (QLD)	<ul style="list-style-type: none"> ➤ Townsville Airport Power System SCADA & Communications Network ➤ Lake Lindsay Coal Water Management PLC Control Systems
Peabody Energy (North Goonyella)	<ul style="list-style-type: none"> ➤ Investigation & Testing of Earth Leakage Systems for Variable Speed Drives ➤ Crushing Plant Conveyor Skirting Modifications ➤ CHPP Distributor Modification Concept Design
Regional Instrumentation & Electrical Services RIE (Chinchilla)	<ul style="list-style-type: none"> ➤ APLNG Combabula Bore Pump Fault and Protection Study ➤ CS Energy Kogan Creek Power Station – Hazardous Area Blocked Chute Rectification
Rimfire Constructions	<ul style="list-style-type: none"> ➤ APLNG Lucky Gully Capital Budget Estimates
Rio Tinto Coal (Hail Creek)	<ul style="list-style-type: none"> ➤ Drawing Registration Project – Mobile Fleet Electrical Drawings ➤ Redraw Hardcopy Drawings into AutoCAD Format

Client	Project Profile
Rio Tinto Alcan (Weipa)	<ul style="list-style-type: none"> ➤ Distributor Stand Structural Engineering ➤ Sizer Platform Modification Structural Engineering ➤ Cyclone Feed Pump Structural Engineering ➤ Trommel Southern Guard Structural Engineering
Wesfarmers (Curragh Coal)	<ul style="list-style-type: none"> ➤ New Coal Prep Plant – Client’s Electrical Representative ➤ Investigation & Testing of Earth Leakage Systems for Variable Speed Drives
Vale (Carborough Downs Coal)	<ul style="list-style-type: none"> ➤ Mine Dewatering Network Concept Design & Budget Estimate ➤ Dewatering Equipment Specification Development ➤ Client Representative for Conveyor Upgrade Project ➤ Project Management of Conveyor Installations ➤ Underground Conveyor Installation Drawings ➤ Drawing Registration and Ongoing Site Drawing Management ➤ Engineering Specification Development ➤ CHPP MIBC Hazardous Area Zoning ➤ CHPP Arc Flash Study ➤ Monorail Certification ➤ CHPP Conveyor Capacity Audit
Veolia Water Operations (QGC Kenya Water Treatment Facility)	<ul style="list-style-type: none"> ➤ Brine Concentrator Vapour Compressor Spool Removal Concept Study and Capital Estimates ➤ Relocatable Water Treatment Plant Condition Assessment and Reporting ➤ Power Island Transformer and Load Bank Footings Civil Engineering and Drafting ➤ Brine Concentrator MCC Ventilation Calculations ➤ Orana 4 Pond Pump Station Options Analysis ➤ Brine Concentrator Gas Engine Feed Piping Modifications Engineering and Drafting