



SHIRLEY CONSULTING ENGINEERS PTY LTD

INVESTIGATIVE, REMEDIAL & GROUND ENGINEERING

WHO ARE WE?

Shirley Consulting Engineers is a Sydney-based investigative, remedial and ground engineering practice that offers consulting services across Australia & Internationally. The firm was established in 1974, and specialises in the forensic evaluation of failures in civil & mining engineering structures; the firm has also developed a deep understanding of the causes of slope & ground instability and subsidence. Further, SCE regularly investigates and designs footings, earthworks, soil & rock excavations, retaining walls & anchorage systems, as well as advising extensively on remedial works for damaged structures, coastal hazards / protection & planning issues.

Professional Affiliations



THE WAY WE WORK

Investigative Process

- Research of site's geology & history before site attendance.
 - Careful site mapping, photo documentation & measurement.
 - Systematic review of provided documentation.
 - Chronology of Events.
 - Analyses & calculations to assess mechanisms.
 - Preparation of drawings & diagrams to establish mode(s) of failure.
 - True / Root Cause analysis
- Not all steps are undertaken on all projects.

Investigative Difference

- Undertaken by an experienced team, with over 80 years of combined experience.
- Site investigations & assessments with detailed measurements.
- Investigations usually extend beyond documentation provided.
- Team working environment.
- Internal peer review process.
- External peer review available through the CIRCEA network.

Reporting

- Reports structured to inform & educate the reader, not to just state opinions.
- Clear reasoning & documentary process to provided opinions.
- Text is 'cross-referenced' to an indexed appendix.
- Failure mechanisms explained.
- Explanatory drawings.
- Extensive technical & documentary appendices.
- Photographic appendices with explanatory annotations.
- Clear source references cited.

STRUCTURES WE INVESTIGATE

Residential

- Investigation & Remedial Design of:
- Building Settlement / Damage.
 - Retaining Walls.
 - Foundations & Footings.
 - Landslides.
 - Impact of excavations.
 - Building dampness & underground pipe bursts.
 - Subsoil Drainage Systems & Rising Damp.

Commercial & Industrial

- Investigation & Remedial Design of:
- Excavations & Shoring Systems.
 - Retaining & Reinforced Earth Walls.
 - Ground Anchors & Rock Bolts.
 - Slope Instability & Rock-falls.
 - Landslides.
 - Impact of excavations.
 - Foundations.
 - Drainage Systems.

Mining

- Investigation & Design Review / Design of Civil Mine Infrastructure:
- Tailings & Water Supply Dams.
 - Flood Protection Systems, Levees & Drainage Systems.
 - Reclaim Tunnels & Shafts.
 - Retaining Walls & Excavations.
 - Roads & Footing Systems.
- SCE also advise on underground support systems for tunnels & adits, and the effects of mine subsidence.



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SERVICES WE OFFER

Damage Investigations

- Initial 'Cause of Damage' Assessments.
- Document analysis & review.
- Root / True Cause analyses of structure damage / failures.
- Civil & Ground Engineering design assessment.
- Dilapidation Surveys & Reports.

Ground Engineering Design

- Design alternatives & options for Civil & Ground Structures.
- Excavation Support & Underpinning Systems.
- Geological & Geotechnical Evaluation and Investigations.
- Specifications & Contract Documents.
- Peer Review / Checking of Design [Shadow Engineering].

Expert Witness Services

- Expert Investigations & documentation of facts.
- Expert Reports.
- Forensic analysis of failures & evaluation of mechanisms proposed by others.
- Expert Evidence.
- Expert Conclaves & Court Work.
- Litigation Assistance & Support.

Remedial Engineering

- Investigation & Planning of Remedial Works.
- Evaluation of remedial options and costs.
- Design and specification of remedial works.
- Arrangement & construction review of remedial works.

Planning & Hazard Studies

- Geotechnical Investigations & Hazard Assessment / Zoning.
- Land Stability Assessments.
- Impact of Sea Level Rise on Infrastructure / coastal areas.
- Coastal Recession and Cliff Stability Assessments.
- Community Consultations.

Insurance Services

- Assessment of the 'technical validity' of claims.
- Assistance to Insurers / Insured Parties as to the technical aspects of a claim / incident.
- Incident Causation Reports for Insurers / Loss Adjusters.
- Assistance with the Remediation of Damage.

INITIAL INVESTIGATIVE & ADVICE PRODUCTS

Initial Cause Assessment & Report

- Site Inspection by Senior Engineer, incl. site mapping & photo documentation.
- Preliminary Assessment of Cause of Damage
- Letter Report on inspection / cause, with annotated photos.

Desk Study & Preliminary Opinion - Teleconference

- Review of provided documents.
- Formation of Initial Opinion.
- Teleconference to discuss Initial Opinion.
- Précis of matters discussed in Teleconference.

Consultation & Report

- Conference in SCE offices to discuss matter.
- Review of provided documents & formation of Initial Opinion.
- Initial 'Preliminary Observations Report'.

PERSONNEL & CONTACT DETAILS



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