GROUND RISK ASSESSMENT

Capability Statement CS4 | Rev 2.0 | November 2026

Magnum GSI assesses ground-related risk in a structured way and shows what it means for a project. The assessment covers geohazards such as mining legacy, dissolution, shrinkable clay, compressible ground, slope instability, made ground, flooding, radon, ground gas and aggressive ground, together with contamination and geotechnical constraints. It runs from qualitative screening through to quantified exposure, and produces a risk register that stays useful through design and construction.

What we provide

- **Geohazard screening and rating.** The eleven-hazard framework behind GeoScreen, applied by an engineer to a specific site and scheme with site-specific data, so that every rating has a stated basis and a stated confidence.
- **Ground risk registers.** Risks identified, assessed for likelihood and consequence, and given an owner, a mitigation and a residual rating, in a format that drops into the project's own risk register and is reviewed at each gateway.
- **Quantified assessment.** Where the decision justifies it, semi-quantitative and probabilistic assessment of cost and programme exposure, abnormal cost allowances and sensitivity to the main unknowns.
- **Specific hazard studies.** Coal Mining Risk Assessments for sites in a Development High Risk Area, slope stability assessment, dissolution and karst assessment, ground gas and contamination risk assessment, and coordination of specialist assessments such as unexploded ordnance.
- **Mitigation and investigation strategy.** The investigation, monitoring, design measures or further study that reduce each risk to an acceptable level, in the order that gives the most information for the least cost.

How we work

The effort is proportionate to the stage of the project: a screening-level assessment at feasibility, a full register and quantified exposure at design. We are explicit about data confidence, separate what is recorded from what is inferred, and revisit the register as investigation and design progress rather than issuing it once.

Who it is for

Developers and their design teams; infrastructure owners and operators; contractors pricing and planning ground works; planning authorities and their advisers; and funders and insurers who need ground risk expressed in terms of cost and likelihood.

Standards and quality

BS 5930:2015+A1:2020; BS EN 1997-1 and 1997-2; ICE guidance on managing geotechnical risk; Land Contamination Risk Management; BS 8485:2015+A1:2019 and CIRIA C665 (ground gas); BR 211:2023 (radon); Mining Remediation Authority guidance on coal mining risk assessment; national planning policy (NPPF, Planning Policy Wales, NPF4). Work is carried out under Magnum GSI's ISO 9001 certified quality management system (certificate 251677) and the company holds Cyber Essentials certification across the whole organisation. Every report is checked by a second engineer before issue.

Coverage

England, Wales and Scotland. Single plots to industrial and infrastructure sites.

Contact

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