

AN INTRODUCTION TO CURTINS

GEO-ENVIRONMENTAL SERVICES

Curtins

Building a
better future

01 ABOUT US

At Curtins we believe that the true value of our work is defined by the difference for good we make in the lives of real people. Our deep sector knowledge and consultancy expertise helps build a better future for our clients, colleagues and the communities we serve, because the world we all live in and the legacy we leave, truly matters.

As one of the UK's leading independent engineering consultancies, we offer key services for the built environment. Since 1960, our bold leadership and commitment to innovation have placed us at the forefront of sustainable design and engineering, helping to enhance the world around us.

We build lasting relationships with our clients, who trust us to deliver excellence through innovation, transparency and clear communication. Our reputation is built on the strength of our people and the quality of our work. It's simply The Curtins' Way.

Headquartered in Liverpool with offices strategically located across the UK and Ireland, we are a 100% employee-owned trust. Together we continue to drive progress and deliver meaningful impact.

Geo-Environmental

We've been offering our clients Geo-Environmental services since 1988, with a focus on providing ground conditions, geotechnical, contaminated land and materials management advice.



“
We are a national
company with a strong
local presence ”

Bill Curtin

Founder



1960
EST.
by Bill Curtin

INVESTORS IN PEOPLE
We invest in people Platinum

We've been a Platinum
accredited company since
2019, joining the top 1%

CORE SPECIALISMS

Civils
Structures
Geo-Environmental
Geotechnical
Transport Planning

UK & IRELAND

Birmingham, Bristol
Cambridge, Cardiff
Cumbria, Dublin,
Edinburgh, Glasgow
Isle of Man, Leeds
Liverpool, London
Manchester

OUR VALUES



Integrity



Impact



Curiosity



Being Human

OUR CLIENTS SAY:

“

Curtins' geotechnical recommendations and advice has consistently been above and beyond the required scope, reflecting a deep understanding of soil mechanics and foundation engineering. Their responsiveness and flexibility in assisting with geotechnical challenges have made them a valuable partner in all of our many past projects together.

”

THOMAS MURRAY
Geotechnical Director at Site Analytical Services Limited

“

Curtins successfully managed to exclude the pre-existing requirement for gas protection measures within our Dyecoats development in Leeds through reassessment of the risks, reducing construction costs by £200,000, simplifying the floor slab construction and associated programme. The associated appraisal was undertaken at minimal cost and in line with the development programme.

”

RICHARD WHITEHEAD
Associate Director at Turner and Townsend

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GEO-ENVIRONMENTAL



Phil Thomas
Geo-Environmental
Regional Director

Ground conditions, if not properly assessed and managed, can significantly impact every stage of a project's life cycle - leading to increased costs and programme delays.

For over 35 years the Curtins' Geo-Environmental team have provided geo-environmental support to projects across all sectors and scales, including nationally important infrastructure.

Our expertise covers:

- Schools, colleges and higher education
- Residential and housing
- Healthcare
- Industrial and logistics
- Renewables
- Energy
- Data centres
- Science and Technology
- Leisure
- Commercial
- Infrastructure
- Public Sector
- MOD / MOJ

We pride ourselves on our collaborative approach and focus on the wider project aspirations and objectives. Our advice is technically robust, commercially focused, pragmatic and deliverable. We tailor our solutions to provide the optimal outcomes for your project, taking account of the project stage, funding and programme.

Our team has a combined experience of 250 years of delivering geo-environmental appraisals for all types of projects, including due diligence, sales / acquisition and investment, site promotion, planning (EIA, DCO, IC), redevelopment, Part 2A, permitting and environmental compliance of operational sites.

We stay ahead of emerging issues such as PFAS, evolving building regulations, and the shifting legislative and regulatory landscapes. This enables us to help clients manage risks effectively across their projects and asset portfolios.

Sustainability is at the heart of our work. Our geo-environmental appraisals seek to protect the environment and the circular economy and minimise material disposal and the use of primary materials.

CORE SERVICES:

- Desk Top Study and Preliminary Risk Assessment
- Intrusive Ground Investigation
- Human Health, Controlled Waters and Gas Risk Assessment
- Remedial Design and Verification Options Appraisal
- Minerals Appraisals
- Materials Management Plans
- Geotechnical Development Appraisals
- Earthworks and Ground Improvement Design
- Slope Stability Assessments
- Pile and Retaining Wall Design
- Earthworks Specifications and Validation Exercises
- Dewatering Advice
- Temporary Works including Outrigger and Pile Mat Designs
- Retaining Wall Designs
- Basement Impact Assessments and Ground Movement Assessments
- Due Diligence
- Expert Witness
- Abnormal Costs Appraisals

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SPECIALIST ASSESSMENTS

The ‘industry standard’ approach to contaminated land appraisal can lead to unduly onerous outcomes. Often detailed risk assessments can mitigate the requirement for physical works and the associate costs and programme delays.

Our specialist assessments aim to provide a more sustainable and cost-effective outcome for our clients, potentially avoiding or reducing the need for specific mitigation.

Our team can provide a range of bespoke assessments:

- Human Health and Controlled Waters Detailed Quantitative Risk Assessment (DQRA)
- Ground Gas and Vapour Assessments
- Asbestos Assessments
- Materials Management and Waste Classification
- Sustainable Remediation Assessments
- Sustainable Geotechnics
- Ground Movement Assessments



HUMAN HEALTH & CONTROLLED WATERS DQRA

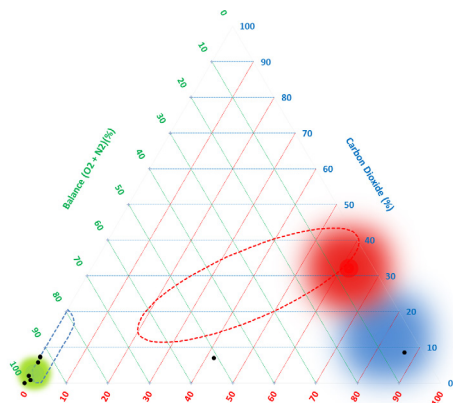
Curtins can deliver supplementary characterisation and DQRA to further evaluate the potential existence of unacceptable risks to human health and controlled waters receptors to seek to reduce or dismiss remedial requirements.

We have extensive experience in the use of UK-specific models (e.g. CLEA, RTM, ConSim) using site-specific data to minimise conservatism and develop pragmatic assessment criteria.

GROUND GAS AND VAPOUR ASSESSMENTS

Ground gas assessment is a highly complex area requiring expert consideration of a site's ground conditions, groundwater regimes, gas sources and migration pathways to allow a proportionate assessment of gas risk.

Our evidence-based balanced approach to bulk gas assessment, vapour DQRAs and membrane permeation assessments provide proportionate outcomes, often dismissing the need for specific mitigation.



ASBESTOS DQRA

Asbestos is ubiquitous in the environment impacting a high proportion of brownfield sites, and continues to be a challenging contaminant. The Control of Asbestos Regulations (CAR 2012) set out specific obligations on any parties that are handling a material that falls under the regulations. We offer specialist assessment services and advice to inform clients of appropriate and proportionate procedures during the handling of asbestos containing soils and demolition materials, in accordance with CAR 2012, and informed by relevant guidance, e.g. CARSOIL

Risk to end users is a highly emotive subject that often leads to highly conservative and onerous mitigation measures. Curtins' team of specialist risk assessors are able to assess asbestos in a more proportionate manner, aligning with recent guidance, to measure if asbestos presents an unacceptable level of risk to end users and the requirement for mitigation.



MATERIALS MANAGEMENT AND WASTE CLASSIFICATION

Most development projects require management of ground arisings and wastes. Early consideration of waste regulations can allow such materials to be put to beneficial use, either on the site of origin or on other nearby schemes. Curtins can provide materials management advice at every development stage, including high level strategies, MMPs, exemptions and permits.

Where waste disposal is unavoidable, Curtins can provide high resolution investigation and bespoke assessments to ensure that the volumes of hazardous waste are minimised.

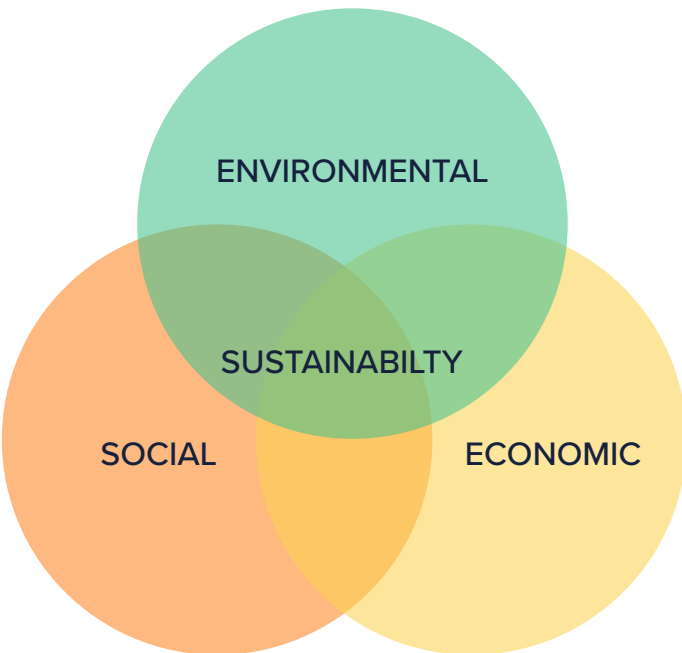
WASTE HEIRARCHY



SUSTAINABLE REMEDIATION ASSESSMENTS

Where a risk assessment has indicated that remediation is technically required, guidance allows a further consideration of the overall sustainability, and if the benefits of such remediation outweigh the associated costs.

Curtins can carry out sustainability assessments to determine whether a proposed remediation delivers a net positive impact for both people and the environment. If a net benefit is not evident, we can engage with the relevant regulator to explore alternative approaches, potentially reducing the scope of remediation or, in some cases, mitigating the need for it altogether.

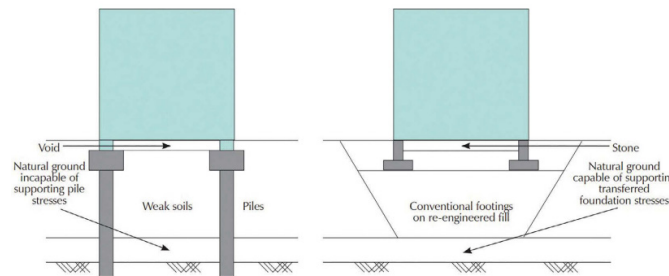


SUSTAINABLE GEOTECHNICS

Sustainable geotechnical design can provide significant benefits to a project, from optimised foundation solutions including ground improvement techniques and the re-use of existing foundations to the selection of materials with reduced embodied carbon and the re-use of soils on site.

Curtins are at the forefront of sustainable geotechnical practice, incorporating carbon calculators to assess the impact of foundation depths and optimise design efficiency. Our work in this field has been recognised through published documentation with the Institution of Structural Engineers (IStructE).

Curtins have a dedicated Sustainability Associate, reinforcing our commitment to embedding sustainability within all aspects of our operations, and ensuring that we consistently measure, assess, and reduce the carbon impact of our projects.



GROUND MOVEMENT ASSESSMENTS

Curtins deliver specialist Ground Movement Assessments (GMAs) for buildings, tunnels, utilities, and other sensitive assets, in full compliance with relevant industry standards and best practice guidance (e.g. CIRIA, National Highways and BRE requirements).

Our assessments quantify potential ground displacements, allowing risks to be clearly identified at an early stage. Where potential impacts are identified, Curtins can develop and implement practical, cost-effective engineering solutions to mitigate against ground movement risks.



04 GEO-ENVIRONMENTAL PLANNING PROCESS



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GEO-ENVIRONMENTAL SERVICES ALIGNMENT WITH RIBA STAGES

	RIBA STAGE 0	RIBA STAGE 1	RIBA STAGE 2	RIBA STAGE 3	RIBA STAGE 4	RIBA STAGE 5	RIBA STAGE 6	RIBA 7
	STRATEGIC DEFINITION	PREPARATION & BRIEF	CONCEPT DESIGN	DEVELOPED DESIGN	TECHNICAL DESIGN	CONSTRUCTION	HANDOVER & CLOSE OUT	IN-USE
GEO-ENVIRONMENTAL DELIVERABLE		Phase 1 Preliminary Risk Assessment including Desk Study Environmental Impact Assessment (EIA) - Ground Conditions Chapters	Ground Investigation Specification (ICE) Initial Ground Investigation Factual Report Phase 2 Ground Investigation Report (GIR); including Generic Quantitative Risk Assessment (GQRA)	Detailed Quantitative Risk Assessment (DQRA) Contamination Piling Risk Assessment Waste Classification Investigation & Assessment		Remediation Strategy Report (RemStrat); with Remediation Options Appraisal Material Management Plan (MMP) with Qualified Person (QP) Declaration	Completion Report (MMP) Verification Report (RemStrat)	
GROUND ENGINEERING (COMBINED) DELIVERABLE	Due Diligence (Foursite)	Coal Mining Risk Assessment (CMRA) Concept Design Report (CDR)	Ground Investigation Specification to ICE UK Specification for Ground Investigation Ground Investigation - Initial Phase Outline Series 600 Earthworks Specification & Strategy	Ground Investigation - Detailed Phase	GeoSpatial Modelling	Ground Investigation - Targeted Phase Earthworks Specification & Strategy Mining Treatment Specification (Grouting Specification), Ground Improvement Specification	Overseeing Organisation (OO), Technical Specialist or Technical Advisor role	Verification Report (Mine Working Treatment) Site Inspection Report
GEOTECHNICAL DELIVERABLE		Statement of Intent (SOI) Preliminary Sources Study Report (PSSR) Basement Impact Assessment	Ground Investigation Scoping Report (GISR) Geotechnical Constraints Report Outline Series 1600 Piling Specification	Geotechnical Outline Design Report		Geotechnical Design Report (GDR) Special Geotechnical Measures (SGM) Series 1600 Piling Specification	Geotechnical Feedback Report (GFR)	

EXCLUSIONS: This is a guide and certain projects may programme out of sequence due to specific constraints or requirements. There also might be project specific deliverables such as; ground movement assessments, geological/geomorphological mapping etc and does not include for specific reports, e.g. Form A/B for Network Rail or Geotechnical Certificates for National Highways.

THANK YOU

CIVILS & STRUCTURES | TRANSPORT PLANNING | GEO-ENVIRONMENTAL

curtins.com