Ground Risk and Remediation

Capability Statement
What we do?
We provide services to transform the built environment and restore the natural environment. Our expertise ranges from environmental remediation to urban planning, from engineering iconic buildings to designing sustainable transport networks, and from developing the energy sources of the future to enabling new ways of extracting essential resources.

We foster collaboration in everything we do.
Our people come from a wide range of backgrounds, but we are united by the pride we take in our work and our passion for solving clients’ problems.

We are future-focused and challenge the status quo.
We’re proud that so many of the game-changing ideas in engineering today have been championed by our people including on-site manufacture/fabrication and innovative remediation technologies. We were the first to fully exploit the opportunities offered by Business Information Modelling (BIM) and our innovative design meant The Shard was constructed with minimal disrupt on to London’s commuters. Our tunnel engineering accomplishments have achieved industry-wide acclaim and we’ve pioneered the use of a fully digital data management platform across all of our Ground Risk & Remediation team from site investigation to laboratory testing and on to reporting.

We are locally dedicated with international scale.
Our unique combination of specialist and integrated skills, backed by our global reach, enables us to offer not only the latest thinking and most innovative technologies but also the most responsive client service, whatever and wherever the challenge.
Ground Risk and Remediation: We deliver projects our clients can be proud of

We manage legacy issues by mitigating the risks posed by historic contamination and land use; we protect current assets through monitoring, management and upgrades; and we future-proof to cope with an ever changing regulatory landscape and climate.

We lead on today’s big issues, including:
- Safe handling and management of asbestos in soils;
- Soil waste characterisation
- Material management and reuse using the CL:AIRE Code of Practice for Definition of Waste; and
- The integration of groundwater and contaminated land management with Sustainable Drainage design and the impacts of climate change.

We understand the complexity of brownfield sites and believe it is our job to provide innovative, site-specific solutions for projects of all types and sizes.

Our team combines professional consultancy and assessment skills, backed by our specialist remediation contracting expertise, which allows us to provide the latest thinking and the best client service regardless of the challenges.

We don’t work in isolation; a project requires the right people at the right time so we work closely with environmental, geotechnical and infrastructure colleagues to ensure our planning advisory and design solutions are joined up. The aim is always to deliver the best client solution.

Our highly experienced team offers the full breadth of contaminated land services to develop sustainable, cost-effective strategies for the redevelopment of brownfield sites. We combine risk assessment and detailed site investigation to minimise remediation in line with the National Planning Policy Framework.
1. Olympics, South East

We are proud to have acted as the groundwater remediation contractor for this landmark project. Our works included the detailed characterisation of complex contamination plumes and the design and implementation of a wide range of groundwater remediation technologies across many construction zones, including the Main Stadium and the Aquatics Centre.

2. The Wixams, Midlands

The former Elstowe Munitions Factory in Bedfordshire will be the location of a 4,000 house development centred around 4 village squares. We have supported our client in the development and implementation of a sustainable remediation strategy, which responsibly dealt with a legacy of asbestos, fuel and munitions contamination, whilst minimising landfill waste and maximising developable areas. Our work on this project was recognised with a sustainability award at the 2014 Brownfield Briefing Awards.

3. London Gateway Port, South East

London Gateway Port is a major 200ha intermodal logistics hub and deep container port on the site of the former Shell Haven Refinery. We have supported London Gateway (DP World) by designing and delivering on site investigations, supervision of remediation excavations, materials management, shallow water treatment and the operation of a soil treatment hub.

4. Millennium Town Park, Jersey, Channel Islands

The Millennium Town Park has been developed as a sustainable, community-focused solution to the regeneration of the former St. Helier Gas Works. It has resulted in a high quality leisure and recreational amenity, which promotes healthy lifestyles, benefiting local communities and visitors to the island. A key feature of this award winning remediation scheme was the sustainable reuse of site substructures for rainwater harvesting and minimisation of waste disposal through on-site treatment and materials management techniques.
1. Gaswork Legacy, UK
For over 15 years we have been supporting gas transmission and utilities companies managing the long term legacy of historical town gas manufacturing. Our experience covers the site characterisation and remediation of numerous historic gas works as a consultant, a turnkey contractor and as a specialist groundwater remediation contractor. We have also carried out award winning research and development in to the field of environmental forensics for recalcitrant hydrocarbons.

2. Former Tar Distillery, North of England
Since 2008 we have supported a major chemical client with the characterisation and remediation of a large scale creosote based groundwater plume on the site of a former tar distillery. By following industry best practice and applying the six Surf UK sustainable remediation principles, we have delivered a technically robust and cost effective remediation design supported by an exemplary audit trail of our decision making processes for future generations. Our work on this project was awarded Best Conceptual Design at the Brownfield Briefing Awards 2015.

3. Halkyn Historical Mine Workings, North Wales
Intensive quarrying of limestone and mining for lead in this area has resulted in a distinctive landscape. We conducted a systematic assessment of all features and their risk to site users and structures and infrastructure. Site surveys, GIS mapping and a bespoke integrated management system has delivered a robust management approach and improved safety.

4. South Hook LNG, South Wales
We acted as remediation contractor supporting the construction of an LNG terminal on the former South Hook oil refinery and storage depot. The contract included the management of 1.5m cubic metres of contaminated soil, long term groundwater monitoring, perched groundwater management and bioremediation of contaminated soils. Following completion of the remediation works, we were retained to develop the IPPC permit and support the long term environmental management of the facility.
1. Asbestos In Soil

Asbestos in soils represents a significant challenge to the regeneration of Brownfield sites. Through collaboration with our specialist asbestos team, we have developed industry leading protocols for the safe investigation and remediation of asbestos contaminated soils.

We have an impressive track record in the safe management of asbestos impacted soils throughout the Brownfield site lifecycle from demolition and decommissioning through to site characterisation, remediation and redevelopment.

2. Site Diagnostics

A successful approach to the management of complex contamination problems requires a holistic understanding of the geological, hydrogeological, geochemical and biological properties of the subsurface. We have developed a detailed knowledge of the benefits site diagnostics can bring to optimise lines of evidence and support risk based liability management programmes. Tools we use include:

- The latest geophysical techniques to characterize and map heterogeneous geological strata and locate contaminant plumes.
- Use of molecular biological tools (MBTs) to gather in-situ data on the microbiological populations present within the subsurface and the inherent capacity of the natural systems to degrade pollutants.
- Use of analytical techniques to characterise the bacterial populations (including DNA, RNA, protein, and lipid analysis) and track degradation pathways.

3. Research & Development

For over 10 years, we have partnered with leading academic institutions and client organisations to advance the understanding of the fate and behaviour of recalcitrant hydrocarbon mixtures arising from the manufacture of Towns Gas. Through the work we have done we are able to support our clients in the forensic apportionment of environmental liabilities.

4. Remediation Technology & Sustainability

We are committed to providing sustainable technology led remediation solutions for our clients. Our capability includes a dedicated “best in class” remediation engineering facility for the design, fabrication and operation of remediation equipment that can be deployed cost effectively anywhere in the world.

For every remediation project we measure our remediation footprint using an in-house project stewardship tool. We take into account the impact of energy consuming processes, personnel impacts, resource use and materials intensity to demonstrate the true environmental benefit of remediation and, where necessary support the case for closure.
SERVICES

THE CORNERSTONES OF OUR BUSINESS

Contaminated Site Characterisation

- Due diligence and site appraisals (desk studies site investigations and advice)
- Detailed site characterisation and diagnostic investigations
- Environmental forensics
- Detailed quantitative risk assessment
- Liability management advice and cost assessments
- Remediation Options Appraisals and Strategies
- Appraisals, cost benefit and sustainability assessment
- Stakeholder consultation
- Expert witness

Remediation Design and Implementation

- Remediation design and implementation
- Pilot studies and feasibility trials
- Site diagnostics to support design
- Detailed design including HAZID and HAZOP processes
- Remediation system build, operation and maintenance
- Independent verification and monitoring of 3rd party contractors
- Turnkey contracting
- Verification and validation

Hydrogeology

- Sampling and monitoring strategies
- Aquifer (pumping) tests
- Geothermal studies
- Engineering design
- 2D and 3D modelling
- Contaminant fate and transport modelling
- Basement and dewatering studies
- Drainage and regional resource assessments
- Water footprinting and water security assessments
- Expert witness

Ground Engineering

- Desk studies and terrain evaluations
- Development viability appraisals including abnormal cost assessments
- Preliminary and detailed geotechnical design
- Specifications, tender and contract Administration
- Materials management and Qualified Persons
- Support to design and build contractors
- Temporary works
- Finite element modelling
- Planning support
- Stakeholder consultation
- Expert witness

SAFETY

OUR ZERO HARM VISION IS TO EFFECTIVELY REDUCE SAFETY RISKS AND HAZARDS IN ALL OF OUR ACTIVITIES. “MAKING SAFETY PERSONAL” MEANS WE ARE EACH ACCOUNTABLE FOR FOSTERING A SAFE WORKPLACE FOR OURSELVES AND OTHERS POTENTIALLY AFFECTED BY OUR ACTIVITIES.
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