

Brownfield & Contaminated Land

19 April 2018 | Belfast

About this event

The event programme for the 2018 Brownfield & Contaminated Land conference in Belfast has been fully updated to ensure it brings you the most important and up-to-date information on innovative techniques for the risk assessment and remediation of contaminated land and groundwater and strategies to deliver effective brownfield development within revised planning frameworks.

With practical insights and regional case studies from both sides of the border, delegates will benefit from the following sessions:

- Managing Brownfield Land as part of Local Development Planning – a Local Council perspective
- A Regulatory Update on Groundwater Risk Assessment
- Practically implementing the use of Bioaccessibility Testing to determine risks to human health
- Cost-Benefits of Continuous Risk Monitoring for Ground- Gases and VOCs
- Practical Strategies for dealing with Asbestos in soil when it is found on-site
- Effectively implementing good Waste Management practice on brownfield and construction projects
- Regional Remediation Project Case Studies

Additionally, numerous Q&A discussion sessions and ample networking maximises your time out of the office through sharing experiences and examples of best practice.

You will leave with actionable strategies and valuable guidance to help deal with key contamination and brownfield development challenges.

Why attend?

Expert panel

Listen to senior representatives from both the Government and industry, along with other stakeholders..

Current thinking

Gain valuable insight into groundwater risk assessment, data collection and modelling techniques.

Case studies

Hear from those at the forefront of this agenda from both sides of the border, as they discuss real time projects, highlight the challenges and barriers faced.

Time efficiency & focus

Bring yourself up to date with the complex and changeable groundwater agenda and ask the questions that you most need answering.

Q&A panel discussions

Have your specific questions answered making use of the multiple Q&A sessions. Remember – we encourage attendees to send in any questions in writing in advance of the conference.

Networking

Meet your peers, including the expert panel of speakers, in the informal, relaxed setting of the Titanic Hotel in the heart of Belfast.

Programme

9.00 Registration and Refreshments

9.30 Opening remarks from the morning Chair

Owen Williams, *Environmental Advisor*, Brownfield Development Services

Managing Contaminated Land within Planning

9.40 Local Council Perspective: Managing brownfield land as part of Local Development Planning

- Detailing the progress made, and next steps, in embedding changes into the planning and development process post Council reform
- Identifying the key challenges facing Planning & Environmental Health Officers in implementing these changes
- Outlining our approach to Local Development Planning and how contaminated land will be managed as part of this:
 - to what extent can the objective of streamlining the planning consultation and applications process be achieved?
 - detailing the type of information we need, and can make available, to facilitate this process
 - clarifying the definition of "soundness"
- Demonstrating effective collaboration with communities and stakeholders to achieve brownfield remediation and development

Dermot O'Kane, *Town Planner*, Belfast City Council

10.05 Update on the development of a National Planning Framework for the Republic of Ireland and the implications of this for brownfield development

- Update on the progress of Ireland 2040 – Our Plan and the key objectives and timescales of a National Planning Framework:
 - key changes to the planning process and responsibilities of local councils in this
 - detailing how environmental considerations will be integrated into land use planning
 - examining the role of brownfield land in housing and development targets
- Identifying the key challenges facing brownfield and contaminated land development in Ireland and how these could be overcome

Hendrik van der Kamp, *Planning Consultant & Past-President* of the Irish Planning Institute

10.30 Q&A

10.40 Morning Refreshments

Contaminated Land & Groundwater Risk Assessment

11.10 Groundwater Risk Management: A Regulatory Update

- Clarifying any recent changes to groundwater risk assessment approaches, and the Regulator's view on these
- Update on implementation of the UK Technical Framework for monitoring, assessing and controlling risks to groundwater and the regulation of the input of hazardous substances into groundwater
- Effectively using risk assessment to select appropriate remedial objectives and identify options for groundwater remediation

Dr Edward Lewis, *Senior Scientific Officer*, Northern Ireland Environment Agency

11.35 Practically implementing the use of bioaccessibility testing to determine risks to human health

- Update on the work undertaken by Queen's University Belfast and the Bioaccessibility Research Group of Europe (BARGE) on assessing the risks to human health of soil contamination
- Exploring what factors affect contaminant bioaccessibility
- Determining what contaminants it is appropriate to use bioaccessibility testing for
- How can generic assessment criteria be affected by incorporating site specific bioaccessibility information?
- To what extent is bioaccessibility testing accepted by Regulators as providing robust, defensible data for use in risk assessment?
- Quantifying the potential saving in remediation costs achieved through bioaccessibility testing
- Case Study: Practicalities of using bioaccessibility testing in contaminated land risk assessment

Tatiana Cocerva, *Early Stage Researcher, School of Natural and Built Environment, Queen's University Belfast*

12.00 Ground Gas and VOCs: Practicalities of continuous monitoring for cost-effectively assessing the risks from ground gases and soil vapours

- Clarifying the requirements of BS8485 and other regulations for ground gas risk assessment on development sites
- Examining recent progress made in ground gas and vapour risk assessment both in the UK and internationally:
 - assessing the effect of ground conditions on gas occurrence and management
- Understanding where uncertainties and misconceptions occur in risk-assessing the most common contaminants and how these can be addressed:
 - techniques for preventing overly-conservative or incorrect assessments
 - understanding the difference between Gas Screening Values (GSV) and DQRA results
 - progress made in the approach to testing TOCs
 - examining the effect of measuring with or without flow
- Clarifying the Regulator's stance on new techniques for monitoring and risk-assessing ground gas
- **Case Study:** Evaluating the cost-benefits of complete continuous monitoring in maximising data collection and adding value to your ground gas and VOC risk assessments

Simon Talbot, *Managing Director, Ground-Gas Solutions*

12.25 Q&A

12.40 Lunch

13.30 Opening remarks from the afternoon Chair:

Dr Theresa Kearney, *Regulation Unit, Northern Ireland Environment Agency*

13.35 Practical strategies for accessing, managing and presenting geological, geotechnical and environmental data for contaminated land development

- Introducing the ASK NI Network and the National Geoscience Data Centre (NGDC)
- Examining how improved data collection and sharing can result in lower site investigation and development costs
- Examples of using science and 3D models to better manage the sub-surface

Alex Donald, *Information Delivery & Licensing, Geological Survey of Northern Ireland (GSNI)*

Contaminated Land Remediation Solutions

14.05 Asbestos in Soil: Best practice for applying industry guidance for asbestos in soil when it is found on-site

- Techniques for assessing the actual risk of asbestos when it is found on-site:
 - best practice where traces or very low levels are found –justifying risk minimisation techniques
 - what do you do if asbestos is not identified in the SI but then found on-site at remediation stage?
- Exploring the most suitable remediation techniques for asbestos fibres in soil
- Assessing the longer-term risks of leaving asbestos in-situ - how is this monitored over time?
- Examining the technical and legal implications of re-using waste classified as asbestos-contaminated:
 - correctly classifying waste with very low levels of fibres present
 - what exactly can be re-used on site and where?
 - exploring alternative disposal options
- Clarifying the Regulator's view on leaving or re-using asbestos-containing materials
- **Northern Ireland case study:** Practically using the CAR-SOIL guidance as a tool to manage asbestos on site

Paul Pearson, *SHEQ Manager, Dunton Environmental*

14.30 Waste Management & Re-Use of Materials: Effectively implementing good waste management practice on brownfield projects

- Examining current issues affecting the reuse of soils in Northern Ireland and the Republic of Ireland
- Reviewing existing waste licensing, permitting and management processes
- Examining the implications of recent EPA guidance in the RoI:
 - application of the recently issued EPA guidance - Article 27
 - discussion on proposed acceptance criteria for soil recovery sites
- Presentation of a Case Study implementing good waste management practice
Melanie Thrush, Geo-Environmental Engineer, Arup

14.55 Q&A

15.05 Afternoon Refreshments

15.30 Case Study: Effective Site Characterisation to Support Risk Assessment and Provide Proportionate Remediation Scope

This presentation will provide details of an ongoing remediation scheme at a former MOD site currently being redeveloped by the Department of Education as a multiple use educational campus. The site is being redeveloped to provide shared educational and sporting facilities for up to 4,000 students and represents Northern Ireland's most significant educational infrastructure investment in recent years.

The presentation will include details of the following:

- Site investigation design and development of the Conceptual Site Model
- Design of the overarching remedial programme for inclusion within the Works Information for the procurement of the earthworks contract.
- Detailed technical review of the previously proposed remedial strategy, specifically with respect to a soil and groundwater hydrocarbon plume associated with a former Petrol, Oil, Lubricant (POL) Storage area.
- Supplementary site investigation design, including the collection of geological and hydrogeological data specific data relevant to the source area and along anticipated contaminant migratory pathways.
- Review of sampling techniques to achieve representative dissolved phase sample due to the potential presence of free phase.
- Low flow sampling to assess field chemistry and capacity to support contaminant degradation via natural attenuation, and use of Biotraps to assess microbial populations potentially applicable to the degradation of identified contaminants of concern.
- Detailed Hydrogeological Quantitative Risk Assessment to include parameters derived following site characterisation works.
- Refinement of Conceptual Site Model following DQRA and demonstration that contaminant concentrations in soil and groundwater did not present a potential risk to receptors and that site conditions were suitable to support the degradation of contaminants via natural attenuation, and
- Early stakeholder engagement and subsequent regulatory approval of a reduction in scope of remedial measures to comprise a programme of groundwater monitoring only (monitored natural attenuation) during construction, providing significant cost savings to the client.

Alan Dew, Principal Geo-Environmental Consultant, WYG

15.55 Case Study: Passive drainage of deep clean groundwater as a sustainable means of reducing the spread of contamination

On an industrial brownfield site in Northern Ireland, DuPont installed a > 500 metre long horizontal well to drain deep groundwater upgradient of a contaminated area. This allows the clean groundwater to discharge with little or no treatment and to passively contain a contamination plume otherwise reaching a receptor. The particular hydraulic conditions on site allow the groundwater to well up freely with no pumping, which makes this a lasting sustainable solution.

Markus Ackermann, Remediation Programme Manager EMEA, DuPont de Nemours

Nicoletta Cavaleri, Geotechnical Engineer, CH2M HILL

16.20 Case Study: A Site investigation toolbox - Practically applying a variety of techniques from low tech to high tech

There are a variety of techniques to investigate contaminated land sites. However, more often than not a standard approach of drilling and monitoring well installation is adopted. The objective of this presentation is to explore other techniques (both high tech and low tech) that can be used in conjunction with this standard approach to greatly enhance the site characterisation process.

A case study of a former industrial site in Northern Ireland will be presented. The site investigation works were designed in a staged manner, with the results of each stage informing the scope of the next. This staged approach combined with the use of some lesser frequently used techniques allowed for better targeting of areas of potential concern and ultimately a more robust site characterisation and risk assessment.

The following low tech / high tech techniques will be explored:

- Electromagnetic survey
 - Cone penetration test (CPT) including Membrane Interface Probe (MIP) coupled with a Hydraulic Profiling Tool (HPT)
 - Photoionization Detector (PID) and pH survey of river bank sediments
 - Installation of multi-level level monitoring wells
 - Installation of passive flux meters (PFM) in groundwater monitoring wells
- Ross Caird, *Principal Geoenvironmental Consultant, AECOM, Belfast***

17.10 Q&A

17.25 Closing remarks from the Chair and close of conference