

Yorkshire Contaminated Land Forum: Summer Conference 2022

"Advancements in Enabling Development on Historical Deposits of Artificial Ground"

The Carriageworks, 3 Millennium Square, Leeds LS2 3AD on Thursday 30th June 2022

Register via www.eventbrite.com/e/348823499477 for the free conference and via www.eventbrite.com/e/348844692867 for the free evening networking event

Outline Programme

13:00	Doors open for conference registration and networking in exhibition area
13:30	CONFERENCE STARTS – Welcome from Ann Barker, YCLF
13:40	James Boyd, British Geological Survey – <i>Geophysical approaches for landfill ground model development</i>
14:15	Jenny Lightfoot, Arup and Duncan Scott, Vertase FLI – <i>Assessment and remediation of the Liverpool Festival Gardens site to enable its redevelopment – the story so far</i>
14:50	BREAK – with refreshments, networking and viewing of exhibitors
15:20	Steve Wilson, The Environmental Protection Group – <i>Post earthworks gas monitoring in compacted fills – a waste of time</i>
15:55	Jim Wragg, Geosyntec Consultants – <i>Advanced tools in the assessment of vapour intrusion and design of mitigation systems for Brownfield development sites</i>
16:30	Rick Saville, Abbeydale Building Environment Consultants – <i>A brief update on the new YCLF website</i>
16:35	CONFERENCE CLOSE AND NETWORKING EVENT IN THE ELECTRIC PRESS

Sponsors:



Synopsis of the talks.....

James Boyd, British Geological Survey – *Geophysical approaches for landfill ground model development*

For many landfills, basic knowledge about extent, waste composition or environmental impact is incomplete. Therefore, effective tools are required for landfill ground model development such that remediation or potential landfill mining activities can take place. In contrast to conventional ground-truth methods, geophysical methods are relatively inexpensive and since they are minimally invasive, they entail less risk for environmental contamination. We present a case study on a landfill in Emersons Green UK, where we tested the effectiveness of multiple geophysical methods for landfill characterisation.

Jenny Lightfoot, Arup and Duncan Scott, Vertase FLI – *Assessment and remediation of the Liverpool Festival Gardens site to enable its redevelopment – the story so far*

Reclaimed from the estuary of the river Mersey by progressive upfilling with waste materials above the tidal flat deposits between the 1950's and 1980's, the 40ha site which was used to construct the Liverpool Festival Gardens in 1984 is now undergoing remediation works to enable re-development of a portion of the site for a residential end use. The pre-remediation conceptual site model (CSM) and remediation strategy was developed by Arup following extensive site investigation and in 2020, Vertase FLI were employed to prepare a remediation implementation plan and undertake the remediation works. This talk gives an overview of the site investigation, pre-remediation CSM, remediation strategy and the progress of the remediation works to date.

Steve Wilson, The Environmental Protection Group – *Post earthworks gas monitoring in compacted fills – a waste of time*

Gas concentrations and flows measured in boreholes have long been used as a primary line of evidence to inform assessments of risk posed by ground gas. Whilst originally intended to inform such assessments for land affected by historic contamination or older deposits of materials containing degradable organic material, this line of evidence has become inappropriately enshrined as the standard approach to assess risks from younger deposits of artificial ground (e.g., engineered fill) constructed as part of remediation schemes. An example is provided by guidance used by the Environment Agency to surrender a deposit for recovery permit (used increasingly in landfill reclamation), which relies heavily on gas concentrations and flows measured in boreholes to build a case for surrender. Processes occurring in younger deposits of fill, such as consolidation and changes in pore-water pressures, render borehole measurements highly unreliable and other lines of evidence should take precedent in such cases to inform an assessment of risk. This talk explores this important issue.

Jim Wragg, Geosyntec Consultants – *Advanced tools in the assessment of vapour intrusion and design of mitigation systems for Brownfield development sites*

The assessment of vapour phase contaminant migration from the sub-surface into buildings is hampered by numerous factors (spatial and temporal variability, preferential flow paths, indoor sources of vapours and the need for build-specific design parameters), resulting in abatement systems that are frequently over conservative and costly. Innovative assessment approaches are required to improve the characterisation of building-specific factors and reasonable worst-case conditions for sub-surface vapour intrusion into buildings. This talk presents innovative vapour intrusion investigation and assessment techniques along with an overview of the place these tools have in the selection and design of vapour intrusion mitigation systems.

