

# **Demonstrating Competency in Contaminated Land Management**

## **An IBN Position Statement**

**Ireland Brownfield Network**

**Professional Competency Good Practice Subgroup**

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Note: The Ireland Brownfield Network is a collection of brownfield professionals working on this document on a voluntary basis. This draft document is a work in progress and any reference to or use of this document is entirely at the parties' own risk for which the Ireland Brownfield Network holds no responsibility.

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## About the Ireland Brownfield Network

The Ireland Brownfield Network (IBN) was established in February 2012 by a collective of leading brownfield practitioners operating in various professions throughout Ireland. It is voluntarily run and organised by 14 committee members.

The Network aims to encourage constructive dialogue and interaction amongst all those involved in the redevelopment of Brownfield land on the island of Ireland. In doing so, the collective learning experiences, good practices and effective strategies can then be shared and distributed.

The Network is free to join and open to all. Since its inception, the Network has run several free-to-attend conferences and networking events and has contributed to numerous government consultations relating to land contamination, planning, and waste - all with the view of improving the re-use of under-utilised lands throughout the island of Ireland.

The IBN hopes that this document goes part-way to improving the quality of works produced by practitioners and raises the profile and standing of practitioners working in a complex and challenging discipline.

## Disclaimer

This document is made freely available on the understanding that the authors and both current and past members of the IBN committee and steering groups hold neither liability nor responsibility to any person or entity with respect to any loss or damage arising from its use. Whilst every effort has been made to ensure the contents are accurate and complete, the IBN and the stated document authors offer no warranty or reliance, either collectively or as individuals, that could occur as a result of referring to this document.

Throughout this Position Statement, lists are presented in alphabetical order. The presented listing of subjects, professions or institutions in no way represents an IBN order of preference, authority or value.

## 1 Introduction

Contaminated land management is a complex subject requiring a variety of skill sets drawn across numerous professional disciplines. Competent practitioners evolve from a variety of professional and educational backgrounds that can often originate from subjects such as geology, civil engineering, chemistry, toxicology, hydrology, hydrogeology, ecology and law.

This inherent breadth of skill sets presents a challenge for clients and landowners when sourcing appropriate and capable advice and services directly relevant to their site, current circumstance and site development aspirations. It also poses a challenge to the practitioner keen to demonstrate their competency and ability to clients, regulators and the general public.

In response to this challenge, the IBN presents a framework under which practitioners can work towards and present their competency in their individual specialist area. It is hoped that by publishing this Position Statement, practitioners and industry will adopt an approach that will encourage the continual improvement and advancement of a complex discipline that is ever changing to reflect advancements in science and changes in government policy and legislation.

The IBN recognise that this framework is not prescriptive nor holds any statutory authority. Ultimately, it is the responsibility of the practitioner to demonstrate competency and the client to determine whether that individual meets their own requirements and standards. In addition, alternative approaches not covered by this Position Statement (in particular those in jurisdictions outside of the island of Ireland) may be equally relevant and appropriate in determining whether a practitioner is competent.

## 2 What is competency?

In the field of contaminated land management, the IBN considers a Competent Practitioner to be someone who has:

- Been awarded a recognised relevant educational qualification;
- Been awarded a Chartered member status, or equivalent, of a relevant professional organisation; and,
- Has sufficient demonstrable experience in assessing and managing the issues specific to the site in question and those that meet the client's aspirations and requirements.

## 2.1 What are relevant educational qualifications?

The IBN considers an educational qualification to be an award issued on behalf of a recognised educational establishment after a successful period of study concentrating on a specific discipline. Those completing such studies are awarded Bachelor, Master or Doctorate titles allowing practitioners to use the post nominal initials such as BSc, MSc, MRes, MPhil and PhD.

Subjects relevant to contaminated land management include, but are not limited to:

- Chemistry
- Ecology
- Engineering
- Environmental Health
- Environmental Management
- Environmental Sciences
- Geography
- Geology
- Hydrogeology
- Hydrology
- Toxicology

IBN is aware of, encourages and facilitates a number of commercially developed short courses, webinars and conferences. Whilst these are excellent programmes for the delivery of specific technical subjects within the field of land contamination, and present ideal Continual Professional Development opportunities, the IBN is of the opinion that solely attending these types of training events without having the underlying knowledge of a relevant educational qualification would not amount to a Competent Practitioner.

## 2.2 Why require Chartership status?

Being awarded a Chartership status demonstrates that a practitioner has been assessed by peers within their discipline as having reached a stage in their careers where they are considered suitably qualified and sufficiently experienced to conduct their profession to a required standard.

Most importantly for contaminated land management, the Chartership status demonstrates that a practitioner has signed up to and adheres to a code of professional ethics and a career-long programme of Continual Professional Development (CPD).

CPD is important for practitioners as the science and regulatory frameworks that influence the discipline are forever evolving and changing. Adhering to a code of ethics is equally important so that

the practitioner can demonstrate that their services are honest and suitably protective of the discipline’s standing and reputation, protecting both the client and the environment.

As with relevant educational qualifications, to reflect the diverse disciplines involved in the management of land contamination, a number of professional bodies are available to the practitioner. The body applied to by a practitioner usually reflects their primary third level qualification but may equally be adopted to reflect their current career path.

To identify those who have reached Chartership status, post nominal abbreviations are used at the end of a practitioner’s name. To help identify relevant chartered status and to encourage non-chartered practitioners to work towards such status, the IBN presents a list of bodies that issue such status. The process to become chartered will differ depending on the body issuing that status: practitioners are encouraged to identify the most relevant route considering their qualifications, experience and career aspirations.

<b>Chartership Body</b>	<b>Post Nominal Abbreviations</b>	<b>Web Page Link:</b>
Chartered Institute of Environmental Health	MCIEH FCIEH	<a href="http://www.cieh.org">www.cieh.org</a>
Chartered Institute of Wastes Management	MCIWM	<a href="http://www.ciwm.co.uk">www.ciwm.co.uk</a>
Chartered Institute of Water and Environmental Management	MCIWEM C.WEM	<a href="http://www.ciwem.org">www.ciwem.org</a>
Engineers Ireland	CEng MIEI	<a href="http://www.engineersireland.ie">www.engineersireland.ie</a>
Institute of Ecology and Environmental Management	CEcol	<a href="http://www.cieem.net">www.cieem.net</a>
Institute of Civil Engineers	EngTech MICE IEng MICE CEng MICE	<a href="http://www.ice.org.uk">www.ice.org.uk</a>
Institute of Environmental Management and Assessment	MIEMA	<a href="http://www.iema.net">www.iema.net</a>
The Institute of Environmental Sciences	MIEnvSc	<a href="http://www.the-ies.org">www.the-ies.org</a>

Chartership Body	Post Nominal Abbreviations	Web Page Link:
Institute of Geologists Ireland	PGeo	<a href="http://www.igi.ie">www.igi.ie</a>
Society for the Environment	CEnv	<a href="http://www.socenv.org.uk">www.socenv.org.uk</a>
The Geological Society	CGeol	<a href="http://www.geolsoc.org.uk">www.geolsoc.org.uk</a>
The Royal Society of Chemistry	RSciTech RSci ERT	<a href="http://www.rsc.org">www.rsc.org</a>
The Science Council	CSci	<a href="http://www.sciencecouncil.org">www.sciencecouncil.org</a>

### 2.3 Demonstrating relevant experience

The final aspect of demonstrating competency is providing evidence that a practitioner has accumulated sufficient experience in dealing with the specific site risks and issues being considered. This can often be challenging for clients not familiar with the contaminated land management discipline and where site risks and issues have yet been identified. However, it is important that practitioners recognise their own capability limitations and refrain from conducting works outside of their abilities and understanding. For example, it may be inappropriate for a practitioner qualified and experienced in hydrological risk assessments to also conduct ground gas risk assessments without the necessary background, experience and training specific to this area of contaminated land management.

Demonstrating appropriate experience is also challenging and the IBN would encourage practitioners to keep summary details of the projects and works that they have been involved with both prior to and after becoming chartered. This record should include the role and input that the practitioner has had, the risks being considered, the challenges encountered, and the specific skills required to deliver the project. This professional record can then facilitate the regular updating of a practitioner's professional CV and profiles such as Linked In. However, this means of demonstrating experience is reliant on interested parties (clients, regulators, etc.) seeking out information from the practitioner themselves by searching for them online or by requesting CVs.

To counter this challenge, practitioners may wish to work towards achieving listed status on a professional accreditation scheme. Depending on the practitioner's background, qualifications and project experience, a number of accreditation schemes are available that, once awarded, would publicly demonstrate that a practitioner had acquired such experience.

Reflecting the diversity of the skill sets required in contaminated land management, a number of such accreditation schemes now exist. Not all schemes are relevant to all practitioners and it is important for practitioners to identify those schemes that most effectively reflect their competencies, skill sets and experience.

In no order of preference, the IBN presents the following schemes available to practitioners wishing to publicly demonstrate that they have acquired sufficient experience in their fields:

- **IGI Competent Person:** Regulated and Unregulated Waste Disposal and Contaminated Lands Assessments

The Institute of Geology Ireland (IGI) lists professionally competent and accredited geoscientists (Professional Geologist, PGeo, or equivalent international mutually recognised titles, such as Chartered Geologist, CGeol (UK)), who have demonstrable experience and expertise in carrying out risk-based hydrogeological assessments of historical landfill and contaminated land sites.

To achieve such status, applicants need to demonstrate to the IGI that:

- All professional fees and CPD returns have been made to the IGI since becoming chartered;
- They have a professional qualification in a geoscience discipline;
- They can provide examples of at least three landfill or contaminated land hydrogeological assessments successfully completed; and,
- They have been successfully interviewed by a panel of IGI peers.

Further details of this scheme can be found at: <https://igi.ie/specialist-registers/>

- **Engineers Ireland Competent Chartered Engineers Register**

Engineers Ireland has established a register of Chartered Engineers who have demonstrable experience and expertise to conduct risk-based assessment certification of historic landfill sites and contaminated lands sites.

To achieve a listing on the register; applicants need to:

- Be a Chartered engineer;
- Submit an application to Engineers Ireland with detailed CV and project experience; and,
- Be certified as competent by a panel within Engineers Ireland.

The CPD submissions of those members accepted onto the Engineers Ireland register are reviewed annually to ensure that the CPD being carried out is relevant to their position on the register.

Further details on the Register can be found at:

<https://www.engineersireland.ie/Professionals/Communities-Groups/Find-a-member/Specialist-Registers-and-Panels/Other-Registers>

- **Specialist in Land Condition (SiLC)**

The SiLC scheme aims to develop and maintain a high-quality unifying register of experienced professionals working in land condition assessment and regeneration of brownfield land. Registration demonstrates commitment, expertise and professionalism in their chosen discipline. A registered SiLC is a senior practitioner who has a broad awareness, knowledge and understanding of land condition issues, providing impartial and professional advice in their field of expertise.

To become a registered SiLC, applicants have:

- Completed an application form detailing their academic qualifications and Chartership status, and all suitable background experience in land contamination management;
- Submitted two independent references from clients or third-party sources who have experienced the applicant's work and capabilities;
- Completed and passed an exam; and
- Successfully attended an interview with a panel of assessors nominated by the SiLC Professional and Technical Panel.

Further details of this scheme can be found at: <https://www.silc.org.uk/>

- **National Quality Mark Scheme Suitably Qualified Person (NQMS SQP)**

The NQMS was developed by the National Brownfield Forum and is administered by CL:AIRE (Contaminated Land: Applications in Real Environments) to ensure that land contamination information submitted to the Regulator in the form of factual and interpretative reports meets the necessary technical and regulatory standards. An NQMS SQP is an experienced professional in the field of land contamination.

Reports that are prepared in line with good practice and signed off by an NQMS SQP, ensure that:

- The work has been planned, undertaken, and written up by practitioners who have relevant experience and/or qualifications in their respective disciplines;

- The underlying data has been collected in line with established good practice procedures and its collection has been subject to control via established quality management systems;
- The data has been processed, analysed and interpreted in line with established good practice and any specific advice provided by the relevant regulatory authorities;
- The report's recommendations and conclusions are substantiated by the underlying data and are based upon reasonable interpretations; and,
- Any limitations in the data or uncertainties in the analysis are clearly identified along with the possible consequences of such limitations.

The scheme seeks to ensure that all legislative requirements connected to the management of land contamination have been met. A report bearing an NQMS SQP Declaration has been independently assessed and peer reviewed, thereby providing Regulators the confidence that the assessment has adopted good practice, has been compiled by appropriately skilled practitioners and is a realistic representation of the risks present.

SiLC is the awarding body and to become an NQMS SQP, a practitioner must:

- Have achieved SiLC status; and,
- Successfully completed an online exam.

Further details of this scheme can be found at:

<https://www.claire.co.uk/projects-and-initiatives/nqms>

- **Registered and Accredited Risk Assessors (RSoBRA, ASoBRA)**

The Registered and Accredited Risk Assessors scheme is run by the Society of Brownfield Risk Assessment (SoBRA), a UK-based society established in 2009 to support professionals working in land contamination risk assessment. Its goals are to improve technical knowledge in risk-based decision-making related to land contamination applications and to enhance the professional status and profile of practitioners.

A practitioner who is registered as a Risk Assessor with the Society (RSoBRA) is someone who is capable of undertaking and/or reviewing routine risk assessments relating to ground gases, soil contaminants and/or groundwaters without supervision. More complex risk assessment situations are likely to require research and/or guidance from a more senior risk assessor who has achieved Fully Accredited Member (ASoBRA) status and is someone with a thorough understanding of land contamination risk assessment, with experience of carrying out and/or reviewing both Generic and Detailed Quantitative Risk Assessments. Accredited members are likely to be senior staff who

supervise others or senior regulators with in-depth experience of providing detailed technical reviews of reports.

To become a Registered and Accredited Risk Assessors, practitioners must:

- Complete an application pack detailing the practice areas of competency (human health, controlled waters, vapour intrusion and ground gas);
- Complete a professional report;
- Provide referee statements;
- Provide a CV detailing projects completed to date and 3 years of CPD records; and,
- Attended an interview with SoBRA members.

Further details of this scheme can be found at: <https://sobra.org.uk/accreditation/>

## 2.4 Additional Vocational Qualifications

In addition to demonstrating general competency in contaminated land management, a number of specific vocational qualifications exist that qualifies the individual in defined tasks and specific roles required within the industry. Examples include:

- **WAMITAB Competency for Contaminated Land Remediation**

Within Northern Ireland, this qualification allows those working at permitted soil waste or treatment facilities to demonstrate competency in the management of that facility in compliance with The Waste Management Licensing (Amendment) Regulations (Northern Ireland) 2015.

Further details of this qualification can be found at:

[https://wamitab.org.uk/wp-content/uploads/2019/09/PS\\_V6\\_MROC13.pdf](https://wamitab.org.uk/wp-content/uploads/2019/09/PS_V6_MROC13.pdf)

The equivalent training body in the Republic of Ireland would be:

<https://www.lasntg.ie/estg>

- **British Geomembrane Association NVQ for Gas Membrane Installers**

Often, a key element of a risk mitigation strategy for new builds on contaminated sites is the installation of an in-building gas membrane. To demonstrate that those personnel installing these membranes are competent, the British Geomembrane Association has developed and promotes a National Vocational Qualification Level 2 in Gas Membrane Installation.

Further details of this qualification can be found at:

<http://britishgeomembraneassociation.co.uk/gas-membrane-installation/>

- **British Verification Council NVQ for Verification of Gas Protection Measures**

The BVC has developed and promotes a Level 4 NVQ in the verification of gas membrane installations for those practitioners compiling Verification Reports in compliance with Remedial Strategies. Those qualified are independent of the membrane installers and the documented verification process allows for the compliant adherence to CIRIA's good practice document *Good practice on the testing and verification of protection systems for buildings against hazardous ground gases (C735)*.

Further details of this qualification can be found at: <https://www.bvc-org.uk/>

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### 3 Conclusion

To reflect the complexity and diversity of contaminated land management, the IBN presents a framework for practitioners to adopt that remains flexible and adaptable to the individual, their skill sets and experience. The route through to demonstrating competency is highly personalised to the practitioner and, to reflect the ever evolving and changing nature of the discipline, is a career long commitment. In addition, the IBN would emphasize that no one particular relevant academic qualification, Chartership institution or accreditation scheme holds greater authority, weight or credence over another; it is the consistently demonstrated application of high-quality work that adopts all available good practice approaches which demonstrates that a practitioner is competent in their respective discipline.

Finally, where a practitioner can demonstrate that they have met the IBN-described requirements for competency, the IBN would encourage the insertion of a Statement of Competency at the beginning of an issued report from all participating authors and reviewers. Depending on the number of authors, reviewers and individual competencies, more than one Statement may be required. To provide consistency within Statements, IBN propose the following text:

***This report/assessment/survey\* has been prepared/reviewed/prepared and reviewed\* by a BSc(Hons)/MSc/MRes/MPhil/PhD\* qualified *environmental practitioner/geologist/chemist/toxicologist/etc\**, who has been awarded Chartership status through the Institute(s) of XYZ\*, and who has demonstrable relevant professional experience in assessing and managing the types of environmental liabilities present on this site.***

*\*italic and underlined text* signifies sections that need to be deleted to reflect the authors involved.