

Environmental Impact Assessment Report

# Cummeennabuddoge Wind Farm

Technical Appendix 1-1: Curriculum Vitae

Cummeennabuddoge Wind (DAC)

September 2024



## **Ai Bridges Ltd Technical – Experience - Qualifications - Expertise**

Ai Bridges have a team of qualified and trained personnel within the company organization that would deal with the delivery of Telecoms and Aviation Assessment as detailed below ::

**Name : Kevin Hayes**

**Title : Engineering Contracts Manager**

### **Professional Qualifications :**

- B.Eng Hons Electronic Engineering – Communications & Industrial Automation – U.L. 1991
- M.Eng Hons Electronic Engineering – Communications & Communications Engineering – U.L. 2003
- Harris Radio Design Certification 2008
- WiMAX Certified Engineer 2005
- Redline Communications Certified Engineer – 2004
- Celplan Suite training – 2009 / 2010
- PM Certified Professional 1999

### **Relevant Employment Experience :**

- Software Design Engineer
- Founding Director Ai Bridges ( 2000 – present )
- In excess of 15 years of Telecommunications Network Design & Project Management
- Experienced analyzing and troubleshooting RF issues.
- Network Research Institute – Wireless Network Engineer
- Research and Development responsibilities for all telecommunications projects managed at Ai Bridges
- Currently researching software interference prediction model for Air Traffic Control System ( MOD, NATS )

### **Reference Project Site :**

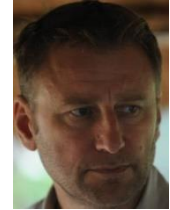
- Managed Hunters Hill and Crockagarron Wireless Signal Interference Remediation Project
- Managed Slieve Kirk – Carrickatheane – Curryfree Wind Farm Wireless Signal Interference Field Surveys Project and Reception
- Designed Software Prediction Model and Model Template Kilavoy Telecommunications, Television and Aviation Environmental Impact Study
- Managed the Clydagh Wind Farm Wireless Signal Interference Field Surveys Project.
- Co-ordinated and assisted with previous Ai Bridges contract for Glenora wind Farm Wireless Signal Interference Field Surveys Project.
- Advised on Ai Bridges contract for Woodhouse Wind Farm Wireless Signal Interference Project.
- Advised and co-ordinated assisted with previous Ai Bridges contract for Grouselodge Wind Farm Wireless Signal Interference Field Surveys Project.
- Managed contract for Bruckana Wind Farm Wireless Signal Interference Field Surveys Project.
- Managed Mount Lucas Wind Farm Wireless Signal Interference Field Surveys Project.
- Software Modelling on previous Ai Bridges contract for Athea Wind Farm Wireless Signal Interference Field Surveys Project.
- Design of “self-help” transmitter contract for Dromada Wind Farm Wireless Signal Interference Field Surveys Project.
- Managed the ESB Wireless Wind Farm Wireless Signal Interference Framework for 5 years.
- Managed and designed the software prediction model for the TVI & Broadband EMI Interference Studies for Woodhouse Grousemount, Cappahwite, Oweninny, Raheenlugh Wind Farm.

**Divisional Director**  
APEM Ireland - Curriculum Vitae

**Dr Eliot Taylor**  
BSc (Hons), C.Sci, C.Env, C.WEM

## Profile

Eliot has 30+ years of management and technical experience in water and natural resources management, especially: IWRM, transboundary watercourses, water-energy-food-environment Nexus, ecological and environment and social impact assessment, environmental flow assessment, aquatic ecosystem health and protected site planning and management. Eliot has worked for the National River Authority/Environment Agency, UK; the Department of Water Affairs, Namibia; the Broads Authority, UK; The Centre for Social and Economic Research on the Global Environment at the University of East Anglia, UK; The World Conservation Union in Kenya and Botswana; Atkins, UK and Malawi; Mott MacDonald, Netherlands, Malawi and Rwanda.



Eliot has extensive skills in the fields of: Water resources assessment and management; River basin and Catchment management and planning; Wetland planning, management and monitoring; Biological monitoring (especially for water quality); Freshwater ecosystem health and ecological status assessment (especially for the Habitats and Water Framework Directive); Environmental and Ecological Impact Assessment, freshwater aspects; Design and implementation of freshwater ecological fieldwork; River and wetland ecology and hydro-ecology; River and wetland restoration and management, including ecological mitigation; Remediation of eutrophication impacts in lakes; Non-native invasive species impacts, control and management; Stakeholder engagement processes.

## Professional Memberships and Appointments

- CIWEM – Chartered.
- Freshwater Biological Association – Member.
- International Society of Limnology – Member.
- Member of the Board of Association and the Supervisory Council, Wetlands International (2014-present)
- Associate Editor (Macroinvertebrates), African Journal of Aquatic Science (2010-2012).

## Education

- PhD, Artificial Reefs as a habitat improvement tool in highly modified lowland rivers (Environmental Engineering), University of Leicester (1990-1994).
- Certificate in Environmental Technology, University of Leicester (1988-1990).
- BSc (Hons), Biological Sciences, University of Leicester (1984-1987).

## Selected Employment History

- 2020-present – Divisional Director, APEM Ireland.
- 2019-2020 – Country Manager, Mott MacDonald Rwanda Ltd.
- 2018-2019 – Team Leader, Water for Growth Programme, Mott MacDonald Rwanda.
- 2014-2018 – Team Leader, Implementation Service Provider for Catchment Management, Shire River Basin Management Programme, Mott MacDonald, Malawi.
- 2012-2014 – Technical Coordinator, Water and Wetlands Programme, The International Union for the Conservation of Nature (IUCN), Eastern and Southern Africa Regional Office, Kenya.
- 2011-2012 – Senior Consultant, EuroConsult-Mott MacDonald, Netherlands.
- 2010-2011 – Team Leader, Water Resources Assessment Strategy, 2nd National Water Management Programme, WS Atkins Ltd, Malawi.
- 2005-2010 – Principal Consultant, Strategy Assessment and Management Team, Atkins, UK.
- 2003-2005 - Chief Technical Advisor (CTA), The International Union for the Conservation of Nature (IUCN), Botswana.
- 2001-2003 - Senior Research Associate, Centre for Social and Environmental Research on the Global Environment (CSERGE), University of East Anglia (UEA), UK.
- 1999-2001 – Conservation Officer (Open Water), Broads Authority, UK.



## Selected Scientific Publications

- C. A. Extence, R. P. Chadd, J. England, M. J. Dunbar, P. J. Wood and **E. D. Taylor** (2013) The assessment of fine sediment accumulation in rivers using macro-invertebrate community response, *River Research and Applications*, 29: 17–55.
- Lycett, E. and **Taylor, E.** (2008) Freshwater non-native species management initiatives, Natural England Research Reports, Number 023, ISSN 1754-1956 (<https://secure.fera.defra.gov.uk/nonnativespecies/downloadDocument.cfm?id=244>).
- Pelli, A., Barbosa, F.A.R. and **Taylor, E.** (2008) *Samea multiplicalis* (Guenée, 1854) (Lepidoptera, Pyralidae): a potential agent in the biological control of *Salvinia molesta* DS Mitchell (Salvaceae), *Acta Limnol. Bras.*, 2008, vol. 20, no. 2, p. 117-130.
- Phillips, G., Kelly, A., Pitt, J., Sanderson, R., and **Taylor, E.** (2005) The recovery of a very shallow eutrophic lake, 20 years after the control of effluent derived phosphorus. *Freshwater Biology*, 50: 1628-1638.
- Palmer, R.W. and **Taylor, E.D.** (2004) The Namibian Scoring System (NASS) version 2 rapid bioassessment method for rivers. *African Journal of Aquatic Science*, 29 (2); 229-234.
- **Taylor, E.D.** and Bethune, S. (1998/1999) Management, conservation and research of internationally shared watercourses in southern Africa – Namibian experience with the Okavango River and rivers of the Eastern Caprivi. *Southern African Journal of Aquatic Sciences*, 24 (1/2), 36-46.
- Harper, D.M., Dickinson, S., Ebrahimnezhad, M., **Taylor, E.D.**, Decamp, O., Verniers, G. and Balbi T. (1999) A catchment-scale approach to the physical restoration of lowland rivers. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 9: 141-157.
- **Taylor, E.D.** (1994) Restoration by habitat improvement in navigable lowland rivers. *Verhandlungen Internationale Vereinigung für Theoretische und Angewandte Limnologie*, 25, 1509-1516.
- Harper, D.M., Randall, S. and **Taylor, E.D.** (1994) Ecological appraisal of fisheries restoration techniques in lowland rivers. *Polskie Archiwum Hydrobiologii*, 41 (3), 323-330.

## Further Experience

- Strong aptitude for learning languages. Fluent in French with intermediate level Spanish and some German. Learnt local Bantu languages of Setswana, Silozi, Chichewa, Kinyarwanda, as well as Afrikaans.
- Confident and enthusiastic public speaker. Delivered numerous, well-received informal and formal talks, slide shows and guided walks and regularly present to academic and professional conferences, run seminars and workshops and facilitate public meetings.
- Good motivational skills. Able to encourage and cajole others to carry out practical and academic tasks, often through a pragmatic approach and leading by example; regarded as a popular and effective team player and leader both professionally and personally.
- Professionally trained in stakeholder consultation and engagement process – Environment Council, UK.
- Professionally media trained. Regularly initiate contact with, and am used as a contact by, local and national press, TV and radio. Worked as Press Officer for the Norwich City Supporters Trust in 2002/3.

## Profile

Mike is a freshwater biologist with over 35 years' experience. He spent 20 years as a research scientist, specialising in ecology and management of rivers and freshwater wetlands throughout Europe and East Africa, along with developing biotic indices for river quality assessment in Central America. He was Director of the Freshwater Biological Association for six years before joining APEM in 2013, working initially in the limnology and water quality team before setting up its dedicated invasive species team in 2019 and moving to APEM Ireland in 2022. Mike has written many peer-reviewed papers in ecology and biogeography, along with two undergraduate textbooks for Oxford University Press (both in their second editions) and seven identification guides to freshwater invertebrates of Britain and Ireland. He has extensive experience of survey design, data analysis and reporting, including publication and verbal reporting for non-technical audiences. He has written and reviewed Habitats Directive assessments in both Ireland and the UK.



## Employment History

- 2022 to present, Associate Director, APEM Ireland
- 2018 to 2022, Associate Director/Divisional Director, APEM Ltd.
- 2013 to 2016, Principal, APEM Ltd.
- 2007 to 2013, Director, Freshwater Biological Association
- 1992 to 2007, Lecturer/Senior Lecturer, Manchester Metropolitan University
- 1991 to 1992, Research Fellow, CNRS, Toulouse France.
- 1987 to 1990, PhD Student and Demonstrator, Queen Mary University of London.
- 1986 to 1987, Research Assistant, RSPB, Belfast.

## Education

- BSc (Hons) in Biology. University of Southampton, 1982-1985;
- PhD in Freshwater Ecology. University of London (QMUL), 1987 – 1990.

## Further Experience and Professional Appointments

- Mike's research has resulted in many peer-reviewed publications, and he acted as external examiner for PhDs within universities in the UK, Ireland, France and Austria.
- Former member of National Biodiversity Network Trust Board. Lake District Still Waters Partnership, Canal and Rivers Trust Environment Advisory Board.
- Chartered Institute of Ecology and Environmental Management – Full Member.
- Linnean Society of London – Fellow.
- Organiser, FBA Annual Scientific Meetings, FBA River Laboratory (2011) and University of Glasgow (2012).
- Local organiser, British Ecological Society annual meeting, Manchester Metropolitan University (2003).
- Member of the Organising Committee and Plenary Session organiser, 46th annual meeting of the North American Benthological Society, Charlottetown, PEI, Canada (1998).
- Editor: *Archiv für Hydrobiologie* (2000-2006).
- Canal and River Trust Environment Advisory Group (2012-2017).
- Board, National Biodiversity Network Trust (2011-2013).
- Board, Riverfly Partnership (2009-2013).
- FBA representative, Lake District Still Waters Partnership (2007-2013).
- Council, Freshwater Biological Association (2003-2006).
- Mersey Basin Campaign Science Advisory Group (2002-2006).

## Selected Project Experience

- **Proposed Onshore Wind Energy Development at Derryduff, Co. Cork, ecological surveys, Ørsted (2022-24).** Aquatic technical lead. Survey design and sample collection for river quality assessment in proposed development area. Advice on terrestrial surveys including bats.
- **Tipperary and Donegal Flood Relief Schemes – baseline ecology surveys and ecological impact assessment, ByrneLooby (2022-23).** Project director and technical lead. Ecological and water quality survey of five river reaches to be affected by proposed flood works, inc. fish, white-clawed crayfish and freshwater pearl mussel survey.
- **Extrapolation of unmonitored lake ecological status, Extrapolation of unmonitored river ecological status, Environmental Protection Agency (2022)** Project director. Developing a tool to determine WFD status of unmonitored water bodies using data from monitored sites and applying to c. 600 unmonitored lakes and 840 rivers.
- **River Kent WwTW outfall survey and HRA, United Utilities (2018-2022).** Project director and technical lead. Ecological and water quality survey of impacts of temporary outfall from Kendal WwTW, and preparation of HRAs to support several temporary discharge licence extensions.
- **Lower Thames Flood Alleviation Scheme baseline monitoring, Environment Agency (2014-2021).** Project manager. Co-ordinating collection, analysing and interpretation of ecological and water quality data for a three-year monitoring programme covering 20 former gravel pits west of London. Supplementary data gathering on these sites and others after completion of the formal three-year programme, including comprehensive invasive species surveys.
- **AMP6 wastewater asset impact investigations, Dŵr Cymru Welsh Water (DCWW) (2016-2020).** Project director. 75 catchment investigations were carried out to determine if DCWW assets were the reason for WFD failure and what other sources are contributing to non-compliant water bodies. This required detailed site reviews, and in some cases field investigations (water quality, flow and load and SAGIS modelling).
- **Southern Water CSO assessment, MWH Global (2017-2018).** Project manager and technical lead. Development and implementation of a large-scale macroinvertebrate and water quality monitoring programme to determine impact of CSOs on ecology and site amenity at c. 160 sites in southern England. The first large-scale application of SOAF (Storm Overflow Assessment Framework).
- **Dredging review for Lough Neagh and Lough Beg SPA, NIEA (2016).** Project manager. Rapid desk study of potential impact of sand dredging on features and species of conservation importance on Lough Neagh.
- **Invasive non-native species in the Severn Trent Region, Severn Trent Water Ltd (2015-2016).** Project manager and technical lead. Analysis of large datasets for records of INNS and plotting distributions and changes over time.
- **Humber estuary clay pits restoration investigations, Natural England (2015-2016).** Project manager and technical lead. Project designed to investigate the reasons for the prolific growth of *Myriophyllum spicatum* and *Potamogeton pectinatus* and propose solutions for their management which do not conflict with achieving favourable condition. Production of a lake management plan.
- **Reassessing the risk and control of zebra mussels in the UK water industry, UKWIR (2015-2016).** Project manager and technical lead. Data collection and literature review on environmental requirements, distribution, potential spread and control and management of zebra mussel and quagga mussel. Interpreting and reporting information.

## Selected Scientific Publications

- Rowson B, Powell H, Willing M, **Dobson M** & Shaw H (2021) *Freshwater Snails of Britain and Ireland*. Telford, FSC.
- Carrie R, **Dobson M** & Barlow J (2017) Challenges using extrapolated family-level macroinvertebrate metrics in moderately disturbed tropical streams: a case-study from Belize. *Hydrobiologia*, 794, 257–271.
- Roy HE et al. (2014) Horizon scanning for invasive alien species with the potential to threaten biodiversity in Great Britain. *Global Change Biology*, 20 (12). 3859-3871.
- Frid C & **Dobson M** (2013) *Ecology of Aquatic Management. 2nd Edition*. Oxford University Press, Oxford.
- Woodward G et al. (2012). Continental-Scale Effects of Nutrient Pollution on Stream Ecosystem Functioning. *Science* 15 June 2012 (Vol. 336 no. 6087), 1438-1440.
- Hladyz S, Björnsson KA, Chauvet E, **Dobson M** & 20 others (2011) Stream ecosystem functioning in an agricultural landscape: the importance of terrestrial–aquatic linkages. *Advances in Ecological Research*, 44, 211-275.
- **Dobson M**, Pawley S, Fletcher M & Powell A (2012) *Guide to Freshwater Invertebrates*. Ambleside, Freshwater Biological Association.
- **Dobson M**, Magana A, Mathooko J & Ndegwa F (2002) Detritivores in Kenyan highland streams: more evidence for the paucity of shredders in the tropics? *Freshwater Biology*, 47, 909–919. [298 citations – Dec 2022]

## Senior Ecologist

### Curriculum Vitae

Owen Twomey  
BSc (Hons), PgDip

### Profile

Owen has worked in ecological consultancy since 2016 and for the last 6 years has worked on a wide range of projects and plans throughout Ireland and the UK, including pre- and post-planning ecological works in environmentally sensitive areas. Owen has a proven track record of performing surveys to a high standard and preparing concise accurate reporting. Owen's specialist areas are; mammal surveys (with a focus on bat, badger and otter); habitat survey, mapping and classification; ecological impact assessment; appropriate assessment; Ecological Clerk of Works (ECoW) and geographical information systems. Owen has been part of numerous national infrastructure projects as well as a large variety of smaller plans and projects. Owen has prepared ecological reports including many Appropriate Assessment (AA) screening reports and Natura Impact Statements (NIS) for a wide range of projects, during his career. Owen has a focus on innovation and technology, and how they can be applied to practical field ecology. In his current role he has examined the feasibility of drone operations as part of ecological survey, standardised trail camera use, developed mobile computer systems for "in the field" data collection and mapping, and created large scale GIS to store, extrapolate and present data.



### Education

- Post Graduate Diploma, Ecological Assessment, University College Cork (graduated 2015).
- BSc (Hons), Environmental Science (Zoology), University College Cork (graduated 2013).

### Further Experience

- Iarnród Éireann PTS (2022)
- Safe pass. SOLAS (2020).
- Elementary First Aid (STCW). National Maritime College of Ireland (2019).
- Personal Survival Techniques (STCW). National Maritime College of Ireland (2019).
- Off Road Vehicle Operating (4x4). Lantra Awards (2019).
- Small Unmanned Aircraft (SUA) safety PCC & SOP. FlyRyte (2018).

### Selected Project Experience

- **Glounthaune to Midleton Twintrack Project (2022 – 2023).** Owen carried out baseline ecological surveys as part of proposed upgrade works to the existing Glounthaune to Midleton rail line in Co. Cork. The proposed works are over ca. 10 km of rail line through coastal and agricultural land, and include surveys for protected species, invasive species and habitat classification within the rail line and lands up to 50 m from the rail line. All records were collated, input to a GIS, and informed EclA and AA reporting.
- **Project Omega (2022).** Owen carried out ecological surveys and prepared NIS and Biodiversity Chapters for EIAR as part of the proposed demolition and subsequent redevelopment at two ESB power stations in Counties Offaly and Longford. Works included otter, badger and bat surveys and subsequent derogation licence applications.
- **Troyswood Water Treatment Plant Upgrade (2021 – ongoing).** Owen carried out the ecological baseline surveys as part of a permitted upgrade to Troyswood WTP, Co. Kilkenny, including 3 km of new pipeline. The works are adjacent to and partially within River Nore SPA and SAC. Baseline surveys included terrestrial and aquatic ecology. Owen is also the Ecological Clerk of Works (ECoW) for the duration of the works and provides ongoing advice to site and design staff and carry's our regular ecological checks.
- **N22 Baile Bhuirne to Macroom Road Development (2019 – 2021).** Owen carried out preconstruction surveys along 22 km route corridor between Macroom and Baile Bhuirne in West Cork. Owen continued EcoW for N22 road development during the construction phase. Works include licensed translocation surveys under protected species such as Kerry slug *Geomalacus maculosus*, frog *Rana temporaria* and smooth newt *Lissotriton vulgaris* as well as badger *Meles meles* sett closures.

## Selected Project Experience (cont.)

- **Dublin Array Offshore Wind Farm (Onshore & Offshore Teams) (2018 to 2021).** Owen was responsible for carrying out onshore ecological baseline surveys for the proposed landfall locations and cable route for the proposed windfarm. Surveys included terrestrial mammal and habitat surveys and freshwater aquatic surveys. Owen was also part of the offshore team and acted as the onboard employer's representative during boat-based ornithology and marine mammal surveys. Owen was also responsible for developing an offshore bat monitoring survey methodology which was informed by recognised good practice. Owen installed all the required offshore equipment and collected data throughout the monitoring period.
- **Ryevale Nursing Home Upgrade (2018 – 2020).** Owen was the EcOW for the permitted upgrade works to Ryevale Nursing Home, Leixlip, Co. Kildare. Upgrade works included major demolition and construction works on the banks of Rye Water River and Rye Water Valley/Carlton SAC. Owen carried out regular ecological checks and highlighted any potential issues to the project team.
- **Cloghan Wind Farm (2019).** Owen carried out bat monitoring at the proposed Cloghan Wind Farm development site in Co. Offaly. Monitoring methods were informed by recognised good practice and included the use of full spectrum static bat detectors throughout the surveying seasons. Owen was also involved in preparing updated Ecological Impact Assessment (EclA) and AA reports for amendments to the permitted wind farm and grid connection.
- **Dalradian Gold Mine (2018 – 2019).** Part of the team responsible for yearly ecological monitoring at a proposed mine site in Co. Tyrone. Works included a broad spectrum of ecological surveys including badger, otter, bat and newt which needed to be carried out in a sensitive manner due to local opposition groups.
- **Moorehall Tourism Masterplan (2018).** Part of the team responsible for undertaking the capture and tagging of lesser horseshoe *Rhinolophus hipposideros* bats and the subsequent radio tracking as part of a tourism masterplan in County Mayo.
- **Various Quarry Developments (2018 – 2021).** Preparation of draft Biodiversity Chapters for EIAR and appropriate assessment reporting (AA & NIS) for more than 15 quarry sites in Ireland. Also carried out ecological surveys for many of these sites.
- **Taghart Wind Farm Grid Connection (2017).** Owen prepared an AA screening report and EclA report for a proposed wind farm grid connection in Taghart, Co. Cavan. Field work conducted for the ecology report included ecological surveys of adjoining lands along a 13km route corridor. Potential constraints such as pinch points and water crossing along the route were then identified and recommendations on the grid connection design were submitted.
- **Constraints Study and Route Options for N55 & N52 national road schemes (2017).** Owen worked on both these road schemes with engineering and ecology colleagues; initially the focus was on identifying constraints by examining the available maps and aerial photography for the study area. The focus then shifted to avoiding the constraints insofar as practicable when developing the route options.
- **Royal Canal Greenway (2017).** Owen carried out a review of the existing ecological information available for an 8.3km section of the Royal Canal towpath. Owen also carried out ecological surveys survey to identify and confirm any possible ecological constraints or ecological sensitive areas (ESAs) along this route. The results of these reviews and surveys identified areas where the proposed design required alterations, additional surveys which needed to be carried out and/or mitigation to be implemented to reduce potential impacts to the surrounding ecology.
- **Cork County Council Local Area Plan (LAP) Habitat Mapping (2016).** Project included habitat mapping the entirety of LAP lands for 18 towns and villages within Cork County to the national habitat classification system (Fossitt level 3). Carried out all GIS works and preparation of mapping addition to creating and maintaining databases. GIS was also used to identify and assess important green infrastructure within each LAP boundary.
- **Invasive Floral Study for Cork City (2016).** Project included collecting and standardising all available public records of invasive species within Cork City into a GIS. Field surveys were carried out in areas of suspected unrecorded infestations. A model using the GIS was created to estimate the current densities of Japanese knotweed within the City and to approximate the potential spread of the species.
- **Laois River Drainage (2016).** Multiple river surveys in county Laois including section of the River Nore, River Barrow, Stradbally River and Douglas River. Works included river morphology surveys and protected species surveys. Reports included AA and EclA.





## Position

Assistant Project Manager

## Discipline

EIA & Consenting

## Qualifications

MSc Environmental Management (Energy) – University of Stirling 2020 to 2021

BSc (Hons) Environmental Science and Sustainability – University of Glasgow – 2015 to 2019

## Key Skills

Environmental Impact Assessment

Project Management

Feasibility Studies

Environmental Strategy

Sustainable Development

## About Jack

Jack has over 2 years' experience in the renewable energy industry and has been involved in the delivery of consents and EIAs for energy projects across the UK.

He has assisted in the management and delivery of both large and small scale Wind Farms, Solar Farms and Battery Storage Sites both EIA and non-EIA.

Jack has also written introductory and closing chapters for EIARs, undertaken climate change and air quality assessments, and consolidated and submitted full validated planning applications in England, Scotland and Wales.

## Relevant Project History

### **Project: Cummennabuddoge Wind Farm**

**Dates: 2023 - Present**

#### **Project Information:**

Assistant Project Manager for the compilation of a Strategic Infrastructure Development (SID) planning application for a windfarm in County Kerry and County Cork, including the preparation of a full EIA.

### **Project: Tomchrasky Wind Farm**

**Dates: 2022**

#### **Project Information:**

Assisted in the preparation of a full EIA for this Section 36 Electricity Act Consent application in the Scottish Highlands. Key project risks involved the potential for visual impacts to Wild Land Areas and potential ecological impacts on a Special Protection Area for breeding Diver and Golden Eagle habitat. The planning application was submitted to the Energy Consents Unit (ECU) in November 2022.

### **Project: Ditcher Law Wind Farm**

**Dates: 2022**

#### **Project Information:**

Assisted in the preparation of aspects of the EIA for this Section 36 Electricity Act Consent application in the Scottish Borders. Key project risks were its situation within a Special Landscape Area and complex hydrological issues due to the proximity of nearby ecological receptors. This project was submitted into planning in August 2023.

### **Project: Confidential Project**

**Dates: 2021-Present**

#### **Project Information:**

Assistant Project Manager for the compilation of an EIA and planning application for a solar farm in Reigate and Banstead, England.

### **Project: Confidential Project**

**Dates: 2022-Present**

#### **Project Information:**

Assistant Project Manager for the compilation of an EIA and planning application for a solar farm in South Gloucestershire, England.

### **Project: Feasibility Studies Wind and Solar**

**Dates: 2022-Ongoing**

#### **Project Information:**

Assisting in the preparation of wind and solar feasibility studies in the UK. A standardised 'traffic light' system was developed to allow the risks associated with different sites to be compared and ranked (in the case of a portfolio). Assessments include a review of planning and environmental risks and a review of planning decisions for similar schemes in the local area.

# Curriculum Vitae: Jenny Bell



## About Jenny

Jenny is an expert ornithologist with more than 25 years' experience in both research and environmental consultancy sectors. She has worked across a wide range of sectors, including renewable energy, aviation, nuclear, roads, energy generation and transmission and property development, both in the UK and around the world.

Jenny has detailed knowledge of survey methods for ornithology and has designed specific methods to address situations where standard methodologies are not applicable. She has experience in modelling and has been involved in several public inquiries. A particular strength is Habitats Regulations Appraisal/Assessment

## Position

Technical Director,  
Ornithology & HRA

## Discipline

Ornithology

## Qualifications

- BSc (Hons) Ecological Sciences with Honours in Wildlife and Fisheries Management, University of Edinburgh

## Key Skills

- Ornithology field survey techniques.
- Management of ornithology survey programmes.
- Analysis and assessment of bird population data.
- Production of impact assessment.
- Preparation of HRAs and information to inform HRA.
- Management of environmental support to construction projects.

## Relevant Project History

**Project:** Cummennabuddoge Wind Farm

**Dates:** 2019-2024

### Project Information:

Jenny carried out the ecological impact assessment and authored the Ornithology chapter as well as the Natura Impact Statement for the proposed wind farm, located in close proximity to a Special Protection Area for Hen harriers. She also provided support for the ecology chapter and assessment and helped oversee the fieldwork programmes for both ecology and ornithology.

**Project:** Carnalbanagh Wind Farm

**Dates:** 2019-2021

### Project Information:

Jenny managed the surveys which provided the data for the detailed assessment and mitigation proposals in she authored as FEI relating to sensitive ornithology receptors, particularly Curlew and Hen harrier.

**Project:** Strathy Wood Wind farm

**Dates:** 2014 - 2024

### Project Information:

Jenny led on the provision of ornithological SEI, following the submission of this project in 2013 to Scottish Government. This has included an extensive fieldwork programme to resolve areas of uncertainty relating to the SPA, analysis of the results, population modelling for some of the SPA species concerned and provision of the SEI report as well as ongoing discussion with stakeholders.

**Project:** Housing Development Watton

**Dates:** 2016-2024

### Project Information:

Jenny provided ornithological assessment and support during a planning inquiry related to the assessment of the impacts of the development on the nearby SPA, designated for breeding Stone curlew. The development was consented on appeal with the inspector finding that her assessment provided a suitable and appropriate assessment of the impacts on the SPA.

**Project:** Knockendurrick Wind Farm

**Dates:** 2015 - 2018

### Project Information:

Jenny led the reanalysis of data gathered on this proposed wind farm. In combination with our GIS team, new CRM assessment techniques using 3D viewsheds were developed and a population viability analysis (PVA) was undertaken to assist in assessing the effects of the wind farm on the local Red Kite populations.

## Curriculum Vitae: Jenny Bell



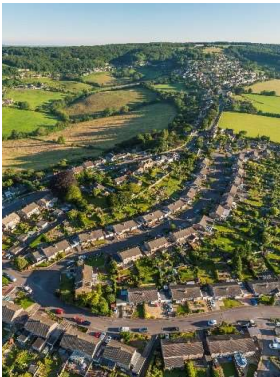
### Relevant Project History (cont)

**Project:** Lethans Wind Farm FEI

**Dates:** 2016 - 2023

**Project Information:**

Jenny prepared the FEI for the proposed Lethans Wind Farm and further resubmissions as well as leading on the ornithology EclA for the Lethans Wind Farm Extension and produced information to inform the Appropriate Assessment for both site. This included developing predictive modelling techniques that enabled the future effects of land use changes on bird behaviour to be modelled.





## About Katie

Katie has 9 years' experience in GIS and IT, providing GIS support to an environmental consultancy team, and conceptualising, building, and maintaining bespoke solutions to improve efficiency within teams, as well as client-facing solutions for a range of users including central and local government personnel. Katie is adept at performing a range of GIS analyses and producing high quality output for internal and external clients.

## Position

Principal Consultant, GIS

## Discipline

EIA & Consenting

## Qualifications

MSc (with distinction)  
Geographical Information  
Systems, University of  
Portsmouth

BSc (Hons) Ecology and  
Wildlife Conservation,  
Bournemouth University,

## Key Skills

Excellent working  
knowledge of GIS and  
remote sensing principles

Comprehensive  
understanding of the  
importance of good data  
management and a  
critical and detail-oriented  
approach to quality  
analysis

Creation, management,  
and analysis of large  
spatial datasets

Production of high quality  
GIS output for technical  
and non-technical  
audiences

Member of the  
Association for  
Geographic Information

## Relevant Project History

**Project:** Mobile data collection pilot and rollout

**Dates:** 2019 - present

**Project Information:**

Project lead for development of mobile field data capture and upload solution using ArcGIS online tools. Creating report scripts for automation of data processing and summarisation for reports, and creation and management of the associated on-premises database. Standardisation of data collection and management procedures, including their documentation and communication to internal and external parties.

**Project:** Wind and solar constraints mapping and feasibility – various sites

**Dates:** 2020 - present

**Project Information:**

Acquisition and update of a broad range of constraints data including cumulative sites; environmental, landscape and cultural heritage designations; aviation; infrastructure and topography to inform site search models, and site design and feasibility for solar and wind opportunities in Scotland, Wales, and England.

**Project:** Cairngorms Special Landscape Qualities (SLQ) mapping phases 1 and 2

**Dates:** 2022 - present

**Project Information:**

Explored a range of different modelling approaches to identify areas of Special Landscape Quality in the Cairngorms National Park. Modelling combined topography analysis, landcover, settlements, impacts of infrastructure, and visibility analysis to define SLQ areas for subsequent ground truthing.

**Project:** Visualisation and modelling – various sites

**Dates:** 2020 - present

**Project Information:**

Modelling and production of visualisations to inform Landscape Visual Impact Assessment for a range of developments including onshore and offshore wind, solar farms, battery storage and industrial schemes. Materials produced to the appropriate statutory guidance including NatureScot, Highland Council and Landscape Institute standards.

**Project:** Windfarm layout design – various sites

**Dates:** 2021 - present

**Project Information:**

Initial layout design for a range of onshore wind projects through evaluation of hard and soft constraints to inform subsequent placement of turbines and tracks, taking into account constraints data from desktop mapping exercises and onsite surveys.



## Relevant Project History (cont.)

**Project:** Kingsnorth power plant

**Dates:** 2019 - 2020

**Project Information:**

Collection and collation of data for ecological assessment and biodiversity net gain assessment. Creation and management of client facing web map for ongoing communication of data collected throughout the project.

**Project:** Stansted airport expansion

**Dates:** 2018

**Project Information:**

Data collection and proximity analysis of veteran trees to a pollution source, and sourcing and analysis of historic mapping to assess former land use and subsequent land use change.

**Project:** Biodiversity Net Gain assessment – various sites

**Dates:** 2019 - present

**Project Information:**

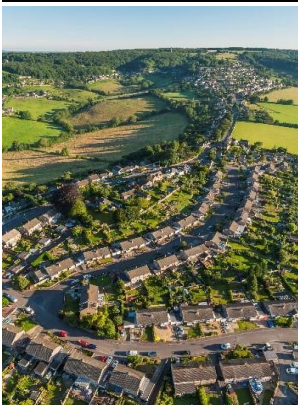
Accurate mapping of habitat types and related condition from aerial imagery, informed by Phase 1 habitat surveys. Subsequent quantification and summary of habitat disturbance, and loss and identification of opportunities for onsite and offsite habitat creation and enhancement.

**Project:** Phase 1 and NVC habitat mapping – various sites

**Dates:** 2017 - present

**Project Information:**

Analysis and digitisation of habitats from aerial and satellite imagery prior to surveys to assist Phase 1 habitat surveys and ground truthing work. Aerial imagery assisted mapping and refinement of habitat survey data following Phase 1 and NVC surveys.



# Curriculum Vitae: Stephen McNea



## About Stephen

Stephen has over 13 years' experience in ecological consultancy across a range of sectors including major infrastructure projects in Energy, Rail and Roads. Experienced in impact assessment on projects throughout the UK, his skills include impact assessment, ecological clerk of works, survey, tendering and project management.

## Position

Principal Ecologist

## Discipline

Ecology

## Qualifications

Associate member of the Chartered Institute of Ecology and Environmental Management

## Key Skills

EIA (Ecology)

Team Management

NVC Habitat

ECoWs

## Relevant Project History

**Project:** Ditcher Law Wind Farm, Scottish Borders

**Dates:** 2022-2023

**Project Information:**

Lead author of Ecology Chapter and TAs, survey team and sub-contractor management, including liaison with hydrologist, wider EIA team, and the Client.

**Project:** Confidential: Leisure Development, Perth & Kinross

**Dates:** 2022-2023

**Project Information:**

High-end Leisure Development. Complex project as within sensitive location next to a designated site. Complex hydrological issues. Outputs include EclA and Biodiversity Management Plan.

**Project:** Falls of Leny, Stirlingshire

**Dates:** 2022-2023

**Project Information:**

Lead ECoW on project replacing a Victorian walkway with new bridge across the River Teith SAC. Duties include reporting, design meetings, surveyor, and sub-contractor management.

**Project:** Glenlee sub-station, Dumfries and Galloway

**Dates:** 2020-2023

**Project Information:**

Lead ECoW. Duties include pre-construction surveys, compliance monitoring (WQ, INNS), on-site contractor support, data management, document review.

**Project:** Sandy Knowe Wind Farm Extension, Dumfries and Galloway

**Dates:** 2020-2022

**Project Information:**

Lead author of Ecology EIA Chapter, Technical Appendices and HMP. Team and Sub-contractor management for ecological survey programme. Reporting included PEA/GWDTE, protected species fish habitat survey and ornithological surveys.

**Project:** Cumberhead Wind Farm, South Lanarkshire

**Dates:** 2021

**Project Information:**

Conditions discharge for consented Wind Farm. Duties include CEMP, HMP, fish/macroinvertebrate monitoring plan production and pre-construction surveys.



## Relevant Project History (cont)

**Project:** Lochgelly, Fife

**Dates:** 2020

**Project Information:**

Responsible for preliminary appraisal on residential housing site with complex bat issues requiring significant client time and expectation management.

**Project:** Fishcross, Clackmannanshire

**Dates:** 2020

**Project Information:**

Ecological Appraisal and bat survey programme management for proposed gas peaking plant.

**Project:** HS2

**Dates:** 2017- 2020

**Project Information:**

Prior to joining Atmos Consulting I was lead ecologist for impact assessment, mitigation design, survey management and page-turn presentation of three off-route works locations on this major national infrastructure project.

**Project:** HS2

**Dates:** 2017- 2020

**Project Information:**

Prior to joining Atmos Consulting I was acting lead author for an 8km section of the main route and responsible for impact assessment, mitigation design and survey management.

**Project:** Grid connection, Aberdeenshire

**Dates:** 2018 - 2020

**Project Information:**

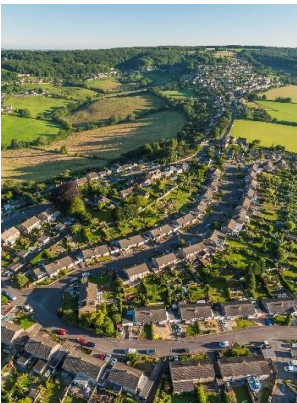
Prior to joining Atmos Consulting my roles included Environmental Appraisal incorporating Biodiversity Net Gain analysis, project and sub-contractor management, habitat/protected species/ornithological survey and reporting and client management for an SSE project.

**Project:** Grid connection, Orkney

**Dates:** 2017- 2020

**Project Information:**

Prior to joining Atmos Consulting my roles included Impact assessment (alignment and deviation reporting), condition assessment, ornithology survey and GIS liaison for an SSE project.



# Curriculum Vitae: Tom Hartley



## About Tom

Tom has fifteen years' experience in the production, analysis and management of geographical data within the onshore wind sector using a variety of GIS platforms. He has extensive theoretical and technical knowledge of GIS in a variety of placements in both the public and private sectors. Since joining Atmos in 2007, Tom has been involved in the development of an award-winning GIS that incorporates geographical data modelling, site search, data management and visualisation. He manages the Atmos Consulting GIS team and has been responsible for the analysis and production of figures supporting the submission of over 100 onshore wind planning applications.

## Position

Technical Director, GIS

## Discipline

EIA & Consenting

## Qualifications

- MSc (with distinction)  
Geographical Information Systems, University of Edinburgh
- BSc (Hons.)  
Geosciences, University of St Andrews

## Key Skills

- Design and implementation of bespoke GIS analysis models.
- Management of large volumes of geographical and non-geographical data.
- Production and review of high quality maps and visualisations and photomontages.
- Knowledge and application of current visualisation guidance.
- Creation and interrogation of accurate and precise datasets from survey data.
- Extensive knowledge of a range of GIS and visualisation software.

## Relevant Project History

**Project:** 300+ wind farm projects, various wind farm developers

**Dates:** 2007 - Present

### Project Information:

Overview and production of analysis, figures and visualisations for wind development projects throughout the UK and Ireland, from initial desktop feasibility through to materials supporting planning applications and post-consent activities. Modelling of ecology, ornithology, landscape, noise, hydrology and transport impacts for sites ranging from single turbines to S36 schemes.

Recent submissions include S36 Ditcher Law (Scottish Borders), S36 Tomchrasky (Highland), Drumduff Extension (West Lothian) and S42 Lurg Hill (Moray).

**Project:** Ornithology Collision Risk Models, various sites

**Dates:** 2008 - Present

### Project Information:

Development and implementation of a range of collision risk models for the assessment of bird activity that is either random or predictable in nature, using recent survey data or historical observations. Built on existing SNH guidance, the models have been adapted for analysis including 3D viewshed calculation, effort-corrected activity analysis and theoretical activity analysis to test different future scenarios.

**Project:** Technical Feasibility Support

**Dates:** 2016 - Present

### Project Information:

Range of site-specific technical feasibility support for onshore wind development sites across Scotland, England, Wales and Northern Ireland. Includes assessment of noise, landscape, transport, ecology, hydrology constraints and site.

**Project:** Offshore Wind Visualisations

**Dates:** 2018 - 2020

### Project Information:

Landscape photography, photomontages (including night time visualisations), visibility analysis and production of full Seascape and Landscape Visual Impact Assessment figure set for 1500MW offshore wind farm.

**Project:** Leadhills, Cumberhead and Lethans Wind Farms Theoretical Collision Risk Modelling

**Dates:** 2014 - 2019

### Project Information:

Using historic data on breeding activity to demonstrate whether potential collisions with proposed wind turbines could have a detrimental impact on SPA qualifying species, should populations return to the original citation levels. This repeatable model has subsequently been adapted to incorporate a habitat suitability index to assess the impacts of post-construction felling.





## Relevant Project History (cont)

**Project:** Cumulative Visibility Assessments, various sites

**Dates:** 2010 - Present

**Project Information:**

Managed development of models and techniques for assessing the cumulative impacts of wind farms to extend interpretation beyond basic standards of visual guidance. Used in the environmental impact assessments of multiple wind farms, procedures have included inter-visibility between key landscape receptors, assessment of the cumulative impacts on sequential routes, and regional mapping of cumulative impacts of schemes in different stages of the planning system

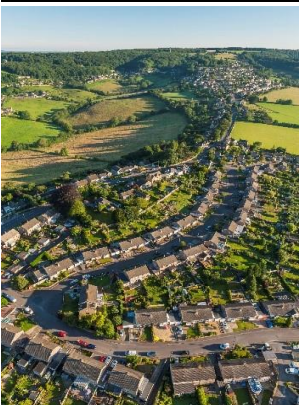


**Project:** Site Construction Habitat Loss Model, various sites

**Dates:** 2009 - Present

**Project Information:**

Development of model to calculate the areas of habitat impacted by infrastructure associated with a variety of sites and technologies. A full breakdown of surveyed habitats permanently lost or temporarily disturbed by construction activity is generated.



## Team CVs



### Jazz Collier Landscape Architect

BSc (Hons) - Conservation Biology and Ecology - University of Exeter -2014

MA (Hons) - Masters in Landscape Architecture - University of Sheffield - 2019

Associate Member of the Landscape Institute - 2017

Jazz is a highly experienced Landscape Architect with experience in the production of Landscape and Visual Impact Assessment (LVIA), Residential Visual Amenity Assessment (RVAA), site appraisals, masterplanning, development frameworks, visualisation photography, and graphics production for a wide range of development types.

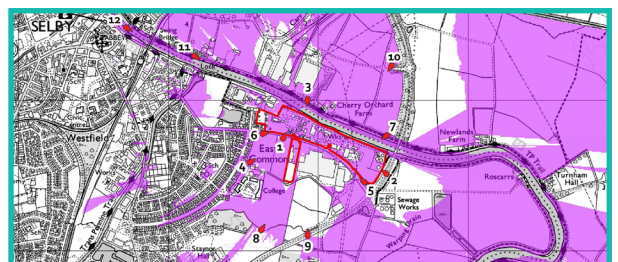
Jazz specialises in LVIA and has undertaken such scopes of work for a number of successfully completed projects ranging from major wind energy developments, solar energy developments, telecoms infrastructure, mixed use developments, and national infrastructure projects.

Jazz also has notable experience in the strategic promotion of land for various types of development, helping clients to successfully secure housing and tourism lead allocations within recent Local Development Plans. She has prepared landscape led design responses for a number of successfully completed projects ranging from solar farms, housing developments, mixed use developments and infrastructure projects.



### Relevant project examples:

- **Northbank Luxury Lodge Development Phase 2, Fife.** Supporting the coordination of an EIA which involved organising internal and external specialists and producing an LVIA, planting plans, DAS and various supporting drawings;
- **Hare Craig Wind Farm.** Responsible for producing an addendum report for the Section 42 amendment to existing approved development. This included an addendum LVIA and RVAA;
- **Haddington Strategic Land, Stirlingshire.** Landscape Architect responsible for preparing the DAS for a strategic land release site in Dunblane. Jimi developed a massing, landscape mitigation and open space strategy to inform the emerging strategic masterplan for the site.
- **Solar Farm, Newcastle Airport.** Landscape Architect responsible for the LVIA for a proposed solar PV development to the south of Newcastle Airport. This included site assessment and photography and subsequent appropriate assessment of effects upon landscape and visual receptors;
- **Fort Springs, Kingskettle.** Responsible for the production a site selection document and a high-level LVA for a holiday lodge development.



## Team CVs



### Lee Houghton Landscape Architect

BSc (Hons) - Town Planning & Cartography - Oxford Brookes University - 1994

MA (Hons) - Landscape Architecture - Edinburgh College of Art - 1998

Associate Member of the Landscape Institute - 1998

Lee is a Landscape Architect who has over 20 years' of experience within the private sector throughout the UK. Lee's extensive experience includes project management and co-ordination, landscape strategies & masterplans, detailed landscape design & specifications, and on site contract management for a range of projects in the public realm, education, commercial, leisure, health and retail sectors in a variety of urban re-development sites across Scotland.

She is highly experienced in the realisation of complex public realm projects and their delivery in accordance with RIBA work stages, from design to "on the ground" implementation. Lee has built up good working relationships with both clients and contractors and through contract administration delivers successful projects from inception to reality.

Over her career, Lee has undertaken a wide range of landscape and visual impact assessments, as well as being involved with the masterplanning and detailed landscape design proposals for a number of residential projects in the UK and Northern Ireland.



### Relevant project examples:

- **The Event Complex Aberdeen (TECA).** Lead Senior Landscape Architect for Henry Boot Developments Ltd's relocation of the exhibition and conference centre to a new location in Dyce. Lee managed the landscape design team in the preparation of the hard and soft landscape design, which included design development, production drawing information and specifications for inclusion within the tender and construction packages. Novated to the main contractor to oversee the implementation of the multi-million pound landscape contract 2016-2019; followed by on-going site landscape auditing between 2019-2022;
- **Aloft Hotel, Aberdeen.** Project Senior Landscape Architect for the new hotel adjacent to Henry Boot's new exhibition and conference centre. Lee prepared and led the landscape design, which included design development, production drawings and specifications for the tender & construction package, as well as administering the implementation of the hard and soft landscape works;
- **Balvonie Brae, Inverness.** Project Landscape Architect responsible for detailed design, specification, tender documents & site inspections / contract administration for an affordable housing site; and
- **Whitehill Service Centre, Bathgate.** Project Landscape Architect responsible for detailed design, specification, tender documents & site inspections for the new West Lothian refuse depot centre.



## Team CVs



### Ross Wilkie Managing Director

BSc (Hons) - Ecology - Stirling University - 1991

Post Graduate Diploma - Landscape Resource Management - Edinburgh College of Art - 1992

MA (Hons) - Landscape Architecture - University of Sheffield - 1998

Chartered Member of the Landscape Institute - 2002

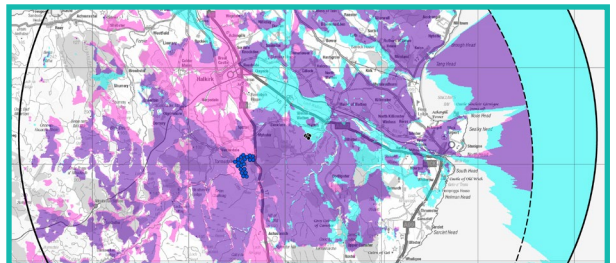
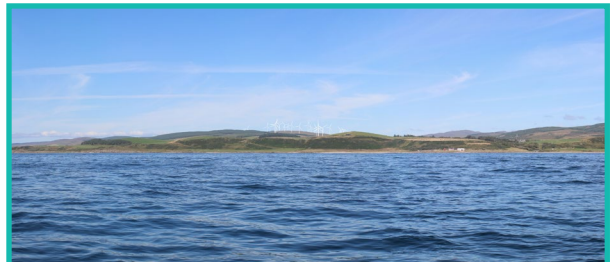
Ross is the Managing Director of Brindley, he is a Chartered Landscape Architect, Chartered Institute of Ecology and Environmental Management (CIEEM) registered ecologist and has further qualifications in land management.

Ross has specialised in Landscape and Visual Impact Assessment (LVIA) for several years and has considerable experience of assessing a wide range of renewable energy developments including onshore and offshore wind farms, associated grid infrastructure and hydro power schemes. Ross has also undertaken strategic landscape, seascape and visual assessments for wind power development and for offshore wind farm sites. Ross has experience of major wind applications gathered from across the UK.



### Relevant project examples:

- **Melbost & Branahue Wind Farm, Stornoway.** Project director responsible for coordinating scoping, LVIA, Residential Visual Amenity Assessment (RVAA), baseline graphics and visualisations for this proposed community wind farm application;
- **Cnoc Morail Wind Farm, Highlands.** Project director responsible for coordinating LVIA and associated graphics for a five turbine development located near the village of Watten in the Highlands. Working to the client's template, our team prepared an LVIA that incorporated visualisations adhering to the Highland Council's Visualisation Standards for Wind Energy Developments (2013);
- **Glendoe Hydro Scheme, Highlands.** Responsible for LVIA, mitigation strategy and implementation of the Construction and Environment Management Plan (CEMP) for a complex hydro scheme with elements within wild land search areas;
- **Crown Estates.** Responsible for delivering visual impact guidance in support of Crown Estate sea bed license release for offshore renewable energy developments; and
- **Forestry extraction, Loch Fyne.** Project director responsible for coordinating LVIA and digital modelling of structures for floating timber extraction pontoons.





# ALAN SHEPHERD

AUTHOR OF CEMP

## PROFILE

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An experienced environmental professional with almost 30 years in industry, Alan leads GDG's geoenvironmental team. He has a broad range of project management, technical and practical experience; including innovative approaches to pollution and contaminated land management, environmental compliance and licensing, and the management of hazardous wastes. Particular recent experience has been gained on high profile urban regeneration, sustainable energy developments and residential and commercial developments across a broad client base.

## QUALIFICATIONS, PROFESSIONAL MEMBERSHIPS & CERTIFICATES

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**BSc (Hons) Geology**, University of Edinburgh

**MSc Land Reclamation & Restoration**, Cranfield University

**Chartered Scientist**, Institution of Environmental Sciences / Science Council

**Fellow**, Institution of Environmental Sciences (IES)

**Chartership Assessor (CSci) and member of the IES Application Review Pane**

## KEY SKILLS

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- Environmental investigation and assessment
- Environmental Impact Assessment
- Land remediation design, implementation and verification
- Environmental compliance and regulation
- Waste assessment and management
- Health & Safety including CDM
- Client management
- Costing and contractor procurement - NEC and ICE Contracts

## PROJECT EXPERIENCE

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**Carrington BESS, Land Contamination Lead, 2022-Current** Brookfield Renewables/Cambridge Power  
Contaminated land technical authority for a 1GW capacity battery energy storage scheme on the site of a former power station waste tip in north west England, responsible for taking the project through from initial due-diligence stage characterisation to eventual remediation.

**Ravenscraig, Technical Authority/Project Executive, 2017-Current** Ravenscraig Ltd / NLC  
Project Executive, technical authority and Principal Designer for a number of geo-environmental commissions supporting the delivery of new development, roads, public realm and active travel infrastructure on the former Ravenscraig Steelworks site.

**A827 Bolfracks, Environmental Lead, 2022 - Current** Perth and Kinross Council

Environmental lead for a project to investigate and remediate a section of sloped riverbank and road on the southern bank of the River Tay, requiring in and near water works and mitigation of impacts on sensitive environmental and human receptors.

**Winchburgh, Technical Authority and Principal Designer, 2012-Current** Winchburgh Developments Limited  
Contaminated land technical authority and CDM Principal Designer for the Winchburgh development, a significant urban community project, comprising 3,450 homes, commercial and community facilities and transport connections.

**Rosslare Offshore Development, Reviewer, 2022 - Current** Irish Rail  
Technical reviews of EIA Scoping Report and ongoing EIAR for airport extension and offshore renewable energy hub to accommodate offshore wind development, focussed on waste, ground conditions and water quality.

**Sighthill TRA, Client's Technical Advisor, 2012-2022** Glasgow City Council/Gardiner & Theobald LLP  
Client's technical advisor for the assessment and remediation of a 50-hectare brownfield site including a large former alkali chemical works; allowing regeneration and reuse for social and private housing and achieving key urban regeneration goal for the city. Winner of the Saltire Regeneration Award, 2018.

**SETA Framework, Programme Manager, 2021-2022** Defence Infrastructure Organisation  
Programme Manager leading a multi-year framework supporting the Defence Infrastructure Organisation (DIO) in providing Strategic Environmental Technical Advisor role delivering specialist support and technical environmental studies to facilitate the disposal of multiple sites in the UK.

**Craiglockhart, Technical Specialist, 2020-2022** City of Edinburgh Council  
Providing specialist technical support to the City of Edinburgh Council in relation to a landslip of asbestos-contaminated material in a residential location in the city. Responsible for community liaison, remediation design and implementation, liability review and support to the Council's legal service.

**Bran Sands, Project Manager, 2012-2022** Akzo Nobel / Anglo American Mining  
Key client contact and project lead for a number of projects associated with the regulation and environmental compliance of a closing waste management facility within the Wilton Complex in Teesside; including permit transfer, gas infrastructure, environmental risk assessment, auditing and management of closure processes ahead of redevelopment for polyhalite processing and shipment.

**South Dalmarnock, Project Manager, 2014-2019** Clyde Gateway  
Managing the geoenvironmental assessment and remediation of a 30-hectare contaminated brownfield site in the east of Glasgow.

**Ingliston, Technical Specialist, 2017-2020** City of Edinburgh Council  
Technical support to the council in the assessment and management of wastes and compliance with court decree, including site assessment and the delivery of remediation works on two former tram construction sites near Edinburgh Airport.

**Reclamation Pond & Tees Valley MRF, Remediation Lead & Principal Designer, 2011-2015** Impetus/NTL  
Preparation of a 160-acre area of reclaimed land for development as an alternative energy facility, including site investigation, environmental risk assessment and remediation. CDM Coordinator and environmental permitting specialist for the construction of a major materials recycling facility on part of the site.

**Dalmarnock Riverside, Remediation Specialist, 2011-2015** Clyde Gateway  
Design and supervision of the regeneration of a former power station site in the east end of Glasgow. Remediation through ex-situ stabilisation, removal of above ground and significant sub-surface structures.

**Dalmarnock Gasworks, Remediation Specialist, 2011-2015** Clyde Gateway

Design and management of the remediation of a former town gasworks in the Dalmarnock area of Glasgow, contaminated with coal tars, cyanide compounds, asbestos and metals.

**Glasgow CGAV, Remediation Specialist, 2012-2022** Glasgow City Council/Gardiner & Theobald LLP

Delivery of an award-winning project to remediate mixed heavy metal, asbestos and organic contamination within a 36ha site in Glasgow, to allow redevelopment as the Athlete's Village for the 2014 Commonwealth Games.

**Gibraltar Tunnels, Supervisor, 2011-2012** Defence Infrastructure Organisation

Collection, containment and removal for transfrontier shipment, treatment and disposal of a variety of historically deposited hazardous solid and liquid wastes from restricted and confined space below-ground storage.

**Gibraltar Remediation, Supervisor, 2011** Defence Infrastructure Organisation

Supervision of groundwater remediation trials on sites on the overseas defence estate, involving total fluids pumping and dual phase extraction technologies to address LNAPL contamination issues.

**Anstruther Remediation, Project Manager and Design Lead, 2008-2011** Fife Council

Managing the demolition and remediation of a former transport depot in Fife, including site assessment, development and implementation of remediation strategy, stakeholder liaison, environmental permitting and planning.

**Lossie Green Gasworks, Remediation Supervisor, 2006-2007** Moray Council

Design, supervision and verification for this award winning project, using soil washing technology to remediate a former gasworks, identified under Part IIa as contaminated land.

**Pitsea, Rainham & South Ockendon Landfills, Restoration Supervisor, 2004-2005** Veolia

Landfill restoration, environmental improvement, monitoring and maintenance works at operational and closed landfill facilities.

**Sandy Lane, Bromsgrove, 2005** Veolia

Design of site restoration, development of aftercare proposals and submission of Review of Old Mineral Permissions (ROMP) applications for an open cast pit in the west midlands.



# ALASDAIR PILMER

CO-AUTHOR OF CHAPTER 11

## SUMMARY

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Alasdair holds a Master's Degree in Hydrogeology from University of Strathclyde and an Honours Bachelor's Degree in Geography from the University of Aberdeen. His technical skills include Environmental Impact Assessment; field hydrogeology; conceptual modelling of aquifer systems; groundwater economic evaluation; groundwater impact assessments; contaminated land investigations and geotechnical site investigations

## QUALIFICATIONS

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**MSc Hydrogeology**, University of Strathclyde (Atkins Prize for Best in Class.)

**BSc Geography**, University of Aberdeen (Walton Prize for Best Dissertation & BP Prize for Excellence in Geology.)

## KEY SKILLS & COURSES

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- Advanced knowledge in cartographic software packages (ArcGIS, QGIS, GeoEnviron), with the ability to produce concise, informative technical reports using both qualitative and quantitative information.
- IEAG - Geophysical techniques and analysis.
- IAH - Well Pumping Tests for Aquifer Analysis
- IAH - Statistics and Data Analysis through R
- IGI - Report Writing & Presentation Skills
- Geotechnical Soil and Rock Logging to Eurocode 7 – BS5930 (David Norbury)

## PROJECT EXPERIENCE

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### **Gavin and Doherty Geosolutions, Hydrogeologist, (2018 – Present)**

- Environmental Impacts Assessments including Soils, Geology and Water chapters.
- Hydrogeological Risk Assessments (Tiers 1 to 3)
- Basement Impact Assessments (groundwater impacts and mitigation)
- Geothermal fieldwork and research projects including Thermowell (Deep Standing Column Well Technology).
- Preparation of Geotechnical Interpretive Reports and Geotechnical Design Reports for onshore and marine developments
- Geotechnical Ground Investigations for civil engineering works including installation of monitoring wells, borrow pit assessments, cable percussion boreholes, trail pitting, infiltration and soakaway testing, shear-vane testing, logging and environmental sampling.
- Scheduling of Geotechnical lab testing for Ground Investigations on civil engineering works, including particle size distribution, Atterberg limits, groundwater aggressivity and moisture content
- Preparation of Specifications & Bill of Quantities for geotechnical site investigations
- Contaminated land desk studies (Phase I and II)
- Site suitability assessments for Onshore Wind Farms and Solar PV developments

### **Geological Survey Ireland, Field Hydrogeologist (Secondment), (2018 – 2022)**

- Produced catchment-based groundwater water resource assessments for regional public water supplies (*Groundwater Resource Assessment Catchment Project ("GW3D") – East and South*)



- Hydrogeological conceptual modelling: ‘*Hydrogeological site investigations at Oak Park, Co. Carlow, to further characterise the groundwater resources within the recommended Bagenalstown Zone of the Barrow Catchment*’.
- Distributed Temperature Sensing (DTS) of deep bedrock boreholes to determine geothermal gradients in Irish geological units.
- Hydrogeological mapping and conceptual modelling of karst groundwater systems in the Lough Carra Catchment, Ireland, to inform an EU LIFE bid.
- Field data collection and hydrogeological mapping including logging of subsoils and rock outcrops/core for groundwater vulnerability and/o resource assessments; preparation and supervision of drilling programmes; aquifer testing (pumping and permeability test); dye tracer tests; flow gauging; well and water level survey; collection of water samples for hydrochemical analyses; mapping of hydrological/hydrogeological features; installation of monitoring equipment; other field related tasks.
- Updated and improved existing GSI products including maps (ESRI ArcGIS formats).
- Engaged with internal & external stakeholders to present findings.

#### **Resource Efficient Solutions – Technical Assistant (2017)**

- Utilised ArcGIS for assessment and rationalisation of local authority waste network. Project also included options appraisals, data benchmarking and detailed review of legislation and regulations.
- GIS integration with contaminated land desk studies and risk assessment procedure.
- Duty of Care by ensuring due diligence & environmental compliance at waste sites.
- Contribution to landfill cell design, sampling and analysis of leachate and gas monitoring.

#### **British Geological Survey – Research Placement (2015)**

- Worked with Dr Emrys Phillips using ArcGIS to develop an innovative method for analysing microsediments and till rheology in mega-scale glacial lineations & sub-glacial landforms.
- Co-authored a published academic paper in the *Quaternary Science Reviews*, Aug 2018.

#### **PUBLICATIONS**

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- Phillips, E., Spagnolo, M., **Pilmer, A.C.J.**, Rea, B.R., Piotrowski, J.A., Ely, J.C., and Carr, S. (2018), Progressive ductile shearing during till accretion within the deforming bed of a palaeo-ice stream, *Quaternary Science Reviews*, 193, pp. 23.



# ALASTAIR LEWIS

DESIGNER, QC/QA

## PROFILE

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Alastair has over twenty-five years' experience in civil and ground engineering. He oversees the delivery of multi-disciplinary development infrastructure projects including, brownfield development, ground engineering, earthworks platforming, mining remediation, SUDS, sewerage, flooding, bridges, windfarms, and roads. As head of infrastructure, he developed engineering strategies in the property and energy sectors with particular reference to planning and environmental requirements. He has design experience of major earthworks and mine stabilisation schemes and extensive experience in assessment of abandoned mine workings. He also has Construction Contract Management - acting as Engineer for the Works for series of enabling works contracts (ICE6/ICC) values up to £7M. Capable of communicating complex technical issues at all levels.

## QUALIFICATIONS

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**MEng (Hons) Civil Engineering**, University of Newcastle

**Chartered Engineer CEng**, MICE

## KEY SKILLS

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- Civil Engineering
- Infrastructure Design
- Onshore Renewables
- Brownfield Development
- Mining Stabilisation
- Earthworks
- Construction Contract Management

## PROJECT EXPERIENCE

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**Winchburgh, Project Director, (2010– 2022)** (Winchburgh Development Ltd)

Project Director for design of civil infrastructure for the 3500 unit Winchburgh development in West Lothian. . Site constraints include shale mining, landfilling and the presence of HP gas pipelines. Responsible for a team providing: - ground investigations for housing plots, the design of SUDS/ foul drainage, access infrastructure to adoptable standards, utilities provision, abnormal cost advice; layout reviews and constraints plans

Contractual management of a £25M series of enabling works and infrastructure packages. Technical and Contractual Management of contracts to deliver mine grouting and cement improved platform for 3 campus school site. Technical issues included multiple level mined shale seams and geotechnical design of geotextile reinforced platform to minimise area of required grouting for '4G' sports pitches. Technical and Contractual Management of landfill capping and remediation contract to create 85-acre district park. Technical Management of new marina on Union Canal. Led the preparation of construction packages of strategic core infrastructure (core road, complex earthworks, SUDS, foul drainage, bridges, and bridge improvements). As lead consultant this included key stakeholder liaison (Network Rail, SEPA West Lothian Council, Scottish Canals ).

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**Brenig Wind Farm, Engineer for Works, (2017 - 2018) (CGN)**

Engineer for Works for enabling works contract to deliver highway improvement works for delivery routes for this North Wales Windfarm. Oversaw team undertaking detailed design of improvement works and liaison with various highways authorities.

**Middle Muir Wind Farm, Project Director, (2014 – 2018) (Bank Renewables)**

Project Director for design, procurement and administration of enabling works civils contract. The works included the delivery of a new access junction, protection slab for large diameter water main, around 1km of access track, a bridge, and an engineered platform for a windfarm substation for Scottish Power Energy Networks. Project Director for design works for site investigation, outline civils works design and planning condition discharge for this 15-turbine site in South Lanarkshire. Site issues included peat and borrow pits

**Kype Muir Wind Farm, Project Director, (2014 – 2018) (Bank Renewables)**

Project Director for site investigation, civils works outline and planning condition discharge support for this 26-turbine heavily forested site in South Lanarkshire. Production of Peat Management Plans, Construction Environmental Management Plans. Development of site investigation strategy through forested areas including interface with forestry contractors.

**Shawfair Development Project Director, (2014 – 2022) (Shawfair LLP)**

Project Director for civil infrastructure associated with 4000-unit masterplan in South East Edinburgh. Masterplan support and advice to layout. Responsible for team undertaking design of new roads and design of mine grouting schemes. Acting as lead consultant and coordinating Sweco input and that of other members of the design team (SUDS, utilities, landscape, and planning). Input to a series of 'MSC' planning applications and discharge of conditions. Road Construction Consent Applications. Stakeholder liaison and management (Midlothian Council Roads, Planning, Contaminated Land, SEPA, Scottish Water included). Engineer for Works responsible for contract management and administration of enabling works contract packages for foul drainage, SUDS, earthworks, and roads.

**Blairs College and Blairs College Bridge (2010 – 2018)Hermiston Securities**

Coordination of engineering input to purify planning conditions for development of 330 houses which will ultimately include 5-star hotel and championship golf course in Aberdeenshire. Design Issues on the site include access arrangements, internal roads, drainage, flooding, environmental and ecological Issues. Coordination of engineering input into site design for infrastructure related to housing element and associated stakeholder management. Road Construction Consent and Section 56 Applications. Responsible for stakeholder management and coordination of engineering input into Approval in Principle (AIP) and planning application for £2.5M cable stayed footbridge across the River Dee. Design Issues include flood compensatory storage, piled foundations, restricted access, ecology, production of a Construction Method Statement for work in a Special Area of Conservation (SAC). Stakeholder liaison and management (Aberdeenshire Council Roads, Planning, Contaminated Land, SEPA, SNH, Scottish Water and SSE) and team liaison and management (planning, landscape, and engineering). Input to planning applications and discharge of planning conditions.



# BOB PARKER

SENIOR ENGINEER  
PROJECT ROLE: INFRASTRUCTURE LEAD

## SUMMARY

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Bob has over 22 years' experience in infrastructure and civil engineering. He has been involved in the delivery of multi-disciplinary development infrastructure projects encompassing all aspects of a projects design life from outline feasibility through to formal detailed design for technical approval and construction. He has a high level of design experience for major roads and drainage infrastructure schemes.

## QUALIFICATIONS

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BSc Civil Engineering, Glasgow Caledonian University

## KEY SKILLS

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- Alignment Design (to both DMRB and Local Authority Standards)
- Drainage and SuDS Design
- Contractor & Construction Supervision
- Engineering Specifications

## PROJECT EXPERIENCE

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### **Yellow River WF Farrans Construction, Senior Engineer (2022 – ongoing)**

Project Engineer for the Civil BoP design package for Yellow River Wind Farm; a 29no. turbine wind farm with 4no. clear span water crossing structures, 16no. box culverts, upgrade of various local public roads and access tracks.

### **Cummeennabuddoge Wind Farm of Atoms Consulting, Project Engineer (2022-ongoing)**

Project Engineer designing the onsite infrastructure and crane hardstanding's in support of the Planning Application for the proposed 17 wind turbine, 119 Mega Watt Wind farm with located on County Cork.

### **Winchburgh Phase 2 for Winchburgh Developments Ltd, Principal Engineer (2017 -2022)**

Principal Engineer for the local authority road elements of the Winchburgh Master plan – works included two major new bridge structures, one across the Glasgow / Edinburgh rail line and one across the union canal.

### **Shawfair for Shawfair LLP, Project Engineer, (2016 - 2022)**

Project Engineer working on the design of the public realm infrastructure works associated with the Shawfair Masterplan implementation, Edinburgh's South-East Wedge. The works include the design of new roads and drainage infrastructure, shared footway cycle way provisions and the detailed design of the new signalised junctions associated circa 18Ha of future housing development.

**Farigaig Substation PRI Works for RJ McLeod, Project Engineer, (2015 - 2017)**

Project Engineer for the public road improvements accosted with the construction of the SSE Farigaig Substation, South Loch Ness. Works include ungraded and realignment of existing public road. Extensive earthworks and pre-cast retaining structures.

**Clocaenog Forest Wind Farm for RWE, Project Engineer, (2016 - 2017)**

Project Engineer for the onsite infrastructure for the proposed wind farming Clocaenog Forest, North Wales. Site encompasses circa 27km of track improvements, 31 turbines, crane pads construction compounds and drainage infrastructure.

**Aberdeen City Council Social Infrastructure Project Housing, Principal Engineer, (2015 - 2018)**

Principal Engineer with Aberdeen City Councils Communities, Housing and Infrastructure Team to enable the delivery of the Aberdeen City Council's Strategic Infrastructure & Housing Program. Responsible for the detailed design of the infrastructure, both roads and drainage, required to deliver the Client vision of the public realm works associated with this key stone project for Aberdeen City Council.

**SWS Infrastructure Improvements for Iberdrola (IEC), Senior Engineer, (2011 to 2015)**

Senior Engineer and latterly Project Manager for the IEC programme of substation infrastructure improvement works in southwest Scotland. Project included 6 number sub station platforms and associated compounds, extensive off-site public road improvements.



# BRIAN MCCARTHY

## AUTHOR OF TRAFFIC MANAGEMENT PLAN

### PROFILE

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Brian is a civil engineer within the infrastructure team in GDG with 2 years of industry experience. He earned a First-Class Honours Master's Degree in Civil, Structural and Environmental Engineering from University College Cork, finishing in 2021. His role since joining the team has included civil, structural and geotechnical design work on various infrastructural and renewable energy projects in Ireland and the UK. He has strong technical skills within the fields of civil and structural design.

### QUALIFICATIONS, PROFESSIONAL MEMBERSHIPS & CERTIFICATES

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**MEng. Civil and Structural Engineering**, University College Cork (2021)

Member of the Institution of Engineers of Ireland

### KEY SKILLS

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- Civil design
- Structural design
- Geotechnical design
- Production of technical reports and drawings
- Highly proficient in the use of MS Office, AutoCAD
- Ground investigation specification & supervision
- Site inspections and site supervision
- Strong written and verbal communication skills.

### PROJECT EXPERIENCE

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**Bangor Erris Airborne Wind Test Site**, Civil Engineer, (2021-2022)

Design Engineer for the civil and structural design of an airborne wind test facility. GDG were responsible for the design of access roads, hardstands, landing field, buildings and foundations.

**Beinn an Tuirc III Windfarm**, Civil Engineer, (2020)

Design Engineer for the detailed design of Beinn an Tuirc III windfarm, a 14 WTG project on difficult terrain, located on the Kintyre Peninsula. GDG were responsible for the full civil and structural design, including roads, drainage, WTG foundations and Substation Control Building.

**Tullamore Solar Farm**, Civil Engineer, (2022-2023)

Design engineer for the Tullamore Solar Farm project in Co. Kerry. Involved in the design of drainage elements and conducted a site inspection of the works. GDG were responsible for the enabling works including roads, drainage and substation platforms.

**Greenpark SHD**, Civil Engineer, (2022-2023)

Design Engineer for the Greenpark SHD project. GDG are responsible for the design of the access road and the earthworks for the 371-unit housing development. Brian undertook various aspects of the geotechnical design for the earthworks. He also co-ordinated and supervised GI works at the site, attended bi-weekly site meetings and undertook inspections and supervised work during the construction phase.

**Dublin Port IED Bund Enabling Works, Civil Engineer, (2023)**

GDG are responsible for the geotechnical and civil design of an IED bund to be used for the movement and storage of ~125,000m<sup>3</sup> of contaminated dredged sediments at Dublin Port. Brian was involved in various aspects of the design and specification including surface water drainage, structural design and addressing contractor queries during the construction phase.

**Yellow River Windfarm, Civil Engineer,(2022-2023)**

Brian was involved in various aspects of the civil and geotechnical design of the Yellow River Windfarm project in Co. Offaly. Design elements included culverts, wind turbine foundations and cable routes.

**Irish Rail King Posts (Podtrak) , Civil Engineer, (2023)**

Brian undertook the geotechnical design of a number of retaining walls adjacent to the Dublin to Dundalk railway line.



# CHRIS ENGLEMAN

## PEAT PROBING, GIS TECHNICIAN

### PROFILE

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Chris is a graduate geologist with four years of industry experience within the onshore renewables sector and the field of geological mapping; predominantly working on projects for peat stability and management in advance of wind farm construction, ground investigation, rock and soil logging, GIS mapping and geotechnical design. He has strong skills within peat stability, soil logging to BS5930, geological mapping, site investigation and GIS mapping. He has also gained experience in Holebase and SLOPE/W.

### QUALIFICATIONS

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**MGeol** Geological Sciences, University of Leeds, UK

### KEY SKILLS

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- Peat Stability
- Ground Investigation
- Soil and Rock Logging
- Geotechnical Design

### PROJECT EXPERIENCE

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#### **Kilgarvan Wind Farm Repowering EIAR (Environmental Impact Assessment Report) (2023)**

Project Manager leading work scope for peat stability risk assessment, peat management plan and 3D modelling.

#### **Lakeside Memorial Park (2023)**

Site engineer supervising earthworks package.

#### **Carrig Wind Farm Renewables EIAR (2022-2023)**

Project geologist involved in all aspects of project site work, Ground investigation (GI), peat stability risk assessment (PSRA), peat management plan (PMP).

#### **Cloneberne Windfarm EIAR (2022-2023)**

Project geologist involved in borrow pit stability modelling, earthworks volumes, peat stability risk assessment (PSRA) and peat management plan (PMP).

#### **Oweninny Synchronous Condenser (2023)**

Project geologist involved in preparation of PSRA, PMP, GI scope, geotechnical interpretive report.



**Yellow River Wind Farm (2023)**

Project geologist involved in site sign off of wind turbine foundation Subformation levels.

**Timahoe North Solar Farm (2023)**

Project geologist involved in site supervision of pile testing and pile test result analysis, site investigation and PSRA.

**Dublin Array Offshore Windfarm (2022)**

Project geologist involved in supervision of ground investigation at potential landfall and substation locations and control of GI deliverables. Management of GI data in Holebase.

**Cummeennabodoge Wind Farm (2022)**

Project geologist involved in site investigation and PSRA.

**Geological Survey Ireland IQUAD Quaternary Mapping (2019-2022)**

Lead on-site geologist mapping quaternary sediments across Wexford, Roscommon, Kildare and Galway. Supervision of borehole drilling and ERT geophysical surveying.



# ERIN CLINE

GEOENVIRONMENTAL SCIENTIST

## SUMMARY

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Erin is a Geoenvironmental Scientist with a first-class degree MEarthSci in Geology and Physical Geography from the University of Edinburgh. Her academic background has provided her with an integrated understanding of geology, geomorphology, Earth surface processes and ground engineering. Her responsibilities in her graduate position include site investigation supervision, data review, desk study assessment, and interpretative reporting. Erin has been working within the Environmental team for 2 years and also assists in the Onshore Renewable team with geological assessments when required.

## QUALIFICATIONS

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**MEarthSci (Hons) Geology and Physical Geography**, The University of Edinburgh

**Fellow**, The Royal Geological Society

**CSCS**, Managers and Professionals

## KEY SKILLS

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- Data management
- Data analysis
- Geological assessment and mapping
- Desktop study reporting
- Interpretive reporting
- Site inspection and supervision
- QGIS, Holebase, Microsoft Office, MATLAB

## PROJECT EXPERIENCE

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### **Drummarnock Wind Farm Borrow Pit Appraisal**, Geologist (2022)

Erin undertook a site walkover to assess ground conditions prior to writing the borrow pit appraisal report. The assessment comprises the review of peat probe data, geology and quaternary sediments, and high-level calculations for the estimate of extraction volume associated with borrow pits.

### **Chrathaich Wind Farm Peat Landslide Hazard Risk Assessment**, Geologist (2020)

Erin attended the site to undertake a ground-truthing exercise and perform hand vane testing on areas of peat in and around proposed wind turbine locations at the Chrathaich WF development site. This information ultimately fed into the Peat Landslide Hazard Risk Assessment.

**Winchburgh Masterplan Development, Environmental Scientist (2022-Present)**

This project has required Erin to produce desk study reporting, undertake site supervision and test scheduling, and data management and analysis.

**Cummeennabuddoge Wind Farm EIA, Environmental Scientist (2023)**

Erin was tasked with collating and reviewing all information from the Environmental Impact Assessment Chapters pertaining to the Construction Environmental Management Plan.

**Arla Creamery Anaerobic Digester Development, Environmental Scientist (2022)**

Erin's role on this project involved five days of site investigation works supervision. Works included windowless sampling, dynamic sampling and monitoring installations.

**Abercorn Gas Peaking Plant, Environmental Scientist (2021)**

Before development, a ground investigation had to be undertaken. Erin's role on this project was to undertake a preliminary site walkover, supervise site ground investigation works and prepare a geo-environmental interpretive report. Intrusive works included cable percussive and rotary drilling, windowless sampling, infiltration testing and dynamic cone penetration testing.

**Isle of Mull Overweathering Project, Geologist (2021)**

For this project, an assessment of the basaltic outcrops on Mull was required. Erin's role involved preparing a desk study, focussing on the geological history, and undertaking 3 days of geological field mapping.



## IRENE PASCUAL PEREA

Designer, GIS Technician, Co-author of  
Appendix 11-2, Monthly Planning  
Searches

### PROFILE

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Engineering Geologist with a BSc in Geology from Complutense University of Madrid, Spain. Irene has three years of professional experience within the Onshore Renewable & Geohazard Team at GDG. Irene has a diverse professional experience within the renewable energy sector and environmental sector. She has developed diverse skills such as site identification for renewable projects, peat risk assessments, peat management plans, borrow pit appraisals and geotechnical design for wind farms.

Her personal motivation to promote the renewable energies and, in particular, geothermal energy, has led her to become an active committee member of the Geothermal Association of Ireland.

### QUALIFICATIONS

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<b>BSc in Geology</b> , Complutense University of Madrid	2017
<b>Construction safe pass</b> , SOLAS	2021
<b>Designing for Safety</b> , ACEI	2021

### KEY SKILLS

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- Collect and analyse geological information, including peat landslide risk assessment
- Management of geodatabases
- Generate maps as well as other types of visual representations of data
- Planning and executing field work campaigns
- Properly documenting all operations performed, writing reports and filling in records.

### PROJECT EXPERIENCE

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#### **Clonberne Wind Farm, Project Manager (2021 – present) (MKO)**

Irene has participated in several MKO wind farm projects in the 'Environmental Impact Assessment' (EIA) and planning stage. The projects required to undertake tasks such as field data collection (peat probing and shear vane tests campaigns), analysis and development of geohazard maps, preliminary wind farm designs and reporting (Peat Risk Assessment Reports).

#### **Grid assessment for renewable projects, Engineering geologist (2021 – present) (SEIA)**

Irene has been involved in the reporting of high-level grid feasibility for offshore windfarms for a number of renewable developers. These included research and reporting of publicly available data from ESB networks and EIRGRID to understand capacity at substation nodes along various areas.

#### **Site identification and feasibility studies, Engineering geologist (2020 – present) (JC Monfort)**

Development of GIS based constraint and resource mapping to identify suitable sites for renewable energy development. This work has spanned a broad range of geographical regions and technology types including both onshore and offshore wind and solar within the countries of Ireland and Scotland. The constraint mapping is a key

step in the assessment of the feasibility of renewable energy development projects and allows the clients to identify high potential low impact development locations.

**Mine Risk Assessment, Graduate Geologist (2021) (Atmos)**

The project required to carry out desk studies reviewing available borehole data, and geological maps, to prepare a desk based Mine Risk Assessment which aim to identify if there is any risk to stability of the proposed developments and the potential constraints and pathways of the contaminants.

**Geonorm, Engineering geologist (SEIA)**

Multidisciplinary project focus on the integration of geothermal energy at various concepts (open-, closed loop, underground thermal energy storage) into an existing multivalent heating system at UCD.

**Borrow Pit Assessments, Various projects, Engineering geologist (2022-present)**

The assessments comprise the review of the peat probe data, geology and quaternary sediments; generation of a design drawing for planning submission indicating the borrow pit slope and reinstatement. Calculations of the volume estimation of rock and peat reinstatements depending on the characteristics of the wind farm. Writing a report associated above documents.

**PROFESSIONAL MEMBERSHIPS & CERTIFICATES**

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- Safe pass

# KELLY GRIFFIN

## GRADUATE ENGINEER



### PROFILE

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Kelly is a civil engineer within the onshore renewables team in GDG with 2 years of industry experience. In 2021, Kelly graduated from University College Cork with a First-Class Honours in her Master's Degree in Civil, Structural and Environmental Engineering. Since joining GDG, Kelly has completed structural and geotechnical design work on various projects including: Flood relief schemes, temporary works design, retaining wall design, shallow foundation design and earthworks in Ireland and the UK. She has strong technical skills within the fields of civil and structural design, she is an enthusiastic young engineer who is passionate about sustainable development and is proactive in her approach to any challenge.

### QUALIFICATIONS

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**MEng. Civil and Structural Engineering**, University College Cork (2021)

### KEY SKILLS

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- Civil and Structural design
- Geotechnical design
- Interpretation of geotechnical test results and ground modelling
- Structural design software including Tekla Tedds, Greta, and Frew
- Geotechnical design software including Geostudio (Slope/W and Seep/w) and Settle3.
- Technical report writing
- Co-ordination of CAD resources
- Highly proficient in the use of MS Office, AutoCAD
- Ground investigation specification & supervision
- Strong written and verbal communication skills.

### CAREER HIGHLIGHTS

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- Project experience with a variety of engineering challenges inclusive of permanent and temporary works design, soil stabilisation and slope stability assessments.

### PROJECT EXPERIENCE

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**Glashaboy Flood Relief Scheme, Graduate Design Engineer (2023)** (Sorensen Engineering Ltd.)

Design engineer responsible for preparing value engineering proposals on behalf of the Contractor for the Glashaboy Flood Relief scheme in Cork City. Kelly optimised the design of flood defence elements including sheet pile walls achieving a notable reduction in overall sheet pile length of approximately 2m. Kelly prepared comprehensive design documentation including reports, calculations, revised construction drawings and specification documents. Successfully presenting these proposals to the Employers Engineer led to their approval, facilitating time and cost savings for the Contractor.

**Wren Hall Converter Station, Graduate Design Engineer (2023)** (Dorans Consulting Ltd. )

Design engineer for the structural and geotechnical feasibility assessment for the construction of a converter station inclusive of shallow foundations, flood defence wall, haul road, works compound and permanent access road. Kelly provided a preliminary assessment of the bearing capacity and settlement predictions for the proposed converter station foundations and undertook a preliminary global stability check and seepage analysis for the proposed flood defence wall. Kelly utilised Tekla Tedds and Seep/W for the design and presented findings within a number of technical reports.

**Retaining Wall Design, Graduate Design Engineer (2023)** (Pod-trak)

Design engineer for the structural design of various retaining walls along the main Malahide to Drogheda railway line. Kelly visited the proposed sites to assess the feasibility of the proposed retaining structures and prepared a site walkover and gap analysis report. She designed an L-shaped retaining wall and a mass gravity block wall for the scheme using Tekla Tedds and Oasys Greta software, she prepared technical design reports and co-ordinated the production of subsequent construction drawings. Kelly provided design checks for the remaining concrete retaining walls produced for the remainder of the scheme. Personal Track Safety (PTS) qualified.

**Granton Gasholder restoration Project, Graduate Design Engineer (2022 – 2023)** (McLaughlin & Harvey Ltd. )

Design engineer responsible for the design of temporary platform to accommodate a scaffold to redevelop the disused gasholder. Assessed the bearing capacity of the proposed working platform and underlying subgrade to facilitate the use of MEWPs and Telehandlers as well as scaffolding. Designed in accordance with BRE470.

**Lower Lee (Cork City) Flood Relief Scheme, Graduate Design Engineer (2021-2022)** (Cork City Council)

Design engineer for the structural design of flood defence elements including flood defence walls, retaining walls and pumping stations. Kelly prepared design information to support and inform the production of the Environmental Impact Assessment Report. She co-ordinated and collaborated with CAD resources to prepare Confirmation drawings for the scheme inclusive of plan layouts, cross sections, landscaping, works areas and site compound locations for submission for planning consent. She demonstrated strong collaboration skills by working with project members across a multitude of disciplines and with external survey specialists and contractors.

**King's Island Flood Relief Scheme, Graduate Design Engineer (2021-2022)** (Limerick City and County Council)

As a graduate engineer on this project, Kelly prepared documents to support the Foreshore License Application and collated crucial site investigation information for stakeholder consultation. She engaged with Limerick City and County Council and conservation specialists to ensure the design of the scheme was in accordance with local planning and heritage guidelines.

**PROFESSIONAL MEMBERSHIPS & CERTIFICATES**

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- SafePass Qualified until May 2027
- Personal Track Safety Qualified
- Member of the Institution of Engineers of Ireland



# LAURA BURKE

PROJECT MANAGER & DESIGNER (2020-2022)

## SUMMARY

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Laura is a Chartered Engineer with nine years' experience in design, site representation, construction supervision and ground investigation for roads and onshore wind and solar projects. Her main areas of expertise include geology, geotechnics, roads and renewable energy. She has experience supporting developers in their interest in Irish renewables including site identification, due diligence, grid context and planning support.

Between 2020 and 2022 Laura lead GDG's involvement in the Cummeenabuddoge project.

## QUALIFICATIONS, PROFESSIONAL MEMBERSHIPS & CERTIFICATES

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**MSc Engineering Geology**, Imperial College, London (2014)

**BE Civil Engineering (Hons)**, NUI, Galway (2011)

**Dioplóma sa Ghaelige**, NUI, Galway (2009)

**Chartered Engineer**, Institution of Engineers Ireland (2017)

## KEY SKILLS

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- Project management
- Planning advice and support
- Feasibility assessment
- Geotechnics
- Design
- EIA

## PROJECT EXPERIENCE

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### **Site Feasibility Assessment (various locations) (2020)**

On behalf of a European developer, Laura is leading a campaign of solar and windfarm site identification and is assisting the developer in the acquisition of Irish wind projects. Laura is involved in providing technical input and support to the project commercial assessments including DevEXs financial models. This work involves due diligence and risk quantification for the planning, permitting, environmental, grid, CfD auction and construction.

### **Derryadd Wind Farm**, EIA and technical input

Environmental Impact Assessment and Geotechnical design support—Laura was responsible for the soils and geology chapter and peat stability risk assessment including representation at the project's oral hearing.

### **Terrasolar Tranche of Solar farms**, Desk study

Solar farm geotechnical desk studies including site investigation specification to meet PV panel suppliers requirements, management and site supervision.



**Derryadd and Cloncreen Windfarm**, Site investigation

Site investigation Eurocode7 Compliance review for Bórd na Móna-Assessment of ground conditions and consideration of foundation solutions and turbine supplier requirements to make key recommendations on scope and methodology for sampling and in situ testing.

**Cloncreen Windfarm**, Geotechnical review

Review of geotechnical design access tracks, crane hardstands, WTG foundations and substation platforms on Bórd na Móna Cloncreen windfarm on behalf of Farrans Construction. The site is characterised by soft peat, soft silts and artesian groundwater conditions.

**Oweninny Wind Farm**, Geotechnical review

Cat III geotechnical design check of spread foundation in deep soils including assessment of bearing capacity, foundation stiffness, sliding and differential settlement for the Siemens 3.2 MW Turbines.

**Crockahenny Wind Farm**, EIA

EIA for soils and geology.

**Beinn an Tuirc III Wind Farm**, Wind farm design

Detailed design of floating and founded unbound access track, crane pads and inspection and testing plans.

**Viking/ Crossdykes / Tralorg Wind Farm** Tender design

Preliminary assessment of turbine foundations, access tracks, crane platforms, and borrow pits.



# PAUL QUIGLEY

DIRECTOR

## PROFILE

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Paul is a Chartered Engineer with 26 years of experience in geotechnical engineering and is a UK Registered Ground Engineering (RoGEP) Adviser. Paul has extensive planning and design experience, including wind farms in Scotland, Ireland and Wales at planning, detailed design and construction delivery stages. Paul and his colleagues have developed innovative solutions for a wide variety of ground conditions to bring wind farms to market using reliable, safe and cost-effective solutions. Paul has acted as an Expert Witness on a wide variety of ground related disputes and is a member of the National Committee reviewing the next revision of Eurocode. Paul has published extensively and is an external examiner at the ATU Sligo.

## QUALIFICATIONS, PROFESSIONAL MEMBERSHIPS & CERTIFICATES

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<b>BE Civil Engineering</b> , NUI Galway	1997
<b>Chartered Engineer</b> , Engineers Ireland	2006
<b>RoGEP – Advisor Grade</b> , Institution of Civil Engineers	2018

## KEY SKILLS

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- Highly experienced geotechnical engineer with international project experience with multidisciplinary teams
- Expert witness on a wide variety of projects in Ireland and the UK
- Expertise in the back analysis of geotechnical issues and identification of root causes of the issues
- Leadership for Health & Safety in Design, Risk Reviews and Management
- Excellent written and presentation skills

## WORK & PROJECT EXPERIENCE

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**Gavin and Doherty Geosolutions**, Director 2015-Present

**Yellow River Wind Farm**, Technical Reviewer (2020 – present)

Paul is a Technical Reviewer for the design of a 29-turbine wind farm and the associated civil infrastructure facilities, including access roads, hardstands and crane platforms. GDG has value engineered the foundation designs using 3D Finite element methods to remove the need for pile foundations, greatly reducing the construction time and increasing the environmental sustainability of the foundation systems.

**Concleen Wind Farm**, Technical Reviewer (2020 – 2021)

Paul was Technical Reviewer on a 21 turbine wind farm on former cutaway bog in central Ireland. GDG designed the foundations for the turbines and the civil infrastructure for the site, including floating roads, crane hardstandings and site offices. The foundation systems were developed based on previous experience in the adjacent Mount Lucas wind farm.

**Derryadd Windfarm EIAR, Planning Support (2019 – present)**

Paul is providing planning support for a proposed wind farm on former Bord na Mona peatlands in central Ireland. The support has involved generating a ground model based on geomorphological interpretation from walkovers and site investigations. The design identifies optimal locations for the road infrastructure and indicative foundation solutions for the proposed turbines.

**N22 Baile Bhuirne to Macroom Road, Project Director (2020 – present)**

Paul is the Project Director for the Independent earthworks checking for a 22km long scheme in Co Cork. The ground treatments include the management of glacial till, peat and soft silts. The scheme has a number of river crossings requiring careful piling.

**Llynfi Afan Wind Farm, Geotechnical Team Lead (2016 – 2017)**

Paul provided guidance on earthworks issues and turbine base design for a 12 turbine energy park. The site is located in a former mine working area spread over steep sided hills and valleys in Wales. Our scope of work also involves assessing the suitability and acceptability of site won aggregates for road construction and foundation fill.

**Slieve Divina II Wind Farm, Technical Lead (2016 – 2017)**

Paul was the technical lead for the design and construction phases of the second phase of the wind farm near Ballygawley in Northern Ireland. The ground conditions consisted of peat over glacial deposits. Using extensive temporary works and dewatering techniques, GDG optimised the foundation design to avoid piling and accelerate the construction programme. The wind farm was successfully handed over in late 2017.

**Slaghbooly Wind Farm, Project Manager (2016)**

Paul managed a quantitative deterministic peat stability assessment for a proposed wind farm development in Co Clare on a blanket bog site. The site is entirely covered in peat of varying thicknesses with a number of 'quaking' bog features noted on the mapping. GDG carried out a peat stability analysis for the extensive road network covering the site for submission to the planning authority.

**Cappawhite and Castlepook Wind Farms, Technical Lead (2016)**

GDG provided assistance with the assessment of turbine base foundations for two wind farm developments during the construction stages. The conditions uncovered during construction were at variance with some of the design assumptions. GDG provided a review service of the existing information and guidance on a suitable formation for the turbines.

**Kilmeedy Wind Farm, Technical Lead (2016)**

GDG was the lead civil designer for the earthworks, drainage and temporary works associated with the construction of a wind farm in Kilmeedy, Co Limerick. Our role involved utilising the favourable ground conditions to optimise the drainage and turbine foundation layouts.

**Derrybrien wind farm landslide, Technical Support (2003)**

Paul provided technical support to the Derrybrien community group in the aftermath of the 2003 Derrybrien landslide triggered by wind farm construction activity. The landslide disturbed 450,000m<sup>3</sup> of peat and contaminated numerous water courses and drinking water supplies.



# ROY HARRISON

CO-AUTHOR AND CHECKER OF CHAPTER 11

## PROFILE

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Experienced geoenvironmental professional with 19 years' experience managing complex projects for public and private sector clients at the highest level. Particular expertise in early-stage project risk management and planning condition discharge for technically challenging sites. Highly capable in the management of all aspects of geoenvironmental design, from design, tendering, and procurement of ground investigation, through management and supervision of contractors, to interpretation and recommendations. Experience at a high level in various sectors, including transportation (roads and bridges), brownfield regeneration, buildings, water, renewable energy, marine/ports and harbour, and general civil engineering construction.

## QUALIFICATIONS, PROFESSIONAL MEMBERSHIPS & CERTIFICATES

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**BSc (Hons) Geology**, University of Edinburgh

**MSc Water Resources Engineering Management**, Heriot Watt University

**Chartered Geologist**, Geological Society of London, UK, 2012

Accreditation with the European Federation of Geologists (**EurGeol**), UK, 2015

Full Member of the Institution of Environmental Sciences (**MIEnvSci**), UK, 2021

## KEY SKILLS

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- Contaminated land investigation and assessment
- Remediation design, implementation and verification
- Environmental Impact Assessment
- Environmental Due Diligence
- Geotechnical investigation management
- Costing and contractor procurement

## PROJECT EXPERIENCE

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**Ravenscraig Community Hub Levelling Up Fund Application, Project Manager (2021 - 2022)** (North Lanarkshire Council)

Project Manager for the delivery of early-stage multidisciplinary support for masterplan level design and an application for funding for a proposed community hub in a part of the former steelworks featuring extremely complex underground substructures, contamination, and geotechnical constraints.

**Ravenscraig Redevelopment, Project Manager (2011 - 2022)** (Ravenscraig Ltd)

Sweco project manager and technical lead for the project, which includes undertaking complex contamination risk assessments in accordance with planning requirements, including data review, design and supervision of intrusive investigations, risk assessment and remediation design, with respect to the multi-use redevelopment of the former steelworks.

**Ravenscraig Active Travel Link & Ravenscraig Southern Infrastructure Access, Project Manager (2019 – 2022)**  
(North Lanarkshire Council)

Project Manager for various phases of site investigation and outline geotechnical and geoenvironmental design of two projects for NLC - a proposed active travel route through the centre of the former steelworks and a key City Deals-funded access road into the south of the site. Subsequent involvement in the design and construction supervision works as part of the civil engineering contract.

**Winchburgh Development, Technical and Project Management Lead (2010 - 2022)**

Sweco technical and project management lead for geoenvironmental and geotechnical aspects of the Winchburgh development, including the design, supervision and interpretation of site investigations, assessment of risks to human health and the wider environment, and general advice on earthworks and infrastructure design.

**Middle Muir and Kype Muir Wind Farms, Technical and Project Management Lead (2014 - 2017)** (Banks Group Ltd)

Sweco technical and project management lead for the delivery of the geoenvironmental works for the development of two separate wind farms, including PWS and water environment risk assessment, GWDTE risk assessment, mineral stability risk assessment and input into the site investigation design and interpretation. Also managed the delivery of subsequent environmental monitoring works.

**Kype Muir Wind Farm Extension, Technical and Project Management Lead (2019 - 2021)** (Banks Renewables Ltd)

Sweco technical and project management lead for the geoenvironmental works for this wind farm development, including PWS and water environment risk assessment, GWDTE risk assessment, site investigation design and interpretation.

**A96 Hardmuir to Fochabers (2017 - 2021)** (Transport Scotland)

Sweco discipline lead for land quality aspects of the design (including desk study, site investigation design and risk assessment), and for Geology, Soils, Contaminated Land and Hydrogeology aspects of the Environmental Impact Assessment.

**Comrie Flood Protection Scheme (2017 - 2022)** (Perth & Kinross Council)

Sweco technical and project management lead for geoenvironmental aspects of the scheme, including the design, supervision and interpretation of site investigations, assessment of risks to human health and the wider environment, remediation design, and management and input in the EIA.

**Cross Tay Link Road (2017 - 2022)** (Perth & Kinross Council)

Sweco discipline lead for land quality aspects of the design (including desk study, site investigation design and risk assessment), and for Geology, Soils, Contaminated Land and Hydrogeology aspects of the Environmental Impact Assessment.

**Clyde Waterfront, Renfrew Riverside and Glasgow Airport Investment Area Infrastructure Development Projects (2016 – 2022)** (Renfrewshire Council)

Discipline Director for land quality aspects of the design (desk study, site investigation design and risk assessment) and for Geology, Soils, Contaminated Land and Hydrogeology parts of the EIA.

**Land Quality Assessments (2004 - 2022)** (Public Bodies & Developers)

Desk based review, site investigation design, detailed quantitative risk assessment and remedial recommendations for hundreds of potentially contaminated sites of varying sizes, considering factors such as human health exposure, hydrology and hydrogeology. Many sites including the assessment of mining stability risk and the management of geotechnical investigation, interpretation and design.



# RUADH MCINTOSH

PROJECT ROLE: PROJECT MANAGER, DESIGNER, DOCUMENT REVIEWER

## SUMMARY

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Experienced project manager and engineering geologist working in the environmental and geotechnical engineering consultancy sector for over 7 years. Ruadh has worked on and managed a wide range of geotechnical, environmental and mineral instability projects for design and construction. Her experience includes desk study reporting, site investigation design and supervision, interpretative reporting to relevant industry standards, and remediation design.

## QUALIFICATIONS

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**BSc Earth Science Geology and Physical Geography**, University of Edinburgh (2013)

**Chartered Geologist**, The Royal Geological Society of London

**Fellow**, The Royal Geological Society

**CSCS**, Academically Qualified Person (Managers & Professionals)

## KEY SKILLS

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- Project Management
- Geotechnical, Environmental & Mineral Assessments
- Data interpretation
- Desktop studies
- Site investigations
- Site Supervision
- Risk Assessment
- Geotechnical Design

## CAREER HIGHLIGHTS

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- Recently Ruadh has been involved in management and delivery of small to large scale projects, including Cummeennabuddoge Wind Farm (EIA), multiple borrow pit appraisals for EIA, geomorphological assessment and mining risk assessments.

## PROJECT EXPERIENCE

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**Cummeennabuddoge Onshore Wind Farm EIA**, Project Manager (2022 – Present)

Partnership with Atmos Consulting, with GDG to deliver various aspects of EIA and planning application including but not limited to: Outline design/layout of wind farm, reviewer of: Soils, Geology & Hydrogeology chapter, Peat Stability Risk Assessment, Peat Management Plan, Construction Environmental Management Plan, Traffic Management Plan. Ruadh has been managing subconsultants for delivery of aspects such as Planning Chapter, Hydrology Chapter, forestry technical appendix, cable surveying/design, substation design.

**Tomchrasky Onshore Windfarm Geomorphological Assessment, Project Manager & Author (2023)**

Following a request for further information at planning application stage from a stakeholder, GDG were requested by the client to carry out a stability assessment of non-peat deposits and potential for sediment run-off into the downstream Special Area of Conservation. Ruadh carried out a qualitative assessment and walkover to ascertain the potential risks associated with the proposed wind farm development at Tomchrasky. Ruadh successfully delivered the report within the client timeframes and is awaiting feedback from the planning authority.

**Derrinlough Onshore Wind Farm Phase One Substation and Access Roads, Senior Engineering Geologist (2021)**

Ruadh was part of the team producing a drainage/SuDS design for the peat bog area in and around a substation within the proposed Derrinlough Wind Farm which is now under construction.

**Sandy Knowe Onshore Wind Farm Extension, Coal Mine Risk Assessment Technical Appendix for EIA, Project Manager & Senior Engineering Geologist (2021)**

This project involved a detailed review of existing and newly acquired information and subsequent risk assessment pertaining to opencast mining in the vicinity of proposed wind turbines associated with an extension to the existing wind farm. Ruadh was able to effectively determine the risk posed to the proposed development and provide recommendations by which to mitigate identified risks.

**Abhainn Dubh Onshore Wind Farm, Borrow Pit Appraisal, Project Manager & Senior Engineering Geologist (2022)**

As project manager, Ruadh ultimately managed the effective delivery of the Borrow Pit Appraisal. The geology beneath the wind farm site was more complex than expected, and Ruadh sought to raise potential issues with quarrying at an early stage so that the client could make appropriate assumptions and allowances within the imminent planning application submission.

**Drummarnock Onshore Wind Farm, Borrow Pit Appraisal, Project Manager & Senior Engineering Geologist (2022)**

As for the Abhainn Dubh project, Ruadh was responsible for technical input and the successful delivery of the Borrow Pit Appraisal for the Drummarnock project.

**Chrathaich Onshore Wind Farm, Peat Stability Risk Assessment, Project Manager (2022)**

Ruadh was responsible for the management and delivery of the peat stability risk assessment, which was broken down into two phases. The deadline was met successfully and a detailed and practical document produced which will feed into the EIA as a technical appendix.

**Geological Mapping, Isle of Mull, Senior Engineering Geologist (2021)**

As part of a GDG team of geologists, Ruadh undertook a mapping exercise across an expanse of land on Mull, with aim to informing the client as to the quality of the basaltic rock at the site. Detailed mapping was undertaken and a geological interpretative report produced for use by the client to assess the potential for quarrying at the site.



# STEPHEN CURTIS

AUTHOR OF VARIOUS REPORTS, INCLUDING APPENDIX 11-1, APPENDIX 11-2, APPENDIX 11-3, CO-AUTHOR OF G.I. HEALTH & SAFETY PLAN

## SUMMARY

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Stephen is an experienced engineering geologist with a BSc in Geology from University College Cork and MEngSc in Engineering Geology from University College Dublin. Stephens work as a geologist to date has focused on land and marine based site investigation for infrastructure, ports and harbours, flood defences and renewable energy both onshore and offshore. Stephen has extensive onshore and offshore geotechnical experience in the role of contractor acting as geotechnical engineer and party chief, and client, acting in the role of client representative.

## QUALIFICATIONS, PROFESSIONAL MEMBERSHIPS & CERTIFICATES

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<b>MEngSc Engineering Geology</b> , University College Dublin	2019
<b>BSc (HONS) Geology</b> , University College Cork	2013

## WORK & PROJECT EXPERIENCE

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**Gavin and Doherty Geosolutions Ltd. (GDG)**, Engineering Geologist March 2019-Present

- Assisting in the production of geotechnical interpretive reports (GIR) and geotechnical design reports (GDR) across multiple projects including roads and infrastructure, slope stability and renewable energy projects.
- Involvement in geotechnical projects from the initial stage desk study, planning and procurement of site investigation, site investigation supervision and production of geotechnical factual, interpretive and design reports.
- Acting in the role of client representative for several onshore and offshore survey campaigns.
- Interpretation, scheduling and quality checking of site investigation data including borehole data, CPT and geotechnical laboratory data.
- Experienced with software such as: ArcGIS, HoleBASE, gINT, Slope/W, FREW, autoCAD.

While at GDG Stephen has been involved in numerous projects such as:

- Arklow onshore cable route (SSE) – Site agent for site investigation works
- Ennis South Flood Relief Scheme (Ryan Hanley) – Site Supervision of site investigation works, production of geotechnical design reports and temporary works design
- Moray west Offshore Wind Farm (EDPR) – Client Representative for 10 week on an offshore drillship site investigation campaign. Scope of works included >60no 30m boreholes with down-borehole uCPT and seismic CPT, seabed CPT and vibrocore.
- EREBUS Wind Farm Ground Investigation – Geotechnical Engineer for 6 weeks on an offshore vessel collecting seabed CPT and vibrocore data.
- I-MORE Survey CPT campaign – Geotechnical Engineer for two weeks on a research vessel campaign collecting deep CPT analysis in very soft and high sensitivity silts and clays in the Irish Sea.



- Stornoway Harbour SI Phase II (Wallace Stone) – Client Representative for a nearshore borehole campaign including piston sampling and down-borehole CPTs.
- Stornoway Harbour Overwater SI (Wallace Stone) - Party Chief (Contractor role) managing day to day operations of a nearshore campaign of SI works including cable percussion and rotary drilling with comprehensive suites of environmental and geotechnical testing and sampling.

**University College Dublin, Research MEngSC student**

2018 - 2019

- Geological Survey of Ireland (GSI) short call funded Project under the supervision of Dr. Mike Long, entitled “The distribution and engineering properties of interglacial deposits in Cork City.” With a particular focus on the stiff Gortian Clays found within the Cork City gravels.
- Examining the distribution of these interglacial deposits through historical SI and on-site geophysical surveys, developing cross-sections using gINT and ArcGIS.
- Testing of the material in the UCD geotechnical lab
- Supervision of undergraduate geotechnical engineering tutorials

**Causeway Geotech Ltd., Engineering Geologist**

2016-2018

- In the role of site agent/ party chief on numerous large scale land and nearshore site investigation projects
- Supervision and management of drill crews, plant operators, labourers and various subcontractors, working to strict deadlines while maintaining the highest of health and safety standards.
- Management of SI projects and data output, ensuring compliance with Eurocode, British Standards and client specification.
- Data input and digital logging through HOLEbase (borehole, dynamic probe, window sample, slit trench, trial pit logs), ArcGIS and Civil3D.
- Liaising with clients, local residents, land-owners, suppliers and statutory bodies.
- Survey site prior to investigation using GPS or total station.

While at Causeway Geotech Stephen has been involved in numerous projects such as:

- City Deals Bridge Overwater Ground Investigation, Glasgow (SWECO) – Glasgow, Scotland Party Chief (Contractor role) managing day to day operations of a nearshore campaign including drilling, CPT, piston sampling and geophysical surveying.
- Combwich Intertidal Outfall Ground Investigation - Hinkley Point, Somerset, England
- Tweed Dock Overwater SI – Berwick-Upon-Tweed, England
- Dublin Port Internal Roads SI - Dublin.

**Apex Surveys Ltd., Junior Land Surveyor**

June 2016 – August  
2016

**Valard Surveys Ltd, Junior Land Surveyor**

November 2015 – April  
2016

**PUBLICATIONS**

- Curtis et al (2023) Distribution and engineering parameters of interglacial clays in Cork Harbour.



# TIM O'SHEA

DESIGNER/PSDP

## SUMMARY

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Tim leads the Infrastructure sector at GDG. He is experienced in the design of renewable energy and road projects. He has over 19 years' experience in engineering and 4 years in his current role. At GDG Tim leads the design of infrastructure projects such as roads, substations, rails and flood relief schemes. He works closely with the renewables team, carrying out a reviewer role.

## QUALIFICATIONS, PROFESSIONAL MEMBERSHIPS & CERTIFICATES

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<b>BE Civil &amp; Environmental Engineering</b> , University College Cork	2002
<b>Chartered Engineer</b> , Engineers Ireland	2009

## KEY SKILLS

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- Project management
- Design
- Highly proficient in the use of MS Office AutoCAD
- Trained Eirspan Bridge Inspection Team Leader
- FAS Safe Pass qualified
- PSDP qualified

## PROJECT EXPERIENCE

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<b>Gavin &amp; Doherty Geosolutions</b> , Associate Director	2019 – Present
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### **Bangor Erris Airborne Wind Test Site (2021-2022)**

Project Manager for the civil and structural design of an airborne wind test facility in the west of Ireland. GDG were responsible for the design of access roads, hardstands, landing field, buildings and all foundations. Tim carried out the role of assigned Certifier and Design Certifier for the Hangar and Control Buildings.

### **Cloncreen Windfarm (2021)**

Project Manager for the geotechnical design of a 21 WTG project in Co. Offaly, Ireland. GDG were responsible for the geotechnical design of roads, crane hardstands and WTG foundations. The site is located on a cutaway bog and has some complex geotechnical challenges, including peat, soft silts and artesian water pressures. GDG successfully developed a formation monitoring regime to manage the risk associated with heave due to the artesian pressures. This system allowed all but 5 of the foundations to be constructed as gravity.

### **Green Biofuels Ireland (2021)**

Tim acted as Design Certifier and Assigned Certifier for the design of a new MV substation building for an industrial facility in Co. Wexford.

#### **Coillte Cable Route Options Assessment**

Project Manager for the detailed assessment of cable route options for three windfarms in Co. Cork and Co. Kerry.

#### **Beinn an Tuirc III Windfarm (2020)**

Project manager of the detailed design of Beinn an Tuirc III windfarm, a 14 WTG project on difficult terrain, located on the Kintyre Peninsula. GDG were responsible for the full civil and structural design, including roads, drainage, WTG foundations and Substation Control Building. As well as PM, Tim was responsible for the Building Warrant application, coordination of the SER Certification and check of the WTG foundation design.

#### **ESB International (October 2016 to 2019)**

##### **Charleville 110 kV Substation Reconfiguration (2017 – 2019)**

Civil Project Manager for the upgrade of an existing 110 kV AIS substation in Co. Cork. The project involves complex phasing to accommodate windfarm connections. Tim's responsibilities included management of the design team, fee management and liaison with HV designers / ESB Networks. He also acted as Assigned Certifier and Design Certifier for an extension to the Control Building.

##### **STATCOM Project (Various Substations) (2018 –2019)**

Civil Designer responsible for preparing specifications and tender evaluation for EPC tender process for the installation of Statcom compounds in three substations. Also responsible for procuring Ground Investigations.

##### **Killonan 220 kV GIS Substation (2018 –2019)**

Civil Project Manager for the design of a new 220 kV GIS substation in Co. Limerick, on the site of an existing AIS Substation which will be retired. Tim's responsibilities included preliminary design, preparation of fees and design programme, collaboration with QS to develop capital costs and liaison with HV designers / ESB Networks.

##### **Ballyragget 110 kV GIS Substation (2017 – 2019)**

Civil Project Manager for the design of a new 110 kV GIS substation in Co. Kilkenny, which is currently being prepared for the Tender process. The project includes a 110 kV GIS Building, 38 kV Switchgear Building, transformer bunds and other electrical equipment bases. Tim's responsibilities included management of the design team and liaison with HV designers / ESB Networks.

##### **Aghada 220 kV Substation Reconfiguration (2017 – 2019)**

Civil Project Manager for the upgrade of an existing 220 kV AIS substation in Co. Cork. The project involves complex phasing, the works will be carried out across five outage seasons. Tim's responsibilities included management of the design team, fee management and liaison with HV designers / ESB Networks.

#### **Fehily Timoney and Company (2003 – 2016)**

As Deputy Head of the Infrastructure Department, Tim had responsibility for the management of wind energy and road projects, including design team management, safety management, business development, Client management, tendering and meeting turnover targets.



# TOMÁS MCGRATH

DESIGNER, CO-AUTHOR OF G.I. HEALTH & SAFETY PLAN

## SUMMARY

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Tomás is a Chartered Engineer with 7 years of experience in geotechnical, civil and structural engineering. He joined the Infrastructure team of Gavin and Doherty Geosolutions Ltd. in 2018. His role since joining the team has included geotechnical interpretation, geotechnical design, structural design, design review, project management including the management of multidisciplinary teams, and bid management. The geotechnical and structural design work completed by Tomás included ground investigation specification and interpretation, earthworks design and specification, slope stability assessments, seepage analyses, reinforced soil slope and wall design, soil nailing, rock stabilisation, ground improvement, piled foundations, shallow foundations, embedded pile wall design, mass gravity retaining wall design, embankment settlement and consolidation, access track design and crane hardstand design.

## QUALIFICATIONS, PROFESSIONAL MEMBERSHIPS & CERTIFICATES

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**BE in Civil and Environmental Engineering (1st Class Honours)**, University College Cork (2014)

**MEngSC in Civil Engineering**, University College Dublin (2016)

**Chartered Engineer**, Engineers Ireland (2020)

**Designing for Safety in Construction** completed in 2018

**SafePass** registered until July 2025

**Manual Handling** registered until November 2023

**Personal Track Safety (Irish Rail)** registered until November 2023

## KEY SKILLS

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- Project Management
- Geotechnical Design
- Geotechnical Design Review
- Structural Design
- Ground Investigation Design and Specification
- Ground Modelling and Geotechnical Interpretation
- Earthworks Design and Specification
- Ground Improvement
- Flood Defence
- Geotechnical Risk Management
- Permanent and Temporary Works Design
- Concept, Preliminary and Detailed Design
- Feasibility and Constraint Studies

## PROJECT EXPERIENCE

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**Yellow River Windfarm, Geotechnical Design Engineer (2022 – Present)** Farrans Construction

Tomás was responsible for the specification of Earthworks Requirements, the geotechnical design of the windfarm access tracks, crane hardstands and the spread foundations for the wind turbine generators. He also completed the inspections of the excavations and subformation material at the proposed locations of the wind turbine generator for a Wind Farm development in Co. Offaly, Ireland.

**Clonreen Windfarm, Geotechnical Design Engineer (2020 – 2022)** Farrans Construction

Tomás was responsible for the specification of Earthworks Requirements, the geotechnical design of the windfarm access tracks and crane hardstands, and completing inspections of the excavations and subformation material at the proposed locations of the wind turbine generator for a Wind Farm development in Co. Offaly, Ireland.

**Hai Long OSS, Ground Modelling and Geotechnical Interpretation (2020)**, PTSC M&C

Tomás completed a review of the Ground Interpretative Report for one area of the proposed Hai Long Offshore Substation scheme. The GIR included the interpretation of a representative ground model and the associated characteristic soil parameters including soil classification, physical properties, effective and total stress parameters, electrical resistivity, thermal conductivity, shear wave velocity and small strain shear stiffness parameters.

**Codling Wind Park, Geotechnical Design Engineer (2019 – 2020)** Codling Wind Park Ltd.

Was part of a wider team working on the development stratigraphic ground model and the geotechnical properties associated with each unique stratum. The preliminary/planning ground investigation (GI) information was submitted to GDG in several phases including 1) draft borehole logs and in situ test results, 2) laboratory characterisation testing, and 3) advanced laboratory testing. The GI information was reviewed and interpreted between the submission of each of the three GI packages with three revisions of the Ground Interpretative Report submitted throughout the project.

**Beinn an Tuirc Wind Farm Phase 3, Geotechnical Design Engineer (2019 – 2020)** Roadbridge Ltd.

Designed the access tracks for use by standard construction plant and the wind turbine generator (WTG) component delivery vehicles. The access tracks were designed to be founded where a stiff subgrade was encountered at shallow depths. The access tracks were designed as floated tracks over peat, where peat depths exceeded one metre. A sub-station platform and seven crane hardstand (including the adjacent blade laydown areas and auxiliary crane hardstands) were designed to support the relevant proposed loads of the sub-station components, the WTG assembly plant including two cranes and the WTG components. The access tracks and hardstands were designed to be constructed of granular engineered fills, with geocomposite reinforcement (floating tracks) where required. The access tracks and hardstands were designed to meet the geotechnical requirements (including bearing capacity and slope stability along the edges of the tracks/platforms) and structural requirements to ensure a suitable running surface throughout the site operations and the proposed design life of the wind farm.

**Coillte Grid Route Assessment, Geotechnical Design Engineer (2020 – 2021)** Coillte

Tomás was the Geotechnical Design Engineer for the detailed assessment of cable route options for three windfarms in Co. Cork and Co. Kerry. Tomás completed numerous visits to the sites to assess the grid routes, as well as visually inspecting the proposed locations of the Clydaghroe Windfarm infrastructure and assisting with the specification of the site investigation works for this windfarm.

**Flood Defence Schemes, Lead Designer (2021 – present)** Ryan Hanley

Tomás is currently managing a series of Flood Defence Schemes as the geotechnical consultant to Ryan Hanley. The flood defence schemes are located in Carrick-on-Shannon, Leitrim Village and Adare and shall be designed to protect against an Annual Exceedance Probability of 1%. To date, Tomás has completed the ground investigation specification and interpretation, the feasibility studies of potential flood defence solutions and recommendations of the preferred solution.

**Union Canal, Geotechnical and Structural Designer (2020 – 2021)** MacKenzie Construction Ltd.

Tomás managed a project throughout the design and construction process, which required the remediation of a canal embankment which was breached over a 20m length and multiple slip failures were observed along a 200m length of the embankment. He was responsible for managing the budget and delegating work to other members of the design team. A solution was developed by Tomás with input from the main contractor and later the piling contractor to reinstate the canal and embankment profiles. Additionally, he was required to complete a review of the as-built solution and the testing information provided following construction to ensure the solution was constructed in accordance with the design.

**Caledonian Canal Emergency Remediation Works, Geotechnical Design Engineer (2019 – 2020)** (Client name)

Tomás managed a project throughout the design and construction process, which required the remediation of a canal embankment which had become unstable following a rapid dewatering process for the remediation of a nearby lock structure. Five separate circular slips had occurred along the embankment Tomás was responsible for the specification of a ground investigation adjacent to the various slip features, the development of a ground model based on the ground investigation information, a stability assessment of the original embankment profile and the design of a permanent remediation solution for the stabilisation of the canal embankment.

**Oweninny Wind Farm, Geotechnical Design Engineer (2018)** Murphy Group

Completed the geotechnical and structural design of rotary bored piles to be installed beneath the 29 No. proposed WTGs. The piles were design for two diameters, 900mm and 1200mm, for installation in rock and overburden respectively. The site was within an area susceptible to Karst conditions within the underlying Limestone rock, and as such any resistance within rock sockets was to be derived from shaft resistance only. The piles were also designed for structural fatigue loading for the design life of the proposed WTGs.



## Conor Finnerty

## Curriculum Vitae

Date of Birth:	21st August 1981
Profession:	Technical Director
Profession:	Geotechnical Engineer
Contact:	Email: cfinnerty@gii.ie Tel: 01 6015175 Mob:086 317 1594 Catherinestown House, Hazelhatch Road, Newcastle, Co. Dublin
Education:	Civil, Structural and Environmental Engineering -Trinity College
Professional memberships:	<b>Chartered Engineer</b> , Member of the Institute of Engineers of Ireland & Geotechnical Society of Ireland

## Experience Summary

Conor has over 16 years' experience as a civil engineer, both in a design office and on site supervising ground investigations and construction projects.

Strong skill set encompassing many aspects of geotechnical design, effective communication and project management.

13 years' experience with Phi Ireland, a specialist geotechnical subcontractor, Jacobs Engineering & Byrne Looby Partners. 8 years in the current position as a senior geotechnical engineer and technical director with Ground Investigations Ireland.

My geotechnical experience incorporates ground investigation specification, procurement, supervision and management. I have worked as a geotechnical designer on a variety of projects such as flood defence schemes, windfarms, deep foundations, retaining wall design, ground investigation and interpretative reporting.

My experience encompasses the full geotechnical engineering spectrum from preliminary desk studies to finite element modelling. I have had the benefit of being able to lead and direct the installation of my own designs and of being involved as part of a team in a number of technically challenging and high profile projects.

## Employment History

### Ground Investigations Ireland April 2013 to Present

Technical Director responsible for

- Ground Investigation Scoping, Design and Execution
- Project management of GI's between 500K and 2.5K consisting of residential, infrastructure and commercial projects
- Staff management, plant management and scheduling.
- Cost control, management and invoicing
- Factual and Technical Interpretative Reporting

### Byrne Looby Partners Dublin – April 2012 to April 2013

Senior Geotechnical Engineer responsible for

- Detailed design of Flood Defence Scheme
- Sheet pile, contiguous, secant wall design
- Ground investigation management and reporting
- Soil nailing, slope & embankment stability,
- Production of detailed construction drawings and earthworks specification
- Foundation design and settlement assessment

### Jacobs Engineering Ireland – March 2007 to April 2012

Senior Geo-Environmental Engineer responsible for

- Report outlining Strategy for Sustainable Reuse of excavated materials in Dublin Port
- Soil & Geology Environmental Impact Statement
- Scoping, development and advice to key clients and project managers on Site Investigation
- Project Controls for the Dublin Port Framework including the development of project scope documents, financial control reporting and invoicing.
- Sustainability Group member – LEED development and GIS integration

Geotechnical Engineer responsible for

- Desk Study and Geotechnical Interpretive

# Stephen Kealy

# Curriculum Vitae

<b>Profession</b>	Engineering Geologist
<b>Position</b>	Senior Engineering Geologist
<b>Education/Qualifications</b>	MEngSc, University College Dublin BSc (Honours) Geology, UCC
<b>Professional Memberships</b>	Professional Geologist (PGeo) Institute of Geologist of Ireland (IGI) European Geologist (EurGeol) European Federation of Geologists
<b>Contact</b>	086 8414466 skealy@gii.ie



## Experience Summary

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I have experience within the industry since 2013, encompassing all aspects of desk studies, site supervision of ground investigations, factual and interpretive reporting. I have a strong skill set and good knowledge base with respect to ground investigation work, effective communication and strong project management.

I worked in a graduate position for GII and in a consulting position as a design engineer with ARUP Consulting Engineers. Broadly, these roles entailed planning and undertaking ground investigations to ensure the needs for design has been met when sampling/testing, notably consulting on the Dublin Port redevelopment of Berth52/53.

My current position is as a Senior Engineering Geologist with GII. My role includes managing site investigations from the initial design stage, supervision of site activities, scheduling and managing laboratory work to the production of detailed reports both interpretative and factual.

## Project Experience

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### 2020 7431 Ground Investigation & Monitoring Works - Irish Rail

Senior Engineering Geologist - Management of the ground investigation across 35 sites along the existing rail line. Incorporating window sampling with SPT, dynamic probing, slit trenching, cable percussion boreholes, geoenvironmental and geotechnical laboratory testing with interpretative and factual reports.

### 2020 Project Calvary - Virtus

Senior Engineering Geologist - Management of the ground investigation incorporating cable percussion & rotary follow-on boreholes, Trial Pitting, foundation pits, geotechnical and environmental laboratory testing with factual and interpretative reporting.

### 2019 2-4 Wilton Park - IPUT

Senior Engineering Geologist - Management of the ground investigation incorporating night works in coordination with McBreen Environmental, cable percussion & rotary follow-on boreholes, slit trenching under traffic management, geotechnical and environmental laboratory testing with factual reporting

### 2019 Dublin Airport North Runway Construction Package 2 - Roadbridge FCC

Senior Engineering Geologist - Management of the ground investigation incorporating cable percussion & rotary follow-on boreholes, trial Pitting and geotechnical laboratory testing with factual reporting.

### 2019 UCD Masterplan Phase 2 - UCD Properties

Senior Engineering Geologist - Management of the ground investigation incorporating cable percussion & rotary follow-on boreholes, trial Pitting, environmental and geotechnical laboratory testing with interpretative and factual reporting.

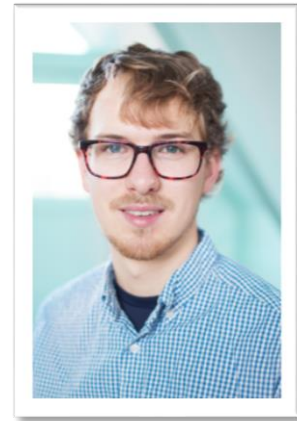
### 2019 257 West Apron Crossing Dublin Airport - Kilwex Ltd

Senior Engineering Geologist - Management of the ground investigation incorporating slit trenching, trial Pitting, plate tests, TRL probes, cable percussion boreholes, geoenvironmental and geotechnical laboratory testing with factual reporting.

## Aedan Mansfield

### Software Developer & Assistant Consultant

Hayes McKenzie Partnership Ltd, Salisbury, UK  
+44 (0) 1722 710091  
aedan@hayesmckenzie.co.uk



Aedan Mansfield joined Hayes McKenzie in October 2017 after a successful summer placement developing an amplitude modulation analysis tool using Python coding software. He graduated with First Class Honours in Acoustical Engineering from the University of Southampton.

Since joining Hayes McKenzie, Aedan has continued developing and fixing software tools in both Python and MATLAB. He also makes noise predictions in CadnaA, conducts noise assessments, and carries out site visits to install and maintain equipment.

#### EXPERTISE

Developing and fixing software tools

Assistance with noise prediction, analysis, assessment and report writing.

Maintenance of measurement equipment.

#### EXPERIENCE HIGHLIGHTS

- Development of in-house specialist software for data processing, tonal analysis, and amplitude modulation analysis.
- Development of a bespoke noise prediction software model that incorporates the requirements of the Institute of Acoustics, *A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise*.
- Installation and collection of noise monitoring equipment.
- Noise modelling, data processing and assessment.

#### CREDENTIALS

BEng Acoustical Engineering  
University of Southampton

Associate Member of the Institute of Acoustics



## Andy McKenzie

### Director

Hayes McKenzie Partnership Ltd, Salisbury, UK  
+44 (0) 1722 710091  
andy@hayesmckenzie.co.uk



Andy McKenzie co-founded the Hayes McKenzie Partnership in 1991. He manages the Salisbury office consisting of a team of 7 consultants with varying levels of experience. Management duties are combined with high level technical work, preparing and presenting evidence at Public Inquiry and in Court, and disseminating information through training seminars to industry, local authorities and other bodies and presentation at conferences and technical meetings.

#### EXPERTISE

Environmental Impact  
Assessment (EIA)

Expert Witness

Planning Condition  
compliance measurements

#### CREDENTIALS

BSc (Hons) Engineering  
Acoustics & Vibration,  
University of Southampton

Doctor of Philosophy  
Adaptive Response  
Hearing Aid for High  
Frequency Hearing Loss,  
University of Southampton

Fellow, Institute of  
Acoustics

Member of the UK  
Environmental Law  
Association Noise Working  
Party

#### EXPERIENCE HIGHLIGHTS

- Carrying out and/or supervising work on well over 500 wind turbine projects in the UK and overseas including assessment for ES, evaluation of turbines for consented sites, source noise measurement to IEC61400-11, determination of compliance with planning limits for constructed sites.
- Supervision of DECC research project on the way in which noise impacts are considered in the determination of wind farm planning applications and contribution to the subsequent UK Institute of Acoustics Good Practice Guide.
- Providing technical advice and drafting for EPA Guidance Note NG3 - Noise Assessment of Wind Turbine Operations at EPA Licensed Sites
- Presentation of evidence on noise issues at around 80 UK Planning Inquiries and Hearings, and in Court.

## Rob Shepherd

### Associate Director

Hayes McKenzie Partnership Ltd, Salisbury, UK  
+44 (0) 1722 710091  
rob@hayesmckenzie.co.uk



Rob Shepherd is an acoustic consultant and associate director at the Hayes McKenzie partnership, and manager of the Salisbury office. He graduated from the University of Southampton in 2005 with a Master of Engineering (MEng) degree in Acoustical Engineering from the Institute of Sound and Vibration Research. Rob has worked in the field of acoustical engineering for over 18 years, specialising in the field of noise from on-shore wind farms involving work on over 350 wind farm projects, and has appeared as an expert witness in the UK and Ireland.

In addition to work on wind farm projects, Rob regularly carries out assessments for other projects including assessing noise impacts using BS 4142 Methods for rating and assessing industrial and commercial sound, and assessing construction impacts using BS 5288 Code of practice for noise and vibration control on construction and open sites.

Rob is responsible for handling all aspects of project management including preparing quotations, carrying out noise modelling, data analysis, assessment, and reporting. As well as managing his own portfolio of projects, Rob oversees and carries out technical reviews of other consultants' analysis and reports, to ensure that all work is carried out to our high standards.

#### EXPERTISE

Environmental Impact Assessment (EIA)  
Expert Witness  
Technical review of assessment and planning conditions  
Planning condition compliance measurements  
Acoustic Wind Turbine Testing (IEC 61400-11)  
Installation of SoDAR and 10 metre met masts

#### CREDENTIALS

M.Eng in Acoustical Engineering,  
University of Southampton  
Member of the Institute of Acoustics  
Member of BSI committee EH/1/3 on residential and industrial noise

#### EXPERIENCE HIGHLIGHTS

- Sole responsibility for 200 wind farm projects
- Involvement in over 400 wind farm projects
- Expert Witness at Public Inquiry
- Expert Witness at an Appeal Hearing and Appeal by Written Representation
- Assisting Andy McKenzie (Director and Principal Consultant at Hayes McKenzie Partnership Ltd.) at Public Inquiry
- Acoustic Wind Turbine test of an offshore wind turbine and other onshore wind turbines of varying sizes
- Carrying out noise and vibration assessment for a wide range of situations including BS4142 and BS 5288 assessments
- Noise nuisance investigations

## **ELAINA SUGRUE - 3D ARTIST, VIRTUAL TOUR CREATOR TECHNICAL LEAD**



With a First Class Honours from the Model Making, Design & Digital Effects course at Dun Laoghaire Institute of Art, Design & Technology (IADT), Elaina brings new perspectives to the Innovision team in both 2D and 3D design. In addition to 3D modelling, animation and graphic design, Elaina is responsible for all virtual public consultation and virtual tour design, creation, and management.

Since joining Innovision in 2019, Elaina has been involved in many aspects of our services including wind farm photomontages, 3D modelling of offshore wind farm infrastructure, virtual exhibition design and implementation, as well as continued R&D on virtual tour development to keep abreast of any changes in this rapidly expanding industry. If appointed to this work, Elaina will be Technical Lead for all virtual tours and virtual exhibitions, in addition to assisting with 3D modelling and photomontage production.

### **Cummeennabuddoge Wind Farm Client: FuturEnergy Ireland**

In 2021/22 Innovision assisted Atmos Consulting with the Cummeennabuddoge EIAR by producing verified photomontages for the LVIA chapter. This is a large project on the Cork/Kerry border and required pin sharp photography due to the large amount of neighbouring operational wind farms on the site. Elaina was Technical Lead on this project and ultimately responsible for the 3D modelling, photomontage production and final formatting of the photomontages to SNH guidelines.



## ELAINA SUGRUE - CONT.

Toyoura Offshore Wind Farm  
Client: RWE Japan

In 2022 Innovision we approach by RWE Japan to assist in carrying out photomontages for an offshore wind farm in the west coast of Japan. With the assistance of RWE we sourced a suitable Japanese photographer and using their photography, produced several photomontages to illustrate how the proposed wind farm might look if built.

Elaina was responsible for the 3D modelling of the wind farm as well as all photomontage production and post processing.

Dublin Array Offshore Wind Farm  
Client: RWE

In 2020 and again in 2023 Innovision successfully completed virtual consultation rooms for RWE's Dublin Array project. As part of this, Elaina produced a 3D space for each consultation and populated it with consultation material including interactive mapping, immersive photomontage viewers and engaging feedback forms. Elaina was Technical Lead on this project and ultimately responsible for the overall design, creation and implementation of the virtual exhibition.

## **JOHN FLANAGAN - MANAGING DIRECTOR**

### **PROJECT LEAD**



Innovision was founded by John Flanagan in 2016. John holds an honours degree in Geomatics from TU Dublin (formerly DIT) and has over seventeen years' experience in the photomontage and 3D visualisation industry. He has played a key role in the provision of visualisations and mapping for some of Ireland's largest infrastructure projects and has also worked on projects in the UK, Europe, USA, Norway and Africa. This work has included numerous solar farms, wind-farms (both on-shore and off-shore), road schemes, public realm schemes, bridges, power-lines and numerous other engineering and architectural developments.

John oversees all projects in their entirety to ensure all work is carried out to Innovision's high standards. In addition to this, John carries out site photography / survey work, 3D visualisations and photomontage work. A small selection of notable relevant project experience has been listed below.

#### **Utsira Nord Offshore Wind Farm**

**Client: RWE Norway**

In 2022 RWE Norway engaged Innovision to produce a series of photomontages for a proposed offshore wind farm off the west coast of Norway in the North Sea. Innovision went on location to Norway, managing to capture all required photography in perfectly clear conditions not long before winter set-in making it difficult for photography capture.

John was responsible for all photography capture, 3D wind farm modelling and photomontage production.

## **JOHN FLANAGAN - CONT.**

### **Carrownagowan Wind Farm SID Application Client: Coillte**

In 2019/2020 along with a suite of LVIA photomontages and design workshops, Coillte engaged Innovision to produce a virtual experience for their Carrownagowan SID wind farm project which has since been granted planning permission. The tour consisted of several 360° photomontages around the proposal site and allowed users to toggle between the existing view and the proposed view. Innovision attended several public engagement events allowing members of the public to don a VR headset and experience how the proposed wind farm might look from several well known locations within their community. John was involved in all elements of this work from photography capture and photomontage production, to virtual tour creation and on-site engagement with stakeholders

### **SOME NOTABLE RELEVANT WIND FARM PHOTOMONTAGE EXPERIENCE**

- Cummeennabuddoge Wind Farm  
Client: FuturEnergy Ireland
- Carrownagowan Wind Farm  
Client: FuturEnergy Ireland
- Ballycar Wind Farm  
Client: Greensource
- Drumnahough Wind Farm  
Client: SSE Renewables / FuturEnergy Ireland



### Key Data

Anna holds the position of Senior Project Engineer with McCloy Consulting Ltd, and has experience in hydrology, environmental assessment, dispersion and water quality modelling and flood risk assessment.

Her role has included the technical aspects of a range of hydrological, water quality and flood risk services within the company including; specialising in hydraulic modelling for fluvial (rivers) for flood risk assessments and dispersion modelling for water quality assessments.

She is also responsible for the preparation and management of flood risk and water quality assessment reports for a range of projects at various stages.

### Current Position

Senior Project Engineer

### Qualifications

PhD Civil Engineering  
(National University of Galway, 2013-2018)

BA (Hons) Civil Engineering  
1st class (National University of Galway, 2009-2013)

### Professional Memberships

Member of Engineers Ireland  
(MEI)

### Employment History

November 2020 - Present  
McCloy Consulting Ltd.,  
Belfast

(2018-2020); Design  
Engineer, Arup Consulting  
Engineers

### Recent Relevant Projects

#### Effluent Dispersion Mixing Zone Analysis – Proposed Treated Effluent Discharge Ballyhaunis, Co. Mayo

Responsible for project management and coordination of a package of work to assess the impact of a proposed discharge of treated effluent to the water quality of an environmentally designated watercourse. Responsible for collating and reviewing hydrometric and environmental data, undertaking hydrological analysis to determine both low flows and flood flows, carrying out a near field analysis to estimate concentrations of relevant water quality parameters in the vicinity of the discharge point and undertaking detailed far-field dispersion modelling to determine compliance of the proposal with relevant environmental standards. Provided guidance and effluent treatment advice based on findings of the water quality assessment and produced a detailed water quality report.

#### Water Quality Modelling and Assessment – Proposed Cummennabuddoge Wind Farm, Co. Kerry, Republic of Ireland

Responsible for undertaking water quality assessments to underpin an EIAR for proposed wind farm project located in a National Park and sensitive salmonid watershed. Project modeller and water quality analyst for assessment of nutrients at an environmentally sensitive lough and sediments in an environmentally sensitive watercourse. Provided design advice to client in line with relevant environmental standards and produced a water quality assessment report.

#### Effluent Dispersion Mixing Zone Analysis – Proposed Treated Effluent Discharge Slane, Co. Meath

Project modeller for a proposed discharge of treated effluent from a wastewater treatment plant to an environmentally sensitive watercourse. Responsible for carrying out a water quality assessment using a detailed 2D hydrodynamic and water quality model to assess suitability of the proposed discharge. Work included collation and assessment of environmental data, hydrological assessment of catchment low flows, near-field water quality calculations and far-field dispersion modelling. Provided design advice to client in line with relevant environmental standards and produced a water quality assessment report.

#### Dispersion Modelling – Irish Water UTAS, Various locations - Ireland

Responsible for near-field analysis and far-field dispersion modelling to determine compliance of proposed effluent discharges from a number of wastewater treatment plants as part of an Irish Water Untreated Agglomerations project. Responsibilities included undertaking hydraulic catchment analysis to estimate low flows, carrying out near-field dispersion modelling and water quality assessments and providing recommendations based on findings. Project modeller for the far-field dispersion modelling aspect of the projects. Responsible for the model build, calibration, validation and analysis of model results. Produced reports for various stages of the project including scoping reports, model calibration reports, near-field assessment reports and far-field modelling reports.



### Current Position

Senior Engineer

### Qualifications

BEng (Hons) Water Resources Engineering, 2019

BSc (Hons) Chemistry, 2014

### Employment History

November 2020 – Present  
McCloy Consulting Ltd, Galway

June 2019 – October 2020  
TOBIN Consulting Engineers, Galway

### Key Experience

- Flood Risk Assessment
- Drainage Assessment
- Hydraulic Modelling
- Hydrology
- GIS Analysis
- Sustainable Drainage
- Culvert Design

### Key Information

Duncan is a Senior Engineer with McCloy Consulting specialising in flood risk assessment, hydrologic analysis, and hydraulic modelling with 5 years of relevant professional experience and over 1.5 years of academic research experience.

### Experience and Expertise

Duncan has worked on a number of site-specific and strategic flood risk (and drainage) assessments involving flood flow estimation, hydraulic modelling, and GIS analysis. He has experience in river and surface water modelling as well as a comprehensive understanding of SuDS principles and techniques.

Duncan's key areas of experience and expertise include:

- Hydrologic analysis / flood flow estimation
- Hydraulic modelling for river flooding and surface water (HEC-RAS, ICM)
- GIS analysis (QGIS, ArcGIS)
- Research and technical reporting

### Selected Relevant Projects

#### Strategic Flood Risk Assessment for the 2025-2031 Monaghan County Development Plan – In Progress

Review and assessment of existing flood data. Use of QGIS to compile available flood extents. Participation in regular meetings with client and stakeholders. Preparation of the draft SFRA report for consultation.

#### Site-Specific Flood Risk (and Drainage) Assessments in Ireland and Northern Ireland – Ongoing

Completion of a number of site-specific flood risk (and drainage) assessments based on desktop assessment of existing flood data and in some instances GIS analysis, flood flow estimation, and detailed site-specific hydraulic modelling. Advising on development appropriateness and applicable mitigation measures in accordance with 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (Ireland) and 'Revised Planning Policy Statement 15 – Planning and Flood Risk' or superseding Local Development Plan policies where applicable (Northern Ireland).

#### Section 50 Applications for Proposed Watercourse Crossings for Ulster Canal Greenway, Co. Monaghan – 2024

Review of existing flood data and FSU catchments. Catchment analysis using QGIS. Flood flow estimation using various methods (FSU, IH 124, FSSR, and FEH). CIRIA calculations and hydraulic modelling to determine minimum culvert requirements in line with OPW Section 50 guidance. Hydraulic modelling of three options for one of the proposed crossings. Correspondence with client and stakeholders (Monaghan CC and OPW). Preparation of nine Section 50 application forms and an accompanying technical note based on findings. Review of crossing design drawings to ensure consistency with Section 50 applications.

#### Hydraulic Modelling and Watercourse Crossing Schedule for Barr Cregg Wind Farm, Co. Derry / Londonderry – 2024

Revision of flood hydrology. Updated a 1D hydraulic model to 1D-2D to determine more accurate flood extents and the adequacy of a proposed bridge crossing of the Burntollet River. CIRIA culvert design for three minor watercourse crossings.

#### Flood Risk Assessment and Watercourse Crossing Schedule for Cummennabuddoge Wind Farm, Co. Kerry – 2023 / 2024

Preparation of a desktop flood risk assessment based on existing flood data. GIS catchment analysis. Flood flow estimation using various methods (IH 124, FSSR). CIRIA calculations to determine minimum culvert requirements in line with OPW Section 50 guidance with consideration given to fish habitat. Preparation of watercourse crossing schedule comprising eight proposed crossings.



**Section 50 Applications for Proposed Watercourse Crossings at Yellow River Wind Farm, Co. Offaly – 2023**

Review of existing flood data. Site walkover. Catchment analysis using QGIS. Flood flow estimation using various methods (FSU, IH 124, FSSR). CIRIA calculations and hydraulic modelling to determine minimum culvert requirements in line with OPW Section 50 guidance. Preparation of 21 Section 50 application forms and an accompanying technical note based on findings.

**Strategic Flood Risk Assessment for the 2023-2029 Fingal County Development Plan – 2022 / 2023**

Review and assessment of existing flood data. Use of QGIS to compile available flood extents. Participation in regular meetings with client and stakeholders. Preparation of the final SFRA report.

**Sustainable Drainage (SuDS) Options for World Bank, Tanzania – 2021**

Prepared long list of SuDS options as part of a World Bank project concerning flood risk management in Tanzania. Prepared a more detailed short list of options (with examples) based on knowledge of SuDS concepts, research related to SuDS / nature-based solutions in developing countries, understanding of local constraints / criteria, and meetings with / feedback from client and stakeholders.

**Riverine Community Peace Park Project for Lifford and Strabane – 2021**

Preparation of a position paper on flood risk and SuDS at the proposed cross-border community park site. Review and application of relevant policy and legislation for Ireland and Northern Ireland.

**National Water Resources Plan, Ireland – 2020**

High-level screening followed by finer assessment of potential future groundwater abstraction options in the south and southwest of Ireland.

**Ballycastle Water Supply Project, Co. Mayo – 2019 / 2020**

Developed an EPANET hydraulic model of existing water supply network with proposed rising main and pumps. Assessment of pressures at all points in the proposed new network configuration to ensure all areas sufficiently supplied after proposed decommissioning of contaminated reservoir tank.

**Dunkellin River Flood Relief Scheme, Co. Galway – 2019**

Modification of existing 1D hydraulic model to account for changes to the Dunkellin Bridge and upstream embankment that were made during the construction phase of the flood relief scheme.



### Current Position

Senior Consultant

### Qualifications

MSc Catchment Hydrology & Management (University of Dundee, 2014 - 2015)

MA (Hons) Environmental Science & Geography 1st class (University of Dundee, 2010 - 2014)

### Professional Memberships

Chartered Member of the Institution of Environmental Sciences (CEnv MEnvSc)

### Employment History

April 2019 - Present  
McCloy Consulting Ltd.,  
Belfast

(2015 - April 2019);  
Fairhurst, Glasgow:  
Environmental Consultant

### Background

Iain holds the position of Senior Environmental Consultant with McCloy Consulting Ltd. and is a Chartered Environmentalist with remit and experience in hydrology, environmental assessment, environmental engineering, surface water management, and flood risk assessment.

### Experience and Expertise

His role has included the preparation and management of environmental reports for a range of projects at various stages of the environmental impact assessment (EIA) and planning process (i.e., screening, scoping, EIA Reports / Environmental Statements, environmental permit applications, Construction Environmental Management Plans (CEMPs), Pollution Prevention Plans (PPPs), and Water Quality Monitoring Plans (WQMPs).

He has significant experience in EIA and water quality monitoring programmes in the planning stages for renewables projects, and advising applicants on planning and legal liability around water environment matters.

### Health and Safety

- Construction Skills Certification Scheme (CSCS) – Professionally Qualified Person (2022)

### Selected Relevant Projects

#### Water Environment Assessment – Cummennabuddoge Wind Farm, Co. Kerry (ongoing)

Responsible for undertaking baseline environmental assessments to underpin an EIAR for proposed wind farm project located adjacent and upstream of an environmentally designated site. Responsible for fieldwork, establishing hydrological constraints, and preparing EIA chapter. Prepared water quality monitoring strategy for the baseline phase of the development, managed on-going sample collection by 3rd party consultants and screening of water quality data, reviewing data against legislative limits for specified chemical parameters.

#### Water Environment Assessment – Clunahill Wind Farm, Co. Tyrone (2024)

Responsible for undertaking baseline environmental assessments to underpin an EIAR for a major application for an onshore wind project within a sensitive salmonid watershed. Responsible for fieldwork, establishing hydrological constraints, preparation of the EIAR chapter, and coordination of underpinning WQMP, Water Framework Directive Assessment, Surface Water Management Plan, and Flood Risk Assessment.

#### Water Environment Assessment – Shronowen Wind Farm, Co. Kerry (ongoing)

Responsible for undertaking baseline environmental assessments to underpin an EIAR for a major application for an onshore wind project within a sensitive salmonid watershed. Responsible for fieldwork, establishing hydrological constraints, preparation of the EIAR chapter, and coordination of underpinning WQMP, Water Framework Directive Assessment, Surface Water Management Plan, and Flood Risk Assessment.

#### Water Environment Assessment – Altnagapple Wind Farm, Co. Donegal (ongoing)

Responsible for undertaking baseline environmental assessments to underpin an EIAR for a pending major application for an onshore wind project. Responsible for fieldwork, establishing hydrological constraints, preparation of the EIAR chapter, and coordination of underpinning WQMP, Water Framework Directive Assessment, Surface Water Management Plan, and Flood Risk Assessment.

#### Water Environment Assessment – Kellystown Wind Farm, Co. Louth (ongoing)

Project manager responsible for undertaking baseline environmental assessments to underpin an EIAR for a pending application for an onshore wind project. Responsible for fieldwork, establishing hydrological constraints, preparation of the EIAR chapter, and coordination of underpinning Surface Water Management Plan and Flood Risk Assessment.

**Selected Relevant Projects (contd.)****Hydrological Constraints Assessment – Corvoderry Wind Farm, Co. Mayo (2024)**

Responsible for undertaking baseline environmental assessment including desk-based assessment and fieldwork to inform iterative design process of proposed wind farm. Responsible for water features survey / mapping, catchment analysis and establishing hydrological constraints.

**Hydrological Constraints Assessment – Tawnatruffaun Wind Farm, Co. Sligo (2024)**

Responsible for undertaking baseline environmental assessment including desk-based assessment and fieldwork to inform iterative design process of proposed wind farm. Responsible for water features survey / mapping, catchment analysis and establishing hydrological constraints.

**Hydrological Constraints Assessment – Evishagaran Wind Farm Extension, Co. Derry / Londonderry (2024)**

Responsible for undertaking baseline environmental assessment including desk-based assessment and fieldwork to inform iterative design process of proposed wind farm. Responsible for water features survey / mapping, catchment analysis and establishing hydrological constraints.

**Water Environment Assessment – Consented Crookedwood Solar Farm, Co. Westmeath (2023)**

Responsible for undertaking baseline environmental assessments to underpin a water environment assessment for a pending application for an onshore solar project. Responsible for fieldwork, establishing hydrological constraints, preparation of the environmental assessment for inclusion in the application Planning Report, and coordination of underpinning Surface Water Management Plan and Flood Risk Assessment.

**Water Environment Assessment – Curraghmulkin Wind Farm, Co. Tyrone (2023)**

Responsible for undertaking baseline environmental assessments to underpin an EIAR for a major application for an onshore wind project within a sensitive salmonid watershed. Responsible for fieldwork, establishing hydrological constraints, preparation of the EIAR chapter, and coordination of underpinning WQMP, Water Framework Directive Assessment, Surface Water Management Plan, and Flood Risk Assessment.

**EIA Review & Water Quality Monitoring – Consented Yellow River Wind Farm, Co. Offaly (2021 – Present)**

Responsible for undertaking a comprehensive review of previous environmental assessments, planning application history / conditions (environmental obligations), and permits / licences at, and in the vicinity of, a consented wind farm development. Responsible for the collation of data and preparation of report to inform due diligence measures. Currently managing construction phase monitoring.

**Water Environment Assessment – Proposed Carnbuck Wind Farm, Co. Antrim (2022)**

Responsible for undertaking baseline environmental assessments to underpin an EIAR for a pending major application for an onshore wind project within a sensitive salmonid watershed. Responsible for fieldwork, establishing hydrological constraints, preparation of the EIAR chapter, and coordination of underpinning WQMP, Water Framework Directive Assessment, Surface Water Management Plan, and Flood Risk Assessment.

**Water Quality Assessment Report – Cam Burn Wind Farm, Co. Derry / Londonderry (2022)**

Responsible for managing the water quality sampling during the construction-phase of a consented wind farm. Responsible for collating water quality data and reviewing against legislative limits for specified chemical parameters. Prepared monthly water quality assessment reports for submission to client.

**Water Environment Assessment – Pigeon Top Wind Farm, Co Tyrone (2021)**

Responsible for undertaking baseline environmental assessments to underpin an EIAR for a proposed amendment / extension application for a proposed wind farm. Responsible for fieldwork, establishing hydrological constraints, preparation of the EIAR chapter, and coordination of underpinning WQMP, Water Framework Directive Assessment, Surface Water Management Plan, and Flood Risk Assessment.



**Current Position**

Director

**Qualifications**

Chartered Engineer  
 BEng (Hons) Civil  
 Engineering 2004  
 Queens University of Belfast

**Professional Memberships**

Chartered Member of  
 Engineers Ireland  
 (CEng MIEI)

**Employment History**

2009-Present  
 McCloy Consulting Ltd.,  
 Belfast

2008-2009  
 Fehily Timoney & Co.,  
 Dublin

2006-2008  
 Nicholas O'Dwyer Ltd.,  
 Newry

2004-2006  
 Ferguson McIlveen LLP,  
 Belfast

**Background**

Kyle is a Director with McCloy Consulting Ltd and is a Chartered Engineer with over 19 years experience in environmental engineering specialising in flood risk, hydrology and water quality management, with particular experience in the renewable energy sector.

**Experience and Expertise**

Kyle has been responsible for the project management and technical leadership of complex technical environmental and engineering schemes with fee value in excess of £100k as well as having extensive experience of the preparation of various environmental and engineering and technical performance, feasibility, and appraisal reports.

He has been responsible for the management and technical oversight for geo-environmental (contamination and groundwater), environmental hydrology, eco-hydrology and flood hydrology projects undertaken by the practice in the UK and Ireland Kyle offers added value with his knowledge and experience of renewable energy projects from inception through to construction supervision, as well as a substantial portfolio of work on planning and environmental assessment processes, ensuring that outcomes are suitable for scrutiny as part of public / planning consultation and higher reviews.

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**Health and Safety**

- Trained as Project Supervisor – Design Process (PSDS) - 2018
  - Construction Skills Register – Site Pass
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**Selected Relevant Projects**

**Cummeenabuddoge Wind Farm, Co. Kerry (ongoing)**

Project director and technical lead for a technically challenging pending wind farm application on lands which were previously refused on grounds of effects on water quality downstream. Directed a novel approach including dispersion modelling of reduced quality runoff from the site to allow assessment of effects to and SAC downstream, to allow increased confidence to regulators. Directed EIA chapters and site specific FRA.

**Tuam Energy Park, Co. Galway (2021)**

Project director and technical lead for hydrology, geology, groundwater and flood risk assessments for a large-scale solar PV application. Prepared a detailed site specific flood risk assessment, prepared a detailed surface water management plan, and directed an environmental screening assessment and cross coordination with the CEMP. Post-consent managed Section 50 authorisations.

**Yellow River Wind Farm, Co. Offaly (2021)**

Project director leading a review of the EIA hydrology assessments submitted in support of a consented wind farm in order to inform due diligence measures and identify changes affecting the applicants liability. Directed a comprehensive baseline surface water monitoring study and currently engaged in construction phase monitoring. Directed culvert sizing and Section 50 consent assessments.

**Timahoe North Solar Project, Co. Kildare (2022)**

Undertook a review of EIA / FRA commitments with a view to rationalising planning-stage drainage proposals for purposes of a construction tender specification. Advised the client in relation to FRA justification test compliance. Technical lead for temporary drainage design for an enabling works contract.

**Unshinagh Wind Farm, Co. Antrim (2021)**

Project director for EIA Soils and Water chapter for a 59MW proposed wind farm. Directed the EIA chapter and environmental assessment, baseline water quality assessment, and was technical lead for a detailed site specific flood risk assessment including flood modelling. Undertook a surface water management plan.



**Selected Relevant Projects (contd.)****Carnbuck Wind Farm, Co. Antrim (2021)**

Project director for EIAR Soils and Water chapter for a 50MW proposed wind farm. Directed the EIAR chapter and environmental assessment, baseline water quality assessment, and was technical lead for a detailed site specific flood risk assessment including flood modelling. Undertook a surface water management plan and watercourse crossing schedule.

**Pigeon Top Wind Farm, Co Tyrone (2021)**

Project director for EIAR Soils and Water chapter for a proposed amendment / extension application for a proposed wind farm. Directed the EIAR chapter and environmental assessment, baseline water quality assessment, and undertook a surface water management plan and watercourse crossing schedule.

**Ballykeel Wind Farm, Co. Antrim (2021)**

Project director and technical lead preparing a surface water management plan and detailed Construction Environmental Management Plan to discharge planning conditions for a wind farm that McCloy had previously provided planning support to. Obtained relevant statutory consents for discharges and works to watercourses and advised the client in relation to non-material changes for planning due-diligence.

**Smulgedon Wind Farm, Co. Derry (2022)**

Project directed and technical lead to provide a Drainage Assessment and Surface Water Management Plan for an application to vary an existing permission for a 16MW wind farm. Obtained relevant statutory consents for discharges and works to watercourses. Advised the client and legal counsel in relation to ancillary development and permissibility / comparison of drainage requirements for the consented vs proposed development in order to inform planning strategy.

**Site Specific Flood Risk Assessments in Ireland, Various**

Technical lead directing SSFRAs of various complexity across Ireland and Northern Ireland, with projects ranging from industrial masterplans to strategic housing developments. In-depth knowledge of hydraulic modelling approaches and likely local authority requirements for SSFRA which vary county to county.

**Long Mountain Wind Farm Hydrogen Production Facility, Rasharkin Co. Antrim (2020)**

Project manager for development of a battery storage facility, with works undertaken comprising a hydrological assessment to determine sensitivities of receiving waterways, preparation of a Construction Environmental Management Plan, preparation of a drainage strategy, and undertaking a preliminary-through-detailed groundwater supply feasibility investigation leading to direction of a drilling and pump test to establish a permanent water supply for hydrogen production.

**Evishagarran Wind Farm, Dungiven Co. Derry, 2017**

Responsible for management and oversight for a hydrological assessment for a wind farm site adjacent to a salmonid SAC / ASSI, including detailed flood risk assessment, hydrological mapping and coordination with fisheries and ecological assessments to identify eco-hydrological impacts. Responsible alongside the project Ecologist for identification, mapping, and assessment of the effect of the proposal on units of degraded blanket bog. Responsible for strategy to identify areas of adjacent degraded drained bog for survey and establish a strategy for bog restoration through ditch blocking.

**Renewable Energy Development, Glenarm, 2016**

Provided detailed hydrological and hydrogeological input to a Habitat Enhancement Plan prepared by the project Ecologist, to comprise an Eco-Hydrology assessment of areas of flushes and margin mires. Assessed water dependency using the WETMECs approach. Provided advice to the developer on measures to minimise impacts on existing habitat hydrology, and developed in conjunction with the ecologist measures to target GWDTE habitat enhancement through targeted land raising and ditch blocking.

**Strategic Hydrological Assessment, Cappaghfinn – Fingal Co. Council – 2019**

Project Manager and Technical lead for the flood risk assessment and flood study aspects of an Surface Water Management Plan, comprising Strategic Flood Risk Assessment and Sustainable Drainage Strategy to inform a Local Area Plan. Designed a suitable surface water (distributed hydrology) fed model. Directed the SFRA report and advised on suitable strategies to be incorporated in the latter drainage strategy to mitigate surface water flood risk.

**Strategic Flood Risk Assessment, Kellystown, Fingal Co. Council - 2020**

Project Manager and Technical lead for the flood risk assessment and flood study aspects of an Surface Water Management Plan, comprising Strategic Flood Risk Assessment and Sustainable Drainage Strategy to inform a Local Area Plan. Designed a suitable surface water (distributed hydrology) fed model including local drains and watercourses. Directed the SFRA report and advised on suitable strategies to be incorporated in the latter drainage strategy to mitigate surface water flood risk.

## CURRICULUM VITAE

### Rory Mullan MEng MBA

Profession: Director & Senior Electrical Engineer

Specialisation: Grid Connections, Commercial and Regulatory,

**Date of Birth** 24 October 1977

**Years of Experience** 20 years' experience

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### PROFESSIONAL QUALIFICATIONS

- MEng, Queens University, Subject: Electrical & Electronic Engineering (2001)
  - MBA, University of Ulster (2007)
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### KEY EXPERIENCE AND RESPONSIBILITIES

Experienced in the areas of electricity transmission, distribution, generation and supply, in a consultancy and utility environment. Extensive expertise in connecting renewables, on-site generation and the commercial and regulatory aspects of the Ireland and Northern Ireland Electricity Industries.

Specific skills include:

- Client and Project management
  - Electrical engineering for the grid connection of renewable generation
  - Expert understanding of network operation, regulatory framework, market operation, connection & charging policy, constraint and curtailment for Ireland and Northern Ireland Electricity Industry
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### WORK HISTORY

August 2012 - Present

**Mullan Grid Consulting** - Senior Consultant & Director

- Responsible for the management of Mullan Grid Consulting in Ireland and Northern Ireland.
- Member of WEI, ISEA and NIRIG Grid Committees, Previous member of the Council of WEI for 12 years and Director of WEI for 4 years. Current chair of the WEI offshore grid committee
- Provide specialist advice to Mullan Grid Consulting's clients on:
  - Technical Advisor/Client Engineer
  - Pre-Feasibility Studies
  - Connection Applications
  - Connection Offer Reviews
  - Electrical Design
  - Commercial & Regulatory
  - Due Diligence
  - Training
- Experience of giving evidence at multiple Planning Appeal Commission oral hearings in Northern Ireland
- Current advising a phase 1 offshore windfarm in Ireland and completing grid analysis to support the development of multiple phase 2 offshore windfarms.

Clients include renewable project developers, financial institutions, trade associations and universities.

Technologies including: Onshore Wind, Offshore Wind, Solar, Biogas, Land Fill Gas, Waste to Energy, Marine, Hydro, Diesel, Storage and OCGTs

# Curriculum Vitae

## Sinead Brennan BEng MSc

Title: Senior Electrical Engineer

Specialisation: Grid Connections, Commercial and Regulatory Regime

<b>Date of Birth</b>	31 August 1978
<b>Nationality</b>	Irish
<b>Years of Experience</b>	14 years experience
<b>Languages</b>	English

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## PROFESSIONAL QUALIFICATIONS

- BEng, Dublin Institute of technology, Subject: Electrical & Electronic Engineering (2003)
- MSc, Energy Management (2007-2009)
- Certificate in Electricity Distribution, Aston University, Birmingham, (2011-2012)

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## KEY EXPERIENCE AND RESPONSIBILITIES

Sinead has over 14 years' experience in the electrical industry, and has specialised on the connection of renewable generators for the past nine years. Sinead has extensive experience in advising clients at every stage of the generator installation from prefeasibility, connection applications, connection offer process, pre-construction right through to construction and project handover

Specific skills include:

- Electrical engineering for the grid connection of renewable generation
- Tender Management
- Due Diligence
- Client and Project management

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## WORK HISTORY

August 2012 – Present **Mullan Grid Consulting** –Senior Project Electrical Engineer

- Provide specialist advice to Mullan Grid Consulting's clients on:
  - Technical Advisor/Client Engineer
  - Electrical Design
  - Feasibility Studies
  - Losses Studies
  - Connection Applications
  - Connection Offer Reviews
  - Commercial & Regulatory
  - Due Diligence

January 2009 – July 2012 **Irish Grid Solutions** – Senior Project Electrical Engineer

- Provide specialist advice to Irish Grid Solutions clients on:
  - Technical Advisor/Client Engineer
  - Feasibility Studies
  - Connection Applications
  - Connection Offer Reviews
  - Commercial & Regulatory
  - Due Diligence

Projects include:

- Complete 30 connection applications, excess of 500 MW
- Gate 2 connection reviews, excess 300 MW
- Gate 3 connection reviews, excess 1000 MW
- Due Diligence of multiple connection, excess 500MW

May 2006 – October 2008

**Rotary M&E** – Project Manager

- Project management of various electrical installations such as power and lighting, attending site meeting, liaising with the design team, procurement and cost control
- Supervision of electricians on site and management of sub-contractors
- Mechanical and electrical co-ordination and preparation of both operation and maintenance manuals and builders work drawings

Electrical Project Manager for the following projects:

- Alzheimer Respite Care Centre, Blackrock. Value - €490,000
- St Killians School, Clonskeagh. Value - €200,000
- City Square Apartments, Townsend Street. Value - €250,000

Assistant Electrical Project Manager for the following project:

- Herberton Phase 2, Inchicore. Value - €3,800,000

May 2003 – May 2006

**R.N.Murphy Consulting Engineers** – Mechanical and Electrical Consulting Engineer

Responsible for the following:

- Preparation of tender packages for public and private sector clients for new build and refurbishment projects. Worked on both team and individual projects.
- Preparation of equipment schedules and detailed design schematics of the various electrical installations
- overseeing and supervising the installation of building systems and specifying maintenance and operating procedures
- installation and commissioning of services such as emergency lighting and security installations





## Gerard Hayes

Senior Aquatic Ecologist

Bachelor of Biological Science Education

### Particular Expertise

- Senior aquatic ecologist with over 15 years' experience in environmental consultancy.
- Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM).
- Member of the Freshwater Biological Association (FBA). Certified FBA accreditation: Identification of Freshwater Invertebrates to Family Level.
- Survey licence acquisition, client orientation, stakeholder consultation, data collation, statistical analysis, ecological mitigation, environmental design, compliance and monitoring.
- Electro-fishing, snorkelling, netting, benthic macro-invertebrate sampling and taxonomic identification (freshwater, brackish, marine).
- Protected species surveys (salmon, white-clawed crayfish, lampreys), stage 1/2 Freshwater Pearl Mussel (FPM) survey accredited.
- Biological water quality (Q-rating, BMWP, EPT, etc.) and functional feeding group analysis.
- Reporting: EIS, EIA, EclA, EA, NIS, AA Screening and survey reporting.
- Ecological Clerk of Works (EcOW).

### Employment History

May 2017 - Present: Malachy Walsh and Partners.

June 2006 – January 2017: Ecofact Environmental Consultants Ltd.

September 1999 – May 2006: Teacher of physics, biology, science and maths.

### Health and Safety

MWP In-House Safety Procedures, Preparation of safety statements/risk assessments, Safe pass compliant.

### CPD

- Annual Meeting of Irish Freshwater Biologists, 2019.
- Wading into Water - The Assessment and Management of our Aquatic Environment, 2019.
- Irish Crayfish Seminar, 2019.

## Relevant Experience

Project Description	Drumnahough Wind Energy Development (Coillte/SSE) Proposed Wind Farm in Co. Donegal consisting of twelve turbines with a maximum turbine tip height of 167.5m and expected yield of circa 60MW. Project involved consultation with ABP, NWPS and cross border fisheries agencies. Aquatic surveys including habitat condition, biological water quality, electric fishing and FPM assessments. Biodiversity Net Gain (BNG) is a significant element of this project - an approach to development that leaves biodiversity in a better state than before.
Role	Biodiversity chapter lead author (including avifauna).

Project Description	Cavan Bridge Engineering Services 2019: Environmental Constraints (Cavan Co. Co.) Provision of environmental consultancy services for various bridge repairs projects on the National and Regional Road network. Identification of the main ecological constraints through desk and field studies. Included a detailed FPM Survey and FPM translocation licence application for one bridge, this component of the project ongoing.
Role	Aquatic ecologist

Project Description	South Kerry Greenway Aquatic Ecology (Kerry Co. Co.) Aquatic survey involving a description and evaluation of watercourses along a proposed 20km linear development in the Dingle Peninsula, involving 37 watercourses. This study included biological sampling, aquatic habitat evaluation and fish assessment, as well as Freshwater Pearl Mussel surveying to inform EIAR and NIS. Brief of evidence submitted for oral hearing
Role	Aquatic ecologist

Project Description	Lady's Island Lake Water Level Management (Wexford Co. Co.) Lady's Island Lake is a natural, brackish, sedimentary percolating lagoon. Unmanaged lake levels and salinity levels pose a threat to flora and fauna in the lake, which are integral to the cSAC and SPA status of the lake. The project is at planning stage and will involve reprofiling a barrier beach between the lake and the sea, creation of a rock armour structure drainage channel and installation of a flow control structure. Detailed desk study, NPWS consultation, stakeholder engagement and field surveys were required to inform the construction design and operational characteristics of the development.
Role	Natura Impact Statement (NIS) lead author

## Gerard Hayes, Senior Aquatic Ecologist

Bachelor of Biological Science Education

<b>Project</b>	Claddagh River Freshwater Pearl Mussel Survey (Woodrow Sustainable Solutions/Quinn Quarries)
<b>Description</b>	An information gathering exercise on the current status of the FPM population in the Claddagh/Swanlinbar River in Co. Cavan and Co. Fermanagh to inform reporting for a proposed development relating to a quarry in the catchment. FPM are a primary reason for selection of this watercourse as a cSAC in the Northern Ireland.
<b>Role</b>	Project Ecologist

<b>Project</b>	Carrownagowan Wind Farm (Coillte)
<b>Description</b>	21 no. turbine development and all ancillary works including underground cables, access tracks and substation in Co. Clare. Aquatic survey comprising an evaluation of aquatic habitats, fish survey, biotic assessment using aquatic macroinvertebrates and water sampling for analysis of physico-chemical water quality parameters. Consultation with Inland Fisheries Ireland and local community regarding river habitat enhancement.
<b>Role</b>	Preparation of an aquatic ecology and fish survey report for use in NIS and EIAR.

<b>Project</b>	Mortyclough Flood Alleviation Scheme (Clare Co. Co.)
<b>Description</b>	Scheme to pump water from Ballyvelaghan Turlough, Ballyvaughan to the sea ca. 0.7km away. This project involved an evaluation of impacts on the Galway Bay Complex SAC and the Inner Galway Bay SPA which could be have been affected. Mitigation measures designed and environmental commitments list prepared so development would not interfere with conservation objectives of turlough habitat, involving site preparation, timing restrictions, waste management and sediment, erosion, hydrocarbon and concrete controls.
<b>Role</b>	Appropriate Assessment Screening Report and Natura Impact Statement (NIS) lead author.

<b>Project</b>	<b>Biological monitoring services - Survey and collection of phytobenthos (diatom) samples from 106 river stations (Environmental Protection Agency)</b>
<b>Duration</b>	July 2022 – October 2022
<b>Description</b>	This work involved survey and collection of phytobenthos at EPA surveillance monitoring locations throughout Ireland. he completion of 106 phytobenthos surveys, incorporating a field assessment of the dominant macroalgal indicators (e.g. bacterial tufts, cyanobacteria and algae) expected to occur in Irish rivers and a diatom sample from each designated station. All field data was input to a program (Resco), for transfer to the central EPA database.
<b>Role</b>	Project manager.

### **Project Fisheries Consultants Services Contract (Inland Fisheries Ireland)**

<b>Project</b>	<b>River Feale Catchment Management Baseline Data Collection and Desktop Study (West Limerick Resources)</b>
<b>Duration</b>	March 2020 – Jan 2021
<b>Description</b>	This was a pre-development co-operation project between North Kerry, North Cork and West Limerick that will serve as an inter-regional pilot, building knowledge and working towards the development of River Feale Catchment wide Management Association or Rivers Trust. This involved a detailed desk study, consultation and field surveys on 14 sub-basins of the Feale catchment, aimed at identifying the main drivers of water quality deterioration and important ecological receptors as well as recommendations for alleviating pressures on water quality. A large GIS data set was compiled to assist with implementation of recommendations.
<b>Role</b>	Project Ecologist

## Relevant Career Experience Overview

- River Habitat Survey including RHAT (river hydro-morphology assessment technique), Phase I habitat classification and mapping.
- Co-author and/or carried out surveys for NPWS Irish Wildlife Manual Nos. 15, 24, 26, 37, 45, including 'Monitoring of white-clawed crayfish *Austropotamobius pallipes* in Irish lakes in 2007'.
- Freshwater Pearl Mussel (FPM) licences acquisition and survey of various watercourses nationwide including the Aherlow, Allow, Annalee, Bandon, Blackwater (Munster), Cashla, Dawros, Derreen, Drimneen, Finnihy, Flesk, Feale, Finnow, Laune, Owenglin and Slaney Rivers. Discovered several new FPM sub-populations (e.g. Annalee, Co. Cavan, Thonogue River, Co. Tipperary, River Slaney Wexford) and report compilation.
- Bat survey (habitat suitability and activity) and non-volant mammal surveys to inform EIS for National Road Schemes including the N4 and N17 in Co. Sligo.
- Bird survey (e.g. Grouse, Greenland White-fronted Goose, Whooper Swan) and turbine collision risk assessment
- Amphibian and tree surveying.
- Project involvement in wind farm development, road, water abstraction, regional water supply and hydro-electric schemes, route selection (road and pipeline), constraints studies, receiving water impact assessment, habitat restoration, environmental compliance and EPA licensing.
- Provision of environmental advice to clients such as compliance matters and legislation e.g. fisheries acts, Water Framework Directive regulations, non-native species risks and threats.
- Waste assimilation capacity modelling and bird collision risk assessment.
- Hydrology chapter preparation for EIS, EIAR.
- Ecological monitoring (e.g. Ennis Upper Drainage scheme) and habitat restoration.



**Monica Kane**  
**MSc, BSc, PIEMA**  
**Environmental Sector Manager**  
**Senior Environmental & Ecological Consultant**  
**Associate with MWP**

2016 Practitioner Member of the Institute of Environmental Management and Assessment (PIEMA)  
 2008 Associate Member of the Institute of Environmental Management and Assessment (AIEMA)  
 2003 M.Sc. Ecosystem Conservation and Landscape Management, UCC, NUIG, Utrecht University, University of Helsinki  
 2000 B.Sc. Zoology (Biological and Chemical Sciences) 1996 -2000, UCC

**Particular Expertise** Monica was **MWP Environmental Sector Manager** for the **6 years** where her role involved managing and coordinating the day to day running the Environmental Team at Malachy Walsh & Partners. It also involved ensuring that the necessary resources were in place to support the team. As part of her role Monica liaised with clients ensuring their range of needs were met in a timely fashion.

She is an Environmental and Ecological Consultant with **over 15 years consultancy experience**. She has been responsible for project management and input for:

- **EIS's/EIA Reports**
- **EIA Screenings**
- **Environment Route Option Reports**
- **Planning Applications**
- **Screening for Appropriate Assessments**
- **Natura Impact Statements**
- **Ecological Impact Assessments**
- **Environmental Feasibility and Constraint Studies**
- **Environmental Risk Assessments**

As part of her involvement in the EU stoRE Project she is the principal author of **Guidelines for PHES and Natura 2000 sites**.

**Member of expert group** responsible for the review of the draft Hydropower and Natura 2000 Guidance prepared by the N2K Group (European Economic Interest Group) along with the Members of the Co-ordination Group for Biodiversity and Nature and stakeholders (2015).

She was an **expert witness** for the recent Strategic Infrastructure Development Oral Hearing for Cluddaun Wind Farm Project and on the Kenmare Water Supply Scheme for Kerry County Council.

**Employment History**

2013 – 2022	Environmental Sector Manager, MWP, Tralee
2007 – 2012	Senior Ecologist, MWP, Tralee
2005 – 2007	Senior Ecologist, Aqua-Fact International Services Ltd, Galway
2004 – 2004	BMT Cordah Limited, Edinburgh
2000 – 2000	Assistant researcher on the EU BIODEPTH Project, U.C.C.

**Health and Safety** MWP In-House Safety Procedures; MWP In-House Application of the Health, Safety and Welfare at Work (Construction); Safe Pass.

**CPD** *In-house and external courses:*  
 Environmental Law, Safety & Health, Ecology (bryophytes, bats, Native Woodland Scheme), Peat Geotechnical Assessment, Software (MS Project, Resoft), Photography.  
*Conferences and seminars:*  
 Contaminated Land, EIS, Appropriate Assessment, Strategic Assessment, Ecology, Water & Renewable Energy.

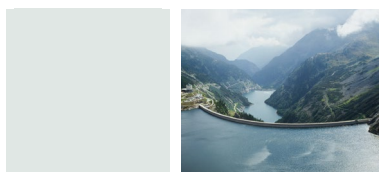
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## Relevant Experience

<b>Project</b>	<b>Athlone Regional Sports Centre</b>
<b>Value</b>	€900k
<b>Duration</b>	April 2019 to July 2020
<b>Description</b>	Project involved the creation of 5km of recreational footways with a mixture of unbound trail and asphalt. Works also included the construction of a Basketball court, petanque court, Children's Play area and 5-a-side astro-turf pitch, hard and soft landscaping, land drainage remediation.

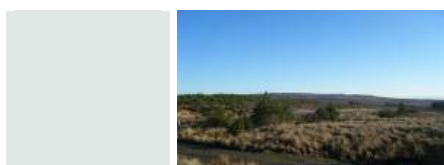


**Project** Newport Town Park  
**Value** €1,123,477  
**Duration** March 2017 to December 2020  
**Description** Facilities included in the park are paths, grassland, wet woodland, hard & soft landscaping, band stand, fitness circuit, children's play area, multi-use games area, adventure play equipment, zip line, sensory garden, seating, picnic areas, water fountain and car park. MWP are responsible for Traffic Assessment and modelling, Civil, Structural, Environmental (Assessment, AA Screening and NIS to An Bord Pleanála), Mechanical and Electrical (public & task lighting and CCTV) design and Quantity Surveying Services and PSDP for the project.



**Project** EU stoRE Project (<http://www.store-project.eu/>)  
**Value** €2M  
**Duration** 3 years  
**Description** The EU stoRE Project aims to facilitate the realization of the ambitious objectives for renewable energy by unlocking the potential for energy storage infrastructure. Energy storage, as part of an integrated approach including grid reinforcement and demand management helps accommodate higher percentages of intermittent renewable energy by balancing the supply and demand and improving the power quality.  
**Role** As part of her involvement in the EU stoRE Project Monica has co-authored two reports examining the environmental impacts of existing PHES and CAES plants and developing recommendations for the sustainable development of future projects. She is the principal author of Guidelines for PHES and Natura 2000 sites: ([file:///C:/Documents%20and%20Settings/mreidy/My%20Documents/Downloads/development-of-bulk-energy-storage-natura-2000%20\(5\).pdf](file:///C:/Documents%20and%20Settings/mreidy/My%20Documents/Downloads/development-of-bulk-energy-storage-natura-2000%20(5).pdf))  
She has also presented results at an stoRE event at the EU Sustainable Energy Week in Brussels.

**Project** New Shannon Town Park  
**Value** €1.25M  
**Duration** January 2019 – September 2019  
**Description** New Shannon Town Park: Project involved the renovation of the existing park facility including new Childrens Play area, BMX facility, recreational walkways, artificial pond with footbridge, seating, hard and soft landscaping and extension of existing lighting and CCTV services.



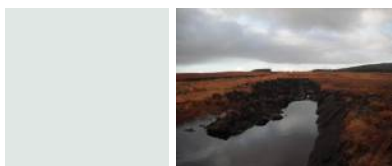
**Project** Cluddaun Wind Farm – Strategic Infrastructure Development (SID)  
**Value** €240M  
**Duration** 2011-2014  
**Description** MWP were responsible for completing the SID Pre-Application Consultation Process with An Bord Pleanála, Engineering and Wind Farm Design, EIS, EIS/Project Consultation (Statutory Bodies, Government Agencies, Non-government Organisations, Public Representatives, Media and the Public), Planning Application and Oral Hearing for this proposed wind farm with an MEC of 150 MW. All documentation available on <http://www.cluddaunwindfarm.ie/>  
The Firm's involvement included preparation and completion of civil engineering and road design, peat stability and constructability assessment, of a sediment and erosion plan, forestry assessment, population impact assessment, ecological impact assessment, ecological restoration and management plan, ornithological assessment, soils and geology impact assessment, shadow flicker assessment, traffic and transportation impact assessment, air and climate impact assessment, carbon balance assessment, noise impact assessment, material assets and interaction of environmental topics assessment. We also completed the Natura Impact Assessment, Site Safety and Road Safety Audit, Community Benefit and Recreation Plan, Ecological Restoration and

Management Plan.

MWP managed, coordinated and undertook a very extensive and inclusive project consultation process. Various types of consultation were conducted during the project including Preliminary EIS Consultation (scoping), Ongoing EIS Consultation (meetings and interactions with key stakeholders), SID Pre-Application Consultation, Public Consultation and Formal Consultation (submissions to ABP from third parties). MWP guided the client carefully through the various stages of the SID pre-application consultation process with ABP. At the end of the process the Bord recommended that the application be considered for SID.

MWP managed and coordinated the preparation for the Oral Hearing and managed and coordinated the Oral Hearing inputs from the Project Team.

**Role** **Monica** was the Project Manager Cluddaun from the early stages to the point of finalisation of the wind farm design overseeing the following aspects: SID Consultation Process with An Bord Pleanála, Wind Farm Project Design, EIS, and Planning Application. Monica also participated in aspects of the ecological surveys.



**Project** **Knockranny Wind Farm 23MW, Co. Galway**

**Value** €35M

**Duration** 2010 - 2011

**Description** MWP were responsible for completing the Engineering and Wind Farm Design, EIS and Planning Application for this wind farm. The Firm's involvement included civil engineering and road design, peat stability assessment, preparation of a sediment and erosion plan, preparation of an ecological restoration and management plan, ecological impact assessment, ornithological assessment, habitat directive appropriate assessment, noise, shadow cast analysis and a carbon balanced assessment.

**Role** Monica was the Project Manager having overall responsibility for this project. She was responsible for managing and optimising the wind farm design process in the context of existing environmental constraints, the EIS and the Planning Application. She also undertook the ecological impact assessment (EclA). She was responsible for the appeal to An Bord Pleanála.



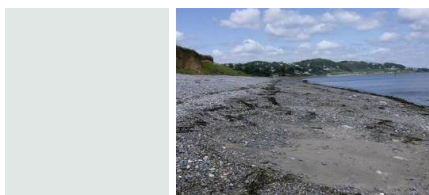
**Project** **Boggeragh Mountain Wind Park**

**Value** €180M

**Duration** 2 years

**Description** MWP project managed the EIS and planning application for this wind farm. MWP were responsible for the civil engineering and road design, preparation of a sediment and erosion plan, preparation of an ecological restoration and management plan, ecological impact assessment, habitat directive appropriate assessment, noise, shadow cast analysis and a carbon balance assessment, human beings assessment and landscape and visual impact assessment. They were also responsible for the submission of the Further Information to Cork County Council and the response to appeal to An Bord Pleanala.

**Role** **Monica** coordinated and authored an initial environmental constraint study that indicated the optimum wind energy development areas. Subsequently, Monica Project Managed the Wind Farm Design and engineering inputs, EIS and was also responsible for completing the Ecological Impact Assessment and Appropriate Assessment. She managed and coordinated the submission of the Further Information to Cork County Council and the response to appeal to An Bord Pleanala. This included detailed consultation with CCC and NPWS.



**Project** **Dun Laoghaire Rathdown Coastal Defence Strategy Study**

**Value** n/a

**Duration** 2008 – 2010

**Description** MWP were commissioned by Dun Laoghaire Rathdown County Council (DLRCC) to undertake a coastal defence

strategy study of the Council's coastline. The study developed a strategy for the management of coastal defence related issues within Dun Laoghaire Rathdown. The strategy is designed to provide a framework for policy decision making and action related to both the provision and the management of sustainable coastal defence policies.

**Role** **Monica's** role included Project Ecologist and Environmental Consultant involving desk-top study of site and surrounds, consultation with relevant stakeholders, site walkover, input to development of plan options and environmental assessment of potential impacts of selected plan options. Tasks also included undertaking of an Appropriate Assessment, as per Article 6 of the Habitats Directive, of the study's plan of action.



**Fenit Harbour, Tralee, Co. Kerry**

**Value** €20m

**Duration** 2009-2011

**Description** MWP have project managed, designed and implemented all development projects at Fenit Harbour since 1979. In 2010, the Firm prepared a detailed masterplan for the development of the harbour, including a detailed EIS and Appropriate Assessment. The development included: relocation and extension of existing rock breakwater, provision of new 210 berth marina extension, reclamation, capital dredging, car parking and associated infrastructural work. The EIS was cognisant of the environmental designations in Tralee Bay

**Role** Monica was responsible for the Hydrological and ecological assessment as well as other environmental inputs such as hydrology.

## Other Experience

**Project** Skellig Michael Star Wars VIII Filming Project

**Value** n/a

**Duration** 2015

**Description** This project was within a Natura 2000 site designated for internationally important seabird populations. MWP undertook a comprehensive breeding bird survey of the island to fully understand the breeding phenology of all of qualifying interests of the SPA over a 5 month period. This study was used to inform the project design and timing of any filming to avoid and minimise any interaction with the breeding seabird population, and the subsequent Screening for Appropriate Assessment undertaken. MWP Ecologists worked closely with NPWS during the project.

**Role** Principal Author of NIS; consultation with NPWS

### **Caherviveen to Glenbeigh Greenway Route Option Assessment Report**

**Description** MWP completed the route option appraisal and report for the various route options along the proposed Greenway route.

**Role** Monica managed, coordinated and was the principal author of the Environmental Route Option Assessment Report.

### **N70 Sneem to Blackwater Road Bridge Route Option Assessment Report**

**Description** MWP completed the route option appraisal and report for the various route options along the proposed Greenway route.

**Role** Monica managed, coordinated and co-authored the Environmental Route Option Assessment Report (Revision A).

## Client

**Kerry County Council**

**EKO Integrated Services**

**SSE Renewables**

**Dromoland Castle**

**Kerry County Council**

## EIA Screening

Rathmore Housing Scheme

Curraderrig Wind Farm

Leanamore Wind Farm Electrical Cable Connection

Dromoland Castle Water Supply

Brandon Pier Extension

## Client

**Kerry County Council**

**Kerry National Roads Design Office**

## Environment Route Option Assessments

Environment Route Selection Report for South Kerry Greenway

Environment Route Selection Report for N70 Sneem to Blackwater Bridge Road Project

## Client

**Cork County Council**

## Screening for Appropriate Assessment

Curraheen Bridge replacement

<b>Mayo County Council</b>	Cummer Bridge, Castlebar, Co. Mayo
<b>Harry Harbison</b>	Foiladaun Windfarm, Co. Cork
<b>Kerry County Council</b>	Ballyseedy Woods River Improvement Scheme, Co. Kerry
<b>Killarney Town Council</b>	Killarney Walking and Cycling Route Phase 1 – 2, Co. Kerry
<b>Killarney Town Council</b>	Killarney Walking and Cycling Route Phase 3, Co. Kerry
<b>Kerry County Council</b>	Ross Road Improvement Works, Co. Kerry
<b>BAM</b>	Ballinamore National School, Co. Leitrim
<b>Private client</b>	Dwelling House, The Spa, Co. Kerry
<b>Private client</b>	Dwelling House, Tuosist, Co. Kerry
<b>Private client</b>	Dwelling House, Lyrecrompane
<b>Bord Gais Eireann</b>	Garracummer Wind Farm Meteorological Mast, Co. Tipperary
<b>Private client</b>	Dwelling House Extension, Lyrecrompane, Co. Kerry

**Client**

**Natura Impact Statements**

<b>Dairygold</b>	Mallow Site Redevelopment
<b>Coollegreen Wind Farm Ltd</b>	Coollegreen Wind Farm
<b>Galway County Council</b>	Galway Bridges, Co. Galway
<b>Private client</b>	Listowel Housing Scheme, Co. Kerry
<b>Airtricity</b>	Clydaghroe Wind Farm, Co. Kerry
<b>SSE Renewables</b>	Leanamore Wind Farm, Co. Kerry
<b>SSE Renewables</b>	Athea South Wind Farm, Co. Limerick
<b>SSE Renewables</b>	Dromada Wind Farm, Co. Limerick
<b>WED</b>	Ballinvoher Wind Farm, Co. Limerick
<b>Western Power</b>	Knockranny Wind Farm, Co. Galway
<b>SSE Renewables</b>	Barroosky Meteorological Mast, Co. Mayo
<b>LCCC</b>	Thomond Bridge and Abbey Quay Walls, Limerick City
<b>DAFM</b>	Howth Harbour Fishing Pontoon
<b>KCC</b>	Fenit Harbour Dredging and Dumping at Sea

**Client**

**Further Information on Natura Impact Statements**

<b>M+W Group</b>	Project Emerald, Ringaskiddy, Co. Cork
<b>SSE Renewables</b>	Beannanspuck Wind Farm, Co. Kerry
<b>Ecopower Developments Ltd</b>	Tawnanasool Wind Farm
<b>Western Power</b>	Knockranny Wind Farm, Co. Galway

**Client**

**Ecological Impact Assessments and Environmental Reports /Studies**

<b>SSE Renewables</b>	Leanamore Wind Farm, Co. Kerry
<b>SSE Renewables</b>	Lough Mask Pumped Hydro Energy Storage Ecological Feasibility Study, Co. Mayo
<b>SSE Renewables</b>	Coumshingaun Lake Pumped Hydro Energy Storage Ecological Feasibility Study, Co. Waterford
<b>Kerry County Council</b>	Graveyard Biodiversity Pilot Scheme Study, Co. Kerry
<b>Kerry County Council</b>	Kenmare WTP Abstraction Assessment: Environmental and Freshwater Pearl Mussel Review (KCC)
<b>Kerry County Council</b>	River Lee Walkway EclA
<b>Airtricity</b>	Clydaghroe Wind Farm EclA, Co. Kerry
<b>Airtricity</b>	Lackagh Wind Farm, Co. Roscommon
<b>Airtricity</b>	Rathcahill Wind Farm, Co. Limerick
<b>Airtricity</b>	Dromada Wind Farm, Co. Limerick
<b>Airtricity</b>	Barroosky Meteorological Mast, Co. Mayo
<b>Western Power</b>	Knockranny Wind Farm EclA, Co. Galway
<b>Airtricity</b>	Curragh Mountain Wind Farm Ecological Management Plan, Co. Cork
<b>Abbeyfeale WWTP</b>	Environmental Assessment.
<b>Western River Basin District</b>	Quality control, assessments and training for Small Streams Risk Score assessments for the Water Framework Directive in 5 River Basin Districts (Western River Basin District)
<b>Mayo County Council</b>	Lough Mask Sewerage Scheme
<b>Enerco Energy Ltd</b>	Boggeragh Wind Farm EclA, Co. Cork
<b>Offaly County Council</b>	Clara Bypass, EclA, Co. Offaly
<b>Private client</b>	Mixed Use Development EclA, Tralee, Co. Kerry
<b>Commissioner of Irish Lights</b>	Fenit pipeline, Co. Kerry
<b>Udarás na Gaeltachta</b>	Clahane Office development, Co. Kerry
<b>Fenit Harbour Board</b>	Fenit Marina and Harbour Extension Preliminary Ecological Studies & EIS Screening, Co. Kerry
<b>National Parks &amp; Wildlife Service</b>	GIS Mapping of Irish marine habitats as part of a 6 yearly EU conservation assessment monitoring report (Irish coast)
<b>WYG Ireland</b>	Ecological aquatic assessments WWTP outfalls at 7 villages, Co. Kerry

<p><b>Sligo and Donegal County Councils</b>  <b>Fountain Cross Quarry</b>  <b>J.A.Woods Ltd</b>  <b>Various</b></p>	<p>Water quality analysis of Sligo and Donegal Main Drainage Schemes (County Councils)          Water Quality Assessment, Ennis, Co. Clare          Biological and impact assessment of a trade effluent discharge, Castleisland, Co. Kerry          Intertidal impact assessments at the following locations: Kilonan, Inis Mór; Dungarvan, Sneem, Little Island, Riverstown (Co. Louth), Castlebellingham, (Co. Louth), and Carna, (Co. Galway).</p>
<p><b>English Nature</b>  <b>WWF</b></p>	<p>Identification of marine habitats relevant to Special Areas of Conservation          Vulnerability analysis of the North-East Atlantic Shelf Marine Ecoregion – Scoping</p>

<b>Other Project Involvement</b>	<b>Client</b>	<b>Role</b>
<b>Cnoc Raithní Wind Farm EIS and Planning Application</b>	Western Power Development Ltd	Environmental and planning reporting.
<b>EIS for Retail, Mixed Use Development Irish Sea Interconnector</b>	Joan Collins IMERA Power	EIS inputs EIS inputs
<b>Lisheen Wind Farm Ecological Monitoring</b>	Bord Gais Eireann	Project management and coordination, Client Liaison
<b>Redevelopment of Beamish &amp; Crawford Site South Main St, Cork city</b>	BAM	Environmental inputs to EIS, in particular the EclA and Appropriate Assessment
<b>Ballymartin Wind Farm Ornithological Monitoring</b>	Bord Gais Eireann	Project management and coordination, Client Liaison
<b>Glentanemacelligot Phase II Planning Compliance and CEMP</b>	Bord Gais Eireann	Environmental reporting.
<b>Doolin Pier EIS</b>	Clare County Council	Environmental inputs to EIS, in particular the EclA and Appropriate Assessment
<b>Cliften &amp; Inishboffin Aerodromes</b>	Dept. Community, Rural & Gaeltacht Affairs.	Environmental consultancy.
<b>Dumping at Sea Application</b>	Dundalk Port Company	Environmental consultancy.
<b>Glencarbry Wind Farm development (various reports and applications)</b>	Ecopower Developments Ltd	Project management and coordination, Client Liaison
<b>Turraheen Wind Farm</b>	Ecopower Developments Ltd	Project management and coordination, Client Liaison
<b>Tawnanasool Wind Farm</b>	Ecopower Developments Ltd	Project management and coordination, Client Liaison
<b>Boggeragh Mountains Environmental Constraint Analysis for Wind Energy</b>	Enerco Energy Ltd	Project management and coordination, Client Liaison. Report author.
<b>Fingal Harbour Restoration</b>	Fingal County Council	Environmental reporting.
<b>Dingle Relief Road</b>	Kerry County Council	Environmental reporting.
<b>Brandon Pier Re-development</b>	Kerry County Council	Environmental reporting.
<b>Cappanalea Slipway Refurbishment</b>	Kerry Educational Service	Environmental consultancy.
<b>Delphi Bridge Refurbishment</b>	Mayo County Council	Environmental consultancy.
<b>Air Monitoring Facility</b>	Met Eireann	Project management and coordination of environmental input
<b>Boatyard Extension, Valentia Island</b>	Murphy Marine Services	Environmental consultancy.
<b>Listowel Bridge Rehabilitation</b>	National Roads Authority	Ecological services.
<b>Coomacheo Wind Farm</b>	Airtricity	Environmental Auditing.
<b>Kilavoy Wind Farm</b>	Airtricity	Ecological services.
<b>Athea South Wind Farm EIS &amp; planning application</b>	Airtricity	EIS consultancy services.
<b>Castlegregory Golf Clubhouse, Co. Kerry</b>	<b>WRPD</b>	Project management and coordination, Client Liaison
<b>Coollegrean Wind Farm</b>	Coollegrean Wind Farm Ltd	Ecological services.
<b>Cloosh Wind Farm EIS</b>	Coillte	EIS review and assessment.
<b>Toberatooreen Wind Farm EIS &amp; planning application</b>	SSE Renewables	Environmental consultancy.
<b>Fenit Harbour Works</b>	Tralee and Fenit Harbour Board	Environmental consultancy.
<b>Reenascreena Wind Farm Environmental Monitoring</b>	Wind Prospect Ireland	Environmental Auditing.
<b>Hartwell Upper Quarry Restoration, Kildare</b>	ENCO Marine & Civil Engineering	EIA Scoping Report



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**Presentations**

**Topic**

<b>UCC Field Ecology Dip.</b>	Delivered a presentation on EIA and Mitigation
<b>Institutions of Engineers Ireland</b>	Delivered a presentation on Wind Energy & Environmental Considerations
<b>MWP Directors</b>	Delivered a presentation on Environmental Topics
<b>EU Sustainable Energy Week (Brussels)</b>	Delivered a presentation on stoRE project results
<b>Schools</b>	Delivered a presentation on Environmental Topics

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## Pat Ryan

BSc (Hons) Wildlife Biology  
Ecologist



2011 BSc (Hons) Wildlife Biology. Institute of Technology, Tralee

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### Particular Expertise

Pat has been working as a staff ecologist with Malachy Walsh and Partners since 2010. During that time he has acquired extensive experience in the completion of Appropriate Assessment Stages 1 and 2. Projects assessed have covered a broad range in terms of size and complexity and have included a diverse range of sensitive habitats and species. He is widely experienced in the standard field survey methodologies including those for birds, ground mammals, bats and invertebrates. He has conducted a significant number of preliminary bat roost and bat activity surveys. He is also widely experienced in habitat surveys and mapping techniques at both broad and fine scales across the range of habitat types. NPWS Wildlife Licences held include: Pygmy Shrew (Small Mammal) Trapping; Red Grouse Tape Lure Surveying and Bat Derogation Licences.

**Pat has worked extensively in the Killarney National Park in conjunction with NPWS.**

**He was an expert witness at the oral hearing for the South Kerry Greenway.**

### Employment History

April – September 2010 Internship at Malachy Walsh and Partners

May 2011 – To date Malachy Walsh and Partners

### Health and Safety

FETAC Level 5 Health and Safety in the Workplace

Mountaineering Ireland: Mountain Skills 1 & 2

Safe Pass

BIM Basic Sea Survival Course

ISA Coastal Navigation for Small Boats

MWP In-House Safety Procedures.

MWP In-House Application of the Health, Safety and Welfare at Work (Construction)

### CPD

- Bryophyte identification (**Dr Joanne Denyer-Denyer Ecology**)
- Daubenton's Bat Waterways Survey Methodology (**BCI Workshop**)
- Environmental Impact Assessment Course (C02832) Certificate of Competence (**Coillte**)
- Introduction to Grass Identification (**NBDC Workshop**)
- Introduction to Grasses, Sedges and Rushes (**CIEEM Training**)
- Vegetative Grass Identification (**CIEEM Training**)
- Leave No Trace Training Programme (**Leave No Trace Ireland**)
- Saltmarsh Survey and Evaluation for Ecological Assessment (**NBDC Workshop**)
- Small Mammal Trapping and Identification (**Killarney National Park OEC Workshop**)
- Mammal Tracking and Surveying Techniques (**Mammals in a Sustainable Environment/NBDC Training Workshop**)

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## Relevant Experience

### Ecological Surveys

**Killarney Fern Habitat Survey and evaluation:** Ballyloughran House

**Hen Harrier Habitat Survey and Evaluation:** Tursillagh Forestry Access Route

**Hen Harrier Mitigation Habitat Survey and Assessment:** Sugar Hill

**Blanket Bog Assessment Quadrat Survey:** Tawnanasool Wind Farm

**Coastal and Saltmarsh Habitat Survey:** Bellurgan Embankment, County Louth

**Coastal Habitat Survey:** Coastal Revetment, Barrystown, County Wexford

**Grassland Habitat Characterisation Survey:** Churchill, County Kerry,

**Habitat survey, mapping and ecology studies:** Foiladaun Wind Farm, Glencarbry Wind Farm, Tullabrack Wind Farm

**Hydrology and stream mapping survey:** Claddaun Wind Farm

**Kerry Slug Survey:** South Kerry Greenway Route, Knockranny Wind Farm

**NPWS Licensed Small Mammal Trapping:** Athea Wind Farm

**Otter Holt Habitat and Activity Survey:** Bellurgan Embankment, Scotch Hall Drogheda, Deenagh River, Killarney National Park

**Vegetation Quadrat Survey:** Knockranny Wind Farm

Project	<b>South Kerry Greenway 2015-2020</b>
Description	Development of a cycleway/walkway along the disused great southern railway line from Reenard Point to Glenbeigh. Habitat survey and mapping, bat surveys, bird surveys (transect and IWeBS), mammal surveys, Kerry slug surveys, intertidal surveys/habitat mapping and preparation of Environmental Impact Assessment Report (Biodiversity chapter) for Kerry Coco.
Role	Project Ecologist and <b>Expert witness at Oral Hearing</b>
Project	<b>Toberatooreen and Beennaspuck Wind Farm Cable Route 2017 - 2018</b>
Description	Ecological assessment of proposed cable route included habitat survey and mapping, bat surveys, bird survey, mammal survey, and preparation of Environmental Impact Assessment Report (Biodiversity) and Natura Impact Statement (NIS)
Role	Project Ecologist
Project	<b>Carrownagowan WF, Co Clare, Coillte - ongoing . €180M 2018 - ongoing</b>
Description	90MW scale wind farm progressing through the Strategic Infrastructure planning process. MWP are the lead PM , designer, EIAR, NIS and planning.
Role	Project Ecologist

### **Bird Surveys (Winter, Breeding Raptor and Breeding Bird Surveys)**

Lisheen Wind Farm, Athea and Athea West Wind Farm, Cluddaun Wind Farm: Scartaglin Wind Farm, Beenanaspuck Wind Farm, Leanamore Wind Farm, Tullahennel Wind Farm, Toberatooreen Wind Farm:  
Curragh Mountain Post Construction Surveys including Red Grouse Tape Lure Survey under NPWS Wildlife Licence

### **Bats: Preliminary Roost Habitat Assessments, Emergence Surveys & Activity Surveys**

Killarney House  
Muckcross House  
Various bridges in counties Cork, Galway and Cavan.  
Variety of domestic and commercial buildings  
Lisheen Wind Farm, Knocknamona Wind Farm, Boolabrien Wind Farm, Tawnanasool Wind Farm, Scartaglin Wind Farm

### **Appropriate Assessment**

#### **Heritage Projects (In Natura 2000 sites)**

Remedial repairs to a bridge at Lord Brandon's Cottage, Killarney National Park  
Replica School at Muckcross Traditional Farm, Killarney National Park  
Remedial and Rehabilitation works on Heritage Village on Blasket Island  
Boat Landing at the Great Blasket  
Boat Landing at Church Island, Valencia Harbour

#### **Natura Impact Statement**

Killarney Music and Food Festival 2015(In Natura 2000 site and National Park)  
Glenbeigh to Caherciveen Greenway  
Doolin Pier Development  
Dairygold Mallow Milk Processing Facility Redevelopment  
Scotch Hall Marina, River Boyne Drogheda (In Natura 2000 site)  
Glencarbry Wind Farm  
Barrystown Coastal Revetment, County Wexford  
Howth Harbour Pontoon  
Athea West Wind Farm  
Bellurgan Embankment, County Louth, Remedial works program

**Roads and Paths**

N69 road re-alignment  
N70 road re alignment  
Ballyseedy to the Spa Cycle lane and Walkway, Tralee  
Ross Road improvement works, Killarney  
River Lee Walkway, Tralee  
Killarney Walking and Cycling Route Phases 1 to Phase 4

**Other**

Filling Station at Pallas, County Cork  
Dublin Airport Authority Hangar Development  
Bannow Bay, County Wexford, Seawall Remedial works program  
Duncannon Revetment, County Wexford. Coastal Defence Works: Rock armour Revetment.  
Bridge Refurbishment and Repair (various locations County Galway and County Longford)  
Shannon Airport River Defences Emergency Repair Works  
All-weather Playing pitch at Ballydesmond, Co. Cork  
BMS Swords Pharmaceutical Plant WWTP upgrade  
Refurbishment and Repairs to (4) bridges in County Cork  
Refurbishment and Repairs to (4) bridges in County Galway  
Refurbishment and Repairs to (4) bridges in County Cavan  
Foiladaun Wind Farm  
Thurles Town Park Development



# Rubicon Heritage

## Contact

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enda.oflaherty@rubiconheritage.com

Unit 2 Europa Enterprise Park,  
Middleton, Co. Cork, P25 TV25



## Professional Qualifications

Advanced Diploma Planning and  
Environmental Law, Kings Inn,  
Dublin (2023)

PhD, School of Geography and  
Archaeology, National University  
of Ireland, Galway (December  
2020)

Post-Graduate Diploma in  
Archaeology, National University  
of Ireland, Galway (2008)

Honours Bachelor's Degree in  
Heritage Studies, Galway Mayo  
Institute of Technology (2005)

## Corporate Training

Safe-Pass

QGIS, AutoCAD

Penmap, Geosite, Geoplot, Surfer

Adobe Photoshop

Adobe Illustrator

Occupational First Aid

Trimble Business Centre

LUGS (Location of underground  
services)

## Professional Affiliations

Member of Institute of  
Archaeologists of Ireland (MIAI)

Member of the Irish Post  
Medieval Archaeology Group  
(IPMAG)

# Dr. Enda O'Flaherty

Ph.D, HDip, AdvDip, BA (Hons), MIAI

License-Eligible Archaeologist

## Profile

Enda has been with Rubicon Heritage Services since 2012. His previous experience includes seven years as a field and research archaeologist, both in Ireland and abroad where he has worked on exciting and diverse projects examining the dynamic nature of human settlement and the significance of landscape to communities in the past. His career to date has equipped me with all the practical skills associated with archaeological fieldwork and desk-based assessment. These include; compilation of Impact assessments and EIAR chapters, survey, assessing and advising on issues pertaining to the law, archaeology and development, direction of excavation, recording and report writing. In his role, he designs and leads programmes of pre-development assessment, pre-excavation survey and remote sensing, developing bespoke strategies for diverse briefs which include large-scale infrastructure projects, private developments and public realm works. He has been granted numerous licenses for use of detection devices and dive/wade survey by the National Monuments Service and compiled and submitted all associated reports. He is also an excavation license-eligible archaeologist.

Enda has developed a multi-disciplinary approach to landscape studies involving archaeology, physiographical studies, toponymy and documentary sources, which draws out the significance of physical environments for settlement in the past, and helps to understand their role in the cognitive landscape.

## Expertise

- Archaeology and Planning
- Landscape Archaeology
- Cultural landscapes of historical, built heritage and vernacular Ireland
- Interaction between people, place and landscape
- GIS, Mapping and Digital Survey Techniques
- Geodetic and Geophysical survey
- Genealogy

## Flagship Projects

- Metrolink 110kV Underground Cables EIAR
- Glounthane-Mildeton Twin Track EIAR
- N19 Shannon Airport Access Road Improvement Scheme EIAR
- Dublin Airport - US Customs and Border Protection (CBP) - Proposed Reconfiguration & Expansion & South Apron Support Centre (SASC) - Partial Demolition, Refurbishment & Upgrade Project EIAR
- Ballinrea and Ballinvuskig Solar Development, Substation and Grid connection Impact Assessment, Co. Cork
- The proposed development 299 Megawatt (MW) Open Cycle Gas Turbine (OCGT) Generating Plant Development Poolbeg, Co. Dublin EIAR
- TDC Community Solar Park incl. Substation, Grid Connection and Battery Facility Impact Assessment, Athlone

## Case Studies

### **Glounthane-Midleton Twin Track EIAR**

Comprising the compilation of an Environmental Impact Assessment Report Chapter and appearing as an expert witness to An Bórd Pleanála for the proposed twin-tracking of the Glounthane to Midleton railway in Co. Cork.

### **N19 Shannon Airport Access Road Improvement Scheme EIAR**

Comprising the compilation of a Constraints Assessment, Multi-Criteria Assessment, and an Environmental Impact Assessment Report Chapter for the proposed N19 Shannon Airport Access Road Improvement Scheme.

### **The proposed development 299 Megawatt (MW) Open Cycle Gas Turbine (OCGT) Generating Plant Development Poolbeg, Co. Dublin EIAR**

Comprising the compilation of an Environmental Impact Assessment Report Chapter for the proposed development of the 299 Megawatt (MW) Open Cycle Gas Turbine (OCGT) Generating Plant Development Poolbeg, Co. Dublin

### **Ballinrea and Ballinvuskig Solar Development Including 2 km Interconnector Route, 6.2 km Grid Connection Route and including provision for the future location of a 110kV substation**

Comprising a multiphase planning application across planning authority boundaries, with both multiple Archaeological Impact Assessments and Planning Environmental Considerations Reports, and with complex mitigation requirements, this development represents a substantial solar development on the south side of Cork City totalling close to 80 Ha in area. It included provision for a future 110kV substation based on EirGrid design specifications, as well as 8km of Interconnector/Grid Connection Cabling as well as all other related ancillary works.

## Publications

O'Flaherty, E. (2022) The Occurrence of Crannóg Settlement on Turlough Floodplains in the West of Ireland. In *JGAHS* Vol. 74 pp.61-78

Baker, L. and O'Flaherty, E. (2020) Creating a Modern Landscape, 1540–1900. in Long, O'Keefe & Bennet (eds) *The Archaeology of the Tralee Bypass* TII Monographs Series

O'Flaherty, E. (2018) *The Deserted Schoolhouses of Ireland* Collins Press, Cork.

O'Flaherty, E. (2013) Settlement and landscape on the River Lune. *The Archaeologist* 87 Summer 2013

O'Flaherty, E. (2009) Irishtown – The Physical and Cultural Environment. In: Butler, A and Butler, K. (eds.) *The Irish Settlement in Jamaica Project*

## Presentations

O'Flaherty, E. (2022) The Claregalway Placename Survey, Public talk For Heritage Week 2022 - August 2022

O'Flaherty, E. (2018) Memory, Meaning and Derbris. Paper presented at the National Museum of Ireland, Castlebar, Public talk Series - June 2018

O'Flaherty, E. (2016) Photography, Memory and Meaning. Paper presented to the Institute of Virtual Heritage Network conference, December 2016

O'Flaherty (2012) Historic Graveyards: Assessing their significance and developing a conservation plan presented to South and East Cork Area Development

O'Flaherty (2012) 'Archaeological Watermarks: Turlough Floodplains as communal spaces and places of assembly' presented at the Óenach Project conference held by the Department of Archaeology University College Cork



**Rubicon  
Heritage**

# Ewelina Rondelez

MA, MIAI

Archivist/Supervisor

## Contact

ewelina.rondelez@rubiconheritage.com

Unit 2 Europa Enterprise Park,  
Midleton, Co. Cork, P25 TV25



## Professional Qualifications

Certificate in Archiving and  
Record Management, 2022

Diploma for ICT Systems and  
Principles for IT Professionals,  
Griffith College Cork, 2013

Master of Arts in Archaeology,  
First Class Honours Degree,  
University of Warsaw, Poland,  
2000

## Corporate Training

Safe Pass

Manual Handling

In house training in finds co-  
ordination

On-site treatment of finds

Archaeological finds processing

Labelling artefacts to Museum  
standards (Rubicon CPD)

## Professional Affiliations

Member of Institute of  
Archaeologists of Ireland (MIAI)

## Profile

Ewelina has been a professional field archaeologist since 2000, having amassed experience across Poland, Syria, Spain, Egypt, and Ireland. After working on numerous archaeological research and road projects in Poland she moved to Ireland in 2006. Since then, she has worked as an excavation supervisor, surveyor and post-ex supervisor on various road projects including the N6, N7, N8, N18, and N22 and M28. Ewelina joined Rubicon Heritage in 2017 as a site supervisor on the N22 Macroom to Ballyvourney Road Scheme. Since then, she has been involved in a range of both post-excavation and archiving projects. She has special responsibility for bringing many older archives up to current NM/ NMS standards, liaison with the NMI and NMS and arranging for transfer and deposition of the archives.

## Expertise

- Archaeological monitoring, testing and excavation
- Post-excavation data processing, research and report writing
- On site survey and processing of survey data
- On-site finds supervisor
- Post-excavation supervisor i.e. processing and treatment of artefacts and ecofacts, processing of environmental samples, cataloguing material, liaison with specialists
- Archivist i.e. liaison within NMI/NMS; preparation, labelling and packaging of paper archives, finds and samples; completion of databases. Transfer and deposition of material.

## Flagship Projects

- M28 Ringaskiddy Motorway Project - Training Manager, Finds Supervisor, Surveyor
- Cork Public Museum Archive - Project Supervisor
- Rubicon Heritage Post-excavation - Archivist
- N22 Baile Bhuirne to Macroom Bypass Scheme - Supervisor, Surveyor, Post-Excavation Supervisor
- N18 Gort to Galway - Supervisor
- N7 Nenagh to Limerick - Supervisor, Post Excavation Supervisor
- N8 Fermoy to Mitchelstown - Supervisor, Post Excavation Supervisor
- N6 Ballinasloe to Galway - Finds Supervisor, Post Excavation Supervisor

## Case Studies

### Cork Public Museum Archive

Ewelina carried out the transfer of Cork Public Museum archive material to the NMI storage facility, contingent on the material meeting the correct archive standards. This project involved consulting a conservation specialist, assessing each site assemblage and then re-labelling, re-bagging, re-boxing and cataloguing over 80 sites. This resulted in the successful transfer of thousands of artefacts, including various archaeological finds from stone, pottery, glass, and metal objects to environmental samples and human and animal bones. The work included sites such as Christ Church, Skiddy's Castle, Kyril's Quay, Newgrange, Lough Gur and Mount Gabriel.

### Archiving Rubicon Heritage projects

Ewelina manages the preparation and deposition of project archives for Rubicon Heritage. She is responsible for overseeing the processing, treatment and temporary storage of artefacts and ecofacts. She is also responsible for the preparation and temporary storage of paper, photographic and digital archives. Her duties include ensuring compliance with the Rubicon Heritage Policy and Procedures and with the policies and standards of NMI and NMS. Ewelina is working closely with the NMI and NMS and has successfully transferred and deposited a large volume of archives to both institutions. Part of Ewelina's role involves dealing with old archives, which were amassed at a time when the NMS and NMI were not accepting material. Ewelina brings these archives up to the current standards and has successfully deposited many of them.

### N22 Macroom to Ballyvourney Bypass Scheme

The archaeological works in advance of construction of the N22 Macroom to Ballyvourney Bypass were conducted between May 2017 and September 2018 and included archaeological test trenching of the route and excavation of several archaeological sites uncovered by test trenching. Ewelina acted as supervisor during the on-site works from the testing phases through to excavation and post-excavation. Under the supervision of a director, Ewelina managed a number of sites from start to finish including site stripping, managing a team of site assistants to carry out the excavation and maintaining the site archive. She was also involved in post-excavation data processing and report writing. In addition, she carried out surveyor duties and assisted the project manager with data processing for progress reports etc.

## Notable Experience

**Mining Heritage Trust of Ireland** (2017-current) digital archivist: archiving and web publishing of MHTI material including completed projects, journals, etc. Organizing metadata for data network archives.

**Apple** (2015-2017) data analyst: recognising patterns and trends in complex, multi-variable data sets, recommending data improvement procedures to optimize operational efficiency, developing improved templates and data collection systems.

**Numillennium Digital Technologies** (2014) project manager: overseeing the digital archive of Mass Rocks in Ireland, data compilation, 3D application

**Eastern Desert Expedition, Egypt** (2010) During an expedition of the Academie voor Mineralogie of the Antwerp Museum, Ewelina was working as finds supervisor ensuring correct documentation and treatment of the finds.

**Institute of Archaeology and Ethnology of the Polish Academy of Sciences, Warsaw** (2001-2004) For four years Ewelina was working on a part time bases as a Finds and Archive Technician, archiving archaeological documentation and finds and re-packing and re-organizing a Neolithic assemblages from old excavations carried out by the Institute.

**Tell Qaramel, Syria** (1999) During a 6-month Polish/Syrian Archaeological Expedition Ewelina was Head of Archive and Finds. She was responsible for the care and deposition of archives and finds to the Directorate General for Antiquities and Museums, Museum in Damascus, Syria.

## Publications

Chrobak E., Kiely, J., Mc Morran, T., 2012 'Archaeological Excavation Report, Busherstown, Co Offlay' in Eachtra Journal, Issue 13

Chrobak, E. and O'Mahony, E., 2011 'Archaeological Excavation Report, Derrybane 1, Co. Tipperary' in Eachtra Journal, Issue 11

Kiely, J., Tierney, J. and Chrobak, E., 2011, 'Archaeological Excavation Report, Drumbaun, Co. Tipperary' in Eachtra Journal, Issue 11

Kiely, J., Tierney, J. and Chrobak, E., 2011, 'Archaeological Excavation Report, Castlerohan, Co Offlay' in Eachtra Journal, Issue 11





# Jonathan Millar

BA (Hons), MCifA

## Project Archaeologist

### Contact

(021) 452 0286

jonathan.millar@rubiconheritage.com

Unit 2 Europa Enterprise Park,  
Midleton, Co. Cork, P25 TV25



### Professional Qualifications

BA (Hons) Archaeology, University  
of York, England (1998)

### Professional Affiliations

Member of Chartered Institute for  
Archaeologists, No. 2302 (MCifA,  
2011; PifA, 2003)

### Corporate Training

Safe Pass

Manual Handling Training

Adobe CC Illustrator

Adobe CC Photoshop

AutoCAD

ArcMap GIS / QGIS

Advanced Survey Techniques

Studio Photography

Microsoft Office

Fluxgate Magnetometry

Soil Resistivity

### Expertise

Archaeological Illustration

Archaeological Photography

Archaeological Fieldwork

GIS / CAD

Archaeological Instrument Survey

Historic Building Investigation &  
Recording (HBIR)

Information Technology and  
Network Maintenance

### Profile

Jonathan has worked for Rubicon Heritage Services Ltd continuously since 1999. Jonathan has gained broad experience across Scotland, England and Ireland as a field archaeologist, surveyor and post-excavation graphics specialist and continues to divide his time between field and office. Jonathan fulfills the role of Geomatics and IT Manager for Rubicon Heritages Services Ltd. He has been part of the excavation team on a number of internationally famous sites, including The Tarbat Discovery Programme, Portmahomack; the Scottish Parliament Excavations, Edinburgh; Inchmarnock Island Project, Bute and Caherduggan Castle Excavations, Cork. Jonathan has also been responsible for the delivery of high-profile graphics and design projects for both the private and public sectors, overseeing a team of archaeological illustrators on multi-million euro road schemes, providing Editorial Review, Quality Control and Stylistic Compliance over thousands of archaeological illustrations. He is a member of the CifA Graphics Archaeology Group (GAG) and participates on the current CifA Professional Standards Advisory Panel (2020-2024).

### Flagship Projects

- Celtic Interconnector Cable (Irish Terrestrial Section) – *Archaeologist*
- Clonakilty Flood Relief Scheme: Design Stage (OPW) – *Archaeologist*
- Luas Broombridge Light Railway System EIS, Dublin City – *Graphics Manager*
- Eirgrid Interconnector Cable (Irish landfall) – *Graphics and GIS Manager*
- Grangegorman, Dublin 7 (Grangegorman Development Agency) – *Graphics Manager*
- Cross Tay Link Road, Perth (Perth and Kinross Council) – *Surveyor, Land Owner Liaison, GIS, Illustration (2019)*
- 11 Windfarm Projects across Scotland, England and Ireland between 2004 -2017 - *Graphics and GIS Manager*

### Project Role and Responsibilities

Jonathan will act as Project Archaeologist for Onshore Cultural Heritage Services. He will be responsible for undertaking all on-site Archaeological fieldwork including: Site Inspection, Photography, Identification and Recording of Cultural Heritage Resources and any other archaeological requirements of the project such as Monitoring, Testing, Instrument Survey, Building Survey etc. Jonathan will undertake work as required to facilitate Field Surveys, Desktop Studies, Cultural Heritage Impact Assessments, Mitigation Strategies etc. Jonathan will liaise with the Senior Archaeologist to provide archaeological services for all stages of the project. He will be responsible for the creation of clear, concise and accurate data to inform each report undertaken.

## Case Study 1



### Celtic Interconnector Cable (Irish Terrestrial Section)

The Irish terrestrial section of the Celtic Interconnector Cable project extends for c. 40km from Claycastle Beach in Youghal to Knockraha, Co. Cork. This project is currently at draft EIAR. Jonathan was responsible for undertaking walk-over surveys, site assessments and archaeological monitoring during Options Appraisal and to inform the EIA baseline for archaeological, architectural and cultural heritage in relation to the cable route.

The combined constraints and options appraisal report for the terrestrial cable route options linking the land fall at Claycastle to the sub-station at Knockraha required archaeological survey of all route options, to evaluate, quantify and interpret respective risk to the Cultural Heritage landscape represented by each variation. As the design options were refined, more focused evaluation was carried out of the emerging preferred route.

This was achieved through a program of comprehensive archaeological walk-over survey and assessment of all off-road options. The fieldwork undertaken by Jonathan comprised creation of a comprehensive photographic record, with narrative and technical description and measurement of previously unrecorded and recorded cultural heritage assets within the proposed routes. The project required liaison and collaboration with other members of the design team during coordinated, multi-discipline fieldwork surveys. Jonathan was also responsible for reporting and integration of the walkover survey results into the corpus of project baseline data. Key areas of survey were the off-road options bypassing the villages of Killeagh and Castlemartyr, the town of Midleton and sections between Ballyadam and Knockraha.

Jonathan undertook archaeological monitoring during the excavation of Geological Inspection test pits at the selected convertor station site at Ballyadam, Carrigtwohill.



Field walkover survey, ruined church and churchyard at Ballyspillane West - (RMP CO065-083002-)

## Case Study 2



### Enerco Ltd Wind and Solar Projects

Between 2008 and 2016 Rubicon Heritage Services Ltd undertook archaeological consultation, pre-planning Archaeological Impact Assessment (AIA) and archaeological survey work for Enerco Ltd on wind and solar energy projects across the south of Ireland, specifically at Carragraigue Solar Array, Millstreet, Cork ; Dooneen's Windfarm, Derryvacorree, Cork and Monroe East, Ardfinan, Co Tipperary.

Jonathan undertook a variety of professional tasks in relation to the schemes during the completion of Rubicon's responsibilities to their client, including archaeological walkover assessments, Geophysical Survey using Fluxgate magnetometry, archaeological illustration, Geographical Information Systems (GIS) data and mapping processing and report writing.

Jonathan was also ultimately responsible for the graphical, CAD, GIS and photographic content of all Rubicon Heritage client reports and submissions during this time.



Jonathan undertaking a geophysical survey using dual array fluxgate magnetometer probes on a GPS survey configured cart at Carragraigue, 20ha proposed Solar Farm, near Millstreet, Cork



## Curriculum Vitae



### Present Position

Projects Director

### Profession

Civil & Transportation Engineer

### Relevant Experience since

1999

### Nationality

British

### Key Skills/Specialisms

Energy and renewables

Project Management

Traffic Management Plans

Transport Assessment

Development Infrastructure

Transport Policy

Traffic Engineering

Abnormal Loads Assessment

EIA

Access Strategies

### Key Capabilities

The ability to identify and deliver practical solutions to problems, backed up by robust analysis and a strategic vision.

Vast experience of windfarm developments and associated access solutions.

### Education

BEng (Hons) Civil and Transportation Engineering (1996)

PhD Civil Engineering (1999)

### Professional Memberships

Chartered Engineer

Member of the Institution of Civil Engineers

### Professional Experience

#### Bad Fearn Windfarm

Commissioned by EnergieKontor to produce an EIA chapter and abnormal loads assessment for proposed development near Wick.

#### Tomchrasky Windfarm

Commissioned by EPower to produce an EIA traffic and transport chapter, construction traffic management plan and an abnormal loads assessment for a windfarm development near Fort Augustus in the Scottish Highlands.

#### West of Orkney Windfarm

##### Transmission Works

Commissioned by Xodus to produce an EIA traffic and transport chapter for the onshore transmission works associated with the offshore windfarm in Caithness. Work also included an abnormal loads assessment from Scrabster and production of a construction traffic management plan.

#### Abhainn Dudh Windfarm

Commissioned by EPower to prepare an EIA chapter, abnormal loads assessment and access designs for a proposed windfarm development north of Dingwall in the Scottish Highlands.

#### Kennoxhead Windfarm Extension

Project Director overseeing traffic and transport input into a Section 36 application for a windfarm extension and to a Section 36C application to rework an existing consent for larger turbines. Input to include EIA Chapter and abnormal loads assessment for Brookfield.

#### Mid Moille Windfarm

EIA chapter for proposed windfarm development in Ayrshire.

#### Lairg Windfarm Extension

Project Director overseeing the production of an abnormal loads assessment for EnergieKontor to support an application for an extension to the existing windfarm using larger turbines.

#### North Lowther Windfarm

Project manager responsible for traffic and transport work in relation to a major Section 36 windfarm development by 2020 Renewables. Responsible for access assessments and EIA Chapter as well as preliminary bridge design and design of route modifications.

#### Mill Rig Windfarm

Currently commissioned by Banks Renewables to undertake an abnormal loads assessment, preliminary design work for highway mitigation schemes, preparation of EIA chapter and CTMP to support a new windfarm.

#### Crookedstane Windfarm

Project Director responsible for overseeing the preparation of road infrastructure improvement designs for a new windfarm development in South Lanarkshire. Works included a significant road widening scheme, a scheme of passing places and a number of mitigation schemes at junctions on the external road network. Working on behalf of Forsa Energy.

#### Glenmuckloch Windfarm

Project Manager overseeing a commission to provide transport planning and internal roads design services for a new large-scale windfarm. Granted consent 2016.

#### Carland Cross Windfarm

Expert Witness acting for SPR in relation to the A30 Road Scheme in Cornwall which materially impacts on the access arrangements to Carland Cross Windfarm.

Responsible for reviewing the Highways England proposals, preparation of evidence for the DCO inquiry process and representing SPR at the Inquiry process.

#### **Fell Windfarm**

Commissioned by EnergieKontor to produce an EIA chapter and abnormal loads assessment to support a new windfarm development in Dumfries and Galloway.

#### **Shelloch Windfarm**

Commissioned by Force9 Energy to prepare an EIA chapter and undertake preliminary design work in relation to the abnormal loads route to site.

#### **Glenshimmeroch Windfarm**

Project Director responsible for an EnergieKontor commission to prepare an EIA chapter and undertake an extensive abnormal loads assessment for a site in Dumfries and Galloway.

#### **Whitelaw Brae Windfarm**

Currently commissioned by BayWa to undertake abnormal loads assessment work and bridge assessment work for the consented scheme.

#### **Transport Scotland Term Commission**

Project Manager overseeing commission to review all EIA documents associated with major Wind Farm applications (Section 36 applications) affecting the trunk road network. Responsible for advising Transport Scotland in relation to Construction Stage Traffic Management Plans, movement of abnormal loads, site access requirements and management of environmental impacts.

#### **Pines Burn Windfarm**

Commissioned by EnergieKontor to prepare an ES chapter and undertake abnormal loads assessment.

#### **Airies Windfarm**

Project Manager responsible for overseeing the design of major route improvements for a new windfarm development. Responsible for obtaining technical approvals from Transport Scotland and from Dumfries & Galloway Council for widening works and a scheme of new laybys. Also responsible for the design of the access track infrastructure, crane hardstandings and access junctions for the site itself along with a construction stage traffic management plan.

#### **Cornharrow Windfarm**

Project Director responsible for an EnergieKontor commission to prepare an EIA chapter and undertake an abnormal loads assessment for a site in Dumfries and Galloway.

#### **Blarghour Windfarm**

Project manager responsible for abnormal loads assessment and assessing mitigation at key pinch points for ESB / Coriolis. EIA chapter prepared and bridge assessments undertaken for 2 Transport Scotland structures.

#### **Hopsrig Windfarm**

Project Manager overseeing preparation of transport assessment, EIA Chapter, Abnormal Loads Assessment and design of route modifications for new windfarm proposal near Langholm.

#### **Druim Leathan Windfarm, Lewis**

Project Director and manager responsible for production of EIA chapter and an abnormal loads assessment for Forsa Energy.

#### **Glenmuckloch Windfarm**

Project Manager overseeing a commission to provide transport planning and internal roads design services for a new large-scale windfarm. Granted consent 2016.

#### **Little Hartfell Windfarm**

Project Director and Manager overseeing the production of an Abnormal Loads Assessment and EIA chapter for a new windfarm in Dumfries & Galloway. Working on behalf of EnergieKontor UK.

#### **Beatrice Transmission Works**

Project manager overseeing input to the onshore transmission works project associated with the Beatrice Off-shore Windfarm. Input included the preparation of an abnormal load study to assess the route from Buckie Harbour to site, preparation of the EIA transport chapter and preparation of a CTMP to offset the traffic impacts associated with the construction of the sub-station. With regard to design, Alan was responsible for overseeing a comprehensive design exercise which looked at different road design options for accessing the site.

#### **Barmolloch Windfarm**

Project Director overseeing an access study looking at the potential options for accessing a windfarm site in Argyll. Working for LUC on behalf of Brookfield.

#### **Narachan Windfarm**

Commissioned by EnergieKontor to produce an EIA chapter, abnormal loads assessment and access track design for proposed development in Argyll.

#### **Margree Windfarm**

Commissioned by EnergieKontor to produce an EIA chapter to support a new windfarm development in Dumfries and Galloway.

#### **Neart Na Gaoithe Windfarm**

Project Manager responsible for overseeing the production of a Construction Stage Traffic Management plan to discharge planning conditions for the on-shore transmission works. Elements include abnormal loads, access requirements, dilapidation surveys, green travel plans and measures to mitigate construction impacts and the design of external infrastructure improvements.

#### **Glendye Windfarm**

Project manager responsible for proving the access route from port to site and for the design of an off-line access route for ESB / Coriolis. Also responsible for preparation of EIA chapter and associated technical appendices.

**Cumberhead Wind Farm**

Project Director overseeing the production of an EIA chapter on traffic and transport as well as the preliminary design of the site access track infrastructure.

**Bute Energy Windfarm Sites**

Abnormal Loads assessments for 8 windfarm sites in Wales along with detailed consideration of site access arrangements.

**EPower Scottish Windfarm Sites**

Abnormal loads assessments for 10 Scottish windfarm sites and EIA Traffic and Transport chapters for 4 no sites.

**Penbreck Windfarm**

Project Director overseeing a study to assess the feasibility of accessing the consented windfarm via the neighbouring Kennoxhead windfarm. Working for LUC on behalf of Brookfield.

**Seagreen Cable Corridor**

Project Manager responsible for overseeing the production of the EIA chapter covering the access, traffic and transport aspects of the Seagreen windfarm on-shore works. The transport assessment undertaken as part of the EIA looked at the traffic impacts and associated environmental impacts for the cable installation, the construction of the landfall point and the construction of the sub-station.

**EDF Windfarm Feasibility Studies**

Project Director overseeing two abnormal loads assessments for two potential windfarm sites. Working in partnership with LUC.

**Overhill Windfarm** Project Director overseeing the production of an abnormal loads assessment and EIA chapter for a new windfarm development in East Ayrshire. Working on behalf of Energie Kontor UK.

**Longhill Burn Wind Farm**

Project Director overseeing the production of an EIA chapter and an Abnormal Loads Assessment for a new Windfarm in West Lothian.

**Ourack Windfarm**

Commissioned by Vattenfall to undertake an abnormal loads assessment for a new windfarm development near Granton on Spey.

**Knoweside Windfarm**

Project Manager overseeing the production of an Abnormal Load Assessment Report, Site access appraisal / design and EIA chapter on Transport & Access. Commissioned by Banks Renewables.

**Lethans Windfarm**

Commissioned by Banks Renewables to prepare a traffic and transport EIA chapter for a proposed windfarm as well as undertaking an extensive abnormal loads assessment exercise and road design exercise.

**Craiginmoddie Windfarm, South Ayrshire**

Expert witness on traffic and transport matters acting for EnergieKontor at a public inquiry to examine the windfarm proposals.

**Breakerie Windfarm, Argyll**

Currently commissioned to prepare and EIA chapter and abnormal loads Assessment for a new windfarm development near Campbelltown.

**Kellas Windfarm, Moray**

Currently commissioned to prepare an EIA traffic and Transport chapter and abnormal loads assessment for a new windfarm development south of Elgin.

## **CURRICULUM VITAE**

### **ALASDAIR DUNNETT**

ADDRESS: 30, College Court, Ballytruckle, Waterford

Mob: 087-6246343

EMAIL: [alasdairdunnett@gmail.com](mailto:alasdairdunnett@gmail.com)

Work Mob: 083-1566951

Work EMAIL: [alasdair@theforestrycompany.ie](mailto:alasdair@theforestrycompany.ie)

**Profile: Experienced forester with proven ability to deliver forestry services to agreed timeframes and budgets. Good knowledge of Irish forestry environmental, regulatory, silvicultural, and social standards. Collaboratively manages client's forestry and contractors, to ensure that operational targets and commitments are met, and carried out - effectively, safely, and to required guidelines and best practice.**

### **EMPLOYMENT**

**2021 (May) – Present: Forest Manager (South, Southeast, Midlands)**

**The Forestry Company, Marina, Co. Cork**

- Management of client's forestry (Estates, Investment trusts, Forestry managers, and Farmers)
- Organising, supervision, and monitoring of forestry establishment sites: contractors, budgets, site packs, risk assessments, site preparation etc.
- Sourcing plantations, and land suitable for Afforestation for investors
- Felling licence and forest road grant applications
- Advising owners on best forest practice
- Maintaining inventory and financial data using internal management systems

**2019 (Dec) – 2020 (May): Harvest Manager (Southeast)**

**Euroforest Ireland Ltd., Cillin Hill, Co. Kilkenny**

- Management of clients' forestry (Estates, Investment trusts, Forestry managers, and Farmers)
- Organising, supervision, and monitoring of forestry harvesting and associated forest operations: contracts, harvesting packs, site preparation, contractors, timber sales, daily timber transport
- Servicing supply contracts to customers
- Felling licence and forest road grant applications
- Advising owners on best forest practice
- Maintaining inventory and financial data using internal management systems

**2016 (Feb) – 2019 (Nov): Project Forester (Southeast)**

**Irish Wood Producers, New Ross, Co. Wexford**

- Planning and management of company members' plantations; delivering a full range of services from afforestation to harvesting

- Organising and supervising staff, contractors, and resources to complete works to agreed timeframes and budgets
- Building relationships with company members and company related contractors
- Promoting the company through knowledge transfer groups, open days and on-site talks.

**2015 - 2016: Landscape Technician - Shannonvale Landscaping Ltd., Co. Limerick**

- Liaising with clients, maintenance and installation of residential, commercial, and public areas and gardens

**2012 - 2015: Tree Care - Forde Plantation and Tree Services (Contract basis)**

- Ash thinning, inspection paths, spraying and private tree care

**2007 – 2012: Researcher - Wood Energy Research Group, Waterford Institute of Technology**

- *Researcher* - Duties included site visits, sample testing, compilation of data and analysis of results, report writing for clients and liaising with clients.

**2006: Data Technician - Iron Mountain, Co. Cork**

- *Data Technician* - Entry of data and verification of existing databases

**2004 – 2005: Landscape Technician - Birch Hill Landscaping, Co. Cork**

- *Landscape Technician* - Liaising with clients, maintenance, and installation of residential gardens

**2002 – 2004: Landscape technician - Brent Borough Council, UK**

**EDUCATION**

**Waterford Institute of Technology**

- BSc (Hons) in Land Management (Forestry) **2008 - 2009**
- BSc in Forestry **2005 - 2008**

*\*2008 Society of Irish Foresters Graduate Student Award*

**University College Cork**

- H. Dip in Geographical Information Systems **2009 - 2010**

**VEC, Co. Cork**

- Certificate in Amenity Horticulture **2004 - 2005**

**Society of Irish Foresters – CPD Scheme 2016 onwards**  
**Technical member of the Society of Irish Foresters - MSIF**



## **SITE SPECIFIC CERTIFICATION**

- Manual Handling, Safe Pass, and Lantra First Aid.
- CS30.1, CS30.2, CS31, CS32, and CS33 A&B (NPTC - Chainsaw).
- F/501/6959, T/501/6960, and A/501/6961 (NPTC - Woodchipper).
- T/600/1174 and L/600/1181 (NPTC – Spraying pesticides).

## **REFERENCES**

Conor Daly

Director

The Forestry Company.,

Co. Cork.

087-2670992

Paddy Bruton

Director

Euroforest Ireland Ltd.,

Co. Kilkenny.

087-6579352

# Conor Daly

Tubbrid, Kenmare, Co. Kerry

Tel: 087 267 0992 Email conor@theforestrycompany.ie

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## **PROFILE**

I am currently employed as Managing Director with The Forestry Company and have over two decades of management experience in overseeing large projects, supervising diverse teams and implementing a wide range of schemes. I would describe myself as hard working, passionate, reliable and resourceful individual with good energy and problem solving skills. Through my extensive management experience to date, I have gained a valuable skillset especially in the areas of harvesting and operations project management, budgeting, recruiting and training teams, systems implementation and rolling out long term development schemes.

I have a track record of delivering projects on time and to a high standard and working with a wide range of stakeholders including my own team members, external contractors and government departments to achieve common goals.

## **EXPERIENCE**

**Jan 2010 – Present**

**The Forestry Company, Cork**

**Managing Director**

- Responsibilities include Project Management of all forestry projects from harvesting to planting in the south western region and liaising with landowners, contractors and Government Departments.
- Managing all financial and budgetary elements and cost control of the projects which includes preparing grant applications for submission to The Forest Service and any subsequent follow up.
- Preparing private harvesting sites ensuring excellent quality assurance and good production is achieved for the client through Health & Safety, timber security in line with good silviculture practise.
- Supervising the provision of appropriate training for all contractors and employees.
- Drafting written reports regarding Forestry Management proposals and plans.
- Extensive experience in forestry mapping using gps, forest assessor and Iforis.
- Ensuring compliance with Health and Safety and Government regulations, compliance with environmental and social standards and developing relevant company policies.
- Drafting regular reports for the Board of Directors and maintaining regular communications to keep them updated.

**Aug 1994 – Dec 2010**

**Southwestern Forestry Services (SWS), Cork**

**Area Manager**

- Joined SWS as an entry level employee out of college and subsequently worked my way up to the Area Manager Role.
- Responsibilities included Project Management of all forestry projects in the South Western region which included promoting designated forestry schemes to landowners and investors.
- General on-site day to day forestry management including the use of GPS equipment in the preparation of forestry
- maps, the supervision of fencing, planting, spraying and thinning forestry plantations.
- Recruitment and training of staff to execute multiple forestry tasks and projects.

- Organising and supervising of staff to ensure safe work practice.
- Overseeing the office administration, including internal stock management, reporting and payroll systems.
- Handling communications with staff, clients and external contractors on a day to day basis.
- Developing and maintaining strong working relationships with all external stakeholders.
- Reporting back to a Board of Directors.

#### **OTHER SKILLS & QUALIFICATIONS**

- Completion of Native Woodland Scheme (July 2002)
- Proficient in Microsoft Office (MS Word, MS Excel, Powerpoint).
- Occupational first aider.
- Full and clean driving license.
- Completed several training courses in areas such as the safe handling and application of pesticides and felling and processing trees with a chainsaw.
- Developed company manuals/policies for compliance with Health & Safety regulations.

#### **EDUCATION**

##### **1991 – 1994 Lancaster University, UK Higher National Diploma in Mgmt (Forestry)**

- Modules studied included Project Management, Professional Development, Research Methods, Statistics for
- Research and Marketing.
- Also studied Advanced Silviculture, Health and Safety Management, Resource Optimisation Analysis and Planning.

##### **1990 – 1991 Teagasc Agricultural College, Co Cavan Green Cert in Agriculture**

- Modules studied included Business Management, Skills Training, Work Practice, Forest Management and Establishment and harvesting.

##### **1985 – 1990 Holycross College, Kenmare Leaving Certificate**

#### **HOBBIES AND INTERESTS**

- Enjoy the outdoors and sports such as rugby, gaelic football and orienteering events.
- I currently coach and mentor a number of teams at competitive level from the local athletics and hurling clubs.
- Very active in the local community and regularly volunteer for causes such as Tidy towns and other annual events.

\*Excellent References Available on Request

# PROFESSIONAL PROFILE



## **DAMIEN BROWNE – ELECTRICAL ENGINEER**

### **September 2018 – Present – TLI Group**

**Position: Senior Electrical Engineer (Design Team Lead)**

**Duties:**

- Design of Electrical Grid Connections
- Responsible for analysis of Layouts, Rating Studies and Loading characteristics within network scopes
- Project writing, studies, documenting and specification reviews delivered by TLI Group
- Feasibility and Route Selection within project reviews
- Detailed Network Designing with use of CMCAP and Grid Cable Max

**Recent Projects:**

- Clogherchor Windfarm (UGC Grid Connection to Tievebrack SS)
- Gortrahilly Windfarm (UGC Grid Connection to Ballyvouskil Node)
- Codling Offshore Windfarm (Onshore 220kV Grid elements)
- Glenard Windfarm (UGC Grid Connection to Trillick SS)
- Avonbeg BESS & Macallian Solar Farm Grid Connections
- DUB20 Cable Design

### **2017 to 2018 – EnerMech LTD MEI, Sydney**

**Position: Electrical Project Engineer**

**Duties:**

- Provision of Electrical Engineering Support in service delivery and maintenance for clients including ALSTOM and Sydney Transport.
- Management of project documentation being delivered by EnerMech for clients.
- Co-ordination and planning of testing equipment resources required for testing procedures for substation commissioning projects.
- Relay to client service costs and rates for project tenders

### **2017 – H&MV**

**Position: Graduate Electrical Engineer**

**Duties:**

- Carried out electrical design risk assessments ensuring safety of both design and system.
- Design of HV and MV substation panel layouts, general services and lighting layouts, fire and intruder alarm layouts.
- Procurement specifications for power transformer, instrument transformer, disconnects, circuit breakers and steelwork.
- Carried out voltage regulation studies and power losses of distribution system.
- Cable sizing calculation with use of Cymcap 7.2 Software and ETAP 16.0. Power factor correction / Protection co-ordination studies.

### **Training:**

- Manual Handling
- Safepass
- BEng. Electrical Engineering (Hons) Cork Institute of Technology, Ireland

### **Professional Skills:**

- SafePass
- AC/DC Elementary Course
- Manual Handling
- Fire Safety Awareness
- ETAP 16.0
- Power Factory
- AutoCAD
- CymCap 7.2

### **Computer Application Skills:**

- MS Excel, Access, Word and Powerpoint

# PROFESSIONAL PROFILE



## GER DONNELLAN – DESIGN TECHNICIAN

### May 2015 to Present - TLI Group

**Position:** Design Technician

**Duties:**

- Provide Design/Construction & As-Built drawings for
- Overhead Lines Design and Construction
- Design and Construction of POI and POP Sites
- Traffic Management Plans and Applications

**Recent Projects:**

-

### 2013 to 2015 - FEXCO

**Position:** SEAI BER HELPDESK - Non Domestic BER Technical Support Representative.

**Duties:**

- Provide technical guidance and support to all the registered SEAI Non Domestic BER Assessors.
- Provide guidance and interpretation on the BER Scheme from S.I 243 of 2012 European Union (Energy Performance of Buildings) Regulations.
- Escalate queries between the BER Helpdesk and SEAI BER Programme Management Team.

### 2011 to 2013 – Donnellan Energy & Architectural Services

**Position:** Senior Architectural Technologist - Principle (Self Employed)

**Duties:**

- Provide design, planning, tender and construction drawings for various Domestic Dwelling, Conversion of Methodist Church, Skelligh Experience, Visitor Centre.
- Alterations to Killorglin Credit Union, Language School Valentia, Co Kerry.

### 2004 to 2011 – Mott MacDonald Ireland Ltd

**Position:** Senior Architectural Technologist

**Duties:**

- Provide design, planning, tender and construction drawings for various projects ranging from Domestic Extensions, one off House Design, Residential, Commercial, Car Showrooms, Warehousing and Heavy Industrial.

### Training:

- ESB Induction
- ESB Substation Training
- SafePass
- Manual handling
- BSC Architectural Technology
- College of Art Commerce and Technology Limerick 1991

### Professional Skills:

- AutoCAD City and Guilds, 1994.
- Certificate in Energy Management, Institute of Technology Tralee, 2012.
- SEAI Non Domestic BER Assessor.

### Personal Skills:

- 24 years' experience in the Architectural Building industry. My experience covers a large range of projects from; Domestic housing / Extensions / Refurbishment's, Housing Developments of varying sizes, Commercial / Retail Developments, Industrial / Manufacturing / Warehousing, Community Hospital / Primary Health Care Centres, Public Houses / Hotels, Various Civil Works Projects..
- A lot of experience in all aspects of the building process / project management, from the initial sketch design stage, through the planning process, building control, preparation of tender drawings / tender packages, preparation of construction drawings / specifications and supervision of the building projects on site.
- Familiar with ISO quality procedures.

### Computer Application Skills:

- Microsoft Office
- AutoCAD R14-2015
- Adobe Creative Suite
- SketchUP 3D
- Archicad

# PROFESSIONAL PROFILE



*Joshua van der Poel – Electrical Engineer*

## **June 2022 to Present - TLI Group**

**Position: Electrical Engineer**

**Duties:**

- Design and submission of Underground Cable grid connections for renewable energy developments
- Executing Cable Rating and Cable Pulling calculations and composing accompanying reports
- Authoring of engineering technical reports for both internal and external review/submission
- Producing detailed mapping drawings for feasibility and planning, utilising AutoCAD and QGIS softwares where applicable
- Conducting on-site surveys to gather essential data and insights for projects
- Implementation of TLI Safety Charter and Life Saving Rules

**Recent Projects:**

- Cahermurphy Wind Farm (Feasibility)
- Ralphtown/Newtown Solar Park
- Islandmore Wind Farm
- Inis Ealga Offshore Wind Farm
- Rahanisky Solar Farm

## **March 2021 to October 2022 – Alcon**

**Position: Process Engineering Intern**

**Duties:**

- Implementation and facilitation of the Monarch Project, which introduced a sophisticated automated manufacturing process for medical devices to the Cork site
- Development of new test methods for the Monarch process and products
- Proficiently managing and executing Change Control procedures
- Authored various documentation such as Standard Operation Practice (SOP), Good Engineering Practice Protocol (GEPP) and Safety/Health/Environmental

**Recent Projects:**

- Monarch Process Automation Project

## **Qualifications:-**

- Munster Technological University (MTU) - Level 8 Bachelor (Honours) of Engineering in Electrical Engineering
- SafePass
- Driver's License

## **Training: -**

- SafePass
- Manual Handling
- Softskills Training (MS Excel, MS Projects)
- Completion of TLI Graduate Programme
- Leica Geosystems GPS Survey Training

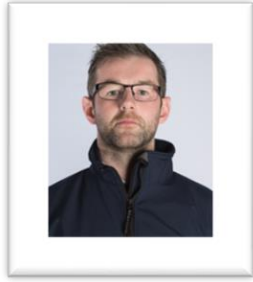
## **Personal Skills: -**

- Fluent in Spanish
- Problem Solving
- Project Management
- Critical Thinking
- Interpersonal Skills
- Attention to Detail

## **Computer Application Skills: -**

- AutoCAD
- REVIT
- Cableizer
- Survey123
- PowerFactory
- QGIS
- MATLAB & Simulink
- Programmable Logic Control (PLC)
- SCADA
- C++ & Structured Text Coding
- Microsoft Office (Word, Excel, Projects, Powerpoint, etc.)

# PROFESSIONAL PROFILE



## Ruairi Geary – Engineering Director

### EMPLOYMENT & RELEVANT WORK EXPERIENCE

#### Feb 2014 to Present - TLI Group

##### Position: Engineering Director

Responsible for project managing and designing grid connection projects from 20kV to 220kV. Main duties include:

- Management of the engineering division
- Management of the civils framework
- Specification and engineering reviews
- Utility structural design and assessment reviews
- Feasibility and route selection for renewable projects
- Detailed network design – PLS Cadd, PLS Pole, PLS TOWER, AutoCAD

##### Recent Projects:

- Slievacallan 110kV cable grid connection
- 110kV cable route design & construction supervision
- Brockaghboy 110kV renewables project
- Overhead Line & structure design
- Shannaragh 110kV DC diversion
- Middleton 110kV substation
- Equipment foundation assessment & design
- Carrickallen WF 38kV grid connection
- Overhead/Underground Line/Cable & Structure Design

#### Jan 2013 to Jan 2014 – Saskpower (Canada)

##### Position: Senior HV Design Engineer

##### Duties:

- Update & create new specifications (CSA, IEC conformance)
- Design and test new sub phase switch structure (72kV -230kV) Steel and Lattice DRD (Electrical and Structural) generation for new structure designs (138 and 230kV)
- Generate new structures designs to suit the regions climatic conditions and provide design assistance on the innovative technologies that were being investigated to improve efficiencies. (OPPC, OPGW, ACCC, AAAC, FRP Composite Structures etc.)

#### Jan 2007 to Jan 2013 – ESB International

##### Position: Overhead Lines Design Engineer

##### Duties:

- Conductor and Shieldwire Specialist (OPPC/OPGW/GAP Type HTLS)
- Design, testing and verification of an in-house designed braced angle poleset (PLS Pole and PLS Cadd) for use on 110kV OHL
- Implementation of high temperature low sag (HTLS) Gap-Type conductors onto the Irish grid. Studies on AAAC, ACCC, INVAR
- Conductor mechanical and electrical (Rating) properties design.
- Completed various HTLS (Gap) uprate projects (220kV and 110kV) totalling 320km.
- In-house training delivered to designers in PLS Cadd/PLS Pole.

### Training:

- ESB Induction
- ESB Substation Training
- SafePass
- Manual handling
- Occupational First Aider
- PSDP Principles
- B(Eng.) Hons Mechanical Engineering, Napier University Edinburgh, Scotland
- B(Eng.) Mechanical Engineering, Cork Institute of Technology, Ireland
- Chartered Engineer (M.I.E.I)

### Professional Skills:

- CIF Managing Safely in Construction
- PLS Cadd, PLS Pole Certification
- IOSH Managing Safely
- Leadership training complete
- Proficient in all computer based programs
- Member Cigré WG B2.61 and B2.55

### Personal Skills:

- Initial post graduate experience was in the pharmaceutical industry. Pfizer, Novartis, and Eli Lilly.
- In 2007 moved to ESB International into the OHL design group. Initial role was to develop the skills required for first principle design, followed by PLS Cadd design basis development.
- In 2013 Ruairi moved to Canada to further his professional career with the provincial utility of Saskatchewan (Saskpower).
- Since joining TLI Group as the Engineering Director there are firm plans to grow the division to cater for the ever increasing renewable generation in the country and International design prospects.
- Ruairi Published a detailed Cigré paper on HTLS conductors for submission to B2-104 Paris session 2012. Presented on August 2012.