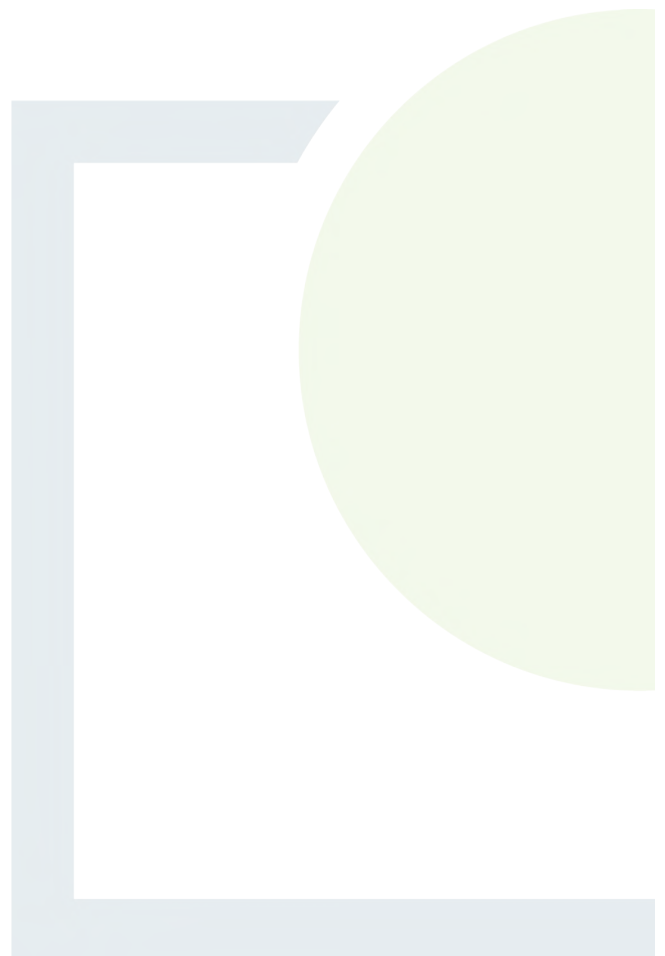




DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

Appendix 1.2

Curricula Vitae





Jim Hughes

Director of Energy & Planning



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

Profile

Jim Hughes is the Director responsible for the Energy and Planning Department. Jim has a BA in Public Administration (Development) from the University of Limerick, a Masters in Town Planning from Queens University Belfast and a Diploma in EIA/SEA Management from University College Dublin. Jim is also a member of the Irish Planning Institute.

Jim is a Qualified Town and Environmental Planner with over 19 years post qualification planning experience in both the private and public sector. He has extensive experience in providing strategic level advice to clients and negotiating with and presenting to local authorities. Jim has experience in the management and coordination and the preparation of planning applications, masterplans and Environmental Impact Statements for large scale infrastructure projects throughout Ireland. He has specific experience in the renewable energy sector. Jim has represented clients on planning enforcement matters and as expert witness at oral hearings. He is also experienced in peer review and preparation of independent planning assessments and appraisals on behalf of clients.

Key Skills

Jim's experience includes:

- Project Director for multiple renewable energy projects throughout Ireland
- Lead planning consultant for major road infrastructure projects and waste projects.
- Highly qualified and experience in Irish and European planning and environmental law.
- Over 19 years as an IPI accredited Town Planner
- Acted as expert witness at ABP Oral Hearings and in Judicial Review Hearings and High Court Cases.
- Extensive experience in Offshore Renewable Energy delivery.

Previous Experience Essentials for This Project

2023

- Project Director on the Shelmalare Offshore Wind Farm delivering the Environmental and Planning Consultancy aspects of the project.
- Project Director on EIA Scoping and Foreshore license applications for multiple offshore renewable energy projects
- Project Director on the SEA and AA of the Eirgrid Grid Implementation Plan 2023.
- Project Director on multiple onshore Solar Farms
- Project Director on multiple onshore Wind Farms
- Project Director on onshore Battery Storage Energy Systems

2022

- Project Director Annagh Wind Farm, Co. Cork
- Project Director Ballinagree Wind Farm, Co. Cork
- Project Director Barnadivane Wind Farm, Co. Cork
- Project Director Fahy Beg Wind Farm, Co. Clare
- Project Director Multiple Solar farm planning projects
- Project Director for a portfolio of 4 no. Synchronous Compensator units.

Key Information

Qualifications

BA in Public Administration (Development), University of Limerick (2002)

MSc. Town Planning, Queens University Belfast (2004)

Diploma in EIA/SEA Management, University College Dublin (2008)

Professional Memberships

Member of the Irish Planning Institute

Employment History

2020 – Present

Fehily Timoney & Company
Director

2017 – 2020

Fehily Timoney & Company
Associate Director

2015- 2017

Fehily Timoney & Company
Senior Planner

2007 – 2015

Cunnane Stratton Reynolds (SCR)
Senior Planner

2004 – 2007

Cork County Council
Area Planner



Jim Hughes
Director of Energy & Planning

2020

- Project Director for Croaghaun Wind Farm, Co. Carlow
- Project Director for Coom Green Energy Park, Co. Cork
- Project Director for multiple solar farm planning applications
- Project Director for Dernacart Wind Farm, Co. Laois

2019

- Project Director on the Kipaddogue Peaking Plant ancillary grid infrastructure development, Co. Kerry. Planning Strategy and Environmental Report
- Project Director on a 12 wind turbine development in Co. Kildare, Drehid Wind Farm.
- Project Director on the carrying out of masterplan and feasibility assessment on brownfield industrial sites in Nenagh and Roscrea on behalf of Zinc Properties
- Project Director on up to 10 Solar Farms
- Portfolio management of Shannon Commercial Properties portfolio of properties in mid-west region, including planning appraisals, zoning submissions and masterplan.

2018

- Planning Lead on the South Kerry Greenway EIAR
- Project Director for Derrysallagh Wind Farm Grid Route rEIAR
- Project Director for Raragh Wind Farm Grid Route EIAR.
- Project Director on Kilbarry Residential Development, consisting of 800-unit residential scheme
- Project Director on 19 no. unit residential development, Cork South Docklands
- Project Director 100-unit Roxborough Residential Scheme, Co. Wexford
- Project Director 100-unit Bettystown Residential Scheme, Co. Meath.
- Project Director 300-unit Enniscorthy Residential Scheme, Co. Wexford
- Project Director for Derrysallagh Wind Farm EIA.

2017

- Review of Strategic Environmental Assessment and Appropriate Assessment for the nationwide Catchment Flood Risk Assessment and Management Plans
- SEA Screening for the Bandon Transportation and Public Realm Enhancement Plan
- Provision of planning advice on substitute consent applications for wind farm, Derrysallagh Wind Farm
- Provision of planning advice on the successful Maighne Wind Farm Judicial Review
- Provision of planning advice on the preparation of an EIA for the Raragh Wind Farm cable route planning application
- Project manager for Moanvane Wind Farm proposal, Co. Offaly.

2016

- Preparation of and SEA and AA in conjunction with CAAS Ltd. of the Wind Energy Strategy for Co. Tipperary 2016
- Project Management of Castletownmoore Wind Farm SID application Co. Meath
- Project Director on the preparation of approximately 20 no. solar farm planning applications nationwide
- Preparation and coordination of planning application for 50 no. dwelling units in Croom Co. Cork
- Planning Advice and negotiation for a 49,000 tonne Metal Recycling Facility, Limerick
- Planning advice on the Derragh Wind Farm Judicial Review
- Preparation of an integrated tourism masterplan for tourism site on the banks of the River Shannon Co. Clare
- Preparation and submission of planning application for a recreation facility at the old Burlington Plan, Co. Clare
- Development Plan submissions and retained Planning Consultant for Shannon commercial Properties, provide planning advice and strategy for the management of portfolio of property in the mid-west region.

2015

- Management and coordination of a design team for An Bord Pleanála Oral Hearing in Cork for a mixed-use Retail Development, Ballyvolane, Co. Cork
- EIS, RIA and planning application for a mixed-use District Centre Development, Cork
- Project Manager Ardglass Wind Farm, Co. Cork.



Jim Hughes

Director of Energy & Planning



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

2008 – 2014

- SID Pre-Planning consultation with An Bord Pleanála for a Local Authority Marina development in Cork
- Strategic Review of Dursey Island and Cable Car. In conjunction with AECOM and TDI, an overall economic and tourism development strategy was developed for Dursey Island
- Development Plan Monitoring and submissions on behalf of a large international Financial Institution
- EIS, RIA and planning application for a mixed-use retail development, Clonmel
- Feasibility Assessment for Waste to Energy facility, Co. Clare
- Co-ordinating a multi-disciplined team; contributed to EIS and planning submission for the regeneration of the south-western docklands area of Waterford City. The scheme consisted of 11 no. development blocks ranging in height from one floor to thirty floors over basement level
- Coordinated a multi-disciplined team of 5 Architects and preparation of EIS and planning submission for the regeneration of the south docklands area of Cork City. The proposed development was the largest planning application ever to be lodged with Cork City Council. 2007
- Coordinated the lodging of a planning application, contributed to EIA and response to Third Party appeal for a mixed-use development consisting of retail, commercial, residential, tourism, leisure development, Waterford City
- Contribute to EIA for Road and Bridge Infrastructure for Cork City Council including preparation of a scoping document and public consultations.



Rita Mansfield

Associate Director



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

Profile

Rita is an Associate Director (Ecology) and Project Manager at Fehily Timoney with nineteen years previous experience as a technical lead within the environmental and planning services sector. She specialises in statutory consent and environmental assessment for large scale public infrastructure projects in the energy, water (including flood relief schemes) and transport sectors.

She is a qualified ecologist in environmental impact assessment, planning applications (conventional and strategic infrastructure development), climate adaptation, Appropriate Assessment, foreshore licensing, Water Framework Directive, integrated catchment management, and stakeholder engagement.

In the energy sector particular specialist experience in securing statutory consent for combined and open-cycle gas turbines, solar and wind projects, peat fired power stations, utility scale batteries and transmission (110 kV, 220 kV and 400 kV overhead line and underground cable) infrastructure.

In the transport sector, specialist experience in securing statutory consent (including CPO, EIA and AA), environmental detailed design and environmental contract administration in Light Rail and Highways.

In the water sector, specialist experience in securing statutory consent (including planning, CPO, EIA and AA) for sewerage schemes, municipal wastewater treatment, potable water treatment and distribution and flood relief schemes.

Key Skills

- Environmental Impact Assessment (EIAR)
- Appropriate Assessment (AA): Habitats Directive
- Ecological Impact Assessment (EclA)
- IED licence
- Foreshore Licence
- Construction Environmental Management Plan (CEMP)
- Ecological Clerk of Works (ECoW)
- Water Framework Directive
- Environmental design and mitigation
- ArcGIS Desktop /Collector/Online

Previous Experience Essentials for this Project

Energy Services

- **Dennistown 110kV Grid and Substation / Harmony Solar**
Strategic Infrastructure Development application to An Bord Pleanála for 110 kV infrastructure to support a solar development in Wexford.
- **Wind Energy Development County Waterford / EMP**
Strategic Infrastructure Development application to An Bord Pleanála (including EIAR and NIS) for a 10-turbine array. Particular challenges include site topography and peat.

Key Information

Qualifications

H. Dip Environmental Protection and
Pollution Control
Sligo Institute of Technology, 2008

BSc. (Hons) Applied Ecology,
University College Cork, 2003

Employment History

2020 – Present

Fehily Timoney & Company
Senior Environmental Specialist

2004 – 2020

Mott MacDonald Ireland Limited
Senior Environmental Specialist



Rita Mansfield

Associate Director



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

- **Peat Extraction All-Ireland /Bord na Mona**
Project Lead for Appropriate Assessment (NIS) of peat extraction activities across ca. 75,000 hectares.
- **Celtic Interconnector PCI Project / EirGrid**
Principal Ecologist for the statutory consents which include foreshore application and Strategic Infrastructure Development application comprising ca. 575 km of submarine cable, underground HVDC / HVAC cable and converter station.
- **Rye Water Valley - Kellystown Project /Confidential Client**
Environmental assessment of options for the upgrade to the power supply to a manufacturing plant in Leixlip comprising new substation and underground cables connecting to an existing line. The site is within the Rye Water Valley SAC. Planning application to the Board under S.182A of the Planning and Development Act 2000 supported by Natura Impact Statement, EIA Screening report and Environmental Report.
- **Converter Station EcOW Services / Siemens**
Project Manager for the delivery of EcOW services for the Celtic Interconnector Converter Station project at Ballyadam, Cork.
- **Wind Energy Development County Galway / RWE**
Strategic Infrastructure Development application to An Bord Pleanála (including EIAR and NIS) for a 13-turbine array. Particular challenges include flood risk and karst geology.
- **Moneypoint – Oldstreet 400 kV Line Refurbishment /EirGrid**
Planning application for refurbishment works to the power line. The Moneypoint - Oldstreet overhead power line is approximately 102.5km in length and runs in a north-east direction from the Moneypoint substation in Kilrush, County Clare to the Oldstreet substation in Portumna, Co. Galway. An extensive Natura Impact Statement was required for this project.
- **Greenlink PCI – Peer Review EIAR & NIS**
Technical Peer Review services for the Greenlink Project of Common Interest. Greenlink is a subsea and underground electricity interconnector cable (with associated converter stations) linking the existing electricity grids in Ireland and Great Britain.
- **ESB Poolbeg Development – Bess and FlexGen**
EIAR and NIS to support four separate planning applications for the development of two flexible thermal generating systems and two battery energy storage systems within the Poolbeg Peninsula.
- **Huntstown Battery Energy Storage System /Viridian**
Senior Ecologist for the preliminary design, statutory planning approval and environmental assessments of BESS development within the Huntstown Power Station site.
- **Open-Cycle Gas Turbines and Utility Scale Battery Developments, 100MW at Kilkenny, Athlone and Cahir /Bord Gáis Energy/Centrica**
Senior Ecologist for the preliminary design, statutory planning approval and environmental assessments of various 100 MWe energy generation technologies (OCGT, gas engines and battery) at three sites across Ireland.
- **West Offaly and Lough Ree Power Plants /Bord na Móna**
Ecological Assessment of the harvesting and supply of peat fuel to West Offaly and Lough Ree Power Plants.
- **Wind Energy Development County Offaly / Bord na Móna**
Strategic Infrastructure Development application to An Bord Pleanála (including EIAR and NIS) for a 10-turbine array. Particular challenges include sensitive ornithology.
- **Open Cycle Gas Turbine Power Plant County Kilkenny / Greener Ideas Limited (GIL)**
Lead ecologist for the Environmental Impact Assessment (EIA), Appropriate Assessment, and planning application for the development of a 100MW OCGT power plant in County Kilkenny. This application was submitted to Kilkenny County Council on behalf of Greener Ideas Limited (GIL), a joint venture company comprising Bord Gáis Energy and Mountside Properties.
- **Cross Shannon Cable /EirGrid**
Senior Scientist for the planning and foreshore applications for this 400 kV submarine cable connecting Moneypoint and Tarbert substations.
- **Upgrade of Woodland 400kV Substation / EirGrid**
Principal Ecologist (planning and environment) for Section 5 declaration application (planning) for proposed new bay at 400 kV substation.
- **Edenderry Power Plant, County Offaly / Bord na Móna**
Planning permission was sought for the continued use and operation of Edenderry Power Plant up to 2030. Assessment of the in-combination impacts of peat harvesting comprised a significant element of this project.



Rita Mansfield

Associate Director



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

- **Renewable Exports Source (RES) Scheme – Strategic Environmental Overview:**

The Renewable Exports Source (RES) refers to the strategy for the delivery of large amounts of renewable (wind) generation from Ireland to the United Kingdom via sub-sea interconnector cables under the Irish Sea. SEO Objectives:

- Evaluate the potential impacts of developing wind energy transmission systems interconnecting to the UK on environmental resources and communities;
- Identify sensitive receptors;
- Identify areas of good potential for future development;
- Inform the future network designs and configuration.

Water Services

- **Gort Lowlands Flood Relief Scheme / Galway County Council**

Assessment and development of a flood relief scheme to manage the existing flood risk in Gort Lowlands, and also the potential for significant increases in this risk due to climate change, ongoing development and other pressures that may arise in the future. Project Manager for the environmental services for the feasibility stage of the scheme, which investigates the diversion of overland flood flows in to Kinvarra Bay in Galway. Project deliverables include Appropriate Assessment, Public Consultation, EIAR, Marine modelling, Public Exhibition.

- **Local Network Reinforcement Project / Irish Water**

Environmental lead responsible for environmental and planning reports for wastewater network infrastructure projects throughout Leinster, including site and route selection reports, technical notes, Natura Impact Statements, planning strategy reports and planning applications.

- **Enniscorthy Flood Defence Scheme /OPW**

The development of flood defence scheme to alleviate flooding in Enniscorthy Town. The scheme includes the removal of the Seamus Rafter Bridge, underpinning of the main Wexford to Dublin railway bridge over the River Slaney and the construction of a new road bridge which transverse the River Slaney SAC and approach road ties in to the key strategic routes in the south east on the N30 and N11.

- **Clonakilty Flood Relief Scheme, Ongoing.**

The scheme will protect to the town of Clonakilty from both river and tidal flooding, and includes the construction of a dam, modification to several bridges, 2km of riverbank improvement works, and four pumping stations. Environmental Manager involved in the preliminary design, planning process, detailed design, tender process, and contract administration. Currently overseeing Ecological Clerk of Works role on the construction stage.

- **South Western River Basin District Catchment Flood Risk Assessment and Management (CFRAM) Study / OPW.**

The objective of this study was to accurately map flood risk and to develop management strategies and measures to mitigate flood risk in the South Western RBD. Environmental Manager responsible for the assessment of flood risk in the South West of Ireland as it pertains to environmental impact, the assessment of flood risk management options through multi-criteria analysis (MCA), stakeholder consultation, Appropriate Assessment and Strategic Environmental Assessment.

- **Caraholly Flood study / Mayo County Council**

Preliminary design of a €1million flood relief scheme in Co. Mayo. Senior ecologist responsible for the Natura Impact Statement and environmental considerations report for the planning package to Mayo County Council. S

- **Inniscarra WTP Sludge Treatment / Irish Water**

Senior ecologist for the planning application for sludge treatment facilities.

- **River Basin Management Plan - South Western River Basin District.**

A four-year catchment management study leading to the publication of the River Basin Management Plan and the development of measures to achieve good water quality status in order to comply with the implementation of the Water Framework Directive (2000/60/EC). The purpose of this Directive is to establish a framework for the protection of all waters in order to prevent and reduce pollution, protect the aquatic environment, improve the status of aquatic ecosystems, and promote sustainable water use. Environmental Scientist responsible for the delivery of several national studies and the development of the River basin Management Plans. The project involved detailed data management which was supported through the use of geographic information systems (GIS).

- **Millstreet WWTP Upgrade/ Irish Water**

Senior ecologist for the Appropriate Assessment (NIS) and Planning Application for the proposed upgrade works to the Millstreet WWTP. The WWTP discharges in to the Munster Blackwater SAC



Rita Mansfield

Associate Director



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

- **South Westmeath and Lanesborough/Central Longford Water Supply Scheme / Irish Water**

Environmental Lead for the design and procurement of a new waste water treatment plant (WTP) and intake works, upgrade/expansion works to two WTPs, decommissioning of five WTPs and the provision of an extensive network of pipelines and linkages across a large area from Athlone to Mullingar and northwest to Lough Forbes. The upgrade works were being provided to a secure and adequate supply of drinking water in compliance with EU (Drinking Water) Regulations, 2014.

- **Waste Water Discharge Licencing Project, Irish Water**

Project Lead for work programme involving the preparation of reports assessing the impacts of the waste water discharge points from residential agglomerations on protected shellfish waters along the Irish coast.

- **Rossaveel Fishery Harbour / Department of the Marine**

Senior Ecologist for the Environmental Impact Assessment and planning application for the development of a 200m deep water quay in Rossaveel. The EIA assessed both marine and terrestrial environmental impacts across a range of sensitive parameters, i.e. biodiversity, archaeology, traffic, noise and vibration etc. This project is critical to ensuring that continued viable operation of one of Ireland's Fishery Harbour Centres. Planning was granted in 2018.

- **Greystones Harbour Development / Wicklow County Council**

Scientist for the environmental impact assessment. This development included coastal protection works and the development of a 400 berth marina in addition to a significant commercial and residential provision. Key concerns included populations of sand martin, sea kale and public amenity.

- **Waterford City Infiltration Remediation / Waterford City Council**

The infiltration study involved the assessment of the existing combined sewer collection system in Waterford City centre, and recommendations on its upgrade to reduce infiltration to acceptable levels. Employers Representative responsible for scoping, procurement and management of CCTV survey to identify defective sewer in the Waterpark Catchment. Prepared recommendation report for remediation measures, including a cost-benefit analysis to ensure value for money. Prepared contract documents using the Works Designed by the Contractor (CWMF) form of contract for the rehabilitation of the sewers which includes the procurement of specialists. Responsible for preliminary H&S Plan which encompassed significant traffic management issues as well as confined space entry requirements.

- **Effluent Characterisation Study /Environmental Protection Agency**

Project co-ordinator and lead scientist for this year-long study into the characteristics of wastewater discharges from municipal waste water treatment plants across Ireland. The output of the study was an estimation tool to assist WWTP operators in estimating the mass emissions released from their treatment plant. This information is required to be reported to the EPA under law (Pollution Release and Transfer Regulations).

Transport Services

- **Dunkettle Interchange Upgrade Scheme / John Sisk & Son Holdings Ltd**

Environmental Lead for the Detailed Design on the Design & Build contract for the reconfiguration of the Dunkettle Interchange to a free flowing interchange including: A series of direct road links between the N8, the N25 and the N40 and links to the R623 Regional Road in Little Island and Burys Bridge in Dunkettle; 1 grade separated junction arrangement at the existing N25 to the east of the existing Dunkettle Interchange; 4 roundabouts – 2 at the grade separated junction and 2 at tie ins with the existing road network; 51 major structures of various forms; several culverts where the scheme crosses watercourse or intertidal area; pedestrian and cyclist facilities; and modification of existing Silversprings junction on the N8 Lower Glanmire Road.

- **Cork Southern Distributor Link Road / Cork City Council**

Gene is the Project Manager for the Southern Distributor Link Road, a proposed new road link between the N27 and Sarsfield Road with the potential to also link to the N71 and Cork Airport. Gene is responsible for delivery of the route selection process as per Phases 1-2 of the NTA's Guidelines for the Management of Public Transport Investment and Cost Management Guidelines and Phases 0-1 of DPER's Public Spending Code 2019.

- **Wexford Town to Rosslare Strand Greenway / Wexford County**

Environmental Coordinator for the development of a proposed greenway extending between Wexford Town and Rosslare Strand Train Station. The appointment covers PSDP, Route Selection, Preliminary Design, Environmental Assessment, including preparation of an EIAR and Statutory Consent Processes.

- **N11/N25 Oilgate to Rosslare Harbour / Wexford County Council**

This project involves the development of the N11/N25 national primary road between Oilgate and Rosslare Harbour Co. Wexford. The scheme is approximately 30km of motorway/dual carriageway with a major crossing of the River Slaney. Technical Lead responsible for the delivery of environmental services necessary to deliver Phases 1 to 4 of Transport Infrastructure Ireland's Project Management Guidelines (PE-PMG-02041) and Phases 1 to 4 of the National Roads Authority's Project Management Guidelines 2010 (NRA PMG 2010). The project is currently at Phase 1.



Rita Mansfield

Associate Director



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
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- **Western Rail Corridor Redevelopment, Ireland / Iarnród Éireann**

Feasibility study and business case assessment for reopening of the disused railway line between Athenry and Claremorris in the west of Ireland. Senior Ecologist, responsible for the qualitative assessment of the effects on biodiversity and the environment from the proposed reopening of the railway between Athenry and Claremorris. Assessment was carried out using GIS data and through consultation with national environmental protection agencies.

- **N25 New Ross Bypass PPP Scheme / TII**

Construction of approximately 14.8km of National Route, 13.6km of Dual Carriageway and 1.2km of Single Carriageway and associated works. It includes an Extrados bridge structure which consists of two 230m spans with an overall length in region of 900m. It also includes over 40 other structures comprising of 1 Railway Bridge, Underbridges, Overbridges, Underpasses, Culverts, Retaining Walls, Environmental Barriers, Sign Gantries, and VMS. Environmental Specialist, responsible for the certification of design and construction insofar as it pertains to environmental matters.

- **N71 Footpath / Cycleway: Glengarriff village to NPWS Nature Reserve /Cork County Council**

Feasibility assessment and assessment of design alternatives for the development of pedestrian and bicycle access between Glengarriff village and the nature reserve. The alignment passes through the Glengarriff Woods SAC and as such the assessment of alternatives in Appropriate Assessment is required.

- **Cork Bridge Rehabilitation, Cork, Ireland / Cork County Council.**

Repair of approximately 50 road bridges located around the Cork region. The list of structures included predominately masonry structures dating from the 13th to 19th centuries, including a number of protected structures. Environmental Team Leader, responsible for the preliminary ecological appraisal (PEA), screening for Appropriate Assessment, Natura Impact Statements, and Ecological Impact Assessment (EclA) including invasive species survey for proposed repair works to the bridges in County Cork. Devised and implemented mitigation (under licence from NPWS) for the exclusion, protection, and enhancement of several bat roosts at various bridges.

- **N18 Gort to Crusheen Dual Carriageway, Galway County Council**

Scientist for the environmental impact assessment for 22km road scheme in County Clare and Galway.

- **N22 Baile Bhuirne to Macroom Road Development (Ph 5-7) / Cork County Council**

The scheme is an approximately 22 km Type 2 Dual Carriageway, to be constructed offline. It will require construction through challenging terrain which varies through the scheme from hilly, remote land with rock outcrops at the western end, to low lying pasture lands to the east of Macroom. Significant ecological constraints on the scheme include Kerry Slug, Freshwater Pearl Mussel, and Lesser Horseshoe Bat. Responsibilities at this stage (Tender Assessment) in the scheme development include co-ordination of the ecology team, preparation of contract documents, provision of technical environmental advice, consultation with key stakeholders (e.g., NPWS), assessment of Tenders.

- **Limerick Depot Metropolitan Area / Limerick City & County Council.**

Design and development of a consolidated operations depot for the Metropolitan Area operations including Cleansing & Parks, Housing Maintenance, Road Maintenance, Burial Grounds, Water, Drainage, Surface Water Maintenance, Storage of Emergency Equipment and Salt Barns. The Depot will occupy a space between 4 – 6 acres. Senior Ecologist responsible for the management of environmental impact assessment of the proposed development.

- **Bergen Bybanen Light Rail System Phase 3 & Depot, Norway / Hordaland Fylkeskommune, 2016.**

Detailed design and construction of the Bergen light rail transport system in Norway. The project comprised 7.1km of double track from Rådal to Flesland airport, including 2.8km of tunnels and over 1km of structures and the development of a tramwash and workshop at a site in Flesland (approximately 20540m²). Environmental Specialist responsible for the construction management environmental specification, applications for discharges to waters for construction and operation of the scheme, constraints study for the workshop site and light rail line and environmental sustainability recommendations for the workshop.

- **N11 Arklow- Rathnew PPP Contract / BAM, 2013.**

Provision of 16.5km of high-quality dual carriageway between Arklow and Rathnew in Co. Wicklow, a motorway service station, and a grade-separation of the N7 Newlands Cross Junction in Dublin. Senior Ecologist, responsible for pre-construction environmental surveys and environmental and ecological design for:

1. Section A – dual carriageway approximately of 16.3km in length between the north end of the existing Arklow Bypass and the southern end of the existing Newtownmountkennedy to Ballynabarny road scheme.
2. Section C – new motorway services area on the existing M11 near Gorey, Co. Wexford.
3. Section D – upgrade to the Newlands Cross junction (N7 Nass Road junction with the Belgard / Fonthill Road [R113]) to a grade separated junction.



Rita Mansfield

Associate Director



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

- **East Coast Railway Line between MP19½ and MP22½, County Wicklow / Iarnród Éireann, 2014.**

Appropriate assessment for emergency railway safety fencing works on the main railway line between Dublin City and Rosslare Harbour. This project required an assessment to identify and control ecological impacts on an area of land protected under the habitats directive candidate special area of conservation (cSAC) and the bird's directive special protection area (SPA). Of particular relevance to the project is the habitat 'perennial vegetation of stony banks. The railway line sits on top of a shingle beach which is known to support this vegetation type.

In addition, the shingle beach is an important nesting area for Little Tern (*Sternula Albifrons*). Significance of impact was assessed, and mitigation measures were prescribed.

- **National Roads Authority Development of and Consolidation of (D&B) and (PPP) Works Requirements, 2010.**

Technical advice and support in preparing consolidated works requirements for use on contracts tendered using both the PPP and the D&B mechanisms. Responsible for the development of clauses to ensure protection of the environment at design and construction stages of road scheme development. This included run-off and sediment control, mitigation for specific protected species e.g., otter and bat, mitigation for water crossings, management of extracted material, measures to control noise and lighting impacts, landscaping measures, control of invasive species, control of noxious weeds, pre-construction, and post-construction survey requirements.

Other Services

- **Grid Implementation Plan 2023-2028 / EirGrid**

Project Manager for the Strategic Environmental Assessment and Appropriate Assessment of the Grid Implementation Plan 2023-2028 for the Electricity Transmission System in Ireland.

- **Local Authority Environmental Management System, Environmental Protection Agency**

Project Scientist for the development of a web-based environmental management system for local authorities in the tracking and managing of the implementation of their statutory environmental protection functions. This project involved extensive training of personnel from all local authorities in Ireland in environmental legislation and environmental enforcement prioritisation for compliance with the European Commission Recommendation on Minimum Criteria for Environmental Inspections.

- **Mid-Western Area Strategic Plan**

MWASP was a strategic land use and transportation plan for the Mid-West region with the objectives of ensuring sustainable and balanced growth in the region for the period 2010 – 2030. The requirement to undertake an Appropriate Assessment (also referred to as Habitats Directive Assessment) derives from Article 6 (3) and 6 (4) of the Habitats Directive (92/43/EEC). All Natura 2000 sites located within 15km of the MWASP boundary, including those within the boundary itself, were identified. The potential impacts of the plan policies and strategies were assessed, and mitigation prescribed, as necessary.

- **Irish Offshore Oil and Gas Strategic Environmental Assessment (IOSEA6)**

Technical Peer Reviewer for the SEA Scoping for the Department of the Environment, Climate and Communications (DECC) Plan for Issue of Petroleum Exploration and Production Authorisations in Irish Offshore Waters for the period to 2030 (currently in Draft). The SEA assess any potential impacts associated with activities conducted under petroleum exploration and production authorisations within Irish offshore waters.

- **AER / WWDL Technical Assistance (ongoing) Client / Irish Water**

Project manager responsible for the co-ordination and management of annual environmental returns (AER) returns from Local Authorities in the Southern Region of Ireland between 2014 to present. Prepared reports to satisfy licence conditions including shellfish water assessments, storm water overflow risk assessments and priority substances reports.

- **Guidance the Licensing of Discharges to Surface Waters and to Sewer / Water Services Training Group**

Manager for the development of guidance for local authorities on their functions and responsibilities under water pollution legislation. Developed supporting technical training and delivered training to in excess of 500 local authority staff through the Water Services Training Group's five regional training centres.



Trevor Byrne

Associate Director and Project Manager



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

Profile

Trevor works as an Associate Director for Fehily Timoney and Company. Trevor holds a master's degree in Sustainable Energy Systems from the University of Edinburgh and an honours degree in Civil Engineering following his studies at Edinburgh Napier University and Cork Institute of Technology. Trevor is a senior project manager within the Planning and Energy division at FT and is a chartered engineer with Engineers Ireland. His primary area of expertise is in the design and construction of renewable energy projects and urban developments.

Trevor gained much of his experience working in the UK renewable energy industry and has delivered a wide variety of projects employing different technologies including onshore wind, hydroelectric and solar PV. He also has significant experience working in the Irish construction industry and in the United States on a variety of environmental projects focusing on renewable energy, solar PV, water treatment and surface water and wastewater treatment projects using green infrastructure.

Trevor has considerable environmental engineering and environmental impact assessment experience and is a proven project manager with a track record in successfully guiding large scale projects through the consenting process as well as construction stage. He also has significant on-site experience relating to managing the construction of renewable energy developments and environmental coordination roles. Trevor has experience in the following:

- Project Management
- Renewable Energy Development Design and Construction
- Environmental Impact Assessment and Appropriate Assessment
- Engineering Design
- Transportation Impact Assessment and Traffic Management Plans
- Environmental Coordination
- Technical and Public Consultation
- Oral Hearing
- Site Supervision
- Detailed Design
- Strategic Infrastructure Developments

Meeting the Minimum Requirements of the Role

- BSc. (Hons) in Civil Engineering with first class honours (2008); BEng. In Civil Engineering (2005); MSc in Sustainable Energy Systems (2009);
- Chartered Engineer (Engineers Ireland) 2017;
- Over 15 years of industry experience;
- Over 10 years of project management experience in the renewable energy industry.

Previous Experience Essentials for this Project

• Fahy Beg Wind Farm, 2023

Fahy Beg is an 8 no. turbine wind farm in County Clare. FT prepared a planning application and EIAR for the project on behalf of RWE Renewables Ireland. Trevor project managed all aspects of the environmental impact assessment and planning application for the project.

Key Information

Qualifications

MSc. Sustainable Energy Systems
University of Edinburgh
2008-2009

BSc. (Hons), Civil Engineering
Edinburgh Napier University
2006-2008

BEng in Civil Engineering
Cork Institute of Technology
2002-2005

Professional Memberships

Chartered Engineer, 2017

Member of Engineers Ireland, 2010

Employment History

2016 - Present

Fehily Timoney and Company
Associate Director

2012 – 2016

Greenspan, Edinburgh, UK
Project Manager

2010 – 2012

Cardinal Resources LLC,
Pittsburgh, PA, USA
Project Engineer

2005 – 2007

O'Shea Leader Consulting Engineers,
Cork
Graduate Engineer



Trevor Byrne

Associate Director and Project Manager



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

As well as this Trevor also lead the environmental coordination and engineering design of all onsite and offsite infrastructure for the proposed development including all infrastructure associated with the wind farm, grid connection and turbine delivery route, working closely with the client's electrical consultant. The application was successfully submitted to the local authority in early 2023.

- **Ballinagree Wind Farm, 2022**

Ballinagree is a 20 no. turbine wind farm development in County Cork with an installed capacity of up to 132 MW. FT prepared a planning application and EIAR for the project on behalf of Orsted and Future Energy Ireland. Trevor project managed all aspects of the environmental impact assessment and planning application for the project. As well as this Trevor also lead the environmental coordination and engineering design of all onsite and offsite infrastructure for the proposed development including all infrastructure associated with the wind farm, grid connection and turbine delivery route. The application was successfully submitted to an Bord Pleanála in early 2022 through the strategic infrastructure developments (SID) consents process.

- **Croaghaun Wind Farm, 2021**

Croaghaun is a large-scale onshore wind development in Co. Carlow comprising up to 7 wind turbines with a total installed capacity of up to 40MW. FT prepared a planning application and EIAR for the project on behalf of Future Energy Ireland. Trevor project managed all aspects of the environmental impact assessment and planning application for the project. As well as this Trevor also lead the environmental coordination and engineering design of all onsite and offsite infrastructure for the proposed development including all infrastructure associated with the wind farm, grid connection and turbine delivery route. The application was successfully submitted to the local authority in early 2021.

- **Coom Green Energy Park, 2020**

Coom Green Energy Park is a large-scale onshore wind and battery storage development in Co. Cork comprising up to 21 wind turbines with a total installed capacity of up to 120MW. FT prepared a planning application and EIAR for the project on behalf of Coillte and Brookfield Renewables Ireland. Trevor project managed all aspects of the environmental impact assessment and planning application for the project and acted as environmental coordinator for the EIA. As well as this Trevor also lead the engineering design of all onsite and offsite infrastructure for the proposed development including all infrastructure associated with the wind farm, grid connection and turbine delivery route. The application was successfully submitted to an Bord Pleanála in early 2020 through the strategic infrastructure developments (SID) consents process.

- **South Kerry Greenway (Kerry County Council) 2019**

South Kerry Greenway (SKG) is a 32km long proposed recreational trail in Co. Kerry. Trevor produced the construction and environmental management plan for the greenway as part of the environmental impact assessment for the project as well as preparing the traffic impact assessment for the project on behalf of Kerry County Council.

- **Teevurcher Windfarm, 2018**

Teevurcher is a development in Co. Meath. FT are acting as designer to the Design and Build contractor, Roadbridge, for the construction of all onsite infrastructure associated with the development. Trevor successfully project managed all aspects of the detailed design for the project, liaising with the main contractor's management and coordinating the design team including the development's environmental design commitments.

- **Moanvane Windfarm, 2017**

Moanvane is a development in Co. Offaly. FT acted as the planning consultant for the client and project supervisor for the design stage of the project. Trevor produced the outline construction and environmental management plan for the site as part of the environmental impact assessment for the project as well as producing the traffic and transportation section of the environmental impact assessment including a traffic impact assessment.

- **Knockacummer Windfarm Grid Connection, 2017**

Knockacummer is a 20km long 110kV grid connection project in Co. Cork for which FT acted as Employer's Engineer for the client. Trevor managed the coordination and supervision of full-time site staff throughout the construction stage to ensure that the project was delivered in accordance the engineer's designs and specifications, the client's health and safety framework as well as statutory obligations, and the project's environmental management plan.

- **Gortfinbar Wind Farm, 2016**

Gortfinbar is a 5 no. wind turbine development in Co. Tyrone. FT are acting as designer to the Design and Build contractor, DMKL, for the construction of onsite roads, hardstandings, substation and all other infrastructure associated with the wind farm development. Trevor successfully project managed all aspects of the detailed design for the project, liaising with the main contractor's management and coordinating the design team.



Trevor Byrne

Associate Director and Project Manager



CONSULTANTS IN ENGINEERING,
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- **Sliabh Bawn Wind Farm, 2016**

Sliabh Bawn is a 20 turbine project in Co. Roscommon. FT acted as designer to the Design and Build contractor, Alexander for the construction of a series of walking trails, riding tracks and recreational areas throughout the wind farm.

Trevor is managing the design contract on behalf of FT for this project and ensured the project design was delivered in accordance the engineer's the client's health and safety framework as well as statutory obligations, and the project's environmental management plan.

- **Moanvane, 2017**

Moanvane is a development in Co. Offaly. FT acted as the planning consultant for the client and project supervisor for the design stage of the project.

Trevor produced the outline construction environmental plan for the site as part of the environmental impact assessment for the project as well as producing the traffic and transportation section of the environmental impact assessment including a traffic impact assessment.

- **Rosspile Solar PV, 2019**

Rosspile is a ca. 75MWp ground mounted solar PV scheme on a site of approximately 153 hectares in County Wexford. The project consists of solar photovoltaic panels on ground mounted steel frames, an electrical control building and associated compound, inverter/transformer stations, underground power and communication cables, boundary fencing, internal access tracks and associated drainage infrastructure, CCTV cameras and all associated site services and works. The project also incorporates significant battery storage on site as part of its design. A Natura Impact Statement accompanied the planning application.

Trevor acted as project manager for this project which successfully achieved planning permission in 2019 and is one of the largest consented projects of its type in Ireland to date. Duties included coordination of all environmental assessments for the project. The comprehensive environmental report included assessments of potential impacts on hydrology, water quality, biodiversity, traffic and transportation, population and human health, cultural heritage, landscape and visual, and glint and glare.

- **Barnahely Battery Energy Storage, 2018**

Barnahely is a battery energy storage system (BESS) project in County Cork. Trevor carried out the outline civil engineering and drainage designs for the site. Trevor also prepared the outline construction and environmental plan for the project along with carrying out the traffic impact assessment.

- **Millvale Solar PV, 2017**

Millvale is a 15MWp solar photovoltaic generation scheme near Rathnew in Co. Wicklow for which FT were appointed by the client, BNRG, to gain planning permission. Trevor project managed the planning application and associated Environmental Report for the proposed Wicklow Solar Farm, including a 38 kV substation and associated ancillary works. Lead contributor to the Environmental Report, and responsible for coordination of overall project team members, including landscape and visual, ecological and archaeological sub-consultants. Responsible for extensive consultation during the planning process, including attendance at meetings with key stakeholders. Millvale was one of the first large scale solar farms commissioned in Ireland under RESS.

- **Ralphtown Solar Farm, Co. Wexford – Planning Application, 2016**

Project Engineer responsible for site layout design for the proposed 16 MW Ralphtown Solar Farm comprising approximately 61,500 photovoltaic (PV) panels on ground mounted steel frames within a site area of approximately 32 hectares. Key contributor to the Environmental Report, and responsible for preparation of the Construction and Environmental Management Plan (CEMP).

- **Brookhill Solar Farm, Co. Wexford – Planning Application, 2016**

Project Engineer responsible for site layout design for the proposed 40 MW Brookhill Solar Farm comprising approximately 154,000 photovoltaic (PV) panels on ground mounted steel frames within a site area of approximately 90 hectares. Key contributor to the Environmental Report, and responsible for preparation of the Construction and Environmental Management Plan (CEMP).

- **Dennistown Solar Farm, Co. Wexford – Planning Application, 2016**

Project Engineer responsible for site layout design for the proposed 20 MW Dennistown Solar Farm comprising approximately 77,000 photovoltaic (PV) panels on ground mounted steel frames within a site area of approximately 40 hectares. Key contributor to the Environmental Report, and responsible for preparation of the Construction and Environmental Management Plan (CEMP).

- **Cairnmore Hybrid Wind and Solar Park, Scotland, 2015**

Cairnmore is a 4MW solar PV park in North Aberdeenshire. The site is located on a farm with a pre-existing wind farm with which the SPV scheme shares a grid connection.



Trevor Byrne

Associate Director and Project Manager



CONSULTANTS IN ENGINEERING,
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Trevor acted as project manager and coordinated the design, construction and procurement of the project on behalf of the client. The scheme was commissioned in early 2016 and is now generating successfully in tandem with the existing wind farm. This was the largest combined technology scale project of its type in Scotland at the time of commissioning.

- **Cashlie, Hydro, 2015**

Cashlie is an estate near the upper end of Glen Lyon in the Perthshire Highlands in Scotland. Trevor successfully project managed the construction of 2no. run of river hydroelectric generation schemes concurrently and the schemes were successfully commissioned in December 2015.

Trevor managed all aspects of the development detailed design and construction stage on behalf of the client as well as compliance with the project's environmental plan and various planning conditions. Challenges included working in remote location in extreme conditions and the use of helicopters for the lifting of construction materials to the intakes.

- **Dow Corning Corporate Campus Storm Water System, USA, 2012**

The project involved the Design and construction of a wastewater system with pumping station for a Fortune 100 client at their corporate headquarters in Michigan. The challenges associate with this project involved the flat topography of the site and phasing the project to facilitate the day to day workings of a busy campus. Trevor acted as a design engineer for the environmental consultant on this project.

- **Dow Corning Silicon Plant, Brazil, 2011**

The project involved the design and construction of a storm water system for a large silicon smelting plant in southern Brazil incorporating green infrastructure engineering for sustainable storm water management.

Trevor acted as a design engineer for the project and made visits to the site for the purposes of project evaluation and inspection of constructed infrastructure.

- **Lefever Landfill, Pennsylvania, USA, 2010-2012**

This project involved civil engineering and design support for a large residual waste disposal landfill for a coal fired power plant. Trevor was the main engineering contact for the site contractor and provided design drawings and specifications for the continuous operational development of the landfill.

- **Red Bird Solar Powered Water Treatment System, USA, 2010-2012**

Worked as a design engineer in the development of a patented solar powered potable water treatment system designed to provide drinking water to remote communities, disaster zones and underdeveloped regions.

Worked closely with a large international manufacturer (Pierce Oshkosh) to construct units which would go on to act as demonstrators in West Africa. Included spending a number of weeks in the factory supervising the construction and testing of two prototype systems. Design input included pressure pipe system, filtration tanks, disinfecting dosing tanks, solar PV and battery power system, bespoke solar PV mounting system design, control system design and testing.



Brian Cronin

Senior Environmental Scientist



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

Profile

Brian is a Senior Project Environmental Scientist with Fehily Timoney and Company. He has eight years of post-graduate experience in technical positions with five years specifically in environmental roles.

Key Skills

- Client Relations: Maintaining trusting relationships with clients through strong communication and professional attitude
- Report writing: Planning and Environmental Reports, EIA chapters (geology, hydrology, hydrogeology and wind micro-climate), contaminated land risk assessment reports, waste classification reports, environmental audits, IPC compliance reports, letter reports
- Fieldwork: Supervising drilling/digging operations, design of monitoring wells, soil logging and sampling, low-flow sampling, aquifer testing, gas monitoring and more
- Training and managing: Training and managing graduates, sub-contractors, students
- Software: Excel, Arc GIS, MS Project, Diver Office, Win Situ, SPSS, Minitab, MS Office suite

Previous Experience Essentials for this Project

- **Drehid Wind Farm SID application, €310,000, 2023**
Project Manager: Seeking consent for the development of a Wind Farm and associated 110 kV substation from An Bord Pleanála (ABP) as Strategic Infrastructure Development (SID). Pre-application consultation with ABP, writing chapters of the Environmental Impact Assessment Report (EIAR) and coordinating the programme of works to get the SID application processed.
- **Clondardis 110kV Substation SID application, €75,000, 2023**
Project Manager: Seeking consent for the development of a 110 kV substation from ABP as SID. Pre-application consultation with ABP, writing chapters of the Planning and Environmental Report and coordinating the programme of works to get the SID application processed.
- **Mainstream Southeast Offshore Wind Farm: EIA Scoping Report, €40,000, 2023**
Project Manager: Coordinated a team of authors to write the scoping chapters for the onshore component (cable and grid connection) of an offshore wind farm.
- **Kilteel Pole Yard Quantitative Risk Assessment, €170,000, 2021**
Project Manager: Assessing risks to human health and the environment from creosote contamination on a large rural site. Delineated extent of contamination as well as identifying hydrogeological pathways from contaminated groundwater to hydraulically connected surface waters. Proposed remediation strategy to reduce risks.
- **DIT Kevin Street Waste Classification and Soil Management Plan, €150,000, 2020**
Project Manager: Classified soil and stone wastes across a large urban site with a 17m basement excavation. Identified alternative options to landfill disposal of the materials, including Soil Recovery Facilities and re-use of materials as a by product under Article 27 of the Waste Directive.

Key Information

Qualifications

MSc in Environmental Engineering,
Trinity College Dublin, 2017

Honours BSc in Environmental
Science, University College Cork, 2013

Employment History

2022 – Present

Fehily Timoney & Company
Senior Project Environmental
Scientist

2021 – 2022

RSK Ireland Ltd
Senior Environmental Consultant

2020 – 2021

RSK Ireland Ltd.
Environmental Consultant

2019 – 2020

RSK Ireland Ltd.
Graduate Environmental Consultant

2018

Fugro GeoServices Ltd.
Geo-environmental Engineer

2017 - 2018

Initial Project Ltd.
Contaminated Land Lead Technician

2014 - 2017

Forest Research Group, Waterford IT
Research Assistant



Aaron T. Clarke

Chartered Principal Geologist



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

Profile

Aaron is a Chartered Principal Engineering Geologist with Fehily Timoney's Infrastructure Team, providing specialist geotechnical and geological advice for multi-disciplinary projects across Ireland and the UK. He has over 19 years' experience working as a geologist; of which, ten years' have been spent within ground engineering.

He holds contractor experience working within the Ground Investigation sector as well as a background in the supervision of large earthwork operations on highways schemes such as the M11 Extension, M7 Upgrade, Sallins Bypass and Dunkettle Interchange as Designers Site Representative, and on the Lower Thames Crossing Phase 3 Ground Investigation as Deliverables Manager for geotechnical works.

Aaron holds experience in the geotechnical appraisal of infrastructure projects to include N63 Liss to Abbey Realignment Scheme, Kinnegar to Donaghadee Greenway and the A38 Splatford to Wobbly Wheel Scheme.

He also holds experience in the geotechnical assessment of landfill and contaminated land sites, working on projects such as Whitestown Remediation, Dublin Array (Ballyogan Landfill) and Tynagh Power Station.

Aaron holds experience in dealing with karst on projects within Ireland and the UK. Most recently he was Geotechnical lead for a ground investigation at Cwm Taf Water Treatment Works (part of the Cwm Taf Water Supply Strategy, Wales), where karst was identified during the Desk Study and subsequent geophysical and intrusive investigation stage. His knowledge of karst processes allowed for appropriate targeting of exploratory holes to delineate and bracket on site karst features.

More recently, Aaron has worked closely with wind farm developments, where he has progressed the EIAR Soils, Geology and Hydrogeology Chapter. Projects include Fahy Beg Wind Farm, Coumnagappul Wind Farm and Barnadivane Wind Farm. To inform the EIAR, he has undertaken site walkovers to determine potential geotechnical constraints; scoped, procured and managed preliminary ground investigations; and completed Peat Stability Assessments Reports, Geotechnical Assessment Reports, and Peat and Soil Management Plans.

Aaron holds experience working on blanket bog rehabilitation projects in relation to geotechnical risk and peat stability. Projects include Derryclare Peatland Rehabilitation Project, which required a thorough desk based assessment, and a detailed site reconnaissance to include a peat depth survey.

Key Skills

- Project Management
- Strong written and verbal communication
- Stakeholder management
- Geotechnical assessment and design
- Earthwork design and supervision (to incl. large infrastructure schemes)
- Ground Model development
- Desk studies & site surveys
- Scoping & management of ground investigations

Key Information

Qualifications

MSc. Applied Geotechnics
Camborne School of Mines, UK (2012)

BSc. (Hons) Earth Sciences,
NUI Galway (2004)

Professional Memberships

PGeo – Institute of Geologists of
Ireland

EurGeol – European Federation
of Geologists

Member of the Geothermal
Association of Ireland

Employment History

2022 – Present

Fehily Timoney & Company
Principal Geologist

Jan 2018 – Jan 2022

AECOM Ireland
Senior Engineering Geologist

2016 - 2018

ARUP Ireland
Assistant to the Designers' Site
Representative

2015 – 2016

Geo Consulting Engineering Ltd.
Senior Engineering Geologist

2012 – 2015

EM Highway Services Ltd.
Engineering Geologist

2008 – 2011

Teck Resources
Lead Geologist

2007 – 2008

GHD Group Pty Ltd
Site Engineer

2004 – 2007

Geological Survey Ireland
Consultant Geologist



Aaron T. Clarke

Chartered Principal Geologist



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
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- EIARs – Soils, Geology and Hydrogeology
- Geological and geomorphological mapping
- Peat and slope stability assessments

Publications

- Clarke A, Parkes M, Gatley S, (2007) The Geological Heritage of Fingal, Geological Survey of Ireland Publications
- Clarke A, Parkes M, Gatley S, (2007) The Geological Heritage of Meath, Geological Survey of Ireland Publications
- Clarke A, Parkes M, Gatley S, (2007) The Geological Heritage of Kilkenny, Geological Survey of Ireland Publications
- Parkes M, Clarke A, (2005) The Geological Heritage of Kildare, Geological Survey of Ireland Publications

Previous Experience

- **Coumnaagappul Wind Farm, Co. Waterford, Ongoing.**
Principal Geologist. Fehily Timoney and Company (FT) were engaged by EmPower to undertake an EIAR for the proposed Windfarm at Coumnaagappul. As part of the submission, Aaron was responsible for undertaking a Geotechnical Assessment Report, Spoil Management Plan and completion of the Soils, Geology and Hydrogeology Chapter of the EIAR. As part of the works, Aaron undertook a desk study and site walkover to identify salient features to include relict failures, rock exposures, wet ground, general soil/rock types and geomorphology: and scoped, procured and managed a preliminary ground investigation to identify potential geotechnical constraints likely to affect the development.
- **Keerglen Wind Farm, Co. Mayo, Ongoing.**
Principal Geologist. Fehily Timoney and Company (FT) were engaged by ABO Wind to undertake a Peat Stability Assessment and Spoil Management Plan (to include an assessment on borrow pit viability and sizing). As part of the assessment Aaron undertook a desk study and site walkover to identify salient features to include relict failures, rock exposures, wet ground, general soil/rock types and geomorphology. Work on this project is ongoing and will involve a preliminary ground investigation to inform the planning application.
- **Dublin Array Support at Ballyogan Landfill, Co. Dublin, RWE Generation UK (RWE), Capital Value <€30K, Ongoing.**
Project Lead/Principal Scientist. Fehily Timoney were commissioned by RWE to produce a scoping document outlining the proposed approach to prepare an Independent Closure Audit (ICA) for Ballyogan Landfill and Recycle Park. Dun Laoghaire Rathdown County Council (DLRCC) intend to undertake the ICA to surrender a parcel of land required by RWE to develop a substation and cable routes, part of the onshore development of the Dublin Array Offshore Windfarm Project. As Project Lead Aaron was responsible for the overall management of the project and liaising with stakeholders. In addition to the ICA, Aaron was responsible for the scoping, procurement and management of a geophysical survey intended to identify and delineate the landfill boundary adjacent to the proposed development.
- **Derryclare Peatland Rehabilitation Project, Co. Galway, 2023.**
Lead Principal Geologist. Fehily Timoney and Company (FT) were engaged by McCarthy Keville O'Sullivan (MKO) to undertake a geotechnical assessment of the proposed peatland rehabilitation site at Derryclare with respect to peat stability. As part of the geotechnical assessment of the proposed development, Aaron completed a series of walkover surveys, to identify salient features with respect to geotechnics such as geomorphological features, relict failures, rock exposures, wet ground, general soil/rock types and extent of any peat present. Based on the walkover findings, Aaron produced a Geotechnical & Peat Stability Report including recommendations on layout and mitigation measures in respect of peat storage and safe construction practices on site.
- **Whitestown Remediation Project, Wicklow County Council, Capital Value €630K, Ongoing.**
Principal Geologist. Fehily Timoney were engaged by Wicklow County Council (WCC) to design and supervise a ground investigation at the Whitestown site. The purpose of the investigation was to delineate the extent of waste material adjacent to an ESB 110kV wooden pylon and to provide geotechnical parameters for the underlying superficial deposits. The investigation findings were used to inform the ground model and resulting slope stability analyses, which were included within a Geotechnical Assessment Report (GAR). As Principal Geologist, Aaron was responsible for scoping, procurement and management of the ground investigation, interpretation of the investigation results (including review of historic exploratory hole and geophysical data) and preparation of the GAR. He was also responsible for liaising between the project team, sub-consultants and the ESB to ensure all works were undertaken in accordance with relevant statutory and ESB safety guidance documents.



Aaron T. Clarke

Chartered Principal Geologist



CONSULTANTS IN ENGINEERING,
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- **Dunkettle Interchange, Capital Value €215M, Ongoing.**

Designers Site Representative for the reconfiguration of the Dunkettle Interchange to a free flowing interchange including: a series of direct road links between the N8, the N25 and the N40 and links to the R623 Regional Road in Little Island and Burys Bridge in Dunkettle; one grade separated junction arrangement at the existing N25 to the east of the existing Dunkettle Interchange; four roundabouts – 2 at the grade separated junction and 2 at tie ins with the existing road network; 51 no. major structures of various forms; several culverts where the scheme crosses watercourses or intertidal area; pedestrian and cyclist facilities; and modification of the existing Silversprings junction on the N8 Lower Glanmire Road. Aaron was responsible for inspection and approval of all elements of the earthworks to include material assessment and inspections of pavement subgrade and the formation to structures. Aaron's experience with large earthworks operations was invaluable in the day-to-day operations of this project. It enabled him to advise the Contractor (SISK) as to material acceptability and placement requirements. His efforts during inspections ensured that the highest quality of work was completed and also reduced liabilities associated with poor construction practices.

- **Tynagh Power Station, EP UK Investments, Tynagh, Co Galway, 2022.**

Lead Engineering Geologist. AECOM were commissioned to prepare an Environmental Impact Assessment Report (EIAR) in relation to a planning application for a new Open Cycle Gas Turbine (OCGT) plant and associated infrastructure. As part of the works a ground investigation was completed to inform the EIAR and OCGT design. As lead engineering geologist Aaron was responsible for scoping, procurement and management the ground investigation. He was also responsible for input into the Land and Soils chapter as well as other chapters and appendices within the EIAR. The proposed development is located within the former Tynagh Mine site, which posed significant challenges with respect to geotechnical and environmental constraints. Aaron's background within the mineral extraction industry allowed him to appropriately assess available mining data and to convey this information to the different specialties within AECOM's working group.

- **SCPX Erosion Report, South Caucasus Pipeline Company, Azerbaijan, Capital Value <€10K, 2021.**

Lead Engineering Geologist/Technical Lead. Following construction of the South Caucasus Pipeline in Azerbaijan, an annual programme of erosion control monitoring surveys was completed. AECOM were commissioned to report the findings of these surveys, which were undertaken by a third party appointed by the Client. The objective of the reports was to summarise the findings of the erosion control monitoring survey and to analyse the findings in the context of the local ground conditions and recommend remedial actions to rectify significant erosion observed and/or to prevent deterioration of erosion control measures that are in place. Aaron was responsible for reporting on the second round of erosion control monitoring. This required a detailed understanding of soil erosion processes and appropriate control measures. Aaron recognised the limitations associated with reviewing and analysing third party data and made a number of key recommendations to improve the data transfer process thereby reducing overall risk to both the Client and AECOM.

- **Derraghadoan Slate Quarry - Environmental Monitoring Plan, Lafarge Ireland Ltd, Dungannon, Co. Tyrone, 2021.**

Lead Engineering Geologist. AECOM on behalf of their Client (Lafarge Ireland Ltd) was commissioned to develop a suitable Environmental Management Plan (EMP) which was required as part of the Client's planning application to extend Derraghadoan Quarry by four hectares. Aaron was responsible for the production of the EMP, which outlined the monitoring programmes for relevant environmental media to include monitoring of dust, groundwater levels, abstracted water discharge volumes and water quality. Development of the environmental monitoring plan consisted of a review of requirements in relation to relevant legislation, guidance and good monitoring practice for the extractive industry in Northern Ireland.

- **Lower Thames Crossing Phase 3 Ground Investigation, Highways England, London, UK, Capital Value €65M, 2021.**

Senior Engineering Geologist/Deputy Deliverables Manager. AECOM was acting as Principal Contractor to deliver one of the largest Ground Investigation schemes in the UK, with multiple delivery packages and sub-contractor partners. The scheme will: provide a new road linking Kent, Thurrock and Essex; connect the existing A2/M2, A13 and M25; and will include construction of the largest road tunnel in the UK. Aaron was responsible for managing the Deliverables Team to ensure all ground investigation deliverables were checked under AECOM's quality management systems before issue to the client. His experience with large scale site investigations and highways projects improved the productivity of his team and allowed for: greater understanding of the project as a whole; succinct communication between site teams and the deliverables team; and a faster flow of high-quality deliverables to the client.

- **Carrick-a-Rede Rock Face Inspection, National Trust, Co. Antrim, UK, Capital Value <€10K, 2020.**

Lead Engineering Geologist / Project Lead. In response to a rock fall and subsequent closure of Carrick-a-Rede rope bridge in January 2020, AECOM was asked to complete an assessment of the rock faces immediately below and adjacent to the rope bridge supports. Aaron was lead engineering geologist on this project, responsible for the site assessment and subsequent reporting. Aaron's involvement allowed for a quick, yet accurate, assessment of the affected bridge abutments, allowing reopening of the bridge, which is an important revenue source to the National Trust.



Aaron T. Clarke

Chartered Principal Geologist



CONSULTANTS IN ENGINEERING,
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- **Bus Connects, National Transport Authority (NTA), Dublin, Ireland, 2020.**

Senior Engineering Geologist. In June 2018, the NTA published the Core Bus Corridors Project Report. The report outlined proposals for the delivery of a core bus corridor network across Dublin, providing 230km of dedicated bus lanes and 200km of cycle lanes/tracks on sixteen key bus corridors. AECOM and Mott McDonald were awarded Package A, comprising four bus corridor routes: Clongriffin to City Centre; Lucan to City Centre; Clondalkin to Drimnagh; and Greenhills to City Centre. Aaron was responsible for producing a Preliminary Source Study Report (PSSR) for the Clongriffin route and assisting with the production of PSSRs for the remaining routes. He also assisted the geotechnical lead with scoping the ground investigation for Package A.

- **N4 Mullingar to Longford (Roosky), Westmeath County Council & TII, Longford/Westmeath, Ireland, 2020.**

Senior Engineering Geologist. ROD-AECOM on behalf of Westmeath County council was commissioned to provide Options Selection and Preliminary Design for the proposed N4 realignment route between Mullingar and Roosky. The scheme will deliver approximately 50km of new and upgraded carriageway along with several new bridge structures. As part of the works, AECOM's Ground Engineering Team produced a Preliminary Source Study Report (PSSR). Aaron's input as an engineering geologist has given considerable added value to this project. He contributed significantly to several sections of the PSSR as well as undertaking a site walkover survey. His understanding of the site's geology, geomorphology as well as his local knowledge of land use was invaluable to this study and ensured that associated geohazards/geotechnical liabilities (including karst) were adequately captured and assessed.

- **N63 Liss to Abbey Realignment Scheme, Galway County Council, County Galway, Ireland, Capital Value €350K, 2020.**

Lead Engineering Geologist. Site investigation to inform the Preliminary Design for the N63 Route Alignment Scheme, comprising realignment of approximately 2.3km of the N63 from Liss to the eastern edge of Abbeyknockmoy village. Aaron was lead engineer responsible for: producing a Desk Study Report; undertaking a site walkover survey to identify potential geotechnical liabilities in advance of site works; and scoping and tendering the ground investigation works, to include both invasive and non-invasive methods. Due to the sites' underlying geology, there was potential for karst, Aaron's choice of investigation methods and location of exploratory holes used to target and identify potential karst features likely to affect the design and construction of this scheme was a significant contribution. His extensive experience working as a geologist on Irish highway schemes, to include projects such as the M7 Upgrade and Sallins Bypass, M11 Extension and N4 Mullingar to Roosky provided great benefit to the project in understanding of ground conditions and associated constraints.

- **Blackhorse Inn Redevelopment, New Line Homes, Dublin, Ireland, 2019.**

Senior Engineering Geologist. Geotechnical assessment of an existing embankment adjacent to the former Blackhorse Inn located in Inchicore, Dublin. The site was being proposed for the development of a multi-storey apartment complex, including an underground parking facility. The purpose of the assessment was to evaluate the stability of the slope during the construction phase and following completion of the development. Aaron assisted the lead geotechnical engineer on this project and was responsible for: carrying out an inspection of the site and adjacent slope to identify any significant geotechnical liabilities likely to influence the proposed development; producing a site walkover report; and creating a conceptual ground model based on existing ground investigation data and findings from the site walkover survey. Aaron's strong site observational skills and ability to quickly produce a meaningful ground model allowed for an accurate analysis of the slope, thereby allowing the Client to proceed with their planning application.

- **Kinnegar to Donaghadee Greenway, Ards and North Down, Co. Down, N. Ireland, 2019.**

Senior Engineering Geologist. AECOM were commissioned to investigate the proposed site of a steel pedestrian/cycle bridge along an approximate 133m long coastal section at St. Helen's Bay, County Down. To better understand the challenges associated with the site's geology and in particular the outcrops, which will form the foundation to the proposed bridge, a site walkover and preliminary desk top study was completed by Aaron. Recommendations based on his assessment directly resulted in the initial bridge design to be revisited due to the inherent instability in the observed rock mass. The involvement of Aaron in this project removed the requirement for using external geotechnical specialists saving time and reducing overall costs to the client.

- **M7 Upgrade/R407 Sallins Bypass Scheme, Kildare County Council & TII, Co. Kildare, Ireland, Capital Value €100M, 2019.**

Designers Site Representative Online upgrade of 16km of the M7 between J8 and J11, and construction of the Sallins Bypass (R407) and Sallins Link Road. Works also included extensive earthworks, five new bridges and new/updated drainage networks. Aaron was responsible for inspection and approval of all elements of the earthworks to include material assessment and inspections of pavement subgrade and the formation to structures. Aaron's experience with large earthworks operations was invaluable in the day-to-day operations of this project. It enabled him to advise the Contractor (SIAC/Colas JV) as to material acceptability and placement requirements. His efforts during inspections ensured that the highest quality of work was completed and also reduced liabilities associated with poor construction practices.



Aaron T. Clarke

Chartered Principal Geologist



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His in-depth knowledge of the site's geology allowed for quick and decisive assessment of ground conditions; this was particularly evident during piling operations where over drilling was kept to a minimum thereby reducing overall piling costs.

- **M11 Extension Scheme, Wexford Co. Co. & TII, Co. Wexford, Ireland, Capital Value €350M, 2018.**

Designers Site Representative. The project involved construction of 27km of new motorway (M11), 11km of new single carriageway (N30) and 4km of new dual carriageway (N80). Works also included mass earthworks (cut/fill) operations, construction of multiple structures (including the River Slaney Underbridge) and an extensive new drainage network. Aaron was responsible for inspection and approval of all elements of the earthworks to include material assessment and subgrade inspections to structures. Aaron's experience with large earthworks operations was invaluable in the day-to-day operations of this project. It enabled him to advise the Contractor (BAM/Dragados JV) as to material acceptability and placement requirements. His efforts during inspections always ensured that the highest quality of work was completed and also reduced liabilities associated with poor construction practices. Aaron's background in rock mechanics and knowledge of the site's sometimes complex geology perfectly positioned him to undertake rock mass inspections at proposed structure locations and to supervise piling operations at the locations of two of the largest underbridges on site. This removed the requirement to bring in external technical personnel saving time and reducing overall budget costs.

- **Ground Investigation for Wolborough Barton Residential Development, PCL Transport Planning Ltd, Newton Abbot, UK, Capital Value €300K, 2016.**

Geotechnical/Geo-environmental Lead. Phase 1 Desk Study and Phase 2 preliminary intrusive investigation of an 89Ha. parcel of land at Wolborough Barton, Newton Abbot, Devon. The land was being developed for 1,200 residential properties and associated amenities and infrastructure. The phased investigation resulted in the development of a detailed conceptual site model and a preliminary assessment of the geotechnical/geo-environmental liabilities likely to affect the site. Aaron's extensive experience as a geologist allowed him to critically assess and accurately interpret the site's varied and complex geology; and to develop an accurate conceptual site model showing the interaction between the proposed development, the sites superficial and solid geology and associated groundwater regime. The resulting report allowed the client to successfully advance their planning application.

- **Ballinalack Exploration Drilling Programme, Teck Resources Ltd., Co. Westmeath, Capital Value: €4.6M, 2011.**

Project Geologist. Large-scale multi-disciplined mineral exploration programme targeting economic base metal deposits over an area of 300km². Works comprised deep borehole operations, multiple soil sampling surveys and geochemical analyses, land based geophysical surveys and airborne geophysical surveys. As Project Geologist, Aaron was responsible for managing this project and overseeing all staff and activities. He was also tasked with facilitating several technical presentations to Teck staff and their JV partners Nonfemet. His accrued knowledge of the area's regional geology and his ability to lead a multidisciplinary team of geoscientists, resulted in the successful development of a comprehensive geological ground model used to further develop drill targets within and adjacent to the existing Ballinalack deposit.

- **Wonthaggi Desalination Plant Scheme, Victoria Dept. of Sustainability & Environment, Wonthaggi, Victoria, Australia, Capital Value: \$3.1 Billion, 2008.**

Graduate Geologist. Ground investigation and monitoring programme for the proposed desalination plant near Wonthaggi. Aaron was responsible for the supervision of all site personnel involved in ground investigation activities as well as logging soil and rock samples to relevant Australian engineering standards.



Ian Higgins

Technical Director (Geotechnical)



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Profile

Ian is a geotechnical engineer with 25 years' experience in the design and supervision of construction of bulk earthworks, soft ground engineering, geotechnical foundation design, geotechnical monitoring and reviewing, reinforced earth design and 3rd party checking of piling and ground improvement designs. Ian's experience also includes the design, supervision and interpretation of ground investigations, including desk studies, walkover surveys, hazard mapping of rock excavations and slopes.

Ian has experience in many areas of civil engineering including highways, railways, energy projects and commercial developments. Ian's responsibilities include managing junior engineers, reviewing work carried out for ground investigation, reporting and design. Ian has also experience in using a number of geotechnical software packages including slope stability, finite element, pile design and retaining wall design.

Previous Wind Energy Experience

- **Ballivor, Sheskin South and Glenora Wind Farms**
Undertake Peat Stability Assessment and Peat & Spoil Management Plan for EIAR submissions. Site walkover, collation of data, stability assessment, assessment of peat and spoil volumes. Scope, procure and supervision of ground investigation on peatland site and scheduling of laboratory testing.
- **Owenninny Wind Farm, Mayo**
Geotechnical design of access roads and turbine base for Phase 1 of wind farm development (29 turbines). Site inspections and approval of turbine foundations.
- **Kilgallioch Wind Farm, Scotland**
Geotechnical design of substation platform, access roads and turbine bases for 96 turbine wind farm.
- **Dersalloch Wind Farm, Scotland**
Geotechnical design of access roads and turbine bases for 23 turbine wind farm.
- **Black Law Wind Farm Extension, Scotland**
Geotechnical design of access roads and turbine bases for 23 turbine extension to an existing wind farm including site inspections and sign off during construction. Site inspections and approval of turbine foundations.
- **Flughland Wind Farm**
Review and check of contractors proposed pile design and site supervision of the installation of bored piles for a windfarm development in County Donegal.
- **Slievecallan Wind Farm**
Site inspection of proposed wind farm including an assessment of peat stability. Geotechnical assessment of site by walkover inspection and report on Peat Stability at turbine locations and associated infrastructure.

Key Information

Qualifications

BSc. Engineering Geology,
University of Sunderland, 1996

MSc. Geotechnical Engineering,
Heriot Watt University, Edinburgh,
1997

Professional Memberships

Member of the Institute of Engineers
of Ireland

Fellow of the Geological Society of
London (FGS)

Employment History

2019- Present

Fehily Timoney & Company, Carlow

2013 – 2019

Applied Ground Engineering
Consultants Ltd. (AGEC)

2012 – 2013

AGEC Australia

2001 – 2012

Applied Ground Engineering
Consultants Ltd. (AGEC)

1998 – 2001

Geotechnics Ireland Ltd.



Julian Borlado

Senior Project Geotechnical Engineer



Profile

Julian holds a master's degree in Geotechnical Engineering with experience in civil track works, ground improvement, tunnels, roads and dewatering systems. He has 12 years' experience working in Ireland, Saudi Arabia, United Kingdom and Spain. Besides that, he has experience in geotechnical design for bridges, windfarms, photovoltaic plants, drinking water pipelines and edification.

He has also been involved in geotechnical site investigation, geological logging, geotechnical and environmental investigation works monitoring in-situ and laboratory testing for roads and edification, as well as consultancy and instrumentation monitoring for railways and tunnels.

Key Skills

- Landfill
- Tunnels and excavations
- Soil improvements
- Roads and railways
- Geotechnics
- Geology
- Civil Infrastructure
- Open Channel
- Pipeline Hydraulics
- Windfarms
- Photovoltaic plants
- Environmental Assessment

Previous Experience

- **Littleton Wind Farm, 2023 to Present**
Julian has been involved in the ground investigation and the peat/ground conditions assessment, including field works supervision, laboratory proposal, factual report review, and peat survey.
- **Cloonkett Wind Farm, 2023 to Present**
Julian has been involved in the preliminary peat survey, hydrogeological assessment, ground investigation supervision, and laboratory testing proposal.
- **Engineering Consultancy Services for Grand Canal Greenway Construction, 2022 to Present**
Julian has been involved in the geotechnical design of Grand Canal Greenway between Sallins and the Offaly Border. It has included ground investigation design and monitoring, foundations design for bridges and earthworks design. He has also been author of the related Geotechnical Design Reports.
- **Drehid Wind Farm, 2023 to Present**
Julian has managed the peat and ground assessment campaign, and he has been author of the Soils, Geology and Hydrogeology Chapter for the Environmental Impact Assessment Report.

Key Information

Qualifications

Master of Science Degree, Geological Engineering, Alicante, Spain, 2008

Professional Memberships

Member, Engineers Ireland (2021)

Member, Association of Mining Engineers of KSA (2015)

Member, Association of Geological Engineers of Valencian Region, Spain, AIGCV (2008)

Employment History

2019- Present

Fehily Timoney and Company, Dublin

2018 – 2019

Irish Geotechnical Services Limited (IGSL), Ireland

2014 – 2017

TYPSA, Saudi Arabia

2013 – 2014

Planform, Spain

2012 – 2013

Self-employed, technical software professor, United Kingdom

2009 – 2012

Geoconsult, Spain

2007 – 2008

Proccays, Spain



Julian Borlado

Senior Project Geotechnical Engineer



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- **Shancloon Wind Farm EIS, 2023 to Present**

Julian has been involved in the ground investigation supervision for Shancloon Wind Farm EIS, with special concern in karst identification.

He has also been involved in the peat and ground conditions assessment, and he has been author of the Soils, Geology and Hydrogeology Chapter for the Environmental Impact Assessment Report.

- **Trim Millennium Pedestrian Bridge Scheme, 2023 to Present**

Julian has been involved in the ground investigation, structural testing supervision, and geotechnical detail design for a replacement 30m span pedestrian bridge at Trim, Co. Meath.

- **Lemanaghan Wind Farm, 2023 to Present**

Julian has been involved in the ground investigation supervision and the peat and ground conditions assessment, including field works supervision, laboratory proposal, factual report review, and peat survey.

- **Legan Cemetery Drainage Assessment, 2024**

Julian has been involved in a ground investigation performance as site engineer, including field works management, surveying, logging, sampling, and logs elaboration.

- **Dublin Airport PFOS Investigation, 2024**

Julian has been involved in the ground bulk densities assessment through ground investigation results to evaluate earth removal volumes.

- **Ballynahone Long Duration Battery Storage Planning and Environmental Services, 2024**

Julian has been involved in a preliminary ground investigation performance as site engineer, including field works management, surveying, logging, sampling, and logs elaboration.

- **Ballivor and Oweninny Wind Farms, 2024**

Julian has been involved in the laboratory testing proposal for the geotechnical design.

- **Remediation of Contaminated Lands at Whitestown, Co. Wicklow, 2022 and 2024**

Julian has carried out the ground investigation supervision for landfill geometry determination and waste acceptance criteria testing.

He has also managed a trial pitting campaign along the existing access route for ground contamination assessment.

- **Dublin Array support at Ballyogan Landfill, 2023**

Julian has carried out a preliminary ground investigation supervision for a potential windfarm proposal with the purpose of identifying the limits of Ballyogan Landfill and confirming geophysics results.

- **N56 Doonwell to Drumbrick Road Scheme, 2022 and 2023**

Julian has carried out ground investigation supervision for the N56 improvement road project at various design stages.

- **N22 Flood Alleviation Scheme for Garries Bridge, 2022 to 2023**

Julian has carried out the ground investigation design for technical consultancy services, which has included project design and environmental evaluation.

- **Geotechnical Consultancy for Clonfad Solar Farm Design, 2022 to 2023**

Julian has carried out the ground investigation plan, preliminary peat assessment and ground investigation supervision for the solar farm design.

- **Agricultural Building Barryscourt, 2023**

Julian has been involved in the Drainage Impact Assessment, Mitigation and Site Drainage to minimise potential future flooding.

- **Knockshanvo Wind Farm, 2023**

Julian has carried out a trial pitting supervision for potential borrow pits assessment and ground investigation for the proposed substation.

- **Ballyogan Landfill, 2023**

Julian has been involved in a retaining wall design beside the Ballyogan Landfill for a cycle track construction.

- **Counnagappul Wind Farm EIAR, 2023**

Julian has elaborated the Lands, Soils and Geology Chapter of the EIAR for the wind farm design.

- **M28 Watermain Diversion at Carrs Hill, 2023**

Julian has carried out the slope stability analysis and the ground investigation design for the existing watermain inspection.

- **N19 Shannon Airport Access Road Improvement Scheme, 2023**

Julian has been involved in the geotechnical design, including ground investigation design and monitoring and the elaboration of the Ground Investigation Report.



Julian Borlado

Senior Project Geotechnical Engineer



DESIGNING AND DELIVERING
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- **Garryhinch Wind Farm, 2022 to 2023**

Julian has carried out the ground investigation supervision for planning and environmental consultancy and peat/ground assessment.

- **Civic Amenity Facility at Gort, Co. Galway, 2022**

Julian has managed all the ground investigation stages for the development of a civic amenity facility for separation/segregation of domestic waste to be transferred to authorised facilities.

- **Wexford Town to Rosslare Strand Greenway Route Selection and Planning, 2022**

Julian has written the Soils, Geology and Hydrogeology Section for the Constraints Study Report.

- **Cappagh Compressed Natural Gas Station, 2022**

Julian has designed and monitored the ground investigation for geotechnical purposes and utilities detection for the detailed design of an entrance in to a GNI facility on Cappagh Rd, Ballycoolen, Dublin.

- **TII, 2022**

Julian has been involved in the Dunkettle Interchange design as Project Geotechnical Engineer. He has been involved in ground improvement design, including Controlled Modulus Columns (CMC); piled embankment; band drains & surcharge; and Excavate & Replace Method. He has been in charge of site investigation data review and process; ground investigation report elaboration; and geotechnical detailed design for structures, including bridges, retaining walls, widenings and gantries. The geotechnical design included foundations design, ground assessment and slope stability analysis according to EC7 and I.S., using specialized software. He has also been involved in M7 motorway widening as geotechnical engineer for earthworks quality control, fill materials testing and execution monitoring.

- **Ballydermot Wind Farm, Co Offaly/Kildare, 2022**

Julian has supervised the geotechnical site investigation for turbines foundations, which comprised trial pitting, logging, competent level determination, sampling, and laboratory testing.

- **Abbotstown AGI Capacity Upgrade, 2021**

Julian has designed the necessary site investigation specification to assess the risk of subsidence as part of an upgrade preliminary design.

- **Ballivor Wind Farm, 2021**

Julian has supervised the geotechnical site investigation for local borrow pit search, which comprised trial pitting, logging, sampling, and laboratory testing.

- **Glenora Windfarm Hydrogeology for SSE, 2021**

Julian was in charge of a preliminary geotechnical and hydrological investigation prior design, including peat stability assessment, orography, geological cartography, hydrology dynamics, existing culverts, low points inventory and driven standpipes installation for a windfarm project in Glenora, Co. Mayo. He has also monitored the hydrological dynamics based on the driven standpipes previously installed as well as superficial water points observations.

- **Ballinagree Wind Farm EIAR, 2020**

Julian has been involved in the environmental impact assessment of a wind farm in Ballinagree, Co. Cork. His duties included geotechnical risk assessment, borrow pits proposal and ground investigation proposal.

- **Oil Interceptor Options Costing at MSD Brinny, 2020**

Julian has been involved in the spread foundations design of an oil interceptor at MSD Brinny, Innishannon, Co. Cork.

- **Balleally landfill slope stability control, 2020**

Julian has designed a monitoring network and procedures for slope stability survey and also protocol for remedial actions for a decommissioned landfill in Balleally (Co. Dublin).

- **A737 Dalry Bypass for Roadbridge, 2020**

Julian has been involved as Project Geotechnical Engineer in the detailed design and construction support of the A737 Dalry Bypass tender design which comprises of 3,800m approximately of new carriageway, 2,450m approximately of Wide Single 2 + 1 layout with overtaking lanes in opposing directions; and 1,350m approximately of single carriageway layout including the provision of a differential acceleration.

- **Gantry crane in Dublin's harbour for SIAC, 2020**

Julian has designed deep foundations for a gantry crane construction in Dublin's harbour.



Julian Borlado

Senior Project Geotechnical Engineer



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- **Brookfield and Coillte, 2019**

Julian has collaborated as project engineer for preliminary geotechnical and hydrological assessment for a wind energy development referred to as the Croom Green Energy Park located in north County cork.

He has also participated as geotechnical engineer in a preliminary design, EIAR, SI for proposed wind farm development of up to 22 turbines, associated grid connection route and turbine delivery route in Ballinagree, Co. Cork.

- **Gas infrastructure construction for Fingleton White & Gas Network Ireland, 2019**

Julian has worked as site inspector for foundations execution of a gas infrastructure as per design and specification in Loughanstown, Dublin.

- **Bridge rehabilitation for Cork County Council, 2019 and 2023**

Julian has collaborated as design engineer in a bridge rehabilitation in Cork. He assessed the preliminary geotechnical conditions and made a proposal for site investigation and ground improvement.

He has also reviewed the geotechnical factual report and analysed the geotechnical results.

He has also been author of the Derryduff Bridge Geotechnical Design Report.

- **Wind Farm for NRS, 2019**

Julian was design engineer for a windfarm in Boolard, Cork. He was in charge of defining the foundations, access roads, hardstands as well as the inspection plan. He has also monitored the quality control for earthworks and fill materials.

- **Extension to Substation for Jacobs, 2019**

Julian was monitoring and reporting the site investigation for a green energy substation extension in Thurles, Co. Tipperary.

- **Windfarm for MKO, 2019**

Julian was involved in the preliminary geotechnical investigation for a windfarm in Derrinlough, Co. Offaly.

- **Dewatering system for Roadbridge, 2019**

Julian has designed a temporary dewatering proposal for a data centre project located immediately to the north of Junction 4 of the M3 motorway at Clonee, Co. Meath, consisting in a perimetric ditch with pumping stations, line of water treatment and avoidance protocols for environmental risk assessment.

- **Improvement works to the Great Southern Greenway for Limerick City & County Council, 2022**

Julian has designed the Site Investigation plan for the improvement works to be carried out on the Great Southern Greenway Limerick, which include resurfacing, drainage improvements, farm crossing improvements, public road crossing improvements and various related ancillary works.

- **Cloncreen Wind Farm design for Farrans, 2019**

Julian was involved as project engineer for foundations proposal for a wind farm tender in Cloncreen for Farrans.

- **Site investigation, in-situ & laboratory testing for edification in IGSL, 2018**

Julian has been in charge of many projects regarding edification, urban development and environmental studies for companies such as Graham, Benett, Jacobs, McLaughlin & Harvey, Cairn Homes, Flynn Management & Contractors and Park developments.

- **Saudi Arabian Railway Company, 2017**

Julian has been a resident and geotechnical engineer for Saudi Arabian Railway Company (SAR) civil tracks works in Jubail, line CTW130. He has also been resident and geotechnical engineer for SAR civil track works in Ras-Al-Khair, line CTW140. He has been a design reviewer and monitored the works for dynamic replacement method for ground improvement in very loose sands (Sabkha formation). He has given assistance, monitoring and advice for site investigation and geotechnical assessment in Dammam, line CTW120.

- **Geotechnical Engineering for Site Investigation in residential project area near Riyadh, 2016**

Julian has managed the preliminary geotechnical investigation prior design for an urban development near Riyadh for Arriyadh Development Authority (ADA).

- **Geotechnical engineering for Site Investigation in 50 MWac PV Plant at Layla, Al-Alflaj Province for Taqnia Energy, 2016**

Julian has designed the geotechnical site investigation as well as selected, recruited and monitored the geotechnical company for drilling and testing. The project is comprised of design & built of a 50 MWac Photovoltaic Plant beside Layla town, in Al-Alflaj Province for Taqnia Energy.

- **Geotechnical engineering and Site Investigation in a pipeline project from Haradh to Riyadh (KSA) for NWC, 2016**

Julian has managed and monitored the site investigation for a 360 km long drinking water pipeline connecting Haradh water treatment plant and the south of Riyadh for the National Water Company (NWC) of Saudi Arabia.



Julian Borlado

Senior Project Geotechnical Engineer



DESIGNING AND DELIVERING
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- **Geotechnical Engineering and Site Investigation for Riyadh Metro Project Package 3 (Lines: 4, 5 and 6) (2014 to 2016) for Arriyadh Development Authority (ADA)**

Julian has managed and monitored the site investigation for Riyadh Metro Project Package 3 (Lines: 4, 5 and 6). He has also monitored karstified limestone grouting for tunnelling, underground stations founding, depot and shafts. He has been involved in the geotechnical interpretative reports and detailed design. He has monitored geotechnics during construction, specially tunnelling and excavations.

- **Geotechnical, geological and structural monitoring in High Speed Train Tunnel construction (2009 to 2012) for ADIF, Spain**

Julian has been involved in geotechnical, geological and structural monitoring in High Speed Train Tunnel construction with the following responsibilities:

- Advice and monitoring for ground improvement consisting in a jet-grouting columns grid performed on a superficial slab;
- Geotechnical research to predict the tunnelling influence;
- Auscultation monitoring data in tunnel and surface by GIS;
- Structural construction monitoring;
- Geological monitoring by three methods;
 - Monitoring in excavation face;
 - Mapping research;
 - Geological surveys;
- Development of technical drawings and maps by specialized software.



Leigh Doyle

Project Engineer



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

Profile

Leigh is a Project Engineer at Fehily Timoney and Company with 3 years experience working in the Energy and Planning department. He holds a ME degree in Civil, Structural and Environmental Engineering from UCC.

Leigh currently works on renewable energy projects preparing traffic and transport chapters of the EIAR for wind farms, Environmental and Planning Reports for solar farms, and grid infrastructure developments. He also has experience in the design of renewable energy developments. He conducts walkover surveys inspecting environmental constraints on site and carries out site access assessments for several wind and solar farm sites to ensure the desired entrances meet TII guidelines.

Key Skills

Leigh has experience in the following:

- EIAR, EIA
- Renewable Energy Development Design
- Coordination of Feasibility Studies
- Site Assessment
- Declaration of Identity and Planning Compliance Inspections
- Roads Department Consultation

Previous Experience Essentials for this Project

- **Fahy Beg Wind Farm, 2023.**
Fahy Beg is an onshore wind development in Co. Clare comprising 8 turbines and a total installed capacity of up to 38MW. Leigh was responsible for the Traffic and Transport chapter of the EIAR and the design of site entrances for the wind farm. Leigh conducted site walkover assessments within the quarry site to determine a suitable location for the onsite substation. The application was successfully submitted to the local authority in early 2023.
- **Ballylongford Solar Farm,**
Ballylongford Solar Farm is a 70MW commercial solar farm development in Co. Kerry. Leigh coordinated the site entrance and traffic impact assessment and design of the site and led the consultation with the local roads department. He was responsible for the Traffic and Transport assessment and the Construction Environmental Management Plan within the Planning and Environmental Report. The project received a conditional grant of permission from the local planning authority.
- **Rahanisky Solar Farm, Ongoing.**
Rahanisky Solar Farm is a 30MW commercial solar farm development in Co. Cork. Leigh led and coordinated the initial feasibility and design of the site which progressed to planning application stage. He is responsible for the Traffic and Transport assessment and the Construction Environmental Management Plan within the Planning and Environmental Report.
- **Milltownpass Wind Farm, Ongoing.**
Milltownpass wind farm is a 4 turbine wind energy development located in Co. Westmeath. The development has a total installed capacity of up to 29 MW. Leigh

Key Information

Qualifications

Masters (ME),
Civil, Structural &
Environmental Engineering,
University College Cork, 2021

Certificate in Professional
Engineering, Engineers Ireland and TU
Dublin, 2023

Professional Memberships

Member of the Institution of
Engineers of Ireland (MIEI)

Employment History 2023 – Present

Fehily Timoney & Company
Project Engineer

2021 – 2023

Fehily Timoney & Company
Graduate Engineer

2020

Fehily Timoney & Company
Intern

2019

Sweco UK Ltd
Student Internship

Summer 2017 & 2018

Doyle Bros Construction
Construction Operative



Leigh Doyle
Project Engineer

is leading the design of the wind farm incorporating the internal civils layout of onsite access tracks and drainage network, hard standings, turning heads, and associated ancillary infrastructure. Leigh conducted the site access survey for the site to determine suitable entrances which conform to TII requirements for direct accesses and completed a walkover of drainage and hydrological features on site.

- **Millvale Declaration of Identity (DoI) and Planning Compliance, 2021.**

Leigh led the site inspection for the first commercial Irish solar farm DoI and Planning compliance checks. He completed the compliance report providing evidence of the development conforming to local authority planning conditions and ensured development boundaries were within the consented lands.

- **Counnagappul Wind Farm, Ongoing.**

Counnagappul wind farm is a large scale wind energy development located in Co. Waterford. The wind farm comprises 11 turbines with a total installed capacity of up to 72MW. Leigh assisted in the design of wind farm infrastructure including the design of a bridge crossing location. Leigh was responsible for the Traffic and Transport assessment and Scoping Report for the wind farm application.

- **Woodstock Tourism Accommodation, 2021.**

Prepared the Engineering Feasibility Report for a 60 unit tourism accommodation development within the Woodstock Estate of Instioge, County Kilkenny. The report evaluated the viability of the development in terms of site access, location of the development, services, water and wastewater, and ancillary facilities.

- **Dunkettle Interchange Upgrade Scheme, Ongoing.**

Responsible for environmental monitoring (noise, vibration, and particulates) at Viatris pharmaceutical manufacturing plant for a major infrastructure project including site visits, troubleshooting, maintenance, and online monitoring.

- **Ballinagree Wind Farm, Co. Cork.**

Conducted a geotechnical walkover – including peat depth probing, shear vane tests, recording slope angles and identifying possible borrow pit locations. Carried out a receptor survey on site to determine active dwellings and commercial buildings in the vicinity of the wind farm site. Undertook a planning search for the site to determine nearby developments.

- **Annagh Wind Farm, Cork.**

Undertook a bridge inspection and assessment of proposed horizontal directional drilling location and assessment of the local road network along the turbine delivery route for a 6-turbine wind farm application in North County Cork.

- **Knockraha Synchronous Compensator, Cork.**

Conducted a site access survey to determine suitable entrances to the site that conform to TII requirements for direct access. Completed a geotechnical walkover of ground conditions on site.

- **Acres Wind Farm, Co. Donegal.**

Produced a report assessing the shadow flicker control system within the 6-turbine wind farm. The report reviewed datasets of the control system within the 6 turbines, receptors captured in the control system, and excluded receptors which FT identified. The report recommended remapping of receptors within the shadow flicker buffer zone and revised shut down durations to minimize shadow flicker events going forward.



Maureen Marsden

Project Acoustic Engineer



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

Profile

Maureen is a Project Acoustic Engineer with Fehily Timoney & Company. She has an MEng in Acoustics and Vibration from Southampton University (Institute of Sound and Vibration Research). She is a member of the Institute of Acoustics and Engineers Ireland.

Maureen has over 20 years' experience across a broad range of acoustics & vibration. She has experience of noise and vibration measurement and assessment across a variety of sectors, including building, industrial and transportation projects.

Previous Experience Essentials For This Project

• Transportation Projects 1994 -2011

Predicted operational and construction noise for a range of railway transport projects including highspeed rail and tram projects. Measurement of noise levels post construction at Docklands Light Railway extension. Measured noise from operational Docklands Light Railway Extension post completion to determine compliance. Measured internal noise of Inter city trains for the purpose of developing a specification for new rolling stock.

Measured in-site performance of acoustic barriers on motorways in Ireland. Predicted noise from upgrade to N19 upgrade project during the route selection stage.

Managed baseline noise survey prior to construction of Dublin Port Tunnel.

Projects include Sunderland Metro, UK, East Coast Main Line Upgrade (UK), Docklands Light Railway Extension. Dublin Port Tunnel, N19 upgrade route selection stage

• Building Acoustic Projects, 2002 - 2019

Provided acoustic advice on a range of building acoustic projects including residential, hotel, school, commercial and entertainment developments. Advised on sound insulation requirements for meeting building regulations. Advised on external building envelope design to meet suitable internal acoustic criteria. Predicted mechanical services noise to meet Local Authority noise criteria. Provided advice on meeting internal acoustic absorption requirements for a range of projects including community halls, churches, sports halls. Sample projects include Travelodge hotels, Chelsea Academy and Hammersmith Academy Schools.

• Industrial Noise Assessments, 2011 - 2019

Predicted noise from a range of industrial sites including LNG facilities, dairy facilities, water works and power plants to advise on noise control measures to meet appropriate environmental legislation. Also predicted in-plant noise contours for purposes of meeting Noise at Work requirements. Sample projects include Thames Water projects, Ballyragget Glanbia site, Jazan Refinery, Saudi Arabia. Gas Networks Ireland – multiple sites, Compressed gas installation Whitegate, Kilkenny Water Projects, Thames Water Noise Impact Assessment, Bioatlantis, Kerry.

• Compliance Monitoring at EPA Licenced Facilities

Measured and analysed boundary noise measurements at licenced waste facilities to determine compliance with noise conditions of the site licence.

Key Information

Qualifications

MEng. Acoustics and Vibration,
Southampton University (ISVR), 1994

Professional Memberships

Institute of Acoustics
Engineers Ireland

Employment History

2019- Present

Fehily Timoney & Company
Project Acoustic Engineer

2017- 2018

Resonate Acoustics
Acoustic Consultant

2015- 2017

Soundsorba
Sales Engineer

2011- 2015

Kellogg Brown and Root
Acoustic Engineer

2011- 2011

Mott Mac Donald
Acoustic Consultant

2008- 2010

Applied Acoustic Design
Acoustic Consultant

2007- 2008

Hoare Lea Acoustics
Acoustic Consultant

2002- 2006

Sound Research laboratories
Acoustic Consultant

2001- 2002

RPS
Acoustic Consultant

1998- 2001

Arup Acoustics
Acoustic Engineer

1996- 1998

Hotpoint Ltd
Acoustic Engineer

1993- 1996

British Rail Research
Sponsored Student/Research
Assistant



John Cullen

Senior Project Acoustic & Environmental Engineer



DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

Profile

John is a Senior Project Acoustic Engineer / Environmental Engineer with Fehily Timoney & Company. He holds a BAgSc in Agri-Environmental Science from University College Dublin, a P.Grad.Dip in Environmental Engineering from Trinity College Dublin and a Diploma in Acoustics and Noise Control from the Institute of Acoustics, receiving the award for “Best Performing Irish Student” from the Institute of Acoustics. He is a member of the Institute of Acoustics, Institute of Environmental Sciences and the Institute of Engineers Ireland.

John has experience in the delivery of Environmental Impact Assessment Reports for a wide range of developments, including proposed Wind Farms, Solar Farms and Battery Energy Storage Systems (BESS), Waste Facilities, Anaerobic Digestion Plants and proposed residential and industrial developments.

John has extensive experience in carrying out environmental noise surveys and assessments on behalf of a wide range of clients. He has completed computational noise models and noise impact assessments for a range of developments, including residential, industrial and renewable projects. He has carried occupational noise and hand-arm/whole body vibration risk assessments in accordance with the requirements of the Irish & UK workplace noise & vibration regulations. He has also acted as Lead Acoustic Consultant carrying out building acoustics assessments for a range of commercial and residential developments in Ireland, the UK and Europe.

John has carried out in-situ acoustic measurements of road noise barriers on behalf of Transport Infrastructure Ireland (TII), to determine acoustic performance of barriers throughout Ireland, including sound reflection (EN 1793-5) and airborne sound insulation (EN 1793-6). He is the Co-Author of research paper titled “Monitoring of Acoustic Performance of Noise Barriers along Roads in Ireland”, presented at Transport Research Arena (TRA) 2024.

John has acted as Lead Verifier for the Bord Bia ‘Origin Green’ scheme, completing site and desk-based sustainability verification audits for a wide range of Origin Green members, from small food producers to multinational food retail and brewing companies.

Previous Experience Essentials For This Project

- **Fehily Timoney and Company, 2022 – Ongoing**

John is a Senior Project Acoustic Engineer / Environmental Engineer working as part of the Circular Economy and Environment team, delivering Environmental Impact Assessment Reports (EIARs), environmental management plans and licence applications/ compliance.

John has experience in the delivery of Environmental Impact Assessment Reports for a wide range of developments, completing noise surveys, computational noise models, noise impact assessments and noise mitigation schemes for proposed developments, participating in stakeholder engagement and public consultation, liaising with landowners to agree environmental monitoring programmes for proposed renewable energy projects, managing a team of subcontractors and coordinating the completion of ecological field surveys and assessments and participating in public consultation events with stakeholders.

Key Information

Qualifications

Diploma in Acoustics and Noise Control, Institute of Acoustics via Trinity College Dublin
2019 – 2020

Post Graduate Diploma in Environmental Engineering (NFQ Level 9) (P.Grad.Dip), Trinity College Dublin
2014 – 2015

Agri-Environmental Science (NFQ Level 8) (BAgSc) University College Dublin
2009 – 2013

Professional Memberships

Institute of Engineers Ireland (MIEI)

Institute of Acoustics (AMIOA)

Institute of Environmental Sciences (MIEnvSc)

Institute of Air Quality Management (MIAQM)

Employment History

2022- Present

Fehily Timoney & Company
Senior Project Acoustic Engineer / Environmental Engineer

2021- 2022

Self-employed Environmental & Acoustic Consultant

2016- 2021

Environmental Efficiency Consultants
Environmental & Acoustic Consultant

2015 - 2016

Philip Farrelly & Co.
Agri-Environmental Consultant

2014 - 2015

Verde Environmental Group
Environmental Operative



John Cullen

Senior Project Acoustic &
Environmental Engineer



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Recent projects include: Noise impact assessment for Ballynahone Long Duration Energy Storage (LDES) scheme in Co. Donegal, noise impact assessment and IE Licence application for a 250,000 TPA waste facility in Co. Dublin, noise impact assessment for Rosspile Solar Farm & BESS Co. Wexford, noise impact assessment for the N19 Shannon Airport Access Road Improvement Scheme and undertaking in-situ acoustic measurements of road noise barriers throughout Ireland on behalf of TII. John has provided technical environmental support to Local Authorities, carrying out technical reviews and providing advice on environmental documents submitted as part of planning applications.

John has undertaken baseline noise surveys and carried out construction & operational noise assessments for proposed Solar Farms and Wind Farms throughout Ireland, including: Kilcormac Solar Farm, Rahanisky Solar Farm, Ballylongford Solar Farm Cortown Solar Farm, Barnadivane Wind Farm, Coom Green Park, Tullahennel Wind Farm, Dernacart Wind Farm and Coumnaagappul Wind Farm.

- **Self Employed – Environmental & Acoustic Consultant, April 2021 – 2022**

Carrying out subcontract acoustic & environmental consultancy services including environmental noise monitoring & assessments, noise impact assessments, occupational noise & vibration assessments, sound insulation testing and building acoustics assessments. Environmental consultancy services including air quality assessments, bund integrity assessments, and verification audits for the Bord Bia 'Origin Green' sustainability programme. Agri-Environmental advisory services including BPS & Entitlements applications, REAP environmental scheme farm assessments, soil sampling and Nutrient Management Planning

- **Environmental Efficiency Consultants, Bray, January 2016 – April 2021**

John was an Environmental & Acoustic Consultant providing environmental consultancy services to clients across a wide range of sectors, including industrial, pharmaceutical, construction/quarrying and agri-food/drink. Working as part of a multi-disciplinary team delivering environmental reports, management plans, impact assessments, licence/permit applications and environmental compliance consultancy. Working across various areas of environmental consultancy, specialising in noise & acoustics.

His role involved developing project proposals & quotations, project management, research, carrying out and coordinating environmental monitoring & field surveys (Air quality, biodiversity, bunds, noise, vibration & water), liaising with sub-contractors and regulatory bodies, interpreting monitoring results & data, and technical report writing.

John acted as Project Manager for the delivery of the environmental monitoring schedule for a leading quarry operator at numerous sites throughout Ireland, including noise, dust, air emissions and water quality. Duties included coordinating regular sitework & field monitoring, managing junior staff, interpreting monitoring results & data, reporting, liaising with the client and Local Authorities. John acted as Lead Auditor for the Bord Bia 'Origin Green' sustainability programme. John undertook noise and air emissions monitoring for the validation of newly installed gas engines used for power generation at multiple sites throughout the UK and carried out an Indoor Air Quality Assessment at a refurbished brewery in Kisumu, Kenya for a multinational brewing organization, to assess performance with regards to the requirements of the LEED building performance standard.

- **Philip Farrelly & Co., Balbriggan, March 2015 – January 2016**

John was an Agri-Environmental Consultant providing technical agri-environmental advisory services to clients. He was also responsible for soil sampling & analysis, nitrates & nutrient management planning, ecological field surveys, and agri-environmental scheme consultancy.

- **Verde Environmental Group, Kilcoole, January 2014 – March 2015**

John was an Environmental Operative responsible for contaminated site investigation, drilling works, environmental monitoring (soil, water & air), site remediation and groundworks, and installing/maintaining on-site remediation systems.



Tom Clayton

Associate Director (Geotechnical)



DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

Profile

Tom is a Chartered Engineer with a total of 15 years of experience within the geotechnical sector having developed excellent skills in analytical design (including finite element analysis), project and team management.

Tom has significant and broad experience in the geotechnical sector, having developed key expertise in transport geotechnics (for road, rail, underground rail schemes, active travel and greenway schemes), deep excavations and shafts (primarily in the Middle East and London) and Energy Geotechnics (both for solar and wind farms).

Tom also specialises in earthwork stabilisation and has worked in asset management and design consultancy roles for both highways and rail projects.

Tom has 10 years' experience as geotechnical lead on a variety of projects with over 5 years of this experience as the lead geotechnical engineer in Fehily Timoney.

H&S

Tom has been responsible for the management of Design Health and Safety at all stages of projects from conception to construction completion both in the UK and Ireland. Tom has overseen Design Stage Health and Safety across different sectors, including ground engineering, roads and rail projects. Tom has undertaken the role of PSDP on a number of projects.

Key Skills

Tom's experience includes:

- Geotechnical Engineering
- Geotechnical Design
- Site Inspections
- Deep Excavations & Underground Structures
- Geotechnical Asset Management & Slope stabilisation
- Site Investigation

Previous Experience Essentials for This Project

Deep Excavations

- **Thames Tideway Tunnel Tender (West & Central Station) – Ferrovial Laing O'Rourke, 2014**

Geotechnical Designer producing geotechnical interpretative and tender design notes for Thames Tideway Tunnel West & Central section tender (total value approximately £300M – 500M for each section). Interpretation of ground investigation, production of characteristic design values, designer's risk assessment, preliminary design and input into the contractor's risk analysis. Leading a team of two engineers.

- **STEP Tunnel, Abu Dhabi – Samsung, 2011**

Design of circular shafts using Plaxis2D including uplift calculations and consideration of internal water pressure and structures. Mentoring a trainee engineer.

Key Information

Qualifications

MEng. (Distinction) Civil Engineering,
University of Surrey, 2008

BREEAM Infrastructure Assessor

Professional Memberships

Institution of Civil Engineers
(Member) 2015

Chartered Engineer (CEng), 2015

Employment History

2016- Present

Fehily Timoney & Company
Principal Geotechnical Engineer

2008 – 2016

Arcadis UK (Formerly Hyder
Consulting)

2004 – 2008

Hyder Consulting (Undergraduate)



Tom Clayton

Associate Director (Geotechnical)



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- **Whitechapel Station (Crossrail) – Crossrail, 2011**

Undertook geotechnical design on structures at Whitechapel Station. Work included finite element modelling and pseudo finite element modelling of deep box structures constructed using diaphragm walls with incoming and adjacent tunnels, pile design, 2D PFE modelling and design of multi-propped contiguous pile walls and preparation of geotechnical baseline reports.

- **Botanica Tower, Dubai & Al Quds Tower - Doha Select Group, 2010**

Completed a piled raft foundation design for a 40 storey structure in Dubai with 3 basement levels and a 100 storey tower with 5 basement levels and associated podium structures. Tom produced a finite element models (in MidasGTS) of the tower foundations in order to calculate settlement and pile forces and verified the results using several other computer packages.

- **Khatt Hotel, Ras Al Khaimah - Khatt Hotel, 2007**

On site as the supervising engineer at the Khatt Hotel, a ground and structural stabilisation project in the United Arab Emirates. Tom's responsibilities included daily supervision of micro-piling and retaining wall construction, monitoring of structural cracks and slope movements and general liaison with the Contractor's engineers on site to ensure compliance with specification.

- **Borough Green to Trosley Pipeline Directional Drilling, 2010**

Specification and supervision of ground investigation, preparation of a design report including settlement calculations for a directionally drilled pipeline below the M20 motorway in Kent. Liaison with the Highways Agency to ensure approval. Supervision of directional drilling works to ensure specified settlement criteria were met.

Dynamic Compaction

- **Al Falah Ground Improvement Scheme, Abu Dhabi - Fluor, 2009**

Settlement calculations based on the interpretation of CPT and Pressuremeter data and comparison against calculated trigger values to ensure adequate improvement of ground stiffness by dynamic compaction methods. This scheme was, at the time, thought to be the largest ground improvement scheme in the world.

Roads

- **N19 Shannon Airport Access Road, Ongoing**

Associate Geotechnical Director geotechnical assessments as part of Phase 1-4 of the EIAR process. Scope, procure and manage the detailed ground investigation for the scheme, involving scheduling of laboratory testing on soil and rock samples, including soft ground. Provision of a GIR and GDR for the scheme.

- **Dunkettle Interchange, Ongoing**

Principal Engineer for the reconfiguration of the Dunkettle Interchange to a free flowing interchange including:

- A series of direct road links between the N8, the N25 and the N40 and links to the R623 Regional Road in Little Island and Burys Bridge in Dunkettle;
- 1 grade separated junction arrangement at the existing N25 to the east of the existing Dunkettle Interchange;
- 4 roundabouts – 2 at the grade separated junction and 2 at tie ins with the existing road network;
- 51 major structures of various forms;
- Several culverts where the scheme crosses watercourses or intertidal area
- Pedestrian and cyclist facilities; and
- Modification of the existing Silversprings junction on the N8 Lower Glanmire Road

Geotechnical lead for structures foundations and approximately a third of the earthworks. Responsible for the scoping of the ground investigation, preparation of specification and bill of quantities, managing a team of supervisors on site, laboratory testing scheduling and interpretation of two phases of extensive ground investigation for this significant infrastructure project.

- **A737 Dalry Bypass - Farrans-Roadbridge, Ongoing**

Tom has been responsible for project management of the design of the Dalry Bypass during the latter design phase and through construction to date. He has acted as a geotechnical auditor and internal checker for earthworks packages delivered. Tom also undertook design of a pipeline protection slab related to SGN infrastructure crossing the proposed alignment.

- **Manchester Smart Motorway - Highways England, 2014**

Completion of a Preliminary Sources Study and detailed design for gantries and retaining structures for a £208M "Smart motorway" scheme on the M60/M62. Leading a team of two graduate engineers and up to three engineers based in India. The role involved the development of characteristic design values, pile group analysis for all gantries and design of retaining structures on sloping ground. Preparation of Design Risk Assessments for all designs.



Tom Clayton

Associate Director (Geotechnical)



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- **Geotechnical Asset Management Plan – Highways England, 2013**

Tom completed a full review of the asset inventory in Mac Area 3, prioritised earthwork repairs based on the Value Management Plan, risk profiling and available economic and physical resources and produced a five-year plan for earthwork remedial works across the area.

- **Area 3 Value Management Plan – Highways England, 2013**

Tom undertook detailed design a sheet pile based widening scheme to facilitate a new slip road at Milton Interchange which was in turn related to a new housing development adjacent to the site. This included the use of retaining wall design software, specification, Designer's risk assessments (in accordance with CDM regulations) and all other documentation for a "For Construction" set of documents.

- **Area 3 Principal Earthwork Inspections– Highways England, 2013**

Tom managed a team of 3 Geotechnical Engineers to undertake Principal Inspections (and undertook inspections himself) across the Area 3 network across two annual inspection cycles, totalling some 500 miles of highway geotechnical asset. Tom used a PDA on site to enter information into the Highways England HAGDMS database and then carried out quality control assessments on the data. Tom also trained other staff in the undertaking of geotechnical earthwork inspections. Tom produced a safety system for inspectors which complied with the Highways England methodologies for working on the highway which included a buddy and daily reporting system.

- **EM47609 – M4 J10 Granular Repair – Highways England**

Project Manager and design lead for a granular repair adjacent to a highway bridge at M4 J10. Tom undertook scoping and management of site investigation, supervision of site clearance and site investigation, undertook the role of Contractor on site from a health and safety perspective. Carried out detailed design and liaised with the site team to ensure compliance with the design.

- **M25 Rapid Widening – Highways England, 2006**

Undertook design of retaining walls, re-graded slopes, reinforced soil and soil nails using computer analysis programs to BS8002 and BS8004 for the Rapid Widening of a section of the M25 Orbital Motorway, London, UK.

- **A34 Milton Interchange Slip Road – Highways England, 2013**

Tom undertook detailed design a sheet pile based widening scheme to facilitate a new slip road at Milton Interchange which was in turn related to a new housing development adjacent to the site. This included the use of retaining wall design software, specification, Designer's risk assessments (in accordance with CDM regulations) and all other documentation for a "For Construction" set of documents.

Chieveley Pond Flood Alleviation Scheme – Highways England, 2013

Project Manager for the undertaking of ground investigation at Chieveley Ponds, which involved the completion of boreholes and the installation of water level data loggers to assess the viability of an alleviation scheme for road surface flooding at the junction. Tom completed the ground investigation tender and completed CDM documentation for same.

- **M27 Romsey Bridge– Highways England, 2013**

Project Manager for the replacement of an existing bridge structure. This project included the consideration of the re-use of bridge abutment piles and an assessment of load takedown for a new structure. Tom also undertook scoping and specification of ground investigation at the site as well as preparation of CDM documentation for same.

Rail (Summary)

- **Wessex CP5 Design Manager Role – Network Rail, 2015**

Project Manager of 10+ schemes totalling £1M+ of design fee. Tom coordinated a multi-disciplinary design team and liaised closely with a co-located team from the client (the contractor) and NR. Tom administered the contract (early warning notices, change controls etc.), compiled fee proposals, created and maintained a programme and managed client expectations. Tom was also responsible for ensuring that all design team risk assessments were completed and collated in accordance with CDM regulations.

Wessex CP5 Technical Lead Role – Network Rail, 2017

Design lead of a team of up to 5 geotechnical engineers and CAD staff producing designs for multiple earthwork stabilisation projects in the NR Wessex region of total values ranging from £200k to £2M. Tom produced Option and Feasibility Reports and ground investigation specifications. Tom adhered to the NR design process (Form 001, 002 and 003) to produce detailed designs for earthwork schemes including soil nailing, sheet piling, gabions and king post walls. Tom also produced Designer's Risk Assessments for each scheme.



Tom Clayton

Associate Director (Geotechnical)



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Rail (Expanded)

- **Allington – Osborne (Network Rail Framework), 2016**

Tom was the Project Manager and Geotechnical Design Manager for this railway embankment stabilization project in Hampshire, UK. The design utilized sheet piles and retaining walls to provide cess retention and stabilize a slope which had been subject to significant rotational failures and track misalignment. This project was completed through Network Rail's GRIP process from conception to final detailed design.

- **BKE Line – Osborne (Network Rail Framework), 2016**

Tom used his extensive experience in earthwork slope stability in the London area to develop a set of key indicators for slope instability (including geology, slope geometry, ballast depths, train rough ride reports etc.) and then, using the extensive data available in the Network Rail records, developed a rating system for the BKE line which identified areas of high risk for slope instability. This system was developed using ArcGIS Online and provided Network Rail with real time access to the information in graphical format as information layers on a map.

- **Bracknell Slope Stability Assessment – Osborne (Network Rail Framework), 2016**

Tom was the Project Manager and Geotechnical Design Manager / Lead for this slope stability assessment for a failing slope at Bracknell, Berkshire, UK. Tom carried out a visual inspection, scoped ground investigation and undertook monitoring of adjacent drainage and structural assets in order to determine the likely cause of the slope failure.

- **Cess Retention Improvement – Osborne (Network Rail Framework), 2016**

Tom was the Project Manager and Geotechnical Design Manager / Lead for this report which investigated cess retention measures (including gabions, king post walls, ruglei system, sheet piles etc.) and looked at their advantages and disadvantages. Standard details were also provided.

- **Firwood – Osborne (Network Rail Framework), 2016**

Tom was the Project Manager and Geotechnical Design Manager / Lead for this slope stabilisation project at Firwood, UK. The project involved the construction of a king post cess retention system to prevent further movement of the tracks due to overfilled ballast. The project was completed from conception to completion on site.

- **Grayswood – Osborne (Network Rail Framework), 2016**

Tom was the Project Manager and Geotechnical Design Manager / Lead for this slope stabilisation project at Grayswood, Hampshire, UK. The project involved the use of sheet piles and a combined cess / surface water drainage system in order to provide stability for a long stretch of railway which had been the site of several slope failures in recent years. The project was completed from detailed design stage up until completion on site.

- **Liphook Station – Osborne (Network Rail Framework), 2016**

Tom was the Project Manager and Geotechnical Design Manager / Lead for this slope stabilisation project at Liphook, Hampshire, UK. The project was split into two sections, the first was an emergency works scheme where a temporary bagwork support system was installed prior to a permanent works design consisting of a gabion wall and regrade solution. The project was completed from detailed design stage up until completion on site.

- **Wessex Rapid Response – Osborne (Network Rail Framework), 2016**

Tom was the Project Manager and Geotechnical Design Manager / Lead for the development and management of the Wessex Rapid Response system which involved the generation of standard designs and a rota system for weekend and holiday periods during the winter. Solutions involving gabions, bagwork and sheet piles were proposed and designed for standard situations that could be used in an emergency situation. Tom also administered the rota and responded to emergency schemes during this time. Notable emergency projects included the Liphook Embankment, Botley Embankment Failure and Wrecclesham slope failure.

- **West Clandon – Osborne (Network Rail Framework), 2016**

Tom was the Project Manager and Geotechnical Design Manager/Lead for this slope failure at West Clandon, Surrey, UK. The project involved the repair of an existing repair which was failing and encroaching on the tracks at West Clandon. The solution involved the use of sheet piles to the rear of the cut and a regrade to the front to ensure a sufficient factor of safety and divert substantial surface flows to a nearby stream. Tom completed this project from initial site visit to completion on site.

- **Withy Beds Feasibility Study – Osborne (Network Rail Framework), 2016**

Tom undertook a feasibility study for this 1.5km long site in Surrey, UK which had been subject to multiple slow failures throughout recent times. Tom proposed a set of solutions, including cess retention, soil nailing and sheet piling at different areas depending on local conditions. Tom used GPR to identify the depth of ballast and as an indicator for potential slope stability issues and previous settlement.



Tom Clayton

Associate Director (Geotechnical)



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- **Wrecchesham Emergency Works – Osborne (Network Rail Framework), 2016**

Tom was the Project Manager and Geotechnical Design Manager / Lead for this emergency works slope failure at Wrecchesham, Hampshire. Tom undertook a site visit, scoped ground investigation and managed the procurement of site investigation. Tom then provided Network Rail with a temporary design and permanent design for the scheme and liaised with Network Rail and the contractor throughout the construction of the temporary design (which consisted of a tied back sheet pile wall with deadman anchors).

Peatland Restoration

- **Derryclare Peat Restoration Project – MKO/Coillte, 2023**

Associate Geotechnical Director for this peat bog restoration project in Co. Galway. Work included peat stability assessment, peat probing.

Flood Defences

- **IDA Limerick Flood Alleviation Scheme – IDA, 2021**

Lead Geotechnical Engineer for this flood defence scheme. Responsible for scoping, procuring, supervising site investigation consisting of trial pits, boreholes, geophysics and laboratory testing. Scheduling of laboratory testing. Interpretation of ground investigation and inputs to preliminary design for flood defence scheme.

- **Titchwell Marsh, Norfolk – RSPB, 2021**

Acted as consultant's representative on site at RSPB Titchwell Marsh for this flood defence and managed retreat scheme aiming to create new saltmarsh and protect existing Freshwater marsh, liaising with the client and the contractor and managing site queries, design changes (including updates to Design Risk Assessments) and payment certification to the contract.

Greenways

- **Grand Canal Greenway Phases 1 & 2, Ongoing**

Associate Geotechnical Director responsible for the design of works for the Grand Canal Greenway Phases 1 & 2. The projects include the design, procurement and construction supervision for walking and cycling routes along the grand canal, including new pedestrian bridges, canal bank widening, pavement design, under bridge crossings and design of trail heads. Total length is approximately 40kms. Scope included scoping, procuring, supervising site investigation consisting of trial pits, boreholes, geophysics and laboratory testing. Scheduling of laboratory testing.

- **Wexford to Rosslare Greenway, 2020**

Associate Geotechnical Director responsible for the route selection, preliminary design, environmental assessment and statutory consent processes for the greenway. The Wexford Town to Rosslare Strand Greenway route will commence in the vicinity of proposed Trinity Wharf development in Wexford Town and extend in southerly direction over an approximate distance of 10-12km to terminate at Rosslare Strand Train Station.

- **Limerick Greenway Limerick, €10M, 2022**

Associate Geotechnical Director for the design of improvement works to 40km of the great southern greenway in Limerick. Works include widening, resurfacing, over bridges and under passes, drainage improvements and trailhead design. Scope included scoping, procuring, supervising site investigation consisting of trial pits, boreholes, geophysics and laboratory testing. Scheduling of laboratory testing. The design phase has been completed and the project is commencing construction.

- **Barrow Blueway Road Crossings, €TBDM, Ongoing**

Associate Geotechnical Director for the design of road crossings and new pedestrian bridges associated with the Barrow Blueway. Scope included scoping, procuring, supervising site investigation consisting of trial pits, boreholes, geophysics and laboratory testing. Scheduling of laboratory testing.

Wind

- **Ballivor Wind Farm – MKO, 2023**

Associate Geotechnical Director for this Peat Stability Assessment and Peat & Spoil Management Plan for EIAR submissions. Site walkover, collation of data, stability assessment, assessment of peat and spoil volumes. Scope, procure and supervision of ground investigation on peatland site and scheduling of laboratory testing.

- **Sheskin South Wind Farm – MKO, 2023**

Associate Geotechnical Director for this Peat Stability Assessment and Peat & Spoil Management Plan for EIAR submissions. Site walkover, collation of data, stability assessment, assessment of peat and spoil volumes. Scope, procure and supervision of ground investigation on peatland site and scheduling of laboratory testing.



Tom Clayton

Associate Director (Geotechnical)



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- **Glenora Wind Farm – MKO, 2023**

Associate Geotechnical Director for this Peat Stability Assessment and Peat & Spoil Management Plan for EIAR submissions. Site walkover, collation of data, stability assessment, assessment of peat and spoil volumes. Scope, procure and supervision of ground investigation on peatland site and scheduling of laboratory testing.

- **Croaghaun Wind Farm, 2022**

Associate Geotechnical Director for the production of EIAR Soils & Geology Chapter for this wind farm project.

- **Coom Green Energy Development, 2020**

Associate Geotechnical Director for the production of EIAR Soils & Geology Chapter for this wind farm and solar energy project in Co. Cork. Included the scoping, specification, procurement, supervision, management and interpretation of ground investigation and scheduling of laboratory testing.

- **Derrinlough Wind Farm – Bord na Mona, 2022**

Associate Geotechnical Director providing geotechnical advisory to Bord na Mona for this wind farm project. Included the completion of laboratory testing schedules to allow detailed design of all elements of the works on this project.

- **Kilgallioch Wind Farm, Farrans, 2018**

Tom took over the Project Manager role for this award winning 96 turbine wind farm project in Scotland towards the end of the construction stage and was responsible for closing out as-built drawings. Tom also undertook the role of Geotechnical Design Lead for a replacement turbine foundation at one location and undertook the formation inspection during the construction of this turbine.

- **Derrysallagh Wind Farm Substitute Consent – Kilronan Wind Farm Ltd, 2018**

Tom was the Geotechnical / Geology Lead for the preparation of a Soils, Geology and Hydrogeology chapter for a retrospective EIS relating to the construction of an electrical cable route from Derrysallagh Wind Farm to a nearby electrical sub-station. As part of this assessment, Tom undertook a full desk study, site visit and provided an assessment of potential and cumulative impacts of the development (including with the wind farm development itself) and mitigation measures that could be implemented.

- **Gortfinbar Phase 2 – Moriarty Civil Engineering Contractors, 2017**

Tom acted as Category III checker for a piled turbine base foundation at this Northern Irish Wind Farm. Tom carried out an independent set of calculations and provided comments to the Designer. Tom also provided slope stability assessments for access road rock cuttings.

- **Teevurcher Wind Farm - Roadbridge, 2017**

Tom was the Lead Geotechnical Designer for this 5 turbine wind farm in Co. Meath and carried out full interpretation of the ground investigation and geotechnical design for all turbine foundations, hardstandings, access roads, substation foundations and met mast. Tom also provided construction stage support, formation inspections and verification of geotechnical testing for all of the above elements.

- **Meenwaun Wind Farm - Roadbridge, 2017**

Tom was the Lead Geotechnical Designer for this 4 turbine wind farm in Co. Offaly and carried out full interpretation of the ground investigation and geotechnical design for all turbine foundations, hardstandings, access roads, substation foundations and met mast. Tom also provided construction stage support, formation inspections and verification of geotechnical testing for all of the above elements.

- **Proposed Wind Farm, Co. Kerry – Joam Consulting Ltd, 2016**

Tom was the Project Manager for this peat stability assessment for a proposed wind farm in Co. Kerry. Tom oversaw the conducting of peat probing and field visits to the site and the preparation of a peat stability assessment in line with Scottish guidance on the preparation of Peat Stability Assessments. This project also involved the 3rd party check of a soil, geology and hydrogeology chapter prepared by others.

- **Raragh Wind Farm – Mainstream Renewables, 2016**

Tom was the Geotechnical / Geology Lead for the preparation of a Soils, Geology and Hydrogeology chapter for an EIS relating to the construction of an electrical cable route from Raragh Wind Farm to Kingscourt, Co. Cavan. As part of this assessment, Tom undertook a full desk study, site visit and provided an assessment of potential and cumulative impacts of the development (including with the wind farm development itself) and mitigation measures that could be implemented.



Tom Clayton

Associate Director (Geotechnical)



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- **Proposed Wind Farm, Co. Donegal – Element Power, 2016**

Tom was the Geotechnical / Geology Lead for the preparation of a Peat Stability Assessment for an EIS relating to the construction of a Wind Farm in Co. Donegal which was a proposed as an 8 turbine site. Tom oversaw the conducting of peat probing and field visits to the site and the preparation of a peat stability assessment in line with Scottish guidance on the preparation of Peat Stability Assessments

Contaminated Land and Waste

- **Whitestown Landfill Remediation Project, Ongoing**

Tom was Lead Geotechnical Engineer for ground investigations carried out on this significant landfill site in Co. Wicklow. Investigation involved a grid of trial pits (100+) with environmental testing, installation of groundwater monitoring wells and investigation boreholes (89 no.) across the site and extensive geophysical investigation using seismic refraction, electrical resistivity and ground conductivity. Works included the scoping of the SI, preparation of extensive specification and tender documents, procurement of ground investigation contractors, management of the supervision of the works and interpretation of the ground investigation fieldwork.

- **Dublin Airport Environmental Assessment – daa (on behalf of Roadbridge), 2018**

Tom has been Project Manager for this environmental investigation project which involved the use of a mix of geophysical and intrusive investigation to map buried waste across a 261-hectare area on the outskirts of the Airport and then the use of environmental sampling to inform disposal and re-use of the materials encountered. Tom led a team including geo-environmental and waste teams and liaised with site investigation contractors.

- **Timoole Landfill Remediation Tender Design – Priority Construction, 2018**

Tom has been the Project Manager and Geotechnical Lead for this remediation design for the removal of 40,000+m³ of assorted waste materials from a site in Co. Meath. The project involved use of the Observational Method for the ongoing assessment of slope stability, with mitigation measures including sheet piling and the construction of berms and dewatering trenches included in the design should signs of instability occur.

- **Dublin Airport Stockpile Soil Classification – daa (on behalf of Ramboll), 2018**

Tom was the Project Manager for this Soil Classification project relating to 70,000+m³ of mixed stockpiles and made ground at Dublin Airport. Tom undertook the management of environmental engineers, site investigation contractors and laboratories in order to produce a Soil Classification Report as part of the tender for removal and disposal of these soils as waste materials.

- **Newhaggard Soil Classification – Fingal County Council, 2018**

Tom was the Project Manager for this Soil Classification project near Lusk, Co. Dublin. 41,000m³ of soil had been deposited previously within the Rogerstown Estuary and the project involved the classification of these soils for re-use, both in terms of contaminants and from a geotechnical point of view. Tom managed sub-contractors to carry out site investigation and staff to prepare a Soil Classification Report.

- **Ballyogan Landfill, 2017**

Tom was the Geotechnical Slope Inspector for this landfill, which included a visual inspection of all side slopes and reporting on any slope stability issues to satisfy the EPA waste licence criteria.

- **Balleally Landfill, 2017**

Tom was the Geotechnical Slope Inspector for this landfill, which included a visual inspection of all side slopes and reporting on any slope stability issues to satisfy the EPA waste licence criteria.

- **Dunsink Landfill, 2017**

Tom was the Geotechnical Slope Inspector for this landfill, which included a visual inspection of all side slopes and reporting on any slope stability issues to satisfy the EPA waste licence criteria.

- **Gortadroma Landfill Slope Stability, 2017**

Tom was the Geotechnical Slope Inspector for this landfill, which included a visual inspection of all side slopes and reporting on any slope stability issues to satisfy the EPA waste licence criteria.

H&S

- **Loughshinny Waterbath Upgrades, Ongoing**

Tom is currently undertaking the role of H&S Coordinator for this gas upgrade project.

- **Gormanstown Boiler Upgrades, Ongoing**

Tom is currently undertaking the role of H&S Coordinator for this gas upgrade project.



Tom Clayton

Associate Director (Geotechnical)



DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

- **Diswellstown AGI Upgrades, Ongoing**

Tom is currently undertaking the role of H&S Coordinator for this gas upgrade project.

- **Belview AGI Upgrade**

Tom undertook the role of PSDP for the upgrade of this Above Ground Installation (AGI) at Belview, Dublin.

- **Nangor Road AGI Upgrade**

Tom undertook the role of PSDP for the upgrade of this Above Ground Installation (AGI) at Nangor Road, Dublin

- **4Bar in Building Upgrade Programme, Going**

Tom is currently undertaking the role of PSDP for the upgrade of this extensive residential and commercial property gas upgrade programme throughout Ireland.

- **A737 Dalry Bypass – Farrans Roadbridge, Ongoing**

Tom is currently undertaking the role of Principal Designer during the construction stage of this 4km long new build Bypass in Scotland which includes a multi-span viaduct structure, roundabouts, overbridges, underbridges and other associated highway infrastructure. This role includes liaison with multiple design teams and contractor's temporary works coordinator.

- **Dublin Airport 5H Apron, Ramboll**

Tom undertook the role of PSDP for Fehily Timoney on this extension to the existing apron at Dublin Airport. Tom has liaised with all Designer's at design phase to ensure compliance with the regulations and prepared Preliminary health and safety plans for various works packages.

- **Centre Parcs Feeder Main - Fingleton White**

Tom acted as PSDP and as Geotechnical / Geology lead for this new gas main linking Center Parcs into the gas grid. The scheme is in multiple phases, with ground investigation phase, 1st phase and 2nd phase being undertaken. Tom's role includes liaison with designers and contractors, attendance at all progress meetings, site visits and other communication required to undertake the role. Tom also undertook the Soils, Geology & Hydrogeology chapter during the planning process for the scheme.

- **Mitchelstown Biomethane Plant- Fingleton White**

Tom undertook the role of PSDP during the preliminary design phase for this biomethane injection facility in Co. Cork. Tom also was responsible for the geotechnical team who scoped, procured and managed the site investigation for the project and produced a Geotechnical Investigation Report summarising the geotechnical interpretation and design inputs.

- **Ballincollig AGI Upgrade - Fingleton White**

Tom undertook the role of PSDP during the construction phase for the upgrade of this Above Ground Installation (AGI) at Ballincollig, including preparation of the safety file and liaison with the contractor.



Kate O'Regan

Project Ecologist



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

Profile

Kate is a Project Ecologist on the Energy and Planning Team at Fehily Timoney and Company. Kate holds an MSc in Marine Biology and a BSc in Zoology from University College Cork. She has experience in marine and terrestrial ecology and has completed a wide range of surveys such as intertidal, subtidal, bird, insect and mammal surveys. She is also a recently qualified Marine Mammal Observer (MMO) accredited by Joint Nature Conservation Committee (JNCC) with previous experience onboard eco-tour operator vessels in Irish waters.

Kate has developed strong data management, mapping, report writing and statistical skills through previous projects. Her MSc thesis involved GPS tagging of lesser-black-backed gulls on the Saltee islands and most recently she was awarded a SMART Marine Institute Research Vessel bursary to take part in the Celtic Sea herring acoustic monitoring survey. Kate's skills and expertise have been put into practice since starting with FT through Ornithology reports, Mammal surveys and Desktop studies for renewable energy projects.

Key Skills

- Excellent report writing skills
- Field research skills
- Bird Identification
- Mammal identification
- Marine intertidal and subtidal species identification
- Leadership and management
- Data handling and statistical analysis
- QGIS training

Project Experience

Wind Energy

- **Confidential Wind Farm, Co. Carlow** · €102,832 · Ongoing
Summer and winter Ornithological report.
- **Barnadivane, Co. Cork Wind Farm** · Ongoing
Ornithological survey data management, flightline digitisation and mammal survey site visit.
- **Confidential Wind Farm Co. Laois** · Ongoing
Ornithological survey data management, flightline digitisation and authored ornithological report.
- **Confidential Wind Farm, Co. Offlay** · Ongoing
Ornithological survey data management and flightline digitisation.
- **Inchamore Wind Farm, Co. Cork Ornithological Survey** · 2021
Ornithological survey data management, flightline digitisation and authored year three ornithological report.
- **Confidential Wind Farm, Co. Kerry** · €137,743 · Ongoing
Ornithological survey data management, flightline digitisation and authored year one ornithological report.

Key Information

Qualifications

MSc Marine Biology, University College Cork, 2022 (First Class Hons.)

BSc Zoology, University College Cork, 2020 (First Class Hons.)

Joint Nature Conservation Committee (JNCC) - Marine Mammal Observer, 2023

Employment History

2022 – Present

Fehily Timoney & Company
Graduate Ecologist

2022

Marine Institute SMART Bursary
Celtic Sea Herring Acoustic Survey

2021

Ocean Research and Conservation Association
Ireland (ORCA Ireland)
Research Observer Intern

2020 - 2021

Ocean Research and Conservation Association Ireland
(ORCA Ireland)
Conservation Officer

2018 – 2019

Wildlife Sense (sea turtle research and conservation organization) Kefalonia, Greece
Research Volunteer



Kate O'Regan

Project Ecologist



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

- **Confidential Wind Farm, Co. Kilkenny · Ongoing**
Authored ornithological report.
- **Confidential Wind Farm, Co. Offaly · Ongoing**
Deployment of static bat detectors onsite.

Solar Energy

- **Confidential Solar Farm, Co. Galway · Ongoing**
Desktop study for stage II feasibility study
- **Rahanisky Solar Farm, Co. Cork · €93,000 · Ongoing**
Conducted onsite mammals surveys.

Miscellaneous

- **Nenagh Pedestrian & Cycle Scheme, Co. Tipperary · Ongoing**
Desktop survey for Appropriate Assessment

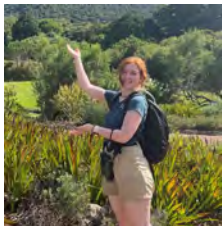
Previous Experience Essentials for this Project

Awarded a Marine Institute SMART Bursary, Kate was a researcher onboard the 'RV Tom Crean' assisting in acoustic surveys and biological sampling from midwater pelagic trawls to determine age stratified estimate of relative abundance of herring in the Celtic Sea.

During her MSc thesis, Kate advanced her data management, statistical analysis and mapping skills using R and QGIS. She also conducted desk-based assessments and field work to deploy GPS tags on the gulls

As a research intern with ORCA Ireland, Kate spent three months onboard eco-tour operators in West Cork conducting marine mammal surveys and engaging with the public about marine ecology and conservation.

Kate has also led a group intertidal research project on the Isle of Cumbrae, Scotland as part of her MSc studies. She showed strong management, coordination, delegation and organizational to ensure successful progress and completion of this project.



Eimear Stephenson

Graduate Ecologist



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

Profile

Éimear is a Graduate Ecologist on the Waste and Environment Team at Fehily Timoney and Company. Éimear holds an MSc in Biodiversity and Conservation from Trinity College Dublin and a BSc in Marine Science from the University of Galway. She has extensive experience in aquatic and terrestrial ecological studies, including field work, laboratory work and desk-based studies. Éimear has worked both independently and collaboratively, and has worked on many international, interdisciplinary projects with National Geographic, WWF UK and more. She was also awarded the Ivan Heffernan Memorial Medal for graduating top of her BSc class, and an E3 Scholarship to pursue her MSc at Trinity College Dublin.

Éimear has extensive experience in report-writing, and has aided in the writing of various ecological reports, including EIARs, environmental monitoring reports and risk assessments. She is also currently in the midst of publishing a paper on her identification and ecological analysis of a fossil echinoid she discovered. As the Head of Science Communication at the scientific journal Youth STEM Matters, her role included the management and support of the editorial team. She was also responsible for the quality control of scientific publications, in terms of the quality of writing, and the quality assurance of the data within the reports.

Key Skills

- Technical Reports: Appropriate Assessment Screening Determinations, Appropriate Assessment Reports, Appropriate Assessment Determinations, Ecology Reports.
- Programming Languages: QGIS
- Communication: frequently communicated with District Inspectors and Foresters regarding forestry projects. This primarily involves responding to queries, and discussing and solving issues.
- Analysis: an analytical mindset and keen eye for detail is required to ensure reports are comprehensive yet concise, as analyses of the environment via QGIS, EPA and NPWS sources etc. are essential to identify whether or not a project will have any negative impacts.
- Independent Working: although there is a supportive team of ecologists, this role is primarily independent.

Previous Experience Essentials for this Project

- **Head of Science Communication and Senior Science Communication Editor | Youth STEM 2030 | 2021-2022**
 - HoSC is one of the most senior roles at Youth STEM Matters – a scientific journal for youth.
 - Effectively managed editorial team for the Science Communication department.
 - Responsible for quality control of publications, both printed and online.
 - Facilitated monthly editorial meetings and provided feedback on job performances.
- **Conference Designer and Speaker 2021**
 - WWF UK and Sky Ocean Rescue, First youth speaker at research conference “Coastal Futures.” Topic: “Youth Voices for the Ocean – what we can learn from the next generation.”

Key Information

Qualifications

MSc in Biodiversity and Conservation
Trinity College Dublin, 2022

BSc in Marine Science, University of
Galway, 2021

OBA in German, University of
Galway, 2020

Employment History

2022 – Present

Fehily Timoney & Company
Graduate Ecologist

April 2022 – September 2022

JBA Consulting Ltd
Assistant Ecologist

March 2022

South Africa Field Excursion

2021 – 2022

MSc Experience

2017 – 2021

BSC Experience



Eimear Stephenson

Graduate Ecologist



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
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-
- Youth STEM Matters | 2021 | Presented at YSM's 2021 annual research conference. Topic: "Planning your First Science Communication Article."
 - National Geographic | 2020 | Designed and spoke at Nat Geo's "#GenGeo: Virtual Exchange." Topic: "The Importance of Intersectional Feminism in STEM."
 - AYUDH Europe | 2020 | Planned and designed a conference on climate change and environmental sustainability, targeted towards youth.
 - Green Sod Ireland | 2020 | Designed and spoke at youth panel discussion for GSI's "Wild Acre's Week." Topic: getting youth into citizen science and ecology.
 - **Ireland's Representative on the World Oceans Day Youth Advisory Council | World Oceans Day | 2019-2021**
 - Aimed to unite conservation action to grow the global movement calling on world leaders to protect 30% of our blue planet (30x30 movement).
 - Developed a significant World Oceans Day event, called "Youthathon" – a 24hr online conference, where there were 24 one-hour slots for presenters to discuss ideas, solutions, issues and general facts about aquatic ecosystems and the environment.
 - Created an official guidebook for biodiversity loss awareness and sustainable fishing resources.
 - **Volunteer Research Assistant, University of Galway, 2020**
 - Laboratory research assistant on cephalopod studies. The goals of this study were to extract statoliths from mature individuals of *Loligo forbesi* and *Illex coindetii*, measure, record, image and analyze these statoliths using R-statistics. The objective was to see if one can identify ecological stocks in each species for management purposes. Statolith markers will eventually be linked with other genetic microsatellite and parasite markers.
 - **Museum Guide, Zoological Museum of National University of Ireland Galway, 2020**
 - Trained and educated on various zoological specimens, including arthropods, reptiles, and mammals.
 - Guided youth and adults around the museum, and addressed questions.
 - **Hatchery Technician, IDAS Trout Farm Ltd., 2019**
 - Assisted in all aspects of aquaculture research undertaken in the hatchery unit of the fish farm.
 - The roles included fish husbandry procedures such as feeding, mortality checks, hygiene, grading of fish, and general fish welfare.
 - Responsible for completing the routine health checks of the fish, which comprised of sacrificial dissections and microscopy. I also distributed medicine and vaccines to the fish.



Pablo Delgado

Drainage Design Lead



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

Profile

Pablo is a Civil Engineer with more than 8 years' experience in planning, design and construction of hydraulic engineering projects and has experience working with Clients and Contractors. Specializing in hydraulic infrastructures, Pablo focuses on working with all project stakeholders to produce practical, efficient designs and on resolving issues that arise through the course of the works. Pablo has an excellent knowledge of hydraulic design, which extended to the creation of 'best-practice' guidelines, and has expertise drainage design, standards and tools. He has experience of delivering drainage designs in a D&B and PPP environment and has developed designs for construction in the UK, Ireland and Spain.

Key Skills

Pablo's qualifications and experience exceeds the minimum requirements for the role of Drainage Engineer. He has achieved bachelor's degrees, Post-Graduate Diplomas in civil engineering disciplines up to NFQ Level 8 and 9, with a strong focus on hydraulic design and project management. Additionally, he has completed the Designing for Safety in Construction Course to comply with the safety and best practices in the industry. Pablo has 8 years' experience as a drainage engineer in drainage design for large roads and infrastructure projects.

Previous Experience Essentials for this Project

- **Ballylickey Flood Defences, 2023.**
Pablo was the drainage designer for the Flood Defences Study in the Ballylickey, Co. Cork. The project involves the hydrological and hydraulic analysis of the river Owvane, river modelling using Hec-Ras under the tide water level regime of the area, provide the required flood defences to protect the existing properties and the road R584 located on the right bank of the river.
- **N72/N73 Mallow Relief Road, €50m, 2023.**
Pablo was the drainage designer for the flood studies which involves one bridge (32m span) and 5 culverts of large dimensions, a flood compensation area, flood maps, section 50 applications and the technical report.
- **N22 Baile Bhuirne to Macroom, Detailed Design, €280m, 2023.**
Pablo was working on the drainage design. This role involved the delivery of the following tasks: preparation of conceptual drainage designs, pre-earthworks drainage, network drainage, culvert design, stilling basin, scour protections, attenuation and pollution control, 3D modelling of drainage designs using Micro-drainage, updating drainage designs following review, preparation of design at key submission stages, further optimization of models, preparation of drainage schedules, design of SuDS drainage systems prior to draining to receptor and preparation of final model for submission. Pablo provided supervision, support, and technical advice to the team member of the Drainage team.
- **N5 Ballaghaderren to Scramoge Road Project, €200m, 2022.**
Pablo was the Third-Party Checker for the drainage design packages in the construction of 34 km of a new single carriageway road from the western end of the existing N5 Ballaghaderren Bypass to the townland of Scramoge in county Roscommon. He was responsible for reviewing all the drainage design packages of the project: pre-earthworks drainages, networks drainages, attenuation and pollution control, and culverts.

Key Information

Qualifications

- B.E. Civil Engineering - University of Zaragoza, Spain (2014).
- B.E. Technical Engineering in Publics Works - University of Zaragoza (2012).
- Master's degree in project Management – Polytechnic University of Valencia, Spain (Present).
- Post-Graduate Diploma in Project Management - Polytechnic University of Valencia, Spain, (2021).
- Post-Graduate Diploma in Analysis and Design of Water Networks - Polytechnic University of Valencia, Spain, (2019).
- Post-Graduate Diploma in Hydraulic and Environmental Infrastructures in Urban Areas - University of Zaragoza, (2012).
- Certificated Diploma in Hydraulic Transient Analysis of Water Networks - Polytechnic University of Valencia, Spain, (2020)

Professional Memberships

Chartered Engineer, Engineers of Ireland 2023

Employment History

2022 to Present

Senior Project Manager/Drainage Team Leader, Fehily Timoney and Company

2020 – 2022

Senior Project Engineer, J.B. Barry and Partner Ltd.

2016 – 2020

Senior Project Engineer, Clandillon Civil Consulting Ltd.

2015 – 2016

Assistant Project Manager, Société Générale de Surveillance

2014 – 2015

Design Engineer of hydraulic projects, Perez Benedicto, S.L.

2012 – 2012

Assistant Site Manager, Ingeniería y Obras Aragonesas del Ebro, S.L



Pablo Delgado

Drainage Design Lead



CONSULTANTS IN ENGINEERING,
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& PLANNING

He provided RFI reports to the designer company with technical comments to improve their design with the goal to provide the Design Certificates to allow the design to go to next step of review with the Employer Representative.

- **Ten-T Section 1 – N15/N13 Ballybofey / Stranorlar Urban Region, €90m, 2022.**

Pablo was the drainage designer responsible to deliver the Flood Study including hydrological analysis, hydraulic analysis, flood maps and section 50 application for the existing and proposed bridge in the river Finn.

- **N16 Lugatober Drumkilsellagh to Lugnagall, €28m, 2021.**

Pablo supervised the team members and provided technical advice to the Project Manager. He was responsible for developing designs for scour protections in streams, culverts, and abutments. Additionally, he thoroughly reviewed and refined hydraulic models for streams and culverts to ensure that they met the project's requirements.

- **Temporary HGV Parking Facility, 2020.**

Pablo was the Drainage Designer of this project, this role involved the delivery of the following tasks: preparation of conceptual drainage designs, network drainage, attenuation and pollution control, 3D modelling of drainage designs using Microdrainage, preparation of drainage schedules, design of SuDS drainage systems prior to draining to receptor and preparation of final model for submission. Pablo provided supervision, support and technical advice to the team member of the Drainage team.

- **N4 Collooney to Castlebaldwin, Detailed Design, Major Road, €150m, 2020.**

Detailed Design: Drainage designer with responsibility for completing detailed drainage network design to optimize the overall design for the Contractors on a 14km major road project. Provided technical advice and guidance to the Project Manager and team members, supervise team members, develop 3 flood studies for river and lakes, design of a hydraulic control to control water levels in lakes (weir), design and optimization of extensive drainage networks and APC systems (Attenuation pond and linear wetlands), culvert design, design of SuDS and pre-earthwork drainages, design of surface water channels, preparation of section 50 and 47 applications to the OPW. Tender Design: Pablo was the drainage designer with responsibility for preparing drainage tender design for submission as part of tender package for the bidding Contractor. Work included review of different drainage options to optimise the final design including the design of sealed drainage system in areas of underlain by karstified bedrock or prone to flooding, assessment of culvert and pipe sizing, attenuation pond sizing for attenuation and pollution control and production of drainage schedules and drawings. Drainage models were produced using Civil3D and Autodesk Storm & Sanitary Analysis software.

- **N8 Dunkettle Interchange Upgrade Scheme, €215m, 2020.**

As part of CCC's drainage design team for this complex road project, Pablo was working on the drainage design for the interchange scheme and various linkages. This role involved the delivery of the following tasks: review of drainage design statement, preparation of conceptual drainage designs, pre-earthworks drainage, network drainage, culvert design, attenuation and pollution control, 3D modelling of drainage designs using Micro-drainage, updating drainage designs following review, preparation of design at key submission stages, further optimization of models, preparation of drainage schedules, design of SuDS drainage systems prior to draining to receptor and preparation of final model for submission. Pablo provided supervision, support, and technical advice to the team members of the Drainage team.

- **N5 Westport to Turlough Road, €170m, 2020.**

As part of the detailed design for this 6.9km national road upgrade project, Pablo completed the flood study including flood mapping for existing and proposed structures using HEC-RAS proprietary hydraulic analysis software. The design of a further five culverts was completed using Civil 3D and CulvertMaster software packages.

- **N56 Lettermacaward to Glenties (Kilraine), Detailed Design, €23m, 2020.**

As part of the detailed design for this 6.9km national road upgrade project, Pablo completed the flood study including flood mapping for existing and proposed structures using HEC-RAS proprietary hydraulic analysis software. The design of a further five culverts was completed using Civil 3D and CulvertMaster software packages.

- **Ulster Canal Green Way Phase 3, Constraints Report, 2019.**

As part of the development of the constraints study, Pablo undertook a desktop review and a site visit of the study area with a view to identifying and mapping engineering constraints present along each of the potential route corridors which had been identified. The site walkover involved carrying out checks of existing embankments along the canal, identifying evidence of historic flooding and developing an interactive database of photos (normal and 360 spherical photos) along the canal.



Pablo Delgado

Drainage Design Lead



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- **High Speed 2 Early Works Package WP51 Drainage (HS2 EWC WP51), 2018.**

Pablo was the Drainage Designer for Work Package 51 which forms part of the HS2 enabling works. This role involved the delivery of the following tasks: review of drainage design statement, preparation of conceptual drainage designs, pre-earthworks drainage, network drainage, culvert design, attenuation and pollution control, 3D modelling of drainage designs using Microdrainage, updating drainage designs following review, preparation of design at key submission stages, further optimisation of models, preparation of drainage schedules, design of SuDS drainage systems prior to draining to receptor and preparation of final model for submission. Pablo provided supervision, support and technical advice to the team member of the Drainage team of Ramboll in the Birmingham office.

- **A9 Luncarty – Pass of Birnam, Tender Design, 2018.**

Pablo was the Drainage Designer responsible for checking and developing all elements of the specimen drainage design on the 9.5km A9 Luncarty – Pass of Birnam tender in Scotland. Pablo was responsible to review and provide optimizations for the drainage networks, attenuation pollution control ponds, culverts, pre-earthworks drainages, cross drains, networks schedules and drawing for quantities, the drainage tender design for submission as part of the tender package for the building contractor.

- **Mullinure, 2018.**

Pablo was the Drainage designer for link road associated with a residential development area in Co. Armagh, Northern Ireland. Specific project tasks included the development of pre-earthworks, network drainages and attenuation facilities. Outputs included: preparation and analysis of drainage model incorporating surveys and existing data using Autodesk Storm and Sanitary Analysis and Civil 3D, design and development of drainage standard details, design of pre-earthworks drainage system, developing carrier drain design networks and gully layouts, preparation of drainage specification, finalisation of drainage drawings and preparation of drainage package for submission.

- **A737 Dalry Bypass Contractor's Designer, €31m, 2017.**

Pablo was the Drainage designer responsible for delivery of pre-earthworks drainage, culverts, network drainage and attenuation design on a 4km D&B highways project in Scotland. Drainage design involved the following works: networks and pre-earthworks drainage to 3.8km carriageway (2.45km 2 + 1 with overtaking lanes and 1.35km single carriageway), substantial incorporation of overland flow into some mainline networks, 6 no. culverts and 2 no. stream diversions, 5 no. outfalls to existing surface waters via SUDS basins and additional outfalls to existing drainage networks, deck drainage to 250m viaduct over Garnock River, consultation with SEPA and production of CAR applications, modelling of all networks and SUDS systems using Civil 3D Storm and Sanitary Analysis module to agree parameters from contract documents and discussion with SEPA.

- **N25 New Ross Bypass, €230m, 2017.**

Pablo was the drainage designer responsible to deliver the Flood Risk Assessment including hydrological analysis, hydraulic analysis for the existing and proposed scenario in the river Barrow and the stream Aughnacrew. Provide the 1D hydraulic model for the mentioned scenarios, prepare the flood maps, drawings, and the corresponding report.

- **Pembroke Hill, 2017.**

Pablo was the Drainage Designer responsible to deliver the design the drainage design for a new link road associated with a residential development area in CO. Wexford, Ireland. The project involves network drainage, attenuation and pollution control (attenuation ditches), pre-earthworks drainages, cross drains and a settlements analysis. The relevant achievement in the project involved the optimization of the network drainages using over the edge interceptor ditches, the implementation of check dams in the attenuation ditches to provide the attenuation and treatment.

- **Leanamore Wind Farm, 2017.**

Pablo was the Drainage Designer for the project Leanamore Wind Farm, which comprised of 9 Wind Turbine Generators (WTG), a substation, a large contractor compound; 5 km of services route comprised both floated and founded construction. The project involves extensive ditch networks, cross drains and facilities treatment. The relevant achievement in the project involved the temporary and permanent drainage networks (ditch networks) and the settlement ponds, hydrologic and hydraulic analysis of the area, prepare standard details, site visits, meeting with the Client and Contractor.

- **PDM Infrastructure, 2017.**

Drainage Designer assisting in the development of drainage and attenuation systems as part of the refurbishment of a 17Ha commercial development in Co. Kildare. The works were procured under an ECI target cost model and involved the design and construction of separate foul, surface water and roof water systems, attenuation measures and a waste-water treatment plant. Works included the assessment of an existing drainage system and catchment analysis before development of a detailed drainage design with separate systems for roof and surface water. Optimisation of the design resulted in reduction of main spine road collector pipe diameter and reductions in trench depths and slopes where feasible.



Pablo Delgado

Drainage Design Lead



CONSULTANTS IN ENGINEERING,
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- **Modernisation of irrigation system of “Molinar del Flumen” phases I and II, Spain, €43.8m, 2016.**

Pablo was the Technical Assistant of the Project Manager for Molinar del Flumen Project which was a modernisation of the existing irrigation system in the Province of Huesca, Spain. The project involves the construction of a new pressure irrigation network including the installation of extensive pipes pressure pipes (approximately 42km), valves, an irrigation reservoir and a pump station. The relevant achievements in this project involved technical assistance, support and advice to the project manager, supervised the installation of different pressures pipes, valves, pump stations, material movement, meetings with the contractor and suppliers, provide environmental reports, quantities reports.

- **Flood Risk Study of the gravity pipeline for the Avenida de la Industria, Spain, 2015.**

Pablo was the Drainage Designer of the flood risk study for the network drainage of the Avenida de la Industria, Zaragoza, Spain. The relevant achievement in this project involved the analysis of the existing hydraulic capacity of the network drainage, the redesign of the network to increase the hydraulic capacity, site inspections, meeting with the client, the preparation of drawings, networks schedules, hydraulic models and quantities.

- **Drainage Network for the new development in the Air Base of Zaragoza, Spain, 2015.**

Pablo was the Drainage Designer for a new development in the Air Base of Zaragoza, Spain. The relevant achievement in this project involved the hydrologic and hydraulic analysis of the area, the design of a new network drainage, cross drains and pre-earthwork drainages.

- **Flood Risk Protection System for the BSH Factory La Cartuja, Zaragoza, Spain, 2015.**

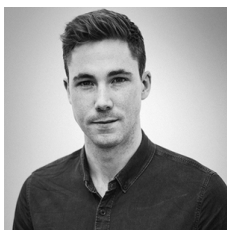
Pablo was the Drainage Designer of the flood risk study for the network drainage of the factory BSH La Cartuja, Zaragoza, Spain. The relevant achievement in this project involved the design of new network drainage and storage tanks, site inspections, meeting with the client, the preparation of drawings, networks schedules, hydraulic models and quantities.

- **Hydraulic and flood risk study of the gravity pipeline system for the industrial state “INSIDER”, 2015.**

Pablo was the Drainage Designer of the flood risk study for the main collector of the network drainage of the industrial state INSIDER, Zaragoza, Spain. The relevant achievement in this project involved the design of a new pipe line and the design of off-line storage tanks, site inspections, meeting with the client, the preparation of drawings, networks schedules, hydraulic models and quantities.

- **Reform of the theatre and communal zones of the “Colegio Mayor Universitario Virgen del Carmen”, 2012.**

Pablo was the Assistant of the Site Engineer for the project “Colegio Mayor Virgen del Carmen” in Zaragoza, Spain. This project comprised the modernization of the theatre and the communal zones of “Colegio Mayor Universitario Virgen del Carmen”. The relevant achievement in this project involved technical assistance of the Site Engineer, supervision of the supply material, human resources and works; updated the work planning, prepare the scaffolding plan and provide the monthly valuation and progress reports.



Andrew Torsney

Principal Ecologist



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

Profile

Andrew has over 10 years' experience as a professional ecologist. In this role he is responsible for all ecological works from project design and implementation to the preparation of reports. Interaction with key stake holder and statutory bodies such as the NPWS and the EPA is a vital part of this role. His role is diverse and complex working at both plan and project level. He has been the principal ecologist responsible for the preparation and co-ordination of AA and contributions towards the biodiversity elements of the SEA for many statutory land use plans; as well as EclAs, EIARs and AAs of Projects.

Andrew is an experienced ecologist who holds four national species derogation licenses for bats (photography & roost disturbance), otters and badgers. Andrew has authored the NBDC Identification Guide to Irelands Bats and the Identification Guide to Regulated Invasive Plants. Andrew is an experienced botanical specialist with a focus on Annex I grassland habitats, having worked on the translocation of lowland hay meadow [6510] containing the floral protection order species meadow barley (*Hordeum secalinum*).

Andrew has comprehensive technical knowledge in ecological assessments and legalities of the planning processes to facilitate streamlined delivery of assessments.

Key Skills

- Presentation and engagement skills
- R Based Automated Processing
- GIS – ArcView, Pro and QGIS
- Technical Legal Knowledge
- Planning Process & Policy Research
- Analytical skills
- Report Writing
- Organising Submission of SEAs
- Design and implementation of all technical ecological survey work.

Project Experience

- National Grid Implementation Strategy (Present) – Full SEA and NIR – ca. 90K
- National Foresting Licensing Strategy (Present) – Full SEA and NIR – ca. 120K
- National Wind Energy Guidelines (Present) – Full SEA and NIR – ca. 70K
- Cork Transport Strategy (Present) – Full SEA and NIR – ca. 60K
- Greater Dublin Area Transport Strategy (Present) – Full SEA and NIR – ca. 60k
- Galway County Development Plan (Present) – Full SEA and NIR – ca. 80K
- Leitrim County Development Plan (Present) – Full SEA and NIR – ca. 80K
- Louth County Development Plan (Present) – Full SEA and NIR – ca. 80K
- Wicklow County Development Plan (Present) – Full SEA and NIR – ca. 80K
- Westmeath County Development Plan (Present) – Full SEA and NIR – ca. 80K
- Kilkenny County Development Plan (Present) – Full SEA and NIR – ca. 80K
- Visitor Experience Development Plans for FI – Full SEA and NIR – ca. 30K EACH:
 - Boyne Valley;
 - The Burren and Cliffs of Moher; and
 - Three heads area in West Cork.

Key Information

Qualifications

PhD, Ecotourism and visitor
Behaviour Analysis
Trinity College Dublin,
2018 – Present (Part time)

MRes Biodiversity and Conservation
(Hons.), University of Leeds, UK,
2011 - 2012

BSc Zoology, University College
Dublin, 2007 - 2011

Employment History

Oct. 2022 – Present

Fehily Timoney and Company

2016 – 2022

CAAS Ltd.

2015 – 2016

Tobin Consulting Engineers

2015

UCD Smart Grass

2013 – 2014

TMS Environmental Ltd.

2012 – 2013

M.I.S.E

2011 – 2012

University of Leeds

2012

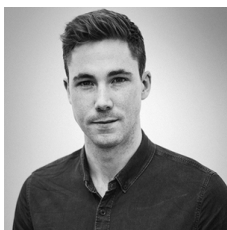
Nietoperek Bat Group,
West Poland

2012 – 2012

Freelancing

Publications

Identification Guide to Irelands Bats
(N.Roche and A Torsney).
Terrestrial Mammals (A. Harrington,
A. Torsney and L. Lysaght).
Identification Guide to Regulated
Invasive Plants of Irelands (Torsney
A., Finch D., O'Brien M., Cole E.,
Smyth N., & O'Flynn C.).
See more publications



Andrew Torsney

Principal Ecologist



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

Andrew has been involved in a diverse range of projects including contributions to, and co-ordination of, a number of complex EISs, and NISs Applications for projects including:

- **National tourism monitoring programme**
Broadening the scope of the WAW monitoring programme to provide a more refined – targeted data collection method. This monitoring programme aims to deepen our understanding of how tourists interact with the environment at nature-based destinations – ca. 500K.
- **Wild Atlantic Way Environmental Monitoring**
Overseeing and implementing the Monitoring Programme to assess the effects of tourism on the environment including visitor monitoring surveys and ecological assessment. This work involves detailed assessments and recommendations relating to management practices at various scales – ca. 500K.
- **Guidelines to SEA of Tourism Projects**
Contributed to the technical biodiversity requirements and authored said section of the guidelines on behalf of the EPA – ca. 50K.
- **Mainstream Renewable Power offshore wind development**
EIA Biodiversity Assessment including feasibility and AA processes.
- **Nenagh Pedestrian and Cycle Route**
Full EIA and AA; field work, analysis and reporting – ca. 50K.
- **Lower dodder greenway**
Full EIA and AA; field work, analysis and reporting – ca. 40K.
- **MSD Brinny Extension**
Coordinating the EIA, as well as undertaking the Flora and Fauna Sections of the EIA and the Appropriate Assessments. This site required the preparation of an invasive species management plan and a Construction Environmental Management Plan.
- **Irish Water Killaloe to Dublin Water Supply Project** – Lead ecologist for the design and implementation of all ecological surveys required for the project. Habitat assessments, mammal surveys, breeding and wintering bird surveys, as well as specialist mammal surveys such as bat and otter – ca. 20K.
- **110 kV overhead lines Grid West Project Mayo**
Wintering bird surveys and reporting – ca. 500K.
- **North-South Interconnector Project (400 kV overhead line)**
Wintering bird surveys and reporting – ca. 500K.

Andrew undertakes extensive review work of ecological reports on behalf of statutory agencies such as Fáilte Ireland, the Office of Public Works and the Department of Public Expenditure and Reform. These include:

- **Review of the Flood relief scheme for the River Slaney 2022 (OPW);**
<https://www.gov.ie/en/collection/84777-river-slaney-enniscorthy-flood-relief-scheme/>
- **Review of the Flood relief scheme for the River Glashaboy 2021 (DPER);**
- **Review of the Dursey Tourism Development Project 2021 (FI); and**
- **Review of the Connemara Tourism Development Project 2021 (FI).**

More recent Publications

Visitor demographics, site-type and activities determine the occurrence and severity of environmental impacts at nature-based tourist destinations (Torsney, A. & Buckley, Y.);

Reconciling climate action with the need for biodiversity protection, restoration and rehabilitation (Gorman, C.; Torsney, A.; Gaughran, A.; McKeon, C.; Farrell, C.; White, C.; Donohue, I.; Stout, J. & Buckley, Y.);

Identification Guide to Regulated Invasive Plants of Ireland (Torsney A., Finch D., O'Brien M., Cole E., Smyth N., & O'Flynn C.);

Identification Guide to Ireland's Bats (Roche, N. & Torsney, A.);

Identification Swatch to Ireland's Terrestrial Mammals (Harrington, A., Torsney A. & Lysaght, L.); and

Bat foraging habitat suitability modelling report for the Yorkshire Dales National Park Habitat Suitability (Bellamy, C., Torsney, A., Brown, E. & Glover, A.).



Daniel Weldon

Project Ecologist



DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

Profile

Daniel holds a degree in BSc. Environmental Science from University College Cork

He has 5 years postgraduate experience and is a Project Ecologist with Fehily Timoney.

Daniel specialises in habitat surveys, bird, bat, mammal and invasive species surveys.

Daniel has experience undertaking appropriate assessment and Environmental Impact Assessment for large developments including wind farms and solar farms.

Key Skills

- Over 15 years ornithological experience in identification and behaviour.
- Habitat identification/mapping across Ireland in accordance with Fossitt and Irish Vegetation Classification
- Proficient in QGIS

Previous Experience Essentials for this Project

- **Fehily Timoney**
Various field surveys including invasive species, birds, bats, and habitats.
Report writing consisting of AA Screenings, NIS, EcIA and EIAR biodiversity chapters for various developments
- **Forestry Services**
Habitat and invasive species surveys. Undertaking appropriate assessment on a range of forestry projects.
- **Freelance ecologist**
Carrying out bird surveys for housing developments

Key Information

Qualifications

BSc. Environmental Science Level 8
University College Cork
2018

Employment History

May 2024 – Present

Fehily Timoney & Company
Project Ecologist

August 2020 – October 2022

Forestry Services Ltd., Co. Kilkenny
Ecologist

January 2021 – October 2022

Freelance Ecologist

October 2019 – August 2020

Environmental Efficiency Ltd
Environmental Consultant

0000 – 0000

Company
Position



GNANASAI CHANDRA MOORTHY

Principal Geotechnical Engineer



DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

Profile

Gnanasai holds a Bachelor of Engineering in Civil Engineering from the Kumaraguru College of Technology, Anna University, India. He also holds a Master of Engineering in Soil Mechanics & Foundation Engineering, from the College of Engineering-Guindy, Anna University, India. He is currently a Principal geotechnical Engineer with Fehily Timoney and Company Ltd. He is a qualified geotechnical engineer with over 12 years of international experience in the design and planning of major projects, Buildings, Transportation, Infrastructure, Railways and Metros, Oil field industries and Reclamation projects along with 2 years of research experience in tailings. He is fully proficient in geotechnical design in Bridges, deep excavation systems, shallow and pile foundations, combined piled raft foundation systems, slope stability and ground improvement techniques and analysis by using various geotechnical engineering software, onshore and offshore geotechnical investigation works, construction material testing and earthworks supervision

Key Skills

Gnanasais' key skills include:

- Preparation of geotechnical investigation, topographical and geophysical survey specifications
- Preparation of desktop study and due diligence reports
- Preparation of geotechnical design reports at concept, schematic and detailed stage
- Review of geotechnical design reports at concept, schematic and detailed stage by junior engineers
- Proof checking of geotechnical design reports prepared by other consultants
- Review of contractor's design for temporary structures like excavation, shoring and dewatering
- Managing projects by supervising, mentoring and through the leadership of the design team
- Managing onshore and offshore Geotechnical Investigation and foundation works
- Site supervision for Geotechnical Investigation, earth and foundation works
- Proposal writing (Technical and Commercial)
- Project Estimation and Cost management
- Check the field and laboratory equipment for quality control and review the reports
- Preparation of task-specific Risk Assessment and Method Statement
- Experience in Plaxis 2D & 3D, Geo Studio, Geo5, TZ Pile, L-Pile, All-Pile, Liquefy Pro, GINT and Auto-cad

Previous Experience Essentials for this Project

Dubai Harbour Development (DHD) Plot 11, (G+37 floor and 7-level podium), United Arab Emirates, 2023

I was responsible for preparing the specification for geotechnical investigation, reviewing the geotechnical report from the contractor, providing advice on the ground improvement design, providing piling specification, supervising preliminary test piles,

Key Information

Qualifications

Bachelor of Engineering in Civil Engineering, Kumaraguru College of Technology, Anna University, India

Master of Engineering in Soil Mechanics & Foundation Engineering, College of Engineering-Guindy, Anna University, India

Professional Memberships

Registered Engineering Professional for Foundations and Soil Mechanics Engineering Services in Dubai

Practicing Engineer approved by Abu Dhabi Department of Municipality and Transport

Graduate member of Institution of Civil Engineers (ICE)

Lifetime member of the Indian Geotechnical Society, India

Chartered Engineer (India) and Member of "The Institution of Engineers (India)"

Employment History

2024 – Present

Fehily Timoney & Company
Principal Geotechnical Engineer

2023 – 2024

ZUT Lead Engineering Consultancy, UAE
Geotechnical Lead:

2022 – 2023

KEO International Consultants, UAE
Senior Geotechnical Engineer

2020 – 2022

Larsen & Toubro Infrastructure Engineering Ltd., India
Associate Project Consultant

2017 – 2020

Al Hoty Analytical Services W.L.L., Bahrain
Senior Geotechnical Engineer

2014 – 2017

Fugro Suhaimi Ltd., Saudi Arabia
Sr. Geotechnical Engineer

2011 – 2014

L&T Ramboll, India
Engineering Consultant



GNANASAI CHANDRA MOORTHY

Principal Geotechnical Engineer



DESIGNING AND DELIVERING
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interpreting PTP test results, preparing detailed geotechnical investigation report with piled raft foundation, advice and reviewing the Plaxis 3D model prepared by the junior engineers, attend the authority meeting for approvals, reviewing contractor's piling design and managing the project.

Design Consultancy Services for Elevated Cycle Track (approx. 13km) at Al Hudayriat Island (West), United Arab Emirates, 2023-2024

I was responsible for preparing the specification for geotechnical investigation, visiting the site for quality control, reviewing the geotechnical report from the contractor, interpreting the geotechnical data, deriving the idealised profile, calculating the pile capacities, analysing the pile group for the bridges in Plaxis 3D, providing the recommendations for the embankment and preparing the concept, schematic and detailed geotechnical design report.

City Walk Phase 2 Tower (Tower-A with G+35 and Tower-B with G+19 with shared podium and two-level basement), United Arab Emirates, 2023-2024

I was responsible for carrying out a desktop study with adjacent site data, preparing the specification for geotechnical investigation, supervising the site, carrying out preliminary shoring design using Plaxis 2D, calculating the pile capacities and preparing concept design report.

Omniyat Plot 16, (G+32 floor, 2-level podium and two basements), United Arab Emirates, 2023-24

I was responsible for preparing the specification for geotechnical investigation, reviewing the geotechnical report from the contractor, providing advice on the ground improvement design, providing piling specification and preparing a peer review report with independent model assessment using Plaxis 2D for the shoring design. Currently working on the detailed geotechnical investigation report with piled raft foundation, reviewing the Plaxis 3D model prepared by the junior engineers.

Development of concept design for Fish Farm Warehouse, United Arab Emirates, 2023

I was responsible for reviewing the geotechnical report from the contractor, preparing the geotechnical concept design report with an isolated and raft foundation on improved ground, and providing the cost analysis for the foundation design.

Sea Palace Reclamation, Beach Forming and Protection Works Project, United Arab Emirates, 2023

I was responsible for preparing the specification for geotechnical investigation, reviewing the geotechnical report from the contractor, preparing the reclamation and ground improvement specification, interpreting the geotechnical data, preparing the concept and detailed design of rock revetment by analysing the slope stability using GeoStudio and providing foundation design support for the relocation of an existing pontoon.

Feasibility study on the Heineken "Project Crown" Greenfields Brewery, United Arab Emirates, 2023

I was responsible for the desktop study of available data, study and analysing the site conditions and geological features, studying the environmental risks involved and preparing the geotechnical due diligence report.

Geotechnical Engineering Services for Soil Improvement Tender, United Arab Emirates, 2023

I was responsible for defining the review of the soil improvement tender document on behalf of the client which consisted of reviewing the existing soil report, understanding the type of soil improvement, preparing the ground model with the help of junior engineers, defining the further requirement of monitoring and verification of ground improvement works during construction, create the post tender addendum geotechnical assessment and providing the final tender recommendation report.

Master plan and infrastructure design consultancy services for the Reem Hills, United Arab Emirates, 2022-2023

I was responsible for reviewing topographical survey drawings, geotechnical and geophysical factual reports, providing technical specifications for soil improvement, supporting the client for the early works package tender works including excavation and ground improvement, preparing geotechnical design recommendation reports and assisting the Project Manager in managing the infrastructure design works and deliverables.

Qiddiya Golf Districts, Saudi Arabia, 2022

I was responsible for reviewing geotechnical factual reports, providing technical specifications for soil investigation, and preparing design memorandum, concept and schematic design reports for infrastructure development.

CP28B – Huzoom Project, North District, Lusail Development, Qatar, 2022

I was responsible for reviewing geotechnical and geophysical factual reports, performing engineering analyses and preparing geotechnical interpretative reports for the design and construction of various foundations and other substructures.

King Abdulla Medical City, External Roads Bridges, Bahrain, 2020

I was responsible for preparing the quotation, preparing the field instructions, monitoring the field and laboratory testing, accessing the ground conditions, interpreting the field and laboratory data, providing the recommended geotechnical parameters, analysing and calculating the pile capacities, settlement and lateral deflection using All Pile, providing recommendation on the at grade road works, analysing the embankment slope by carrying out slope stability analysis using Geo Slope, preparing foundation design reports.



GNANASAI CHANDRA MOORTHY

Principal Geotechnical Engineer



DESIGNING AND DELIVERING
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Bahrain Petroleum Company (BAPCO) Modernisation Program (BMP), Bahrain, 2018-2019

I was responsible for preparing the quotation, negotiating the contract and acquiring the project, following the client provided specifications, preparing the method statement and risk assessment for geotechnical site works, attending site visits, monitoring the site progress, reviewing the laboratory test results, preparing geotechnical factual reports, attending site visits, project management, monitoring the project budget, attending technical meetings, and presenting monthly project progress to client.

Shoring Works for Basin Area at BAPCO Wharf, Bahrain, 2019

I was responsible for interpreting the geotechnical data, calculating the pile capacities, analysing the secant pile wall with different lengths and diameters using Geo5, preparing a technical design report on the recommended shoring works and delivering the presentation to client with cost options.

The Avenues – Hilton Garden Inn Hotel, Bahrain, 2018

I was responsible for preparing the quotation, preparing the specification for geotechnical investigation, monitoring the field and laboratory testing, accessing the ground conditions, interpreting the field and laboratory data, providing the recommended geotechnical parameters, analysing and calculating the pile capacities, settlement and lateral deflection using All Pile, preparing factual and interpretive foundation recommendation reports.

North Manama Causeway Phase 2 & Busaiten Link– Stage 2 (Offshore works), Bahrain, 2017-2018

I was responsible for preparing the quotation, preparing the field instructions, performing the pressure meter and packer permeability test and interpreting the data, monitoring the field and laboratory testing, accessing the ground conditions, interpreting the field and laboratory data, providing the recommended geotechnical parameters, calculating the pile capacities, preparing factual and interim foundation reports.

Field Gas Compression Project, Saudi Arabia, 2017

I was responsible for issuing field instructions to the geologists, performing cross-hole and surface seismic refraction tests at field and interpreting the data using CHA W (Pile dynamics software), interpreting the field and laboratory data, calculating the pile capacities, lateral deflection and settlement using All Pile, checking the liquefaction potential using Liquefy Pro, preparing interpretive geotechnical reports and managing risk registers.

Saudi Landbridge Railway Blue Corridor, Saudi Arabia, 2015-2017

I was responsible for site progress monitoring, liaising with operations team and client supervisor, mentoring the junior engineers', reviewing the factual and interpretive reports prepared by junior engineers', attending site visits and progress meetings, cost budgeting and managing the overall project.

RTR Water Supply Header, Saudi Arabia, 2016

The project entailed the identification of the root cause for the failure of the anchor block which resulted in a leak on the 40" RTR water supply header. I was responsible for exploring the subsurface stratigraphy at the site, developing design soil parameters, and performing geotechnical stability analysis of the anchor block under imposed loads from water supply header pipe.

YASREF Housing Development Project Phase 1, Stage 2 Feed Work, Yanbu, Saudi Arabia, 2015-16

I was responsible for preparing the geotechnical specifications for soil investigation, carrying out the cone penetration tests, carrying out the SPT hammer efficiency test to know the efficiency of the SPT hammer, preparing the geotechnical engineering reports and reviewing the topographical survey to provide the inputs for infrastructure development.

Overall IGCC Facility, JIGCC Project, Jizan, Saudi Arabia, 2015

I was responsible for site supervision, carrying out cone penetration tests, falling head permeability tests, downhole seismic test, liaising with office engineers, checking the investigation data, assigning the laboratory tests and preparing factual report.

Detailed design of Western Dedicated Freight Corridor (DFC) Package 1 and Package 2 in Rajasthan to Gujarat, India, 2013-14

I was responsible for calculating the bearing capacity and checking the settlement for shallow foundations, calculating the pile capacities, preparing geotechnical design reports for railway bridge structures consisting of viaducts, flyovers, major bridges, minor bridges, VUP, PUP, ROB structures and culverts, preparing general arrangement drawings and providing soil improvement to the box culvert structures.

Comprehensive development of Corridor between Mukarba Chowk to Wazirabad, India, 2014

I was responsible for studying the ground conditions, deriving the soil parameters, checking the slope stability along the corridor which runs parallel to the existing road, lake and water pipeline, providing the slope protection works with toe wall and drains, carrying out the analysis using Geo Studio and proof check the design of MSE wall prepared by the contractor.

Detailed design for Six laning of Sangareddy to Karnataka-Maharashtra Border of NH9, India, 2013

I was responsible for preparing specifications for geotechnical investigation, site supervision, for calculating the bearing capacity and checking the settlement for shallow foundations, calculating the pile capacities, preparing foundation recommendation report, getting approvals for bridge structures consisting of flyovers, major bridges, minor bridges, VUP, ROB structures and culverts and investigating and preparing hydrology reports.



GNANASAI CHANDRA MOORTHY

Principal Geotechnical Engineer



DESIGNING AND DELIVERING
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Detailed design of HMRL Metro Project – Viaduct for Corridor II and ROB for viaduct I, II and III, India, 2011-13

I was responsible for calculating the bearing capacity and checking the settlement for shallow foundations, calculating the pile capacities, checking the differential settlement, preparing the geotechnical design report for ROB, stations, and viaduct structures and preparing the detailed engineering report for 14 km stretch elevated corridor.



Anthony Ryan

Project Planner



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

Profile

Anthony graduated with First Class Honours from both the Master's in Planning and Sustainable Development (MPlan) at University College Cork and the B.A. in Heritage Studies from Galway-Mayo Institute of Technology, Galway.

Before joining FT, Anthony worked as a Graduate Town and Environmental Planning Consultant for The Planning Partnership Planning Consultants, Cork and the Department of Strategic Planning & Economic Development in Cork City Council. Since joining FT in 2021, Anthony has worked on a number of wind and solar renewable energy projects. Anthony prepares planning statements and environmental assessments, and project manages these projects into the planning system.

Key Skills

- Research and report writing
- Microsoft Word, PowerPoint and ArcGIS
- Strategic Planning
- Project Management
- Full/Clean Irish driving licence and Safe Pass holder

Previous Experience

• The Planning Partnership, Cork, 2020-2021

Anthony was a Graduate Planning Consultant. His role involved working within the Town, Environmental and Retail Planning team on projects which involved a varying workload while working within the office or remotely delivering projects within a deadline and to a professional standard. His responsibilities required working on projects of varying scale and nature, and included stakeholder interaction, desk-based research, and site visits to prepare assessments and reports for residential, commercial, retail and mixed-use development, as well as renewable energy projects and Development Plan submissions.

Anthony used Microsoft office suite such as Word, Excel and PowerPoint and research tools such as ArcGIS to draft and prepare multi-source reports such as Planning Reports, Replies to Requests for Further Information (RFI) and Planning Status Reports. These required attention to detail and high standards of presentation and allowed Anthony to develop his communication, research and report writing skills and expand his knowledge of the Irish Planning System and Irish and Policies, as well as European planning and environmental legislation such as Birds and Habitat Directives.

• Woodies D.I.Y & Garden Centre, Galway and Cork, 2008-2020

Anthony was a Store Horticulturalist. He was responsible for managing all aspects of Garden Centre operations and maintaining a customer-focused shopping experience through practical gardening and plant advice, training, communication, and teamwork. He grew sales through increased customer footfall and loyalty by providing outstanding customer service, professional gardening advice, excellent stock quality and providing positive shopping experience.

Anthony generated year-on-year sales increases and annual savings by implementing stock management procedures and more efficient processes in reducing wasted resources to increase sales margins.

Key Information

Qualifications

Master's in Planning and Sustainable Development (MPlan),
University College Cork,
2020

B.A in Heritage Studies,
Galway-Mayo Institute of Technology,
2017

Diploma in Commercial Horticulture,
Warrenstown Horticultural College,
1999

Employment History

2021 – Present

Fehily Timoney & Company, Cork
Graduate Planner – Energy and
Planning Team

2020 – 2021

The Planning Partnership, Cork
Graduate Planning Consultant

2008 – 2020

Woodies D.I.Y., Cork
Horticulturalist

2019 – 2019

Cork City Council
Planning Clerical Officer

2006 – 2007

Queensland Federal Government,
Agricultural and Crop Inspector

2003 – 2006

Emerald Group Christmas Tree
Growers, Co. Wicklow,
Field Supervisor

1998 – 2003

New Place Nurseries, UK
Horticulturalist



Anthony Ryan

Project Planner



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

- **Cork City Council, Cork, 2019**

Anthony was a Planning Clerical Officer working within the Department of Strategic Planning & Economic Development to finalise the city-wide Vacancy Survey for Cork City. He researched and updated all GIS data required information needed for accurate and detailed data regarding property vacancy and dereliction within Cork City. The survey's contributed to creating an understanding of levels of building vacancy and dereliction, allowing Cork City Council to develop and implement measures to reduce its prevalence and resolve the circumstances which lead to it emerging. Anthony also carried out surveys on visitor habits, patterns and demographics in Bishop Lucey Park and Kent Train Station. The survey's assisted in creating an understanding of the usage patterns and general requirements of both locations as part of proposed re-development and upgrade work to their functionality and the public realm.

- **Queensland Federal Government, Brisbane, Australia, 2006-2007**

Horticultural Inspector.

- **Emerald Group Christmas Tree Growers, Co. Wicklow, 2003-2006**

Field Supervisor.

- **New Place Nurseries, UK, 1998-2003**

Horticulturalist.

Previous FT Experience Essentials for this Project

Wind Energy Projects

Anthony contributed to various wind farm projects planning applications and assisted in the preparation and drafting of non-technical reports, finalising notices and forms, reviewing of planning drawings and collating of applications for submission. Anthony provided project management of a response to Further Information. Anthony worked on several projects where he directly contributed to client engagement and landholder interactions in relation to day-to-day client interface, ensuring that objectives were met and that projects were delivered to time, cost and quality targets. Anthony has carried out site visits and gained end-to-end knowledge of the planning application and commissioning process, including experience of client and landowner interaction in relation to site evaluation and constraints assessments (ArcGIS and Landdirect.ie), land management and Site Notice and planning compliance. Anthony has contributed to EIAR chapters to include Chapter 1, 'Introduction', Chapter 2 'Site Selection and Alternatives' and Chapter 4 'Policy and Public Consultation'.

- **On-Shore Wind Farms 2021-2022**

Anthony provided Planning Support for several Wind Farm developments nationwide which included the drafting of non-technical reports, finalising notices and forms, reviewing of planning drawings and collating of applications for submission. Anthony provided project management of a response to Further Information.

- **Ballinagree Wind Farm 2020-2022**

Provision of Planning Support including the drafting of statutory SID notices and forms. Review of planning drawings and collating of application for submission of this 22-turbine wind farm in Co. Cork.

- **Coom Green Energy Park 2021**

Collation and project management of a response to Further Information on this 20-turbine wind farm in North Cork.

- **Extension of Use Application**

Anthony provided planning support for an 'Extension of Use' Application for a Temporary Met Mast on the following project:

- Coom Green (P21-141)

Anthony participated in drafting and submitting the following:

- **Environmental Impact Assessment Reports (EIAR)**

Anthony participated in drafting non-technical chapters for the EIAR into the effects a proposed project may have on the environment for the following projects:

- Coumnaappul Wind Farm, Co. Waterford (P2360): Chapter 1, 'Introduction', Chapter 2 'Development Description' and Chapter 4 'Policy', Chapter 17 'Interactions of the Foregoing'.
- Garryhinch Wind Farm, Co. Offaly (P21-180): Chapter 1, 'Introduction' and Chapter 4 'Policy'.
- Littleton Wind Farm, Co. Tipperary (P20-211): Chapter 1, 'Introduction' and Chapter 4 'Policy and Public Consultation'.
- Annagh Wind Farm, Co. Cork (P2359): Chapter 1, 'Introduction', Chapter 2 'Site Selection and Alternatives' and Chapter 4 'Policy'.
- Ballinagree Wind Farm, Co. Cork (P2114): Chapter 1, 'Introduction', Chapter 17 'Interactions of the Foregoing'.



Anthony Ryan

Project Planner



CONSULTANTS IN ENGINEERING,
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- Fahy Beg, Co. Clare (P20-003): Chapter 1, 'Introduction', Chapter 2 'Site Selection and Alternatives' and Chapter 4 'Policy'.
- Milltownpass (20-030): Chapter 1, 'Introduction', Chapter 2 'Development Description' and Chapter 4 'Policy'.
- Shancloon, Co. Galway (P20-306): Chapter 1, 'Introduction', Chapter 2 'Development Description' and Chapter 4 'Policy'.

- **Substitute Consent Report / Applications**

Anthony participated in the preparation of Substitute Consent Planning Reports and documents to support the application to An Bord Pleanála under Section 177C of the Planning and Development Act 2000 (as amended):

- Littleton Wind Farm (P20-211): Planning Report for leave to apply for Substitute Consent for historic peat extraction activities (and all associated bog development works) that have been carried out on lands within Littleton Bog Group, Co. Tipperary.
- Garryhinch Wind Farm, Co. Offaly (P21-180): Report to support application for leave to apply for Substitute Consent under Section 177C of the Planning and Development Act, 2000 (as amended) to regularise the planning status of historic peat extraction (and ancillary bog development works) in the Garrymore Bog, County Laois and neighbouring Garryhinch Bog, County Offaly.
- Littleton Peat Extraction (P23-035): Report to support application for leave to apply for Substitute Consent under Section 177C of the Planning and Development Act, 2000 (as amended) to regularise the planning status of historic peat extraction (and ancillary bog development works) that have been carried out on Longford Pass, Littleton, Lanespark and Derryvella Bogs in Co. Tipperary.

Solar Energy Projects

Anthony contributed to various solar farm planning applications nationwide, including the Project Management of a portfolio of 4 solar farms in Co. Tipperary, which required the preparation of the Planning and Environmental report and finalising of statutory forms, documents and drawings. This portfolio successfully received a grant of planning permission in 2021.

Anthony assisted with and project managed the preparation and submission of planning applications for solar PV renewable energy developments. Each solar application was accompanied by reports such as a detailed environmental and planning report which assesses the impact of the solar development on a multitude of factors including Archaeology & Cultural Heritage, Ecology & Biodiversity, Glint and Glare, Landscape and Visual Impact, Noise, Hydrology and Traffic/Road assessments. Each solar application was accompanied by drawings and further reports providing specific development details as part of the planning application where Anthony contributed to reviewing drawings and reports such as Ecological Impact Assessment (EclA), Appropriate Assessment Screening Reports (AA), Natura Impact Statements (NIS), Construction Environmental Management Plans (CEMP), Flood Risk Assessments (FRA). In addition, all application material has to be reviewed and checked to ensure a valid application can be submitted and ensure a successful outcome.

Anthony participated in drafting and submitting of the following:

- **Solar Stage I Feasibility Study**

Anthony carried out to a Stage I Feasibility Study to analysis the feasibility of developing a solar PV farm for the following projects:

- Rahanisky Solar Farm, Cork County & City (P22-036)
- South Galway Solar Farm, Co. Galway (P21-243)
- Drummin (Castlebank), Co. Clare (P21-103)
- Corkbeg, Co. Cork (P21-230)
- Ballynookery, Co. Cork (P21-249)
- Rathleash, Co. Laois (P21-302)
- Clondardis, Co. Westmeath (P22-124)

- **Solar Stage II Feasibility Study**

Anthony carried out to a Stage II Feasibility Study to analysis the feasibility of developing a solar PV farm for the following projects:

- Kilmorna, Co. Kerry (P21-282)
- South Galway Solar Farm, Co. Galway (P21-243)
- Drummin, Co. Clare (Castlebank) (P21-187)
- South Galway, Co. Galway (P21-243)
- Kilmorna, Co. Kerry (P21-182)
- Shantallow, Co. Galway (P23-011)



Anthony Ryan

Project Planner



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

-
- Milltown Extension, Co. Meath (P22-261)

 - **Solar Farm Planning Applications**
Anthony participated in and project managed the preparation and lodgement of planning applications for the following Solar Farm developments:
 - Milltown, Co. Meath (P20-030)
 - Clashwilliam, Co. Kilkenny (P21-191)
 - Rathdrinagh, Co. Meath (P21-126)
 - Cahir Solar Farm 1, Co. Tipperary (P21-061)
 - Carrick SLR 2, Co. Tipperary (P21-061)
 - Deerpark 3, Co. Tipperary (P21-061)
 - Ballyvalode, Co. Limerick (P20-142)
 - Kilcormac Solar Farm, Co. Offaly (20-316)
 - Rahanisky, Cork County & City (P22-266)
 - **A Section 177AE application**
Anthony completed a Planning and Environmental Report and associated documents on behalf of Cork City Council in support of a Section 177AE application to An Bord Pleanála for approval of repair and rehabilitation works at Glyntown Bridge.
 - Cork City Council - Glyntown Bridge (P21-200)
 - Cork County Council - Ardcahan Bridge (P1959)
 - **Strategic Infrastructure Development (SID)**
Prepared documents for Strategic Infrastructure Development (SID) applications to An Bord Pleanála for electrical infrastructure projects associated with solar developments for the following projects:
 - Kilcormac, Co. Kerry (P20-316)



Doireann Tarrant

Senior Project Engineer



DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

Profile

Doireann holds a Master's degree in Structural and Geotechnical Engineering and also has a Bachelor of Engineering in Structural and Environmental Engineering.

S/he has over 3 years postgraduate experience and is a Senior Project Engineer with Fehily Timoney.

Key Skills

Doireann has experience in:

- Ground Investigations
- Slope stability solutions,
- Construction projects
- Design of working platforms, Design of piled foundations
- BIM

Previous Experience Essentials for this Project

• Geotechnical Engineer, AGL Consulting, 2022-2024

Site geotechnical engineer for extensive ground investigation for the proposed Rosslare Europort Terminal 7 Phase 1, which sits on reclaimed land. My work was recognised by the JPC Director for identifying contractor errors in ground testing, saving the project significant costs. Carried out regular site visits during the construction to identify and make recommendations on areas requiring ground improvement works.

Point of contact for the design of working platforms, slope stability solutions, and stockpile management for various construction projects across Ireland.

Regularly carry out design of piled foundations and site visits for BCAR certification, as well as formation inspections for suitable subgrade in building projects

• Assistant Project Manager & Estimator, StructureCraft Contracting, 2019 -2021

Supported project managers in overseeing and coordinating construction projects, including managing schedules and budgets to ensure successful project delivery.

Prepared comprehensive cost estimates for construction projects including material procurement, labor costs, equipment rentals, and permits.

Facilitated in office training and support for office and field employees for the implementation of new 'Procore' project managing and estimating software system.

• Civil Engineer (Student Intern), RPS Engineering Consultancy, 2018

Intern at multidisciplinary engineering consultancy as part of undergraduate degree. Worked on projects across multiple sectors including geotechnics, structural, transport and water engineering. Actively sought out tasks and learning opportunities from senior team members. Contributed to a geotechnical environmental risk assessment, involving soil boring, soil sampling and detailed reporting. Performed analysis of transport surveys.

Key Information

Qualifications

MSc Structural and Geotechnical Engineering, Trinity College Dublin, 2022

BEng Civil, Structural and Environmental Engineering, University College Cork, 2019

Professional Memberships

List here most recent first

Employment History

2024 – Present

Fehily Timoney & Company
Senior Project Engineer

2022 – 2024

AGL Consulting
Geotechnical Engineer

2019 – 2022

StructureCraft Contracting, New York
Assistant Project Manager & Estimator

2018 – 2018

RPS Engineering Consultancy
Civil Engineer Intern

John Cronin BA MRUP MUBC Dip Geol MIAI

Professional Qualifications

Master of Urban & Building Conservation, School of Architecture, University College Dublin, 1999
Diploma in Geology (Evening Course), University College Cork, 1996
Master of Regional & Urban Planning, University College Dublin, 1993
Bachelor of Arts (Honours) - Archaeology & Geography, University College Cork, 1991
Member of Institute of Archaeologists of Ireland

Career Profile

2000 to date	Managing Director and Principal Consultant , John Cronin & Associates
1999 – 2000	Executive Planner (Conservation) , Donegal County Council
1998 – 1999	Conservation Officer , Cork County Council
1995 – 1998	Archaeology and Historic Building Officer , Cork County Council
1994 – 1995	Principal Research Officer , Urban Archaeological Survey, UCC, Cork
1993 – 1994	Surveyor , Landesamt für Archäologie, Dresden, Germany

Relevant Experience

Mr Cronin is an archaeologist, town planner and building conservation consultant with over twenty years post-graduate experience garnered in the public and private sectors. Mr Cronin has prepared numerous cultural heritage assessments for environmental impact assessments throughout Ireland and has supervised architectural surveys in Counties Cork, Donegal and Dublin. He advises private developers in relation to archaeological and building conservation issues and has acted as consultant to The Heritage Council, the National Inventory of Architectural Heritage and An Bord Pleanála.

Mr Cronin has supervised and participated in the preparation of scores of cultural heritage assessments for environmental impact statements. He has a particular interest and expertise in the appraisal and assessment of built heritage. Some noteworthy projects that Mr Cronin has been involved in include:

- **Expert witness for numerous large-scale infrastructure projects** – Since 2000, Mr Cronin has appeared as an expert witness at over seventeen oral hearings to deal topics relating to archaeological, architectural and cultural heritage.
- **Supervision of the preparation of Guidance Notes on the Assessment of Architectural Heritage in National Road Projects, National Roads Authority** – John Cronin & Associates acted as a project supervisor to the development these EIS guidelines.



CURRICULUM VITAE

RICHARD BARKER

PRINCIPAL LANDSCAPE ARCHITECT

MLA, BA ENV, PG DIP FOR, MILI

PERSONAL PROFILE

Richard formerly worked as a Town Planner in New Zealand, London and Dublin before moving into the field of Landscape Architecture. He has spent the last 19 years working as a Landscape Architect in Ireland and has considerable experience in the fields of both Landscape and Visual Impact Assessment (LVIA) and landscape design, covering all stages from project feasibility through to construction. This cross-over of expertise is invaluable in determining and designing the most appropriate and effective form of landscape and visual mitigation for infrastructural development projects. Richard is the Divisional Director in Macro Works (part of APEM Group), a specialist LVIA consultancy that undertakes assessments for a broad spectrum of projects from wind and solar energy, to roads and large scale industrial and infrastructural development. Richard has personally completed the landscape and visual assessment of over 100 wind farms 90 solar farms and numerous other commercial and infrastructural projects including more than a dozen SID projects. Consequently, he has considerable oral hearing training and expert witness experience. Richard has presented several conference papers relating to sustainable landscape design and LVIA as well as delivering the inaugural workshop on the landscape and visual effects of wind energy developments on behalf of the Irish Wind Energy Association. He has also delivered guest lectures to the University College Dublin professional course in EIA Management and the Irish Landscape Institute in relation to LVIA.

EDUCATIONAL AND PROFESSIONAL STATUS

- MLA, Lincoln University (2003).
- PG Diploma, Forestry, Canterbury University (1996).
- BA, Environmental Science, Massey University (1995).

EMPLOYMENT HISTORY

- 1998 – 1999 Marlborough District Council (NZ) – Resource Planner
- 1999 – 2000 The Environment Agency (UK) – Planning Liaison Officer
- 2000 – 2001 Harrow Borough Council – Town Planner
- 2001 – 2002 CAAS Environmental (Dublin) - Planner
- 2004 – 2008 Tiros Environmental (Dublin) – Landscape Architect
- 2008 – 2014 MosArt (Wicklow) - Senior Landscape Architect / Associate Director
- 2014 – 2023 Macro Works (Dublin) – Director / Divisional Director

FURTHER EXPERIENCE

- Corporate Member of the Irish Landscape Institute

SELECTED RECENT PROJECT EXAMPLES

100+ Wind Energy Projects (10 SID), various private and semi-state developers. Feasibility, LVIA and oral hearings (as necessary).

90+ Solar Energy Projects, various developers. Feasibility, LVIA, Glint and Glare Assessments.

Celtic Interconnector, Mott McDonald. LVIA for strategic undersea and terrestrial electrical cable between France and Ireland.

St Kevin's Hospital SHD, Land Development Agency. LVIA with associated Photomontages / CGIs for a Strategic Housing Development incorporating the restoration of a landmark heritage building in Cork City.

Greater Dublin Drainage Scheme, Irish Water. MCA analysis of site options then LVIA for a 20ha sewage treatment facility, pipeline routes, pumping stations

Water Supply Project Midlands and Eastern Region, Irish Water. MCA analysis of abstraction options and pipeline routes and LVIA of selected option.

College Green Plaza, ARUP / Dublin City Co. Full LVIA for proposed pedestrian plaza in Dublin's City Centre at College Green.

South Kerry Geenway, Fehily Timoney / Kerry CoCo. LVIA and oral hearing for a Cycleway along former railway line.

Rossaveel Deep Water Pier, Rossaveel Port Co. SLVIA for new port-based coastal infrastructure in a high sensitivity landscape / seascape environment

Bryn Cefni Biomass Plant, Ecopellets. LVIA for a large biomass facility in Llangefni, Wales plus planning enquiry.

N59 Moycullen Bypass Road Project, NRDO. Route options appraisal and LVIA for selected route plus oral hearing.

N59 Clifden to Maam Cross Road Project, NRDO. Route options appraisal and LVIA for selected route plus oral hearing.

Tony Cummins BA MA

Professional Qualifications

Batchelor of Arts (Honours) – Archaeology, UCC, 1992

Master of Arts in Methods and Practices in Irish Archaeology UCC, 1994

Career Profile

2009 to present	Senior Archaeologist, John Cronin & Associates
2009	Consultant researcher, INSTAR Research Project, Archaeology Dept., UCC
2003-2009	Project Manager, Sheila Lane & Associates
2003	Archaeologist (Site Director), Eachtra Archaeological Projects
1999-2002	Senior Archaeologist, Aegis Archaeology
1998-1999	Excavation Director, Archaeological Services Unit, Archaeology Dept. UCC
1991-1998	Member of various archaeological excavation teams

Relevant Experience

Tony was appointed as a Senior Archaeologist with John Cronin & Associates in October 2009 and has amassed over twenty years' professional experience directing a wide range of Irish excavations as well as a member of international projects in Britain and Lebanon. Following the completion of his post-graduate studies the Archaeology Department, UCC appointed him as a supervisor on their annual undergraduate training excavation at Caherlehillan, located in the northern end of the Iveragh Peninsula in the period between 1994 and 2002. Tony has since managed a wide range of archaeological inputs on various large infrastructural projects, including the Limerick Southern Ring Road and the Waterford City Bypass. This allowed him to gain extensive experience in the preparation of impact assessments, directing site investigations, co-ordinating post-excavation studies and compiling reports for submission to state agencies and planning authorities. In recent years Tony has contributed to EIS chapters prepared for road improvement schemes in County Kerry including the N86 Tralee to An Daingean and the N70 Sneem to Blackwater projects as well as undertaking a number of other impact assessments for various developments within the county.



Rory Curtis GDip – Landscape Architecture BEng – Design and Innovation BA – Photography MILl	Position:	Landscape Architect
	Professional Experience	
	<p>Rory has been with Macro Works Ltd since 2017, having previously worked as a Landscape Architect for Atkins Global in the UK for a period of 5 years. He is a valuable member of our LVIA team and brings a high degree of rigour to his assessments, as well as being a professionally qualified photographer. Originally from County Wicklow, he is a full corporate member of the Irish Landscape Institute. Rory is currently the project Landscape Architect for a number of linear infrastructure and road projects where his organisational skills and attention to detail are vital.</p> <p>Previous key projects include the High Speed Two rail link between London and Birmingham and the Birmingham New Street Station.</p>	



JIM SINGLETON

Team Manager (Environment & Engineering) & Principal Technical Consultant

Discipline: Acoustics

Key Qualifications: BSc (Hons) Music Technology, Diploma in Acoustics & Noise Control (IOA)

Professional Memberships: MIOA, AES

Experience: 16 years (consultancy), 7 years (lecturing)

INTRODUCTION

Jim is a Principal Technical Consultant whose experience within acoustics consultancy covers a range of sectors including environmental noise, occupational noise and architectural acoustics but with particular expertise in energy generation and energy infrastructure projects.

Jim joined TNEI in September 2014 and is the Team Manager for the Environment & Engineering Team, who are based in Glasgow, Newcastle and Dublin. Jim's specific focus is on Quality Assurance and the resourcing of all of our noise and acoustic services, as well as other team disciplines including planning and consenting services, civils and geotechnical studies, shadow flicker assessments and GIS work.

KEY EXPERIENCE

- Noise propagation modelling
- Noise assessments, compliance monitoring and noise management for energy generation and energy infrastructure
- PPC Permitting
- Transportation noise & vibration (road, rail, marine & aircraft)
- Construction noise assessments
- Planning applications for energy, industrial, commercial and residential developments
- Quarrying and blast monitoring (noise & vibration)
- Mixed-use master planning
- ETSU-R-97 Noise assessments
- Room acoustics modelling
- Independent Technical Expert (ITE) for the Capacity Market
- Due diligence
- Expert Witness and Appeal Hearings

EDUCATION AND PROFESSIONAL STATUS

- Diploma in Acoustics & Noise Control, Institute of Acoustics (2008)
- BSc. (Hons) Music Technology, First Class (2001)
- Member of the Institute of Acoustics (MIOA)
- Member of the Audio Engineering Society (AES)

Jim is a full Member of the Institute of Acoustics, has 16 years consultancy experience and previously lectured in acoustics for 7 years.

EXPERIENCE RECORD

TNEI Services Ltd
August 2014 – present

Principal Technical Consultant & Team Manager

ENERGY PROJECTS

Jim primarily works on energy projects covering a range of renewable energy generation, storage and electrical infrastructure. Some projects of note include:

Infrastructure

- Triton Knoll Offshore Windfarm (OWF) landfall (prediction and monitoring of HDD activities)
- NorthConnect (Norway / Scotland Interconnector)
- Galloper 336 MW OWF onshore substation
- Alwen Forest Overhead Line optioneering studies
- Aberdeen OWF landfall (predictions & measurements for cable winching) and operation (noise control for substation operations)
- New Gorbals District Heating Scheme
- Seagreen II (Berwick Bank) OWF substation noise studies (HVAC & HVDC modelling)
- Synchronous Compensator developments, numerous
- Hydrogen refuelling stations and electrolyser projects
- Numerous synchronous condensers (planning applications & operational noise monitoring)

Generation

- Roosecote 50 MW battery storage facility
- BESS, numerous (5 MW – 450+ MW)
- Capacity Mechanism Schemes, numerous (1 MW – 40+ MW)
- Solar Farms (centralised, decentralised and hybrid layouts)
- Co-location projects e.g., Solar Farm & BESS
- Drakelow Energy from Waste plant (EIA and PPC application)
- Great Coates Energy from Waste plant (EIA)
- Scieki Wind Farm (Poland) Due Dilligence

MARINE, NEAR-SHORE AND PORTS

Jim has worked both locally and internationally on marine, near shore and port projects and provided a wide range of consultancy services to this sector. Examples include;

- Umm Qasr, Iraq (ESIA studies and chapter for extension of container port and RORO services)
- Johan Castberg FPSO Module (operational noise predictions for floating production storage and offloading vessel)
- Port of Cromarty Firth, Invergordon (PPC application for oil & gas decommissioning and offshore asset recovery)
- Lochmaddy/Tarbert (Harbour expansions to facilitate larger ferry on Isle of Harris and North Uist.
- Ullapool land reclamation and harbour development – Noise and vibration studies



Maureen Marsden

Project Acoustic Engineer



CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE & PLANNING

- **Wind Farm Projects**

Baseline Noise Measurements and analysis to determine prevailing background noise. Compliance measurements to determine if operating windfarms meet planning conditions.

Sample projects include: Drehid Windfarm, Ballagh Windfarm, Coom Green Energy Park, Dercart windfarm, Croughan Windfarm, Annagh Windfarm.

- **Solar Farm Projects**

Predicted operational noise from proposed external equipment to determine compliance with EPA criteria, and make recommendations for mitigation, if required. Predicted construction noise from works associated with to solar farm construction.

Sample projects include: Moortown Solarfarm, Dunmurray Golf Course Solar Farm, Kilcurly Solar Farm.

- **Channel Tunnel Rail Link Project, 1996 - 1998**

Member of noise and vibration team providing noise and vibration advice. Predicted operational noise using 3-D model, during the detailed design phase of the project, determining noise barrier and bund heights to assist the project in meeting noise commitments. Liaised with design team/landscape architects to develop design incorporating bunding/noise barriers. Modelled construction noise associated with railhead operation and railway construction for the purpose of obtaining Section 61 consent for construction works.

Ajay Cheruthon, MSc



CAREER HISTORY

Support Ecologist and Data Manager Woodrow Sustainable Solutions
August 2022 –

Ecological Assistant and Data Coordinator Woodrow Sustainable Solutions
March 2022 – July 2022

Team Member, Supermac's Fast Food Restaurant Company
Nov 2019 – Aug 2021

Executive Assistant, Digital India Corporation
Jan 2015 – Jul 2018

PROFILE – ECOLOGY SUPPORT AND DATA MANAGER

Ajay Cheruthon joined the Woodrow team in March 2022 to divert his career to the environmental sector.

He is an electrical engineer who worked in project coordination with the Government of India. He developed a love for nature through his travels and adventures and decided to pursue a masters in Environmental Leadership from NUI Galway.

He primarily works on the impact of wind energy projects on birds, assisting in data management, field work coordination and geospatial analysis.

Outside of work he likes hiking, cycling and guitar playing.

EXPERTISE

Project Management | Data Management | Reporting & Analysis | Ornithology Surveys | Fieldwork Coordination

RELEVANT EXPERIENCE

Project Management.

- Managed 25+ sub-contractors to meet ornithology survey requirement needed for windfarm projects
- Plan, cost and assess ornithology survey requirements for windfarm projects
- Track work done vs work completed
- Invoice clients and process sub-contractor invoices
- Acted as the liaison between ornithology sub-contractors and Woodrow
- Assisted the Director, ITRA, Digital India Corporation, in the monitoring and evaluation of research projects from expressions of interest to final reports.
 - The projects involved 60+ research institutions, 140+ faculty, 160+ PhD students with 110+ industry, nongovernment and government collaborators.

Ajay Cheruthon, MSc

EDUCATION

MSc Environmental Leadership
Second Class Honours, National
University of Ireland, Galway.
2018 – 2019

Thesis: Studied effectiveness
of community-based water
management in Ireland
through its group water
schemes.

BE Electrical and Electronics
Engineering. Second Class
Honours, Loyola Institute of
Technology and Science, Anna
University 2008-2012.

For the final year project my
team built a remote-
controlled robot capable of
climbing and descending
coconut trees and cutting
down coconut

PROFESSIONAL TRAINING & QUALIFICATIONS

- o CIEEM Associate Membership
- o SafePass 2023
- o Emergency First Aid 2022

- o The projects led to 600+ research publications, 11 patents, and 21 proof of concept prototypes and technologies.
- Acted as the liaison between primary researchers, government bodies, venture capitalists, industry experts and domain specialists on issues related to project funding, progress, capacity building and general assistance.
- Planned, coordinated and organized 20+ meetings, seminars, conferences, and workshops in 6 cities in India.
- Organized an internship program with 12 students from leading institutions across India

Ornithology Surveys

- Conducted Ornithology Surveys including VP watches, breeding and wintering bird walkovers and dusk surveys
- Set up bird monitoring equipment on site

Reporting & Analysis

- Prepared interim reports for ornithology surveys
- Produced 50+ high-quality reports (monthly, annual, progress), minutes of meetings, user manuals, and other documentation for Digital India Corporation.
- Edited 20+ scientific articles written for peer reviewed journals for Cactus Communications Pvt Ltd.

VOLUNTEERING EXPERIENCE

- Conducted Irish Wetland Bird Surveys (IWeBS) and Countryside Bird Surveys (CBS) for Birdwatch Ireland
- Conducted litter surveys for Coastwatch Ireland.
- Helped promote a blood donation campaign in Kanyakumari for the Red Ribbon Club India.

Frederico Hintze BSc, MSc, PhD



CAREER HISTORY

Ecologist

Woodrow Sustainable
Solutions
May 2023 –

Postdoc/Project's AI

Federal University of
Pernambuco & Chico
Mendes Institute for
Biodiversity Conservation –
Carajás (Brazil)

Visiting

Reasercher/Researcher/Ph D candidate

Federal University of
Pernambuco (Brazil)
Aug 2014 – Apr 2021

Visiting

Reasercher/Researcher/Ph D candidate

Federal University of
Pernambuco (Brazil)
Aug 2014 – Apr 2021

Biologist/Ecologist

Portuguese Wildlife Society
Apr 2010 – Aug 2014

EDUCATION

BSc in Biology-Geology

University of Minho,
Portugal.

2007 – 2011

Final Year Project analysing
bat activity and richness in a
300-year old monastery
(Mosteiro de Tibães).

PROFILE – GRADUATE & ASSISTANT ECOLOGIST

Frederico Hintze is an Ecologist with Woodrow Sustainable Solutions.

He is a Bachelor of Science in Biology-Geology and a Master in Ecology from the University of Minho (Portugal), and later earned his PhD in Animal Biology from the Federal University of Pernambuco (Brazil). These challenging and varied courses allowed Frederico to obtain valuable experience in habitat surveying techniques and knowledge of ecological assessment. Frederico actively participated in over 10 Environmental Impact Assessment (EIA) projects in Portugal, working on projects related to dams, wind farms, roads, and transmission lines, mainly with bats but also Iberian wolf, birds, otter, iberian desman, and ichtyofauna. During his academic journey, he has authored over 15 scientific publications and sampling event datasets. I have also actively participated as an instructor and lecturer in various advanced courses, workshops, scientific dissemination activities, and extension programs. While Frederico's specialization lies in bat bioacoustics, he also possesses experience in GIS and Species Distribution Modeling. Moreover, he is skilled in bat capture, handling, and the search and monitoring of roosts. Additionally, he has experience in sampling biological materials such as tissues, blood, and feces, applied to studies on species' natural history, ecology, behavior, and conservation management.

As a new Woodrow member, he will be undertaking and leading bat surveys to current industry best practice and inform Ecological Impact Assessment and surveys to inform AA/HRA reporting. He also be involved in analysing bat data and improve and keep procedural protocols updated.

EXPERTISE

Bioacoustics surveys and analysis | Bat sampling and monitoring | Ecological Surveying | Mapping | Reporting & Analysis |

RELEVANT EXPERIENCE

Fieldwork

- Bat acoustic surveys and monitoring (active and passive), employing several types of detectors, for several type of studies.

Frederico Hintze BSc, MSc, PhD

EDUCATION (cont.)

MSc in Ecology University of Minho, Portugal. 2012 – 2014

Thesis evaluating the impact of agricultural dams on bat populations in North-eastern Portugal.

PhD in Animal Biology

Federal University of Pernambuco, Portugal. 2016 – 2020

Thesis evaluating the integration of bioacoustics and species distribution models to enhance knowledge on the distribution of Neotropical bat species.

PROFESSIONAL TRAINING & QUALIFICATIONS

- Full Clean Portuguese Driving Licence
- Environmental epigenetics and risk assessment: challenges and future perspectives (2023) CESAM, University of Aveiro, Portugal
- Functional Supramolecular Polymeric Biomaterials (2023) SupraLife, University of Aveiro, Portugal
- Principles of Underwater Acoustics (2014) Seiche Measurement & University of Bath, UK
- Acoustics and the Marine Environment (2014) Seiche Measurement & University of Bath, UK
- Introduction to Entomology (2013) CESAM, University of Aveiro, Portugal

- Bat surveys and monitoring for several types of roosts (underground, forest dwelling, and buildings), employing both observation techniques and thermal imaging, for several type of studies.
- Bat and avian carcass searches for operational transmission lines.
- Iberian wolf transect surveys.
- Camera trap deployment and analysis for wolf and other carnivores monitoring.
- Otter & Iberian desman surveying.
- Electric fishing for ichthyofauna monitoring.
- Research and desk studies.

Desk & Analysis

- Bioacoustics analysis using BatSound, Raven Pro, Kaleidoscope Pro, and other software.
- Mapping and species modelling with ArcGIS, QGIS, and MAXENT.
- Data management and analysis using Excel and Origin Pro.
- Statistical analysis using PAST4, STATA, and basic skills in R.
- Assisting with input and writing for Environmental Impact Assessment (EIA) reports.
- Scientific writing, reviewing, and publication.

Volunteering

- Brazilian Bat Research Society (SBEQ, Brazil): responsible for coordinating the elaboration of protocols for bat studies using acoustics, creating and curatorship of the national bat vocalization library, and managing and conducting bat bioacoustics courses and related extension activities.
- Quiaios Marine Animal Rehabilitation Center (CRAM-Q, Portugal): support at the center in carrying out the rehabilitation animal care tasks, Apr 2010-Aug 2014
- Portuguese Institute for Nature Conservation and Forests (ICNF, Portugal): Bat acoustics and roost surveys for the Portuguese Bat Atlas, Jan 2011-May 2013.

Frederico Hintze BSc, MSc, PhD

PROFESSIONAL TRAINING & QUALIFICATIONS (cont.)

- An Introduction to Using GIS In Marine Biology (2012) Marine Biology & Conservation Studies Scientific Commission, University of Aveiro, Portugal
- ANABAT Training Courses: Level I, II & III (2011) Portuguese Wildlife Society, University of Minho, Portugal
- Morphological Identification of Bats (2011) Institute for Nature and Biodiversity Conservation, Portugal
- Phototrapping: applications in Ecology studies] (2011) CESAM, University of Aveiro, Portugal
- Acoustic Identification of Bats (2011) CIBIO, University of Porto, Portugal
- Integrative Assessment of Aquatic Ecosystem Health (2010) CBMA, University of Minho, Portugal
- Collection of Biological Samples in Wild Birds (2010) Portuguese Association of Bird Ringers, Portugal
- Integrative Assessment of Aquatic Ecosystem Health (2010) CBMA, University of Minho, Portugal
- Presence-Absence Sampling in Wildlife Studies: Presence software] (2010) CESAM, University of Aveiro, Portugal

Scientific publication

- E. Bernard, L.T.L. Damasceno, A.V.C. Frias, **F. Hintze** (2022). Assessing the Effects of Urbanisation on Bats in Recife Area, Atlantic Forest of Brazil. Springer, Cham. DOI: 10.1007/978-3-031-13173-8_9;
- E.S.B. Leal, D.F. Ramalho, F.A.M. Soares, A.L. Costa-Pinto, A.C. Brito, **F. Hintze**, E.M. Vilar, A.M. Lopes, R. Ranulpho, S.F. Ferrari, D.Q. Guerra (2022) Bats from Alagoas state, northeastern Brazil: updated checklist based on literature, collections, and acoustic records. *Mastozoología Neotropical*.v29(2), e0613.
- R.L.M. Novaes, **F. Hintze**, R. Moratelli (2022) *Myotis lavalii* (Chiroptera: Vespertilionidae). *Mammalian Species*. v.54, p. seac003.
- M.C.S. Mancini, **F. Hintze**, R.S. Laurindo, R.M. Mello, R. Gregorin (2022) Tradition vs. Innovation: comparing bioacoustics and mist-net results to bat sampling. *Bioacoustics*. v.32, p.1 – 19.
- **F. Hintze**, R.B. Machado, E. Bernard (2021) Bioacoustics for in situ validation of Species Distribution Modelling: an example with bats in Brazil. *PLoS One*. v.16, p.e0248797.
- L.M. Costa, E.C. Lourenço, **F. Hintze**, E. Vilela, H.G. Bergallo (2021) First record of the genus *Promops* (Chiroptera, Molossidae) in the state of Rio de Janeiro, Brazil. *Notas sobre Mamíferos Sudamericanos*. v.03, p. 001-011.
- P. Mota, J.V. Vingada, P. Rodrigues, N. Garrido, N. Pinto, V. Duro V, **F. Oliveira**, T. Múrias (2020). EDP Baixo Sabor: Bat Roosts - Ecological Monitoring Program (PME) (2008-2014). EDP - Energias de Portugal. Sampling event dataset. DOI: 10.15468/gugh5u;
- P. Mota, J.V. Vingada, P. Rodrigues, N. Garrido, N. Pinto, V. Duro V, **F. Oliveira**, T. Múrias (2020). EDP Baixo Sabor: Bat Roosts [acoustic sampling] - Ecological Monitoring Program (PME) (2012-2014). Version 1.2. EDP - Energias de Portugal. DOI: 10.15468/mw5xgh;
- P. Mota, J.V. Vingada, P. Rodrigues, N. Garrido, N. Pinto, V. Duro V, **F. Oliveira**, T. Múrias (2020). EDP Baixo Sabor: Bat acoustic sampling - Compensatory Measures Program (MC1) [2013-2014]. Version 1.1. EDP - Energias de Portugal. DOI: 10.15468/gg6xhc;

Frederico Hintze BSc, MSc, PhD

- P. Mota, J.V. Vingada, P. Rodrigues, N. Garrido, N. Pinto, V. Duro V, **F. Oliveira**, T. Múrias (2019). EDP Baixo Sabor: Acoustic Bat Monitoring – Construction and Reservoir Filling Phases [2008-2014]. EDP - Energias de Portugal. DOI: 10.15468/whkymv.
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CURRICULUM VITAE
JOE KELLY
Email: kjgreen791@gmail.com
Mobile: 085 8589862

With a degree in Wildlife Biology and Environmental science and also qualified with a Diploma in Management & QA Engineering. I am a hard-working mature individual with experience across a variety of sectors both public and private. I am a lifelong birdwatcher with excellent bird identification skills and a wide range of bird survey experience. Flexible & reliable I work well as part of a team or as an individual. Willing to undertake additional training if required.

Current Role	Field Ornithologist: MKO Planning & Environmental Consultants since 2015 to present.
Qualifications	<ul style="list-style-type: none"> • NFQ Level 8 in Quality Engineering UL 2015. • IBEC: Diploma in Management UL 2015. • BS hons: Wildlife Biology & Environmental Science Tralee IT 2012.
Years of Experience	<ul style="list-style-type: none"> • 10 years' experience working in ecology in both private and public sectors in voluntary, part time and full time positions.
Relevant Experience	<ul style="list-style-type: none"> • 2013: Coillte; Worked on data collection of Hen Harrier and freshwater pearl mussel zones in BAU 8 Co Kerry, using GIS & Mapviewer. • 2010: Golden Eagle Trust. Work placement, tracking and monitoring the movement of White-tailed Eagles. Also, worked on the 2010 Hen Harrier Survey. • Birdwatch Ireland: Multiple years of experience working as a surveyor and field worker. • McCarthy Keville O'Sullivan: Four years of intensive ornithological works across multiple survey types and sites as a surveyor.
Practical Skills and Aptitudes	<ul style="list-style-type: none"> • Experienced in numerous ornithological survey encompassing waterfowl surveys, vantage point watches, dedicated raptor watches and breeding walkover surveys. • Specialised in all raptor surveys, HHVPs. • Extensive experience in creation of data sets as part of projects with Coillte, the Golden Eagle Trust and as part of McCarthy Keville O'Sullivan.
Management/ Supervision	<ul style="list-style-type: none"> • Organised and co-ordinated guided nature walks as part of the NPWS.
Interpersonal & Communication Skills	<ul style="list-style-type: none"> • Strong interpersonal skills. • Extensive experience in communicating with the public and presenting information to large groups. • Good written and verbal communication skills.
Licenses Held	<ul style="list-style-type: none"> • Full clean driving license. • Excellent Health non smoker.
Physical / Other	<ul style="list-style-type: none"> • Outdoor leadership skills. • Rescue emergency first aid for outdoor and CPR. • Leave no trace, Trainer course, KNP.

Kevin Hayes CV

Qualifications

- B.Eng Hons. in Electronic & Communications Engineer,
- M. Eng. Hons in Communications & Software Engineering

Position

Engineering Director

Email

khayes@aibridges.ie

Experience

Kevin works with Ai Bridges who have been supplying telecommunications and aviation assessment solutions to the wind farm industry throughout the Republic of Ireland, Northern Ireland and the UK since 2007. The Ai Bridges Engineering Department has in excess of 200 plus years of experience in the delivery of Aviation, Telecommunications\EMI, Broadcast & EMF\EMC projects.

Kevin Hayes is the Engineering Director at Ai Bridges and takes the role of Client Relationship Manager responsible for overseeing project progress and deliverables for the Telecommunications and Aviation Impact Assessments. This also includes responsibility, along with other team members, for day-to-day running of the projects including co-ordination of project teams and achieving agreed milestones.

Kevin is a qualified engineer and B.Eng Hons. in Electronic & Communications Engineer, M. Eng. Hons in Communications & Software Engineering. Kevin has gained extensive experience in the areas of Telecommunications network design, deployment and implementation roles of telecommunications systems over a 32-year period. He has extensive working knowledge of software modelling and radio planning of telecommunications and aviation networks and systems. This includes taking the lead R&D role in developing the Ai Bridges 3D modelling software techniques used to predict wind farm and solar park interference impacts on telecommunications, broadcast and aviation infrastructure networks.

Will Woodrow MSc MSc (Arch) CEcol MCIEEM



PROFESSIONAL ACCREDITATION

Chartered Ecologist
(CEcol)

Full member
Chartered Institute of
Ecological & Environmental
Management (CIEEM)

Assessor
EASCA (Environmental &
Sustainable Construction
Association)

CAREER HISTORY

Establishment of sustainability consultancy Woodrow Sustainable Solutions since 2004 (name changed in 2008 from Woodrow Wildlife Consulting).

Career break spent travelling throughout France, Spain and Ireland. Relocation to Ireland. 2002-2003

Conservation Officer RSPB (UK BirdLife partner and largest European wildlife conservation charity). East Anglia regional Office UK. 1997-2002

PROFILE – ECOLOGY SPECIALIST

Will is an exceptionally experienced ecologist, environmental professional, strategic / management planning and environmental policy specialist with 30 years spent working and studying in the sector in UK and Ireland.

He founded the consultancy in 2004 and it still has many of its original clients who trust the company's quality and professional credentials.

Will is currently the Vice President (Ireland) of the Chartered Institute of Ecology and Environmental Management.

He has recently overseen the merger with APEM in August 2021

AREAS OF EXPERTISE

Assessment & supervision of infrastructure projects | Wildlife / Biodiversity Field surveys / Ecological assessments | Planning and Expert Witness | Environment / Land use | Environmental Policy & Legislation | Report writing | Team management | Stakeholder dialogue | Computer literate

RELEVANT EXPERIENCE

Assessment and supervision of infrastructure projects

- **Early scoping of projects** Early-stage site assessments for clients for a variety of infrastructure projects including wind farms, quarries and roads to ascertain level of ecological constraints and therefore client risk. Including desk top surveys, consultation with statutory agencies, field surveys for protected habitats and species, etc.
- **Full ecological surveys** Including bird, bat, habitat and protected species surveys, including protected species surveys under licence. Surveys undertaken to standard guidelines in UK and Republic of Ireland.
- **Impact Assessment** Including full EIA chapters (ecology and ornithology), supplementary reports (eg bat reports and supplementary information on other species), and Natura Impact Statements / Appropriate Assessments, including raptor collision risk assessment and tracking of birds from roosts.
- **Compliance Reporting and Monitoring** Including writing Habitat Management Plans, input into Construction Management Plans and Method Statements, Writing of Construction and Site Environmental Management Plans, input into Drainage Plans and monitoring of site investigation works and construction.

Will Woodrow MSc MSc (Arch) CEcol MCIEEM

CAREER HISTORY

Conservation Officer
RSPB HQ UK. Reserves
Ecology, Species and
Habitats Policy, Policy
Research, and
Investigations Departments
1994 – 1997

**RSPB Nature Reserve
warden & Outreach
Conservation Trainer**
wetland (including grazing
marsh), woodland, coastal
(including tern colonies)
and heathland sites 1990
– 1993

Leader Cloudforest
Research Project,
Ecuador Jul – Dec 1989

Volunteer Nature
Reserves Authority,
Israel. Mar – Jul 1987

**Volunteer and Assistant
Nature Reserve Warden**
RSPB, UK 1985 – 1987

EDUCATION & TRAINING

MSc (Architecture)
**Advanced Environmental
& Energy Studies**
University of East London.
2006

**MSc European
Environmental Policy &
Regulation** Lancaster
University. 1994

PROFESSIONAL TRAINING & QUALIFICATIONS

- o ESAS Seabirds at Sea
JNCC Certificate
- o Full Irish driving
licence
- o Emergency First Aid
2017

- **Ecological / Environmental Clerk of Works** Full ECoW service and reporting to clients and statutory agencies provided. Including for 20 wind farms to date as well as road, bridge and other infrastructure projects. Invasive species project survey and supervision. Extensive experience of supervision of works and preparation of method statements to avoid impact on key ecological receptors.

Wildlife / Biodiversity/ Field surveys / Ecological assessments

- Experienced **bird surveyor** of 30 years' experience. Recent projects including year-round Vantage Points Surveys, Collision Risk Modelling, post construction monitoring of Hen Harriers on wind farms.
- Licensed **bat worker** having undergone training in bat wind farm surveys, bat mitigation and bat handling.
- Experienced invertebrate surveyor.
- Habitat surveys and plant surveys, and active peat assessments for a number of proposals.
- Invasive Species Surveys
- Provision of **Biosecurity statements** and input for alien invasive species on Construction Sites 2014+

Planning and Expert Witness

- **Environmental Impact Assessment** (particular expertise in assessing development proposals with potential impacts on wildlife conservation and compliance with national / international legislation, including Appropriate Assessment under Article 6 of the EU habitats Directive).
- **Appropriate Assessments / Natura Impact Statements** numerous assessments undertaken including for wind farms, quarries water infrastructure projects, coastal and dredging operations, recreation areas, commercial developments and dwellings.

Environmental Policy and Legislation

- **Interpretation and Implementation of European legislation** to protect and manage the natural environment (particularly the Habitats Directive), including innovative test cases. Successes through to public inquiry and top government level lobbying work.



MARK TIDESWELL
Senior Consultant

Discipline: Acoustics and Shadow Flicker

Key Qualifications: BSc (Hons) Music Technology, Diploma in Acoustics & Noise Control (IOA)

Professional Memberships: AMIOA

Experience: 10 years

INTRODUCTION

Mark is a Senior Consultant with over ten years' experience working in the Environmental Consultancy sector. Mark's work focuses mainly on the technical aspects of renewable energy developments including site finding, GIS mapping services, shadow flicker and various types of noise assessments.

KEY EXPERIENCE

- Noise monitoring and assessment (ETSU-R-97, BS4142, BS5228)
- Noise propagation modelling
- Shadow Flicker assessment
- GIS site finding and feasibility for energy developments
- Constraints mapping
- Technical drawing and figure production

EDUCATION AND PROFESSIONAL STATUS

- BSc (Hons) Music Technology, Leeds Metropolitan University (2011)
- IOA Diploma in Acoustics and Noise Control, Leeds Metropolitan University (2015)
- Associate Member of the Institute of Acoustics (AMIOA)

EXPERIENCE RECORD

TNEI Services Ltd
2013 – 2021

Graduate Consultant - Senior Consultant

Arcus Consulting Ltd
2021 – 2023

Senior Consultant

TNEI Services Ltd
2023 – present

Senior Consultant

Mark is an experienced project manager who has worked on a large number of wind energy development projects from initial feasibility work on the sites, through to baseline assessment, impact assessment (drafting of Technical Reports and Chapters) and post submission support and compliance monitoring including complaints investigations. Project highlights include:

Onshore Renewables (Wind, Solar and Hydro)

- Wind turbine compliance noise assessment on South Uist for Comhairle Nan Eilean Siar (site confidential).
- Spaldington Wind Farm: Noise level monitoring and reporting for wind farm construction

activities.

- Lindhurst Wind Farm: Wind farm noise compliance monitoring and assessment.
- ZNSHINE SOLAR Site Search: Feasibility assessment to identify potential sites suitable for solar development in England through the use of geographic data.
- Bankend Rig Wind Farm Extension: Provided GIS and mapping support for the planning application of the consented Bankend Rig Wind Farm Extension, including the production of supporting figures, plans and technical drawings.
- Tangy IV Wind Farm: Shadow flicker assessment of proposed site for Environmental Impact Assessment, involving site survey and desk-based assessment.
- New Rides Wind Farm: Shadow flicker assessment considering the effects of shadow flicker on a nearby prison. Work included site survey and desk-based assessment.
- Shadow Flicker complaints investigation for an operational wind farm in Ireland (site confidential).

Electricity Networks (Substations, Overhead Lines)

- Triton Knoll Substation construction noise (HDD)
- WPD Grid Study: Digital mapping of the WPD electricity distribution grid network across the south-west of England.

New Energy Systems (BESS, Hydrogen, Electric Vehicles, District Heating, Energy from Waste)

- Hydrogen fuel cell development in Orkney: Production of GIS models and figures.
- STOR site in Lancashire: Produced GIS models and figures for three gas turbine engines.
- Feasibility studies for large scale STOR sites for up to 50MWe of generators/engines.

Conventional Energy (Gas, Nuclear, Coal)

- Rumer Hill Gas Peaking Plant: Baseline noise monitoring and BS4142 assessment for the operation of externally located gas powered engine/generator sets.
- Fellside CHP Plant: Noise assessment of works at gas turbine power plant.

Other

- Newcastle Great Park: Production of noise propagation models and noise mapping of a large housing development in Newcastle in order to assess the potential impacts of road and aircraft noise.

Oisín O Sullivan BSc



ACCREDITATION

Qualifying member

Chartered Institute of
Ecological & Environmental
Management (CIEEM)

Member

Bat Conservation Ireland

CAREER HISTORY

Senior Ecologist Woodrow
Sustainable Solutions
Feb 2024 –

Ecologist Woodrow
Sustainable Solutions
Nov 2021 – Feb 2024

Graduate Ecologist Woodrow
Sustainable Solutions
Oct 2020 – Nov 2021

EDUCATION

BSc Ecology &

Environmental Biology First
Class Honours, University
College Cork (UCC)
2016 – 2020

Final Year Project assessed
the habitat selection of bats
within Cork City.

PROFILE – SENIOR ECOLOGIST

Oisín O Sullivan is a Senior Ecologist with Woodrow Sustainable Solutions.

He obtained First Class Honours in Ecology and Environmental Biology from University College Cork; where he gained experience in different field survey methods, knowledge of Ecological Impact Assessments and Appropriate Assessment, and familiarity with the species and protected species of Ireland.

For his final-year project he completed a survey of bat species and their habitat selection in the urban environment of Cork City. During his studies he became proficient in the use of R for data analysis and Kaleidoscope for bat call recordings and analysis.

During his time at Woodrow, he has conducted and overseen the deployment of static detector surveys, the undertaking of transect surveys, bat roost inspection surveys, bat data analysis and bat report writing.

EXPERTISE

Ecological Surveying & Mapping | Reporting & Analysis | Project / Team Management

RELEVANT EXPERIENCE

Ecological Surveying & Mapping.

- Protected species surveys specialising in bat surveys.
- Bat roost and transect surveys
- Deployment of static bat detectors
- Potential Roost Feature surveys using BCT (2023) roost potential classifications.
- Development and application of novel survey techniques for bat surveys for offshore wind in the absence of established guidance
- Research and desk studies
- Licensed bat roost inspection surveys using an endoscope and thermal imaging
- Hand netting and handling bats
- Biometric measurements and ringing for bat roost population monitoring
- Badger & otter surveys
- Marine epibiont surveys

Oisín O Sullivan BSc

PROFESSIONAL TRAINING & QUALIFICATIONS

- o Assisted in a programme of biometric measurements and ringing for ongoing monitoring of 5000+ individual bat roost in Portugal involving 8 species. 2024
- o Bat Handling, Hand Netting & Endoscope Use Foundation Training. Batability 2023
- o Developing skills in ecological impact assessment CIEEM 2023
- o Advanced techniques in R for bat data analysis. Bat Conservation Trust 2023
- o Bat conservation trust roost mitigation masterclass 2021
- o Bat handling licenses 2023
2024
- o Bat derogation licenses 2021
2022
2023
2024
- o Safepass 2021
- o REC first aid 2023

Reporting & Analysis

- Mapping with ArcGIS and QGIS.
- Bat data analysis with Kaleidoscope Pro and Bat Explorer.
- Statistical analysis and modelling using R.
- Data management using Excel.
- Bat data analysis using Ecobat.
- Preparation of bat activity reports for EcIA and EIAR assessments.

Project / Team Management

- Four years of managing the Woodrow bat team to ensure survey requirements are met for 10 - 12 wind farm sites a year, along with several quarry sites and miscellaneous building demolitions.
- Head Organiser for the 2017 Irish Nationals European Youth Parliament Session - led a team of organisers responsible for the transport, accommodation, food, and venues for the 150 people that attended the four-day event.

Gordon Buchan

Sector Director - Energy

Years' Experience: 27

Qualifications:

BEng (Hons) Civil & Transport Engineering
MSc Transport Engineering
Chartered Engineer

Memberships & Accreditations:

Chartered Member of the Institute of Logistics and Transport
Fellow of the Chartered Institution of Highways and Transport



Personal Profile

Gordon Buchan is a highly experienced Transport Planner, having worked on wide range of projects across the UK, Ireland and Scandinavia. Gordon specialises in private sector development and renewable energy projects and is based in Edinburgh.

He has supported several significant renewables projects in the UK and have acted as Expert Witness on a number of Public Inquiries and NSIP hearings.

Gordon has worked on over 500 wind farm sites, over 50 solar farms, peak power plants, battery storage sites, biomass plants and grid enhancement projects.

He has given presentations at the ICE Infrastructure Show at the NEC and at the All Energy Conference in Aberdeen on two occasions. Gordon was a finalist in the 2018 NCE 100 Alternative Energy Award category.

To assist in developing future engineers, Gordon regularly assists Napier University's School of Computing, Engineering and the Built Environment with mentoring for final year students and was made a Visiting Teaching Fellow in 2023.

Key Relevant Experience

Igntis Latvia & Lithuania Wind Farm Sites

Project Director for the identification of suitable port facilities in the Baltic and access route reviews for seven wind farm projects in both Latvia and Lithuania. Undertook detailed research and site visits to develop access proposals.

Rosefield Solar Farm

Project Director for a DCO scale solar farm, development in Buckinghamshire. Responsible for all off site access and transport matters and attended all public consultations to help explain the access rationale and explain technical matters.

One Earth Solar Farm

Project Director for a significant solar development straddling Lincolnshire and Nottinghamshire. This DCO scale application required a detailed review of access and careful consideration of access constraints.

Viking Wind Farm

Project Director for the preparation of a comprehensive Convoy Delivery Review for Vestas to support the delivery of over 1000 AIL movements required to allow construction of SSE's Viking Wind Farm in Shetland.

Loch Kemp Pumped Storage Hydro

Project Director for a significant pumped storage hydro scheme between Loch Kemp and Loch Ness. Responsible for they Transport Assessment, EIA Transport Chapter, mitigation measures and AIL access review.

Earba Pumped Storage Hydro Scheme

Project Director for a large-scale hydro scheme located in the Highlands. Responsible for the EIA Transport Chapter, AIL access

review, Transport assessment and consideration of all offsite mitigation measures.

Green Hydrogen Sites

Project Director for three Green Hydrogen sites in the UK, including:

- Oban Hydrogen Production and Fuel station (GreenPower International)
- Rheidol Green Hydrogen Plant (Statkraft)
- Kintore Hydrogen Plant (Statera)
- Gordonbush Green Hydrogen Plant (SSE)

Lentons Lane Solar Farm

Project Director for a major solar farm development located to the northeast of Coventry. Responsible for all planning application submissions.

Wind Farm Access Reviews, Highlands

Project director for abnormal load access studies for a variety of wind farms in the Highlands, including:

- Bhlaraidh Wind Farm
- Stronelaig Wind Farm
- Dell Wind Farm
- Gordonbush Wind Farm Extension
- Garvary Moor Wind Farm
- Kirkan Wind Farm
- Hollandmey Wind Farm
- Lochluchart Wind Farm
- Strathy South Wind Farm
- Limekiln Wind Farm
- Camster Wind Farm
- Stemster Wind Farm
- Burn of Whilk Wind Farm
- Moy Wind Farm
- Tom na Clach Wind Farm
- Dorenell Wind Farm
- Lethen Wind Farm
- Dalnessie Wind Farm
- Druim Ba Wind Farm
- Aberarder Wind Farm
- Cairn Duhie Wind Farm

Skye Grid Reinforcement

Project Director for the transport and access aspects for a significant grid reinforcement between Fort Augustus and Skye for SSSEN. This project required detailed scoping discussion with The Highland Council and careful consideration of the presentation of impacts / mitigation to match the eight cable route sections and the three Council areas that make up the project.

Roths III Wind Farm Public Inquiry

Gordon acted as expert witness on transport and access matters for an extension to the

existing Roth's Wind Farm. This has required the detailed review of abnormal load access from Inverness to site, discussion with all stakeholders, topographical reviews of major constraint points and the development of supplemental planning information.

Glenshero Wind Farm, Fort Augustus

Gordon acted on behalf of RES as expert witness on transport and access matters for a large wind farm site located in the Highlands. He provided written evidence on the reasons for refusal which were accepted by the Inquiry Reporter.

Kinardochy Substation and Grid Connection

Transport Planning Support Lead
Undertook a detailed Transport Assessment in support for a new substation and grid line application located near Aberfeldy in Perthshire. Developed a construction impact review for the proposed development and undertook an EIA access review to determine the appropriate levels of mitigation.

Hendy Wind Farm

Project director for the completion of planning condition discharge for transport and access issues. Included detailed liaison with Welsh Government, trunk road agents and Powys County Council. The first turbine has been delivered within two months of planning consent being issued.

Pines Burn & Windy Edge Wind Farms, Scottish Borders

Project director responsible for the development of an Abnormal Indivisible Load review for a large wind farm located in the Borders. Access constraints dictated the need for alternative and innovative transport vehicle solutions to be used.

SHE Transmission Limited Grid Works

Project director for the transport and traffic sections of EIA / ES to review the impacts of grid improvements across Scotland. Projects included the Caithness Reinforcements works, Gills Bay substation, LT40 in Argyll and the wind farm connections of Bhlaraidh, Stronelaig and Beinnun.

Bryn Blaen Wind Farm

Project director for the planning application and detailed design of Bryn Blaen wind farm, Powys. Developed all transport related planning documentation deliver this 6 turbine wind farm through the planning process, inquiry and detailed design phases. Also,

responsible for grid connection routing and transport engineering proposals to support the laying of the grid connection in the trunk road over a 16km route.

Coire Glas Pumped Storage Hydro Station

Project director for this 1600MW Pumped Hydro storage scheme near Invergarry. Gordon developed a rock spoil disposal plan for up to 4M tonnes of spoil, transport assessment and transport chapter for this nationally significant scheme in the Highlands.

Llaithddu Wind Farm

Expert witness for the Llaithddu Wind Farm scheme within the wider Mid Wales Conjoined Public Inquiry. Provided transport and abnormal load access expert witness evidence at the 18 month inquiry (Expert Witness 1) into five wind farms and one transmission line in Powys, mid Wales. The transport evidence was accepted by the Inspector in the face of initial objections by the Welsh Government, Powys County Council and local groups.

Griffin Wind Farm Inquiry

Prepared transport planning evidence for what was Europe's fourth biggest wind farm on traffic impact and traffic management. The inquiry ended successfully with the opponents of the wind farm being forced to admit that there were no grounds for refusing the site on transport grounds. The wind farm is now fully operational.

BESS Sites (United Kingdom)

Battery Energy Storage System (BESS) sites. Project director for a number of BESS and Greener Grid Sites across the UK, including:

- Necton (Statkraft);
- Swansea North (Statkraft);
- Lerwick (Statkraft);
- Keith (Statkraft);
- Coylton (Statkraft);
- Neilston (Statkraft);
- Soay (Statkraft);
- Spennymoor (Statkraft);
- Kinmuck (Green Island);
- Dunoon (Ion Ventures);
- Fraserburgh (Ion Ventures); and
- Auchentiber BESS.

Wind Farm Applications in Wales

Wind Farm Access Reviews, Wales
Project director for abnormal load access studies for a variety of wind farms in the Wales, including:

- Pen March (RWE);

- Twyn Hywel (Bute Energy);
- Aberedw (Bute Energy);
- Nash (Nordex);
- Hirfynydd (EDF);
- Abertillery (RWE);
- Nant Mithill (Bute Energy);
- Hendy Wind Farm (Njord Energy);
- Bryn Blaen Wind Farm (Njord Energy);
- Dragon Wind Farm (Dragon Power);
- Banc Du Wind Farm (Bute Energy);
- Mynydd y Gywnt Wind Farm (REH);
- Garn Fach Wind Farm (EDF).

Gordon has also undertaken the Transport Assessment and ES Transport Chapters for many of these projects in addition to the route survey reports.

Solar Farm Applications

Project director for solar farm applications around the UK, providing combined Transport Statement / Construction Traffic Management Plans. Sites include:

- Dunfermline North Solar Farm;
- Aithrie Solar Farm;
- Poppleton Solar Farm;
- Spittal Solar Farm;
- Trinlaymire Solar Farm;
- Barn Farm Solar Farm;
- Lewknor Solar Farm;
- Berry Hill Solar Farm;
- Longfield Solar Farm;
- Oaklands Solar Farm; and
- Mahe Solar Farm.

Abnormal Load Studies (Various sites for Vestas, Siemens Gamesa and Nordex)

The projects involved the preparation of Abnormal Load Assessments that are included in the sales documentation and formed part of the Vestas customer offer for the supply of the turbine equipment. The projects were located from Shetland in the north, through to Cornwall in the South in the UK and from Donegal through to Cork in Ireland. Several projects located in Sweden and Poland have also been undertaken.

Moray West Offshore Wind Farm

Project director responsible for the discharge of onshore transport and access planning conditions for Moray West Offshore Wind Farm and its grid connection running from the Moray Coastline through to a new substation site to the south of Keith.

Moray East Offshore Wind Farm

Project director for the on-shore transport planning elements of the Moray East project.

Work included the planning application elements, namely Transport Assessment, Abnormal Load Assessment, Traffic Management Plan and EIA Transport Chapter. Upon planning approval, Gordon led the transport planning condition discharge process and assisted MORL discharge all conditions, including detailed reviews of substation component access and consultation with Moray Council, Aberdeenshire Council and Transport Scotland.

Abbey Lane, Edinburgh

Project Director for a private housing and student residence development to east of Edinburgh City Centre. A Transport Assessment, residential travel pack and student travel plan were prepared to support the planning application. Discussions were held with the Council to maintain the access and internal road network as private, rather than adopted.

Neart na Gaoithe Operations and Maintenance Facility, Eyemouth

Gordon developed a detailed Transport Statement to support a planning application for a large operations and maintenance facility to support the proposed Neart na Gaoithe Offshore Wind Farm at Eyemouth Harbour. The project required a detailed review of the access arrangements to ensure safe and efficient access into the constrained dock side site.

Spaceport Sutherland, Melness

Project Director for the transport and access elements of the planning submission for the UK's first vertical launch site for small terrestrial satellites. The Transport Assessment required special consideration for the trip generation given the special nature of the site and its operation. To gain officer recommendations, a series of consultations were held to review fragile road infrastructure and a passing place network for single track sections of the access routes.

Ianstown Redevelopment, Buckie

Gordon prepared a Transport Assessment to support the redevelopment of a former shipyard at Buckie. This required a review of existing access options and the development of low impact pedestrian improvements to ensure access for all modes.

Edinburgh Park South

Project director for a large multi-use site located in western Edinburgh. Assisted the design team with the transport elements of the

masterplan, developed an AMC conditions discharge review (for circa 1,000,000sqft offices, urban square and transport facilities) and developed the principles for taking the project forward through a PPP application for circa 1600 residential units.

Ineos, Grangemouth

Project director for the initial masterplanning and engineering review of redundant land at the oil refinery and chemical works at Grangemouth. Reviewed existing site, client aspirations, collected survey data and produced plans outlining masterplan options.

Village Hotels, Edinburgh & Glasgow

Project director for the delivery of the first two De Vere Village hotel developments in Scotland. This project is complex and requires the delivery of two large scale developments on brown field sites, whilst ensuring that the client group is not subjected to excessive transport and tram contributions.

Am Bhlar Mor, Fort William

Project director for a large mixed use development for Miller Developments' Am Blar Mor site in Fort William. This site included a large Tesco super store, retail park, primary school, industrial estate and hospital located off the A830 trunk road. The project required detailed discussions with The Highland Council, Transport Scotland and the network management officers to develop a suitable package of mitigation works on the trunk road network to achieve a difficult no net detriment solution in a highly congested area. In the development of the mitigation measures, a detailed review of land options was undertaken to develop a solution on the A82 that Miller could fully implement. Successful discussions were held on providing designs that justified departures from the DMRB to provide a value engineered solution that is now in construction.

East Kilbride Shopping Centre

Project director for Cogent Property Solutions Limited's proposals for redeveloping the east end of East Kilbride shopping centre. This project included a new expanded Sainsbury's superstore, shopping arcade and multi-storey car park. Project required careful access design, traffic distribution and consultation with bus operators and the PTE. The public transport elements were of particular concern and detailed proposals regarding queue management and public transport accessibility required consultation with SPT and Transport Scotland to conclude a successful application.

Juliane Kohlstruck BSc MSc



PROFESSIONAL ACCREDITATION

Member
Botanical Society of Britain and Ireland (BSBI)

CAREER HISTORY

Senior Ecologist

Woodrow Sustainable Solutions, Sligo, Ireland 2020

Student Research Assistant

Functional Ecology of Plants Group, University of Oldenburg, Germany 2017 – 2019

Student Research Assistant

Biodiversity and Ecosystem Research Group, University of Münster, Germany 2016

Intern NABU (Nature and Biodiversity Conservation Union), Münster, Germany 2015

EDUCATION

MSc Landscape Ecology

Carl von Ossietzky University Oldenburg, Germany 2017 – 2020

BSc Landscape Ecology,

Westfälische Wilhelms-Universität Münster, Germany 2011 – 2017

PROFILE – ECOLOGIST

Juliane Kohlstruck holds both an MSc and BSc in landscape ecology. Her studies took her from Germany to Istanbul, Patagonia, Central America and finally to Ireland gaining extensive experience in botanical survey methods.

As an ecologist she specialises in carrying out botanical surveys. Notwithstanding, she is also skilled in carrying out other surveys including mammals, bats, amphibia, and invertebrates. She is proficient in mapping, spatial and data analysis using ArcGis, QGIS, Excel, R, and SPSS.

KEY ECOLOGICAL SKILLS

Habitat, Rare Plant and Invasive Alien Species Surveys | Ecological Assessment Reporting | Appropriate Assessment | Ecological Impact Assessment | Habitat Management Planning and Monitoring

RELEVANT EXPERIENCE

Ecological Surveying & Reporting

Botanical surveys included:

- Habitat Surveys in Ireland (JNCC Phase 1, Fossitt, NVC, IVC)
- Annex 1 habitat condition assessments (blanket bog, bog woodland, wet and dry heath, cutover bog)
- Rare Plant Surveys
- Invasive Alien Species Surveys and mapping

Other ecological surveys included:

- Mammal surveys, including bats
- Amphibian surveys
- Invertebrate surveys (Odonata, Lepidoptera incl. Marsh Fritillary Surveys (under license in NI))

Juliane Kohlstruck BSc MSc

PROFESSIONAL TRAINING & QUALIFICATIONS

Full, clean European driving Licence

Emergency First Aid 2022

SafePass Certificate July 2020

Qfield for ecologists and environmental practitioners (CIEEM) 2020

BTO Northern Ireland's Bird ID and BTO Projects training course (2020)

Irish Grassland Project (Id course) (BSBI) 2021

Developing Skills in Ecological impact assessment (EcIA) (CIEEM) 2021

Remote Pilot Certificate of Competency (A1/A3) 2021
Woodlands of Ireland (NWS Training) 2022

IVC Grassland Training (NBDC) 2022

Bryophyte Training (Dr. Rory Hood) 2023

Appropriate Assessment Masterclass (DTA Ecology) 2024

PUBLICATIONS

Zotz, G., Bautista Bello, A.P., Kohlstruck, J., Weichgrebe, T. (2020). Life forms in aroids – Natural variability vs. terminological confusion. Aroideana – Journal of the International Aroid Society, 43, 315–333.

Einzmann, E., Weichgrebe, L., Kohlstruck, J., Zotz, G. (2024). Climbing aroids in a Panamanian lowland forest: We should reconsider our categories. Journal of Vegetation Science, 35,

Other ecological skills:

- Pedological/geological mapping and chemical analysis of soils
- Laboratory and in situ analysis of ground and surface water and hydromorphological quality assessment of watercourses according to the Water Framework Directive (WFD)

Reporting & Legislation

- Desk Study, Appropriate Assessment screening
- Ecological reporting – including EcIA, EIAR-Biodiversity Section, NIS, HRA, PEA, Project Habitat Monitoring Reports
- Preparation of habitat management and enhancement plans (peatland restoration, replanting, grazing prescriptions)

Data Management & Mapping Skills

- Set up and usage of field data capture applications Qfield and Survey123
- Cartographic visualization and analysis using QGIS and ArcGIS
- Statistical analysis using R and SPSS

Kieran O'Byrne (B.A. Mod, M.A)

RWE Stakeholder Engagement / Communications Specialist for Onshore, Ireland

Educational Qualifications

- B.A. Mod. Natural Science
- M.A. (Zoology)

Professional Qualifications/ Relevant Memberships

- Member of the Public Relations Institute of Ireland (MPRII)
- Member of the PRCA (MPRCA)
- Former Board Member of the Public Relations Consultants Association (PRCA)

General Background

Kieran has over 35 years' experience in communications PR and public affairs. He has worked with some of the top PR and Public Affairs consultancies, both Irish and International. He worked as a senior public relations / public affairs counsel for many CEO's and Management teams during his long communications career.

He set up and was Managing Director of Hill & Knowlton Ireland in 2003, prior to setting up his own PR firm CCIPR in 2012. CCIPR offered clients public relations and public affairs consultancy to many large international clients.

Kieran joined RWE in January 2021 bringing with him a wealth of relevant specialist PR, PA and communications and stakeholder management experience, allied to his technical, scientific, and environmental knowledge.

Over the last 13 years Kieran has worked in public relations, public affairs and stakeholder engagement for large infrastructural and renewable energy projects. These have included the following:

- RWE – stakeholder engagement / communications for wind farms in Fahy Beg Co Clare, (in planning), Castlegarden in Co Kilkenny (in pre planning) Airborne Wind in Co Mayo (planning received) plus all communications requirements and media interaction for RWE onshore in Ireland
- Xstrata / Glencore Mining – PR / PA communications for a proposed zinc mine in Co. Limerick
- South Dublin County Council / Coillte – development of the Hell Fire Club / Dublin Mountains Project – consultation leading to planning stage. (planning permission received)
- Irish Water / Byrne Looby Engineers – PR / PA consultant prior to planning for the Arklow Wastewater Treatment Plant. (planning permission received)

Kieran has worked as senior communications counsel and PR / PA advisor with global brands such as PayPal, eBay, HP, Compaq, Disney, Intel, IBM, ESSO, Treasury Holdings, Irish Dairy Board, EPSON, Samsung, EMC, AON Insurance, Inland Fisheries Ireland and many others.

Kieran has acted for a number of organisations including Kildare and Meath Co Councils, Irish Water (Arklow Wastewater Treatment Plant and Water Supply Project), South Dublin Co Co / Coillte (Dublin Mountains Project), DECNR, (stakeholder engagement with anglers around new angling legislation), Western Fisheries Board, Galetch Energy, BNRG Renewables, Marine Institute, Xstrata / Glencore Mining, Greyhound Recycling, ESSO, European Recycling Platform and others.

Relevant Work Experience

RWE Stakeholder Engagement / Communications, Onshore, Ireland (January 2021 to present) **Stakeholder Engagement, Community Liaison, Communications, PR and Public Affairs,**

- Stakeholder engagement, political interaction, media relations, community liaison, project communications (website, brochures, information stands, advertising etc.)
- Projects worked on to date include:
 - Fahybeg wind farm Co Clare (three consultations and now in planning)
 - Castlegarden (two consultations and going into planning later in 2023)
 - Airborne Wind AWES Co Mayo (planning received construction beginning Q4 2021)
 - And pre planning consultation for 4 other wind farms in development

Owner and Managing Director, CCIPR (Communication Consultants Ireland) - 2012 to 2020 **Stakeholder Engagement, Communications, PR and Public Affairs,**

- Advising companies on their media and political communications needs and all project communications requirements
- Devising message development and delivery for all project collateral
- Implementing media / political and wider stakeholder engagement

Gaeltech Energy Services (Wind Farm Developers) (August / September 2017) **Stakeholder Engagement / Communications Specialist**

Working with Gaeltech Energy Services on stakeholder engagement for windfarms;

- Liaison with landowners, local representatives, stakeholders
- Engagement with objectors to windfarm after planning application
- Working with all stakeholders to ensure open exchange of information

South Dublin Co Co / Dublin Mountains Project in association with Coillte (March to May 2017) **Stakeholder Engagement / Communications Specialist**

Working with South Dublin Co Co on stakeholder engagement for Dublin Mountains Project including;

- Developing all communications collateral including text for newsletters, brochure, website
- Liaison with landowners, local representatives, all stakeholders
- Advice around media outreach and liaison and writing and developing media releases
- Arranging and attendance at workshops / public meetings and production of stakeholder reports

Jacobs Engineering (March to December 2015) **Communications Specialist / Stakeholder Engagement – Irish Water – Water Supply Project (Consultation Phase 1, 2 & 3)**

Worked on all communications requirements around the Water Supply Project (Shannon Extraction) for Irish Water including;

- Developing all communications collateral including text for newsletters, website, printed collateral and all advertising and national local / regional media outreach
- Ensuring all documentation was written in a non-technical way
- Liaising with statutory and non-statutory stakeholders including public outreach

Byrne Looby & Partners, (BLP) Engineers (2014 to 2015) **Communications Specialist / Stakeholder Engagement for Irish Water for Consultation around development of the Proposed Arklow Wastewater Treatment Plant (Consultation Phase 1 & 2)**

Communications lead for the proposed 36,000 pe Wastewater Treatment Plant proposed for Arklow on behalf of Irish Water and BLP.

- Message development and public engagement for the project on a door to door, face to face basis including engaging with Residents Associations, Chambers of Commerce, Anti Irish Water groups etc.
- Briefings and engagement with all local representatives and working with the Arklow Municipal District officers
- All stakeholder and media engagement

Inland Fisheries Ireland / DECNR (2012)

Stakeholder Engagement for Local Angling Fora around Proposed Changes in Irish Angling Legislation

Worked with senior Civil Servants in the DECNR and IFI on the proposed changes in legislation around angling in the Great Western Lakes

- Developing of messages and briefing and training senior civil servants in message delivery
- Working with Ministers office and meet with angling representatives and Chair public meetings with the DECNR / IFI and angling interests
- Development of media outreach including press releases and local radio interaction

Xstrata Mining (2008 - 2014)

Communications / Stakeholder Engagement / PR Specialist

Worked with senior Xstrata Mining executives on their communications requirements on a proposed Zinc Mine in Co Limerick assisting them regarding liaison with local residents, representatives, County Councils, media and all messaging, print and design for the duration of the project.

Philips (Eindhoven) (2012 to 2013)

Internal Communications Specialist

Internal Communications Specialist for Philips Lighting in Eindhoven, The Netherlands. Duties included;

- all internal communications requirements for 48,000 employees within Philips Lighting across all their global offices including global employee engagement developing methods of encouraging training and interaction across markets.

Other Communications Experience

Managing Director, Hill & Knowlton, 2003 to 2012

- Set up the Irish operation of the global PR Consultancy, Hill & Knowlton in Dublin
- Developed and grew the business for 9 years with t/o of nearly €1 million
- Managed a Team of up to 15 people, acted as senior client liaison and advisor

Managing Director, Beattie Media, 2001 to 2003

- Set up the Dublin office of Scottish headquartered PR company

Director, Park Communications, 1997 to 2001

Associate Director, Slattery Communications, 1995 to 1997

Sales & Marketing Director, Profile Plus, 1994 to 1995

Account Director, Frank Dunlop & Associates Public Affairs Consultants, 1992 to 1994

Press Officer, Eastern Health Board, 1991 to 1992

Senior Account Executive, Murray Consultants, 1988 to 1991

Michael Ian Hoit

Personal details

Address: 8 Trix Road
Norwich
NR2 2HB

Date of birth: 17/07/1978

Telephone: 07799 770896

Email: mikee_hoit@hotmail.com

Education

University of East Anglia, September 1996 - June 1999

Ecology BSc - 2.1: *Marine and Coastal Ecology; Aquatic Ecology; Conservation Biology; Population Genetics; Evolutionary Genetics; Behavioural Ecology; Ornithology; Landscape*

Dissertation: *Breeding habitat selection by European Nightjar (Caprimulgus europaeus) in commercial forestry*

Little Heath School, Reading, September 1989 – June 1996

A Level, June 1996: Geography - A, Biology - C, Chemistry – C, General Studies - A

GCSE, June 1994: 2 Grade A*, 5 Grade A, 3 Grade B

Employment History

Freelance Ecologist & Project Consultant, September 2003 - present

Working on a freelance basis on a variety of Environmental Impact Assessments. This has primarily entailed bird surveys for proposed wind farms, and also for housing and national infrastructure schemes. In the course of this I have been working almost continuously on sites involving vantage point-based flight observations, wintering and breeding bird surveys. During this period I have averaged over 700 hours of vantage point surveys per year in both lowland and upland habitats; this is primarily focused both on identifying the species of birds of prey present, and the number of individuals of each species. Alongside this has been a similar volume of work undertaking surveys wintering and migrating birds, frequently entailing systematic counts of large numbers of, for example, shorebirds and wildfowl.

In addition I have worked on surveys following the specific methods for the below:-

Red-throated Diver	Black-throated Diver	Red Kite
Marsh Harrier	Hen Harrier	Montagu's Harrier
White-tailed Eagle	Golden Eagle	Osprey
Merlin	Peregrine	Black Grouse
Quail	Stone-curlew	Dotterel
Golden Plover	Barn Owl	Short-eared Owl
Nightjar	Black Redstart	

This work has been performed using the relevant Scottish Natural Heritage and Natural England guidelines. I have also carried out nocturnal surveys on many projects. In total I have surveyed in excess of one hundred sites (full list

available if required), and as a result have undertaken extensive post-construction monitoring surveys. These are often at remote and exposed localities, giving me a thorough understanding of the requirements of working safely in these conditions.

These projects often involves working with other surveyors; in this regard I am experienced in organizing a group work schedule and coordinating visits with landowners and others who may be utilize the site.

In August 2015 I consulted on a proposed windfarm and powerline development in Eastern Cape, South Africa. This involved advising on the project design, including methods for surveying target species, and fine-tuning the methodology to bring it up to UK standards. I also undertook VP and transect surveys for various large raptors, bustards and Blue Cranes, while training local surveyors in best practice and SNH/NE techniques. Additionally, I carried out live-trapping of small mammals using Elliot traps on site.

In February 2018 I worked as consultant on proposed energy projects on behalf of Asian Development Bank. I was responsible for the final design and survey methodology used by the scheme, as well as carrying out preliminary bird counts. Consequently, a primary role was to ensure that local teams were trained to carry out future surveys and submit data to the highest standard.

Working on a more ad hoc basis, I have also accrued considerable experience in the following surveys:-

Water Vole – assessing presence, monitoring, and trapping and relocating (under licence holder supervision).

Bats – emergence and activity surveys and, under licence holder supervision, roost checking.

Great Crested Newt – nocturnal observation, bottle- and pitfall-trapping, and mitigation.

Principal Ecologist (part time), Arcadis UK Ltd, March 2017 – present; Senior Ecologist (part time), Hyder Consulting/Arcadis UK Ltd, August 2015 – September 2016

Consulting on and undertaking bird and mammal surveys (bats and Water Voles) for ongoing development projects. Responsibilities include digital recording (onto iPads and tablets) of bird observations from vantage point surveys, mapping of species of conservation concern from both wintering and breeding bird transects, plus advising on survey schedule methods. The latter also included on-site training of less experienced surveyors.

Tour Guide, Wild Earth Travel, June 2018 – present

Employed as on-board naturalist and general tourist guide on a small cruise ship around Scotland (with future trips scheduled). Responsibilities included ensuring safety of the passengers, while ensuring details of the cruise were communicated to clients (both individually and as a group), as well as providing them with knowledge of the details visited. I also liaise with other members of staff and crew so that together we can run efficient excursions, and recording wildlife sightings.

Tour Guide, Eagle Eye Tours, April 2018 – present

My main roles on previous and planned tours are, again, to provide a safe and informative experience to clients; as well as a wildlife guide, I ensure that all the travel and accommodation logistics during the trip run as smoothly as possible. As with the above role, this requires good time management abilities, and to be flexible and proactive while communicating any changes to our plans.

Raptor Counter and Guide, Batumi Raptor Count/Batumi Birding, Republic of Georgia, September – October 2015

I spent part of the autumn 2015 season as a raptor counter for this long term project counting and digitally recording birds of prey and other migrant birds, undertaking the identification and ageing of species through intensive observation over twelve hour shifts. While most of this was as a volunteer, I was also employed on several days as a guide for ecotourism groups. This comprised escorting them around the hilly terrain, locating birds and showing them to clients, while explaining raptor identification, moult and ageing.

Bank Clerk, Royal Bank of Scotland Group, July 1999 – October 2003

During this period I fulfilled a number of roles within the group, with both the NatWest Bank and One Account divisions. These included the financial auditing of large corporate accounts, sterling and international large money

transfers, and general maintenance and administration of bank accounts. It also provided a good background in liaising with others on a professional and confidential level.

Professional Qualifications

Holder of SNH Schedule 1 Licence for survey and research.

CSCS – Academically Qualified Person certified until January 2024.

I am qualified to operate Rigid-Hulled Inflatable Boats and other vessels, having completed Royal Yachting Association Powerboat Level 2 in October 2012.

JNCC Marine Mammal Observer qualification gained in October 2013; BOEM Gulf of Mexico Protected Species Officer certificate gained in January 2016.

Radio-tracking training received via Wild Frontier Ecology in October 2015.

Other relevant experience

I have been deeply interested in wildlife for as long as I can remember, being an avid birder since childhood. Since my teens I have developed a keen interest in bird identification and taxonomy, with a particular fascination in gulls, geese and seabirds, in particular around the British Isles. I have travelled to many parts of the world to study the bird and mammal life, initially around Europe and the Middle East, and more recently to visit all the other continents. This included trips to Turkey, Jordan, Israel and Egypt between 2004 and 2006 to look for birds of prey and other species on migration. In this period and more recently I have also travelled extensively around the world seeking seabirds, whales and dolphins; this has taken me to both western and eastern North America, Canary Islands, Cape Verde, the South Atlantic and Antarctica, New Zealand, and (in conjunction with the latter) a seldom travelled route through the western Pacific to Japan. I also spend time observing reptiles, dragonflies and butterflies when time allows.

When possible, part of my spare time is spent on varied related voluntary work. Other than the above-mentioned raptor count, this has included: occasional bird and marine mammal surveys for the Sea Watch Foundation and Birdwatch Ireland's Seatrack project; butterfly surveys; and from 2013 to 2017 I have also helped to staff an educational watchpoint aimed at showing members of the public nesting Peregrine Falcons.

Prior to working as an ecologist, I was also involved in conservation work (on a voluntary basis) around my home town of Reading between 1989 and 1999. During this period I carried out habitat management, Common Bird Censuses and Wetland Bird Surveys. Recently I have recommenced these activities around the Norfolk Broads.

Patrick Power BSc (Hons) PGCert

Profile – Assistant Ecologist



ACCREDITATION

Student member

Chartered Institute of Ecological & Environmental Management (CIEEM)

Member

Bat Conservation Ireland.
Institution of lighting professional.
Pro Silva Ireland.

CAREER HISTORY

Assistant Ecologist

Woodrow Sustainable Solutions
March 2022 – Present

Maintenance Forester and Forestry works supervisor.

Veon Ltd. 2016 - 2022

EDUCATION

PGCert in Wildlife Biology and Conservation.
Edinburgh Napier University 2023.

BSc (Hons) in Land Management in Forestry.
Waterford Institute of Technology. 2014-2016.

BSc in Forestry.
Waterford Institute of Technology. 2011-2014

Patrick Power is an Assistant Ecologist with Woodrow Sustainable Solutions.

He has obtained a BSc in Forestry and Bsc (Hons) in Land Management in Forestry with Waterford Institute of Technology and PGCert in Wildlife Biology and Conservation. He has gained experience in different field survey methods, knowledge of Ecological Impact Assessments, and familiarity with the species and protected species of Ireland.

During his time at Woodrow, he has been involved with the deployment of static detector surveys, the undertaking of bat surveys, small mammal surveys and reptile surveys. Writing technical bat reports.

EXPERTISE

Ecological Surveying and Reporting | Analysis.

RELEVANT EXPERIENCE

Ecological Surveying & Mapping.

- Reptile surveying.
- Badger surveying
- Red squirrel surveying
- Protected species surveys specializing in bat surveys.
- Bat roost and transect surveys.
- Bats and lighting guidance.
- Deployment of static bat detectors.
- Potential Roost Feature surveys using BCT (2023) roost potential classifications.
- Habitat mapping with the use of Fossitt (2000).
- Research and desk studies.
- Tree woodland species identification and assessment.
- Currently training with a Licensed bat roost inspector for surveys using an endoscope and thermal imaging.
- Proficient in navigation using map and compass in all weather conditions.

Patrick Power BSc (Hons) PGCert

PROFESSIONAL TRAINING & QUALIFICATIONS

- o Full Clean Irish Driving Licence.
- o Bat Call Identification webinars.
- o Training bat derogation licence
- o ATV driving training.
- o Coillte ERA (Environmental risk assessment) training.
- o Safepass 2022.
- o Mountain skills 1 and 2.
- o Emergency First Aid 2023.
- o R data analysis.

Reporting & Analysis

- Mapping with QGIS
- Bat data analysis with Kaleidoscope Pro 5.0 and Bat Explorer.
- Statistical analysis and modelling using R.
- Data management using Excel.

Project / Team Management

- Managed teams of workers on numerous native woodland, afforestation, reforestation and agroforestry projects.
- Training to guide people in Irish/UK mountains in all weather conditions.
-

Aoife Moroney MSc BSc



CAREER HISTORY

Assistant Ecologist

Woodrow Sustainable Solutions July 2021 – Present

Graduate Ecologist Woodrow Sustainable Solutions July 2020 – July 2021

Supervisor Generator Hostel bar, Copenhagen, Denmark Nov 2018-Jul 2019

Intern International Project Management, Rambøll Denmark, Aug 2017-Feb 2018

Intern Fraunhofer institute, Berlin, Germany Jun-Aug 2015

EDUCATION

PG Cert Ecological Survey Techniques University of Oxford, UK Sept 2020 – Present

Plant biodiversity, vegetation surveys and habitat assessments; bird biodiversity and population monitoring; mammal & reptile survey methods; data analysis and statistics for ecologists

Training in the use of QGIS, QED statistics and R software for ecological surveys

PROFILE

Aoife has BSc in Engineering from UCD and an MSc in Environmental Engineering (specialising in Environmental Management) from the Technical University of Denmark and the Royal Institute of Technology, Sweden. She is currently undertaking a Post-graduate Certificate in Ecological Survey Techniques at the University of Oxford.

Highly proficient in data analysis and management as well as mapping using ArcGIS, ArcGIS Pro and QGIS, Aoife regularly compiles environmental reports (including for Appropriate Assessment, Natura Impact Assessment and Ecological Impact Assessment) as part of larger and smaller scale infrastructure projects. She also undertakes Collision Risk Modelling to inform planning for onshore Wind Farms.

More recently her work has involved cross-border green infrastructure assessment, residential development and ecological assessment work for wind farm projects.

AREAS OF EXPERTISE

Ecological Surveying | Ecological Assessment Reporting | Mapping & Analysis | Project Management | Collision Risk Modelling

RELEVANT EXPERIENCE

Ecological Surveying

- Protected species surveys including badger, otter and bat surveys
- Bat dusk/dawn and transect surveying all according to best practice guidelines (BCT and BCI) for the UK and Ireland
- Largescale deployment of static bat detectors
- Preliminary ground level roost assessments and Potential Roost Feature (PRF) surveys (licenced to use an endoscope for roost inspections)
- Breeding bird surveys, wintering waterbird count surveys, Vantage Point surveys
- Carcass searches for operational Wind Farms

Ecological Assessment Reporting

- Appropriate Assessment (AA) screening
- Natura Impact Statement (NIS) to inform AA

Aoife Moroney MSc BSc

EDUCATION

MSc Environmental Engineering

Nordic Five Tech double Masters programme (an alliance of the top five technical universities in the Nordics)
Technical University of Denmark (DTU)/Royal Institute of Technology, Sweden (KTH)
Sept 2015-Dec 2018

Environmental Impact Assessment, Global Environmental Management, Environmental Management & Ethics, Ecosystem Support & Environmental Justice, Modelling of Environmental Processes & Technologies and Urban Planning & Sustainable Urban Development.

BSc Electrical Engineering

University College Dublin (UCD), Ireland
Sept 2012-May 2015

PROFESSIONAL TRAINING & QUALIFICATIONS

NPWS Derogation Licence – Bat roost disturbance licence (Exp: 20/08/2022)

Full, clean, Irish driving licence
Certificate in SafePass
Jul 2020

Emergency First Aid
Sept 2020

- Ecological Impact Assessment (EclA)
- NIEA Biodiversity Checklist
- Assisting with input for Environmental Impact Assessment Reports (EIAR) Biodiversity, Ornithology and Bat Assessments
- Collision Risk Modelling reports.

Mapping & Analysis

- Mapping using ArcGIS, ArcGIS Pro and QGIS
- Statistical analysis using R
- Bat data analysis using Kaleidoscope and Bat Explorer
- Data management and analysis using Excel
- Collision Risk Modelling

PROJECT EXPERIENCE & ORGANISATION

- Experience in compiling screenings for (AA), Natura Impact Assessments (NIS) and Ecological Impact Assessments (EclA's) for a wide variety of infrastructure schemes.
- Assisting with input for Environmental Impact Assessment Reports (EIAR) Biodiversity, Ornithology and Bat Assessments
- Highly proficient in data management and analysis for projects.
- Collision Risk Modelling for onshore Wind Farms including compilation of Collision Risk Model reports.

VOLUNTEERING

- BirdWatch Ireland: Irish Wetland Bird Survey (I-WeBS) 2021/22
- Bat Conservation Ireland: All Ireland Daubenton's Bat Waterways Survey 2021
- Greyton Farm Animal Sanctuary, Greyton, South Africa, Feb-March 2020
- BirdLife South Africa, Seabird Programme Office, Cape Town, South Africa, Dec 2019
- Painted Dog Research Trust, Victoria Falls, Zimbabwe, Aug 2019
- Makalali Private Game Reserve, South Africa, Aug 2014
- Daktari Bush School and Wildlife Orphanage, South Africa, Jul 2014

Profile

Jason has over 14 years' relevant industry experience in ecological assessment and has worked in both Ireland and the UK. Jason has a B.Sc. in Marine Biology and Oceanography at University of Wales, Bangor. Jason holds a lead role on numerous projects undertaken by Apem Ireland and provides technical expertise and experience for significant others. Jason's specialism is bats, having worked in this area for over 10 years. He has experience in monitoring, capture, handling, bioacoustics and impact assessment.

Since moving to Ireland Jason's work has involved coordinating, surveying, analysing data, and writing technical bat reports for numerous projects including renewables, infrastructure, landfill remediation works, urban planning applications and commercial regeneration sites. Jason is currently technical lead for 'Offshore Bat' for Environmental Impact Assessments for offshore wind developments for Apem Group. Jason is currently a committee member of Bat Conservation Ireland and Wind Energy Ireland and a representative with the Regional Wildlife Science Collaborative for Offshore Wind (RWSC) Science Plan addressing bat research and associated scientific needs in the context of offshore wind, on behalf of Apem. Jason holds licenses to survey bats from the Department of Culture Heritage and the Gaeltacht and Natural England.

Qualifications

- CPD Certificate, Geographical Information Systems, Dublin Institute of Technology.
- BSc, Marine Biology/Oceanography, University of Wales, Bangor.
- HND Coastal Conservation with Marine Biology, Blackpool and Fylde College.

Certifications

- NE Bat License (Level 2).
- NE Great Crested Newt License (Level 1).
- R.O.I survey, photography and handling licenses for bats.
- Certificated Surveyor for Japanese Knotweed.
- Eligible for Full Membership for CIEEM.

Employment History

- 2024 – Present – Associate Director Ecology, APEM Ltd.
- 2022 to 2024 – Principal Terrestrial Ecologist, APEM Ltd.
- 2020 to 2022 – Senior Project Ecologist, Fehily Timoney & Company.
- 2017 to 2020 – Consultant Ecologist, Environmental Resources Management.
- 2016 – Ecological Consultant, Arbtech Consulting Ltd.
- 2011 to 2017 – Freelance Ecologist, Various Projects.
- 2010 to 2012 – Freelance Junior Ecologist, Various Projects.

Previous Project Experience

- **North Irish Sea Array (NISA), Offshore wind Farm off the coast of Co. Dublin, Meath and Louth (2023 – Present).** Bat technical lead responsible for production of the EIAR chapter for offshore bats. Lead for additional surveys during the planning process.
- **Arklow Bank Wind Park 2, Offshore wind Farm off the coast of Co. Wicklow (2023 – 2024).** Bat technical lead responsible for production of the EIAR chapter for offshore bats. Lead for additional surveys during the planning process.
- **Rijkswaterstaat (RWS) Ministry of Infrastructure and Water Management, Netherlands (2024).** Independent reviewer of Bat fatalities and Offshore Wind Guidance Workshop Report.
- **Natural England / Bat conservation Ireland (2024).** Bat Conservation Ireland representative in the Bat Migration and Offshore Wind Guidance Workshop.
- **10 Turbine Wind farm, Co. Tipperary (2024).** Ecological Lead for the project coordinating ecological technical reports for the wind farm including ornithological, mammal, habitat, bat, aquatic and botanical. Responsible for coordinating the consultation process with NPWS and other relevant consultees for ecology. Also, technical lead and review for the Natura Impact Statement and Biodiversity chapter of the EIA.
- **21 Turbine Wind Farm, Co. Cork (2023 – 2024).** Bat lead responsible for all bat surveys and surveyors. Author of the bat technical report and data analysis.

Selected Project Experience (cont.)

- **14 Turbine Wind Farm, Co. Cork (2023 – 2024).** Bat lead responsible for all bat surveys and surveyors. Author of the bat technical report and data analysis.
- **Barnadivane Wind Farm, Co. Cork (2022).** Bat technical lead responsible for all bat surveys and surveyors as part of the updated survey effort for the planning application.
- **Garryhinch Wind Farm, Co Offaly / Laois (2022).** Bat technical lead responsible for all bat surveys and surveyors.
- **Wexford Town to Rosslare Strand Greenway, Co. Wexford (2021 to 2022).** Ecological Lead for the development of a proposed greenway extending between Wexford Town and Rosslare Strand Train Station. The appointment covers PSDP, Route Selection, Preliminary Design, Environmental Assessment, including preparation of an EIAR and Natura Impact Statement. Jason's role also involves coordinating ecological surveys and managing the internal and external input to the Final reports.
- **Ballinagree Wind Farm, Co. Cork (2021 to 2022).** 20 turbine wind farm in County Cork. Author of the screening for Appropriate Assessment and Natura Impact Statement reports.
- **Guidance for Public Authorities on the Provision of Article 6(3) and Article 6 (4) of the Habitats Directive (2021 to 2022).** Public Authorities and AA practitioners require updated guidance on the Article 6(3) and 6(4) to ensure that assessments are robust and legally compliant. The existing national guidance document published in 2009 requires updating and is being reviewed to consider requirements due to the evolving case law and to ensure its alignment with European best practice. Within his current role, Jason is co-author of this document, preparing updated national guidance for Appropriate Assessment with NPWS.
- **12 Turbine Wind farm, Co. Tipperary (2021 to 2022).** Ecological Lead for the project coordinating ecological surveys for both the wind farm and grid route including ornithological, mammal, habitat, bat, aquatic and botanical. Jason was responsible for coordinating the consultation process with NPWS and other relevant consultees for ecology. He also prepared the Natura Impact Statement and Biodiversity chapter of the EIA.
- **Drehid Wind farm, Co. Kildare (2021 to 2022).** 12 turbine project in Co. Kildare originally submitted in 2018. Ecological Lead for the project coordinating ecological surveys for both the wind farm and grid route including ornithological, mammal, habitat, bat, aquatic and botanical. Jason coordinated the consultation process with NPWS and other relevant consultees for ecology. He prepared the Natura Impact Statement and Biodiversity chapter of the EIA.
- **Dyrick Hill Wind Farm, CO. Waterford (2021).** Bat technical lead responsible for all bat surveys and surveyors. Author of the bat technical report and data analysis.
- **Milltownpass Wind farm, Co. West Meath (2020 – 2022).** Bat technical lead responsible for all bat surveys and surveyors. Author of the bat technical report and data analysis..
- **Gortaloughra Wind Farm, Co Cork (2020 – 2022).** Bat lead responsible for all bat surveys and surveyors. Author of the bat technical report and data analysis.
- **Croaghaun Wind Farm, Co Carlow (2020 – 2021).** Ecological Lead for the project coordinating ecological surveys for both the wind farm and grid route including ornithological, mammal, habitat, bat, aquatic and botanical. Jason coordinated the consultation process with NPWS and other relevant consultees for ecology. He prepared the Natura Impact Statement and Biodiversity chapter of the EIA.
- **Annagh Wind Farm, Co. Cork (2020 – 2021).** Bat lead responsible for all bat surveys and surveyors including additional scope during the request for further information (RFI) stage of the planning application. Co-author of the biodiversity chapter of the EIAR and author of the bat technical report and RFI response.
- **United Utilities, Solar Farms (2016).** Feasibility study into the potential of solar farms on clean water reservoir sites. Lead ecologist responsible for the initial Preliminary Ecological Appraisal surveys, reports and client liaison, to provide input into the feasibility assessment and assessment of design alternatives for the potential development of solar farms within clean water reservoir sites.

Julietta Pedrana. PhD.



CAREER HISTORY

Senior Ecologist, Woodrow Sustainable Solutions, Sligo 2023 -present.

Senior Scientist, Department of Environmental Science, National Technological University National, Council of Scientific Research from Argentina (CONICET), Mar del Plata, 2017 – 2022.

Scientist, Department of Natural Resource and Environmental Management, National Institute of Agricultural Technology, Argentina, 2013– 2017.

EDUCATION

Post Doctoral position.

Department of Natural Resource and Environmental Management, National Institute of Agricultural Technology, Argentina. 2011-2012.

PhD Conservation Biology

University of Puerto Deseado, Argentina. 2006–2010.

BSc Biological Sciences, Mar del Plata's University Argentina. 2000–2005.

PROFESSIONAL TRAINING & QUALIFICATIONS

- o GIS-modelling tools Training course (2021)
- o Current and future land cover scenarios analysis course (Dinamica EGO, INTA 2020).
- o Bird Survey Techniques for

PROFILE –ECOLOGIST

An experienced ecologist, Julieta Pedrana has worked for over ten years on Environmental Impact Assessments (EIA) and in the application of GIS-based modelling in nature conservation and sustainable management plans, focusing on the predictive models for species occurrence and habitat suitability in Ireland and Southern Patagonia and Pampas, Argentina and Chile.

Currently, Julieta works as a Senior Ecologist at Woodrow Environmental Consultancy, APEM Group, where she is in charge of undertaking Ecological Impact Assessments (EcIA) and reporting for Appropriate Assessment (AA). She authored several reports with Woodrow since starting the role including Ecological Constraints Report, Collision Risk Modelling reports, Results report for wintering waterbird surveys on different SPA, Results report for ornithological surveys, etc. Additionally, other tasks in this position are to develop new frameworks using Remote Sensing Tools and Geographic Information Systems (GIS). Recently she designed and rolled out an online GIS training course for the entire team (30+ staff) here at Woodrow in Sligo via Microsoft Teams, using Arc GIS and QGIS programmes. This was aimed at streamlining processes and ensuring existing and new staff are setting up and using GIS in the same way so that data is collected and processed as efficiently as possible.

AREAS OF EXPERTISE

Surveying, Monitoring & Reporting | Remote Sensing and GIS tools | Ecological Impact Assessment | Biodiversity Action Plans | Bird & Mammals Surveys | Protected Species Surveys | Habitat Surveys | Project Management | Wildlife Habitat Modelling | Landscape Ecology

RELEVANT EXPERIENCE

Surveying, Monitoring and Reporting

- Bird surveys: Breeding bird surveys, Waterbirds surveys, Raptors surveys, Seabirds surveys, Penguins surveys, capturing and instrumenting waterbirds and penguin adults with remote devices (satellite, GPS and GSM tags).
- Experienced in undertaking Ecological Impact Assessments (EcIA) and reporting for Appropriate Assessment (AA).
- Experienced in undertaking Wildlife habitat modelling and landscape ecology procedures and statistical analyses programming and modelling.

Julieta Pedrana. PhD.

- Main expertise: Remote Sensing Tools and Geographic Information Systems (GIS), field experimental design, techniques for the acquisition, processing and analysis of information related to remote sensors.

GIS specialist for United Nations

- Marine GIS and Mapping specialist for the Food and Agriculture Organization of the United Nations (FAO).
- Building distribution maps of seabirds, sea mammals, and marine turtles in the Patagonian Shelf.
- Identification of Highly Protected Marine Areas (HPMAs) in the South American continental shelf.
- Recognition of oceanographic features of HPMAs in compliance with objectives defined in the Argentinean National Plan of Action for megafaunal species.
- Incorporation of HPMAs on the website of the Ministry of Environment and Sustainable Development.

Project Management

- Manage projects (mainly in Renewables applications for Wind Farms), ensuring Client's scope of works are met on time and in budget.
- Manage survey schedules and co-ordinate the field survey team.
- Project Team Leader on field experimental design and practical techniques for the acquisition, processing and analysis of information related to remote sensors.
- Lead Ecologist on capturing and deploying satellite tags on different birds species to identify high-risk areas along the migratory routes.
- Lead Ecologists on Environmental Impact Assessment of Hydropower and Windfarms development.

Louise Gannon BSc (Hons)



ACCREDITATION

Qualifying member

Chartered Institute of
Ecological & Environmental
Management (CIEEM)

CAREER HISTORY

Ecologist

Woodrow Sustainable
Solutions
Mar 2024 – present

Assistant Ecologist

Woodrow Sustainable
Solutions
Jul 2023 – February 2024

Graduate Ecologist

Woodrow Sustainable
Solutions
Sept 2021 – Jul 2023

Student Internship

Woodrow Sustainable
Solutions
Jun – Aug 2021

Zookeeper

Eagles' Flying
May to Aug 2017

EDUCATION

BSc Environmental Science
2016 – 2021

PROFILE – ECOLOGIST

Louise Gannon is an Ecologist with Woodrow Sustainable Solutions.

She graduated in Environmental Science from ATU Sligo; where she gained experience in different field survey methods, knowledge of Ecological Impact Assessments and Appropriate Assessment, and familiarity with the species and protected species of Ireland.

During her time at Woodrow, she has developed her ecological surveying skills such as surveying for bats, determining potential roost features, and analyzing bat call recordings using both Kaleidoscope and Bat Explorer. While out on surveys she looked out for signs of other protected mammals including badger and otter. She has assisted on a number of other field surveys also, including an aquatic macro invertebrate survey for water quality analysis, a White-clawed Crayfish survey, habitat and invasive species and mammal surveys.

She is highly proficient in conducting an extensive array of fieldwork surveys, year-round, and has a range of experience in various survey techniques, particularly bat surveys, and report writing.

AREAS OF EXPERTISE

Bat Surveys & Bat Call Analysis | Otter Surveys |
Invasive Species Surveys | Reporting and Analysis
| Ecological Surveying and Mapping | Data Analysis
| Desk studies

RELEVANT EXPERIENCE

Bat Surveys & Bat Call Analysis

- Activity transect surveys
- Emergence and Re-entry Surveys
- Static detector deployment
- Preliminary roost assessments
- Bat call analysis for surveys using both Kaleidoscope and BatExplorer.

Mammal Surveys

- Walkover surveys & trip camera deployments
- Analysis of tripcam footage
- Bat casualty/carcass searches

Louise Gannon BSc (Hons)

PROFESSIONAL TRAINING & QUALIFICATIONS

- o Bat Call Identification webinars, Wildlife Acoustics
- o Safepass 2021
- o Emergency First Aid 2021.
- o Bat Derogation License 2024 - 2025

Reptile Surveys

- Walkover surveys
- Monitoring surveys deploying artificial refugia and checking these on separate visits

Invasive Species Surveys

- Identification of Invasive plant species

Other

- Water Sampling

Data Analysis

- Highly adept in bat call analysis, using BatExplorer and Kaleidoscope software.
- Proficiency using mapping software, ArcGIS, ArcGIS Pro and QGIS to present spatial data.

Philip Duddy PhD BSc (Hons) ACIEEM



PROFESSIONAL ACCREDITATION

Associate member –
Chartered Institute of
Ecological & Environmental
Management (CIEEM)

CAREER HISTORY

Ecologist/Senior Ecologist

Woodrow Sustainable
Solutions 2019 – present

PhD Researcher Galway
Mayo Institute of Technology
2015 – 2019

Horticulturalist Keane's
Garden Centre, Kilcolgan,
Co. Galway 2013 – 2015

Horticulturalist in Ardcarne
Garden Centre, Boyle, Co.
Roscommon 2006 – 2008

EDUCATION

PhD Aquatic Sciences
Galway-Mayo Institute of
Technology 2015 – 2019

**BSc (Hons) Applied
Freshwater & Marine
Biology** Galway-Mayo
Institute of Technology
2008 – 2013

**Diploma Amenity
Horticulture** Teagasc,
National Botanic Gardens
1998 – 2001

PROFILE – SENIOR ECOLOGIST & RESEARCHER

Philip Duddy is a Senior Ecologist who has worked in a variety of terrestrial and aquatic environments and has carried out published research on lake ecology, environmental monitoring, and ecological succession on limestone pavements.

He conducts botanical monitoring and surveys, compiles Ecological Impact Assessments and Natura Impact Statements, and carries out mammal surveys and habitat mapping.

As a qualified and experienced horticulturalist, he works with Tidy Towns and other community groups on improving public areas, encouraging biodiversity, and creating attractive planting displays.

Philip has a PhD in Aquatic Sciences, a BSc (Hons) in Freshwater & Marine Biology, and a Diploma in Amenity Horticulture.

AREAS OF EXPERTISE

Botanical surveys | Biodiversity plans | Ecological research | Habitat surveys & habitat mapping | Scientific writing | Cyanobacterial ecology & taxonomy | Teaching & training | Horticulture | Computer literacy

RELEVANT EXPERIENCE

Botanical surveys

- Including upland and peatland sites, calcareous regions, quarries and woodlands. Monitoring for habitat restoration projects & compliance reporting.

Biodiversity plans

- Compiling biodiversity plans for towns & public spaces, in consultation with local authorities, community groups, & other stakeholders.

Ecological research

- Project design and set-up, fieldwork, laboratory analysis including spectroscopy & microscopy, data management & analysis.

Habitat surveys & habitat mapping

- Including mapping of a broad range of habitat types throughout Ireland, in accordance with a variety of standard categorisation protocols.

Scientific writing

- Including scientific research papers, EclA & NIS reports, wildlife information & educational material.

Cyanobacterial ecology & taxonomy

- Experience of a range of projects on cyanobacterial ecology & biodiversity, & the use of cyanobacteria & algae as bio-indicators.

Philip Duddy PhD BSc (Hons) ACIEEM

PROFESSIONAL TRAINING

- o BSBI Irish Spring Conference 2023 – National Botanic Gardens
- o Bryophyte field training with Rory Hodd 2023
- o Moss identification training with Rory Hodd 2022
- o Irish Freshwater Sciences Association 2023 Conference, ATU Galway
- o An Introduction to Dragonflies and Damselflies – Sligo 2023, with Michael Bell
- o CIEEM Course - Ecological Restoration at Clara Bog and Pollagh Bog 2023
- o Bird ID and BTO Projects - BTO (British Trust for Ornithology) online training course – 2021
- o Irish Freshwater Sciences Association annual conference 2021
- o Countryside Bird Survey (CBS) training - BirdWatch Ireland 2021
- o Farming & Biodiversity, BurrenBeo webinar, Brendan Dunford 2020
- o Echolocation, Batability webinar, Neil Middleton 2020
- o QGIS for Ecologists, online course, Steven Coyne 2020
- o Developing Skills in Ecological Impact Assessment, CIEEM course 2019
- o SafePass certificate 2023
- o Emergency First Aid 2019
- o Charophyte Identification course 2018
- o Cyanobacterial taxonomy & identification course - Durham University 2018
- o Personal Sea Survival Techniques Certificate, BIM 2011

Teaching & training

- Experience of teaching biology modules as part of degree courses in Galway-Mayo Institute of Technology, also gardening workshops and classes.

Horticulture

- Including care & maintenance of plants, propagation, garden design & planting schemes.

Computer literacy

- Including PC-ORD, Minitab, QGIS, Microsoft Office suite.

PUBLICATIONS

- Duddy, P., Roden, C.M. & Gammell, M.G. (2019) Microbialite crusts in Irish limestone lakes reflect lake nutrient status. *Biology and Environment: Proceedings of the Royal Irish Academy* Vol. 119, No.1, 1–11.
- Duddy, P., Roden, C.M. & Gammell, M.G. (2019) Nutrient pollution degrades microbialites in Lough Carra, an Irish marl lake. *Aquatic Microbial Ecology* Vol. 83, 203-209.
- Duddy, P. (2019) The marl crusts of Lough Carra. Lough Carra Catchment Association booklet, also available online at: <https://lifeonlimestone.weebly.com/marl-crusts-booklet.html>
- Duddy, P. & Roden, C.M. (2018) The Fertile Rock: Productivity and erosion in limestone solution hollows of the Burren, Co. Clare. *Biology and Environment: Proceedings of the Royal Irish Academy* 118(1), 1-12.
- Duddy, P. & Roden, C.M. (2014) The nature of the black deposit occurring in solution hollows on the limestone pavement of the Burren, Co. Clare. *Biology and Environment: Proceedings of the Royal Irish Academy* Vol. 114, 71–77.
- Nelson, B., O'Connor, Á, Foster, G.N., Duddy, P. & Roden, C. (2019). A review of *Ochthebius nilssoni* Hebauer (Coleoptera: Hydraenidae) in western Ireland including a first report from Lough Carra. *Irish Naturalists' Journal* 36, No. 2.
- Roden, C., Murphy, P., Ryan, J. & Duddy, P. (2020) Marl Lake (Habitat 3140) Survey and Assessment Methods Manual. National Parks & Wildlife Service. ISSN 1393 – 6670.
- Roden, C., Murphy, P., Duddy, P., Ryan, J. & O'Connor, A. (2021) Marl Lakes on Karstic Limestone Bedrock - A Special Irish Habitat. *Catchment Science & Management – Proceedings of the IAH 41st Annual Conference 2021*.

DIRECTORSHIPS

- Trustee & Member of the Board of Directors of the Lough Carra Catchment Association.

Micheal O Flatharta BSc, MSc

Position: Senior Project Hydrologist & Company Associate

Nationality: Irish

Qualification/Affiliation: B.Sc. (Hons) Degree (October 2013) Earth and Ocean Sciences, NUI Galway.

MSc (September 2016), Hydrology, Vrije Universiteit Amsterdam.

Specialisations:

- ❖ Site Specific Flood Risk Assessments
- ❖ Strategic Flood Risk Assessments
- ❖ Hydrological Assessments of River Catchments
- ❖ Preparation of Section 50 Applications
- ❖ Flood Alleviation Schemes
- ❖ 1D/2D Hydraulic Modelling of Fluvial River Systems
- ❖ Surface Water Discharge Licencing
- ❖ Integrated Source Protection Plans (ISPP)
- ❖ Pluvial Flood Modelling
- ❖ Hydraulic Modelling of Reservoirs
- ❖ Rating Curve Review
- ❖ Report Writing
- ❖ Project Management

Experience Record

Senior Project Hydrologist – IE Consulting September 2019 – Present

Site Specific Flood Risk Assessments

- ❖ Dunboyne LRD, Co. Meath – Worked with a multi-disciplinary team as the lead specialist in flood risk for one of Ireland largest developers. The project involved building a 1D2D linked hydraulic model of the Tolka River, assess the impact of a proposed bridge crossing the floodplain, and communicating the model results clearly and plainly to other disciplines involved in the project to allow them to adapt their plans due to flood risk requirements.
- ❖ N22 Flood Alleviation Scheme, Co Kerry – Due to repeated flooding of the N22 road in County Kerry, Kerry County Council required a detailed 1d2d hydraulic model of the River Flesk, which flows adjacent to the road. A baseline model was developed illustrating the current flood risk, after which a proposed road layout (set above the flood level) was run in the model to determine its impact on surrounding lands.

- ❖ Freshford, Co. Kilkenny – A Stage 2 Flood Risk Assessment was completed for the construction of a single storey structure.
- ❖ Merrion Road, Co. Dublin – A Strategic Housing Development which included an assessment of the fluvial and coastal flood risk.
- ❖ Bray Golf Club Lands, Bray, County Wicklow and County Dublin – Proposed Strategic Housing Development
- ❖ Breaghagh Valley Link Road, Co. Kilkenny – Developed a 1d2d hydraulic model of the Breagh River and Ardboy Stream in support of a proposed road located in Breaghagh Valley. The link road was proposed to be approximately 0.9km long. The model assessed the impact of the road on the existing hydrological regime of the area and ensured it was compliant with OPW Section 50 requirements.

Strategic Flood Risk Assessments

- ❖ Belcamp, Co. Dublin – Strategic Flood Risk Assessment for Fingal County Council. Involved building a 1D hydraulic model, creating a series of flood maps, delineating flood zones and commenting on land use zoning within the study area.
- ❖ Dunsink Belcamp Strategic Flood Risk Assessment, Dublin 15 – hydrological and hydraulic assessment including fluvial and pluvial hydraulic modelling for Local Area Plan.

Section 50 Applications

- ❖ Allergen Pharmaceutical Facility, Westport, Mayo – The client wanted to extend an existing car park within the property, which required building over an existing stream. To ensure the proposed culvert was in line with Section 50 guidance a 1D hydraulic model was developed in Flood Modeller.
- ❖ Tougherstown Forest View, Mullingar, Co. Westmeath – A 1D hydraulic model was built for a proposed bridge.
- ❖ Midleton-Youghal Greenway, Cork – A 1D hydraulic model was built for a proposed bridge along the greenway.

Hydrological Studies

- ❖ Corballis, Kilalkey, Navan, Co. Meath – A proposed single storey type dwelling in proximity to the Stonyford River and the Shanco Stream. The OPW FSU portal was used to estimation peak flows on both watercourses. These flows were then input into a hydraulic model to determine the potential flood risk to the proposed development site.
- ❖ Palmerstown House, Palmerstown Demesne, Johnstown, Co. Kildare – A hydrological assessment and hydraulic modelling exercise was performed in support of a retention application for the development of an gallops for the training of horses. The OPW FSU portal was used to determine the potential fluvial flood risk from the River Morell.

1D/2D Hydraulic Modelling

- ❖ Stranorlar, Donegal – A planning application for an AstroTurf pitch was submitted by Donegal County Council. A 1D2D hydraulic model was developed in Flood Modeller to determine the impact of the proposed development and to aid in the planning application.
- ❖ Portlaw Weir, Waterford – Mark Murphy Consulting, on behalf of Inland Fisheries, required a hydrological and hydraulic assessment of a Weir located in Portlaw in Waterford. A highly detailed 2d hydraulic model was developed in Flood Modeller. The model was used to assess how the current weir impacts the hydrological regime within the watercourse and then was modified by upgrading the weir in order to allow a fish passage to be placed within the river.

Discharge to Surface Water License Projects

- ❖ Quarry, Kilmacthomas, Waterford - A Discharge to Surface Water License Application was prepared and submitted to Waterford County Council.

Analyst II – JBA 2017-2019

Reservoir Modelling

- ❖ Reservoirs in North Wales – A hydraulic model was developed to determine the Probable Maximum Flood Level (PMF) and to advise on the suitability of the current spillway of the reservoir.

Rating Curve Review

- ❖ Lostwithiel, Cornwall, England – As a part of a Flood Risk Assessment at Lostwithiel the River Flow Gauge at Restormel on the River Fowley was reviewed in detail. The client had some concerns about the current rating curve and therefore a rating curve review was performed.

Software Competencies

- ❖ Flood Modeller
- ❖ ICM Infoworks
- ❖ TUFLOW
- ❖ HEC-RAS
- ❖ ArcGIS
- ❖ MapInfo
- ❖ QGIS
- ❖ AutoCAD Civil 3D

DAELYN PURCELL

**B.Sc. (Hons) in Wildlife Biology, Institute of Technology Tralee, Co. Kerry,
Ireland**

SUMMARY:

I am a wildlife enthusiast building my career as a wildlife biologist. I have strong Identification skills and can tabulate effeciently results from site surveys. I am looking to further my career in the areas of wildlife conservation, management and enforcement with a strong view to working in the area of ornithology with a strong particular interest in raptor ecology.

I am an enthusiastic and hardworking individual with a willingness to learn. I am reliable and diligent in all areas of my work and study. My various life experiences have given me the opportunity to build excellent communication and cooperation skills in dealing with both wildlife and people.

EDUCATION:

B.Sc. in Wildlife Biology **Institution:** Institute of Technology Tralee, Bachelor of Science Degree in Wildlife Biology
Commenced Sept. 2009

Subjects: **Zoology:** Would have focused on embryology, evolution, classification, habitats, nutrition, reproduction and distribution across all animal species.

Botany: Studied various plant species associated with different habitat types. Also focused on structure, plant growth, reproduction and evolutionary adaptations.

Ecology: Studied the ecological relationship between organism and their environment and the interactions which are associated with them such as diversity, distribution and population.

Environmental Science: Studied environmental principles such as air pollution, water pollution, and waste management along with environmental legislation.

Habitat Studies: In depth analysis in what classifies particular habitats such as lakes, tidal zones, woodlands, grasslands and peatlands.

Biodiversity Conservation: Focused on the various methods of conserving biodiversity through biodiversity and farming, biodiversity and businesses and biodiversity and ecological services.

Thesis: Diet of the Common Kestrel (*Falco tinnunculus*), Southwest Ireland.
Grade: 2.1

Secondary School:	Rockwell College, Cashel, Co. Tipperary	<u>Examinations Taken</u> Junior Certificate: 2006 Leaving Certificate 2009
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Other Qualifications:

- Mountain Skills one and two.
- Boat skills one and two
- Full Irish driving licence
- Obtain United States Citizenship.

EXPERIENCE:

March 2018 – Present:	Irelands School of Falconry, Ashford Castle:
Falconry Instructor:	<ul style="list-style-type: none">• Employed at the oldest established Falconry School in Ireland. Daily duties would include the management of the bird's wellbeing, through weighing birds systematically every morning, cleaning of facilities including aviaries, food preparation, scheduling of flying birds in accordance with guest visitation, and training of new birds at specific times of the year.
May 2017 – Nov 2017:	Inland Fisheries Ireland, Southwestern District:

- Worked as a Fisheries Officer for the protection, management and conservation of Ireland's inland fisheries and sea fisheries resources.

Duties Covered:

- Protection and conservation of aquatic species.
- Inspections on fishery related premises.
- Surveillance and intelligence operations.
- Research and prosecutions.
- Enforcing correct use of directives such as Water Frame Directive.
- Education and advocacy programmes.

May 2017:

Birdwatch Ireland:

- Carried out ten days of survey work in the Slieve Bloom Mountains Nature Reserve an area that is a designated Ramsar Wetland Site and a Council of Europe Biogenetic Reserve. The area is also designated as a Special Protection Area (SPA) with particular conservation of the Hen Harrier, a rare bird of prey for which the survey work was conducted for. Over the course of the survey period. Surveying was conducted at a number of historical sites of breeding to determine.
- Occupancy of territories
- Determining new breeding site locations
- Relevant Breeding behaviour
- Determining nest site locations
- Visible food pass sightings

The role of this survey method was to continue previous years of data gathered to compare and contrast whether the population of Hen Harriers was expanding or declining and what management can be implemented to further the success of the red listed species.

April 2015 – March 2017: McCarthy Keville O Sullivan, Planning and Environmental Consultants: (Sub-contracted)

Duties: Working as a Field Ornithologist. Work requirements involved the survey of bird species activity in proposed wind farm development areas. Specified survey work undertaken was:

- Vantage Point Counts
- Dawn/Dusk Counts
- Breeding Raptor Surveys
- Breeding Bird Surveys
- Hen Harrier Roost Surveys
- Lake Counts
- Winter Walkover surveys

Specified Survey work was done in accordance with the Scottish Natural Heritage System in the areas of Wind Farm Development.

September 2016

Birdwatch Ireland: *The interactions between Barn Owls and Major Roads: Informing Management and Mitigation.*

Undertook a six week field assessment for a national project in which to compare small mammal communities in motorway verge habitats to habitats in the surrounding countryside. The role of the project was to determine the importance of foraging habitats for the Barn Owl in an area of expansive road infrastructure whereby also to determine the associated risks for the species.

Copy of final project findings available on request.

June 2011 – 2015: General Operative:

Martinstown Stud, Killmallock, Co. Limerick.

Owned by JP MC Manus, Martinstown Stud is one of the foremost centres in Ireland.

Duties Included:

- Assessing the overall wellbeing of the horses during their tenure on the farm.
- Feeding of horses first thing in the morning
- Management of large scale fencing associated with the property.
- Management of grassland.

Interests and other skills

- Hiking, Fishing & Hunting
- Judo, Football, Rugby
- License for a .22 long rifle and 12 gauge shotgun.

Jason Nash

Email: jason@flynnfurney.com

Career Summary

Fisheries & Environmental Consultant specialising in overseeing large construction projects to ensure they conform to all fisheries and environmental standards required. Conduct broad range of environmental surveys to produce various environmental reports. Design and implement fisheries habitat and ecological rehabilitation plans. Broad experience with invasive plant species and designing programmes for their control and eradication. Clients have included state agencies, construction companies, angling clubs and landowners. Full member of the Institute of Fisheries Management and Committee Member of its Irish Branch. Director and Secretary for the Bandon Rivers Trust.



Education

Diploma Course in Fisheries Management, Institute of Fisheries Management, 2017.

BSc Degree in Zoology, University College Cork, 2009.

Key Skills

- Fisheries: Fisheries habitat assessment. Designing and implementing rehabilitation programmes. Fish rescue operations. Electro fishing fish population surveys. Temporary/permanent river diversion channel design. Project management. Funding acquirement. Fisheries management advice. Angling development. Fish passage guidance. Liaising with public and private bodies such as Inland Fisheries Ireland and National Parks and Wildlife Service.
- Environmental: Water sample collection and analysis. Silt management by directing works and devising mitigation strategies. Concrete works management within river channels. Reviewing method statements. Environmental report writing. Provide toolbox talks. Compliance with project statutory and contractual requirements.
- Assessments: Appropriate Assessments. Pre and Post Construction surveys. Before After Control Impact survey. River Hydromorphology Assessment Technique survey. Mammal, Invasive Alien Plant Species and Bird surveys. Crayfish surveys. Freshwater Pearl Mussel habitat surveys. General Environmental Reviews. Freshwater biological and chemical sampling to aid categorisation of water quality.

Experience

October 2021 – To Date:	Associate Director with Flynn Furney Environmental Consultants
2017 – To Date:	Fisheries & Environmental Consultant with Flynn Furney Environmental Consultants
2017 – To Date:	Fisheries & Environmental Consultant with Rivus Ltd.
2010 – To Date:	Environmental Officer with Bandon Angling Association

Detailed Experience

- Irish Water – Water Network Management Services and Works Contracts (2023) – Senior Ecologist surveying sites, writing up Appropriate Assessment Reports, Invasive Alien Plant Species Survey Reports and Invasive Species Management Plans.
- Bandon Flood Relief Scheme Post-Works Fish Monitoring (2023) – Senior Ecologist conducting electro fishing, habitat surveys, water quality surveys and writing reports.
- Listowel Bypass (2023) – Senior ecologist monitoring and advising on works within an SAC.
- Killaloe Bypass, Shannon River Crossing and R494 Improvement (2023) – Senior ecologist carrying out pre-works surveys monitoring and advising on works within an SAC.
- Celtic Interconnector (2023) – Senior ecologist carrying out pre-works surveys, monitoring and advising on works.
- Glashaboy Flood Relief Scheme (2023) – Resident ecologist for the Client.
- South Kerry Greenway (2023) – Senior ecologist carrying out pre-works surveys, most notably for the Kerry Slug.
- Oldcourt Stream Diversion (2023) – Designing and implementing a permanent stream diversion to facilitate a road realignment.
- River Ward Weirs Removal and Associated Instream Enhancement (2023) – Senior ecologist carrying out Appropriate Assessment, fisheries surveys and dedicated avian & mammal surveys to inform design for instream enhancement works.
- Ecological Assessment of Watermains Options – Cork to Bandon Watermains Scheme (2023) – Senior ecologist undertaking surveys and writing reports to inform preferred route option.

Curriculum Vitae

Ken Westman

Coxtown
Dunmore East
Co. Waterford

Mobile : 086 7387377
Email: kennywestman@gmail.com

Skills

Excellent bird identification skills with a broad range of survey skills (see below).

- Vantage Point Surveys at wind farm sites for raptors including Hen Harrier, Merlin, Golden Eagle, White-tailed Eagle, Peregrine Falcon, Buzzard Kestrel & Sparrow Hawk - also waders and waterbirds including Golden Plover, Whooper Swan, Lapwing, Curlew, Snipe etc.
- Transect surveys for breeding birds – passerines, moorland birds & upland waders.
- Surveys of wintering wildfowl, waders & other waterbirds at various wetland sites.
- Surveys for breeding Golden Eagle, Merlin, Hen Harrier, Peregrine Falcon, Curlew & Snipe.
- Bat Transect Surveys

Experience

Woodrow Environmental Consultants, Sligo.

April 2017 - Date

Contract Ecologist (Field Ornithologist)

- Sub-contracted to perform Ornithological Surveys on both proposed & existing wind farm sites at 14 wind farm locations in ROI & NI (Kildare, Offaly, Laois, Westmeath, Fermanagh, Antrim, Tyrone, Donegal, Leitrim, Galway)
- Conducted Bat -transects as and when required.

Fehilly Timoney & Company , Cork

September 2017 - Date

Contract Ecologist (Field Ornithologist)

- Sub-contracted to perform Ornithological Surveys including Breeding Bird Transects, Breeding Wader Survey, Moorland Bird Survey, Merlin Survey, Hinterland Surveys at 4 sites in Cork & Offaly.

Education & Training

University College Cork - Diploma in Field Ecology

Oct' 2015-Dec' 2017

CIEEM, London - Introduction to ECIA

January 2017

CIEEM, London - Ecological Report Writing

January 2017

National Biodiversity Centre Mapping Biological Records with QGIS

March 2016

The Ecology Centre, Letterfrack - Professional Bird Survey Methods

April 2015

Maeve Maher-McWilliams BSc MSc ACIEEM



PROFESSIONAL ACCREDITATION

Associate member
Chartered Institute of
Ecology and Environmental
Management (CIEEM)
Member of Bat Conservation
Ireland (BCI)
Member of Bird Watch
Ireland (BWI)

CAREER HISTORY

Associate Director,
Woodrow APEM Group,
2023 – present;
Principal Ecologist,
Woodrow APEM Group,
Sligo 2022 – 2023;
Principal Ecologist, Scott
Cawley Ltd., Dublin 2019 –
2021;
Senior Ecologist, Scott
Cawley Ltd., Dublin 2017 –
2019;
Senior Ornithologist, Arcus
Consultancy Services Ltd.,
Glasgow 2014 – 2016;
Ornithologist, Canavan
Associates, Derry 2011 –
2014

EDUCATION

**MSc Evolutionary and
Behavioural Ecology**
University of Exeter 2009 –
2010
**BSc (Hons) Biological
Sciences**, Queen's

PROFILE – ASSOCIATE DIRECTOR

Maeve is an Associate Director for Woodrow. Maeve has over 13 years' experience on complex EIAs and mitigation design for infrastructure and development projects across Ireland, Northern Ireland, and Scotland. Maeve has been involved in projects across several sectors such as renewable energy; linear infrastructure; flood relief schemes and port developments; tourism and recreation; residential, pharmaceutical, and data centre development. Included in this list are over twenty onshore wind energy projects in Ireland and Northern Ireland, and associated substations and onshore grid connections. Maeve has provided advice and recommendations throughout project lifetimes from inception and due diligence, right through to the planning process and into post-planning compliance and secondary consents. As a field ecologist Maeve is skilled in multidisciplinary surveys, habitat surveys, bat surveys, mammal surveys, and specialises in ornithology surveys. As a project manager and ecologist, Maeve directs, manages and authors large scale EIA Reports (EIARs) biodiversity chapters including ornithology chapters.

AREAS OF EXPERTISE

Surveying, Monitoring & Reporting | Appropriate Assessment | Ecological Impact Assessment | Biodiversity Action Plans | Bird Surveys | Protected Species Surveys | Habitat Surveys | Ecological Clerk of Works | Project Management |

RELEVANT EXPERIENCE

Surveying, Monitoring and Reporting

- Bird surveys: Irish wetland bird surveys (I-WeBS), vantage point (VP) watches, breeding bird surveys, lowland and upland breeding wader surveys, breeding raptor surveys, winter bird surveys, hen harrier roost surveys, tern surveys, seabird watches.
- Protected species surveys: Licenced surveyor for badger, otter, red squirrel, pine marten, freshwater pearl mussel, amphibians, and bats including activity surveys, roost re-entry and emergence surveys, internal roost inspections.
- Very experienced in undertaking Ecological Impact Assessments (EIA) and reporting for Appropriate Assessment (AA) including AA

Maeve Maher-McWilliams BSc MSc ACIEEM

PROFESSIONAL TRAINING & QUALIFICATIONS

- o Management Training (Institute of Management Ireland) 2020
- o Freshwater Pearl Mussel Stage 1&2 Surveys (Dr. Evelyn Moorkens) 2019
- o Invasive Species training (NBDC) 2018
- o Advanced Skills in EcIA (CIEEM) 2017
- o Vegetative Key Plant Identification (CIEEM) 2017
- o Bat Handling and trapping (Bat Conservation Ireland) 2017
- o Introduction to Bat Surveys (CIEEM) 2016
- o Scottish Wildcat Survey Techniques 2016
- o Pollution Prevention Training 2016
- o Environmental Advisor (CIEEM) 2015
- o Phase 1 Habitat Survey (CIEEM) 2013
- o Mountaineering Navigation and Safety Course 2012
- o Bird Survey Techniques for Ecological and Environmental Professionals (BTO) 2011
- o SOLAS Safe Pass (valid January 2026)
- o Full Irish Driving Licence

Screening reports, Natura Impact Statements (NIS) and Habitat Regulation Assessments (HRA).

- Mitigation and management plans in relation to protection of species & valuable habitats.

Ecological Clerk of Works

- Planning compliance commitments in the vicinity of or within European protected sites.
- Pre-works checks for protected species, pre-felling checks, nesting bird checks, toolbox talks, pollution monitoring, ecological monitoring and advice.
- Derogation licences submitted to National Parks and Wildlife Service (NPWS) for the derogation of bat roosts and badger setts.
- Liaison with contractors to ensure works are undertaken in line with method statements, ecological timing constraints and mitigation outlined in the EcIA.

Project Management

- Lead Ecologist on complex inter-disciplinary projects where collaboration and consultation between the entire design team is key.
- Principal contact for multi-project clients providing expert and timely advice.
- Manage survey schedules and co-ordinate the field survey team which can include several sub-contractors.
- Lead Ecologist on Appropriate Assessment Screenings & Natural Impact Statements projects.
- Organise, undertake and write EcIA's and Biodiversity and/or Ornithology EIAR chapters.
- Consultation with statutory authorities & stakeholders.
- Fee proposals & managing budgets.

Rachel Irwin BSc



PROFILE – AGRI - ECOLOGIST

Rachel Irwin has more than three years' professional experience working within the environmental sector in both Ireland and the UK. She is currently undertaking her PhD as part of the Teagasc Walsh Scholarship Programme entitled "*Increasing tree cover on Irish dairy and drystock farms: the main barriers and perceptions that impeded agroforestry uptake*". During this time, Rachel have undertaken protected species surveys including bats (preliminary roost assessment, emergence/re-entry and activity surveys), otter, badger, red squirrel and herptofauna (great crested newts and reptiles). Rachel's experience also includes undertaking environmental monitoring and assessments in soil, air, water, waste and energy, working for a wide range of schemes and developments including windfarms, quarries, hydro-schemes, gas lines and commercial and residential developments. Rachel has strong report writing skills, having been published in peer-reviewed scientific journals.

CAREER HISTORY

Agri - Ecologist Woodrow
Sustainable Solutions 2022 –
Present

Assistant Ecologist
Woodrow Sustainable
Solutions 2019 - 2020

Environmental Consultant
Verde Environmental
2019

**Membership Venues
Development Officer &
Agricultural Advisor**
R.S.P.B. (Wales) 2018

**Assistant Ranger
(voluntary)** N.P.W.S.
(Sheskinmore Reserve,
Donegal) 2017

**Lead Tour Guide and Camp
Organiser** Play and Learn
Pet Farm (Sligo) 2011 - 2014

AREAS OF EXPERTISE

Project and Team Management | Report Writing |
Appropriate Assessment | Mammal Surveying |
Noise and Water Assessment | Habitat Surveying |
Ecological Impact Assessment | Stakeholder
Management | Bat Surveys | Data Management |
Post Construction Monitoring | Habitat Surveys |

RELEVANT EXPERIENCE

Project and Team Management

- Managed five Membership Development Officers, including colleagues of the Agricultural Policy and Advocacy Team.
- Managed surveying teams and liaising with clients for various bat monitoring projects for quarries, wind energy, infrastructure, forestry and recreational developments
- Consultation with Statutory Authorities and stakeholders.
- Preparing fee proposals and managing budgets.
- Organising and overseeing sub-consultants.

Surveying and Monitoring

- Experienced in conducting ecological and various environmental assessments as both part of a team and under my own initiative.

Rachel Irwin BSc

EDUCATION

PhD Walsh Scholar

University College Dublin
2020 – Present

Level 6 Specific Purpose Certificate in Farming

Teagasc (Distance Ed.)
2020 - 2022

BSc Zoology with Conservation

Bangor University
2015 - 2018

PROFESSIONAL TRAINING & QUALIFICATIONS

- o Full Irish driving licence
- o Emergency First Aid 2021
- o Safe Pass Certificate 2023
- o City & Guilds Level 2 Certificate of Competence in Chainsaw Maintenance & Cross-cutting 2021
- o City & Guilds Level 2 Certificate of Competence in Felling Small Trees up to 380mm 2021

PUBLICATIONS

Irwin, R., Short, I., Mohammadrezaei, M. and Dhubháin, Á.N., 2023.

Increasing tree cover on Irish dairy and drystock farms: The main attitudes, influential bodies and barriers that affect agroforestry uptake. *Environmental Science & Policy*, 146, pp.76-89.

Irwin, R., Ni Dhubháin, Á., and Short, I., 2022. Irish dairy and drystock farmers' attitudes and perceptions to planting trees and adopting agroforestry practices on their land. *Environmental Challenges*, 9 (1), p.100636.

Irwin, R., Short, I. and Ni Dhubháin, Á., 2022.

Increasing Tree Cover on Irish Dairy and Drystock Farms. *Forestry and Energy Review*, 12 (1), p. 50-51

- Digitising and analysing ecological habitat survey data using ArcGIS software.
- Terrestrial mammal surveys – both field signs and habitat suitability surveys.
- Habitat surveys including Flora surveys – conducting Phase 1 habitat surveys as part of a team and under direct supervision from in-house Botanists.
- Bat Surveying – static deployments, transect surveys and bat roost suitability surveys
- Experience at working as both an Environmental and Ecological Clerk of Works and overseeing the implementation of mitigation measures within the construction sector.

Reporting and Analysis

- Written various ecological and environmental reports including Natura Impact Statements
- Ecological Impact Assessments; Habitat Management and Enhancement Plan Ecological Compliance Reports; Ornithological Mitigation and Monitoring Plans; and Invasive Species Management Plans.
- Analysed data through various software including Kaleidoscope, Bat Explorer and Aqualink. Carrying out comprehensive desk studies.
- Peer reviewed scientific author.

Policy and Strategy Work

- Current research is tailored to creating new policy measures and legislation for increasing tree cover on Irish farms
- Acted as an Agricultural Advisor as part of the RSPB Agricultural Policy and Advocacy Team at various agricultural shows throughout Ireland and the UK

IT and Computing

- Competent in using S.P.S. S, R Software, N. Vivo, ArcGIS, M.A.R.K., Kaleidoscope and Bat Explorer software, and Aqualink Software.