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INTRODUCTION Introduction MKO has been instructed by Newtown Farming Ltd to prepare a planning application to Galway County Council (GCC) for the development and operation of a proposed sand quarry and all

The Proposed Development is contained within a site area of 6.2 hectares (ha). The proposed development site is located within the townland of Lomaunaghbaun in north-east county Galway. The town of Tuam is located approximately 8.6km to the south-west and the village of Clonberne is located approximately 4.7km to the east. The ITM grid reference coordinates for the centre of the site are X 552253, Y 756481.

The existing ground levels range from 84 metres above ordnance datum (mAOD) to 96mAOD. During the operational phase, it is proposed to excavate the site down by an average depth of 3 metres. The proposed sand extraction operations will extract and process high quality sand on site. It should be noted that it is not intended to excavate bedrock as part of this proposal and no blasting will be carried out. All processing (washing) of the excavated sand will be carried out on site.

MKO is the Environmental Consultant on this project and has been commissioned to prepare this Environmental Impact Assessment Report (EIAR), which will accompany the planning application for the proposed development to be submitted to GCC.

Brief Description of the Proposed Development 1.2

This section of the EIAR describes the development and its component parts (the 'Proposed Development') including the works subject of a proposed application for planning permission to GCC.

As per the Planning Notice, the Proposed Development is as follows:

The development of a quarry for the extraction of sand in a phased basis over an area of c. 6.2 ha by an average depth of 3m from existing ground levels in the townland of Lomaunaghbaun, Co. Galway. The Proposed Development also includes the following:

- Installation of processing plant and associated components;
- Stockpiling of topsoil removed during quarrying for future implementation of a restoration plan;
- Construction of refuelling area;
- Installation of site office (30 sq. m)
- Installation of wastewater holding tank (63.6 sq. m),
- Installation of a weighbridge and wheelwash;
- Installation of new site entrance along with road reprofiling works on the L2232.
- Installation of groundwater well.
- Provision of drainage infrastructure including new hydrocarbon interceptor and surface drains on hardstanding.
- All associated site development and operational works; and
- Site restoration following cessation of sand extraction works.

Standard sand extraction and excavation methods will be employed at the site during the operational phase.



Ancillary facilities at the site will include the site entrance, offices and welfare facilities, wheel wash and weighbridge. These facilities will be located in the south-eastern corner of the site, adjacent to the proposed processing plant and within the confines of the site boundary. It is also proposed to reprofile a section of the local road adjacent to the eastern boundary of the site to allow for the necessary visibility and sightlines for the new access point. These reprofiling works will be subject to alchecessary consents being granted by GCC and any other relevant authorities prior to works commencing 107/2028

For the purposes of this EIAR, an assessment of the effects of the construction, operational and restoration phase works will be undertaken.

References to Proposed Development Site 1.2.1

The site boundary for the purposes of the planning permission application is the same as the primary EIAR Study Area which are the subject of the Proposed Development. The Site Location is outlined in Figure 1-1 below which includes the EIAR study area boundary and the Planning Permission boundary.





Individual topics for assessment purposes, i.e., each chapter, will indicate the study area used for that RCEILED. topic, which may extend beyond the defined EIAR Study Area.

Legislative Context 1.3

The consolidated European Union Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, is transposed into Irish planning legislation by the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001 (as amended). Directive 2011/92/EU was amended by Directive 2014/52/EU which has been transposed into Irish law with the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018).

The European Union Directive 2011/92/EU, amended by EU Directive 2014/52/EU on the assessment of the effects of certain public and private projects on the environment (the 'EIA Directive'), requires Member States to ensure that a competent authority carries out an assessment of the likely significant effects of certain types of projects, as listed in the Directive, prior to development consent being given for the project.

The Environmental Impact Assessment (EIA) of the Proposed Development will be undertaken by GCC as the competent authority.

This EIAR complies with the EIA Directive in terms of the structure and content of the information required.

Article 5 of the EIA Directive provides where an EIA is required, the developer shall prepare and submit an EIAR, previously referred to as an Environmental Impact Statement (EIS). The information to be provided by the developer shall include at least:

- a) A description of the project comprising information on the site, design, size and other relevant features of the project;
- b) A description of the likely significant effects of the project on the environment;
- c) A description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;
- *d*) A description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;
- A non-technical summary of the information referred to in points (a) to (d); and, *e)*
- Any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected.

MKO was appointed as environmental consultant on the Proposed Development and commissioned to prepare this EIAR as set out in the 2014 EIA Directive.

The relevant classes/scales of development that normally require EIA are set out in Schedule 5 (Part 2) of the Planning and Development Regulations 2001, as amended. The relevant class of development in this case relates to:

"Extraction of stone, gravel, sand or clay, where the area of extraction would be greater than 5 hectares", as per Item 2 (b) of the Schedule.

The proposed extraction boundary measures approximately 6.2 ha and therefore is subject to EIA.



The EIAR provides information on the receiving environment and assesses the likely significant effects of the Proposed Development and proposes mitigation measures to avoid or reduce these effects. The function of the EIAR is to provide information to allow the competent authority to conduct the EIA of the Proposed Development.

EIAR Guidance 1.3.1

ACT D. 09 07 RORA The Environmental Protection Agency (EPA) published its 'Guidelines on the Information to be Contained in Environmental Impact Assessment Reports' in May 2022, which is intended to guide practitioners preparing an EIAR in line with the requirements set out in the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018).

In preparing this EIAR regard has also been taken of the provisions of the 'Guidelines for Planning' Authorities and An Bord Pleanála on Carrying out Environmental Impact Assessment, published by the Department of Housing, Planning and Local Government (DHPLG) in August 2018 to the extent these guidelines are relevant having regard to the enactment of the revised EIA Directive.

The European Commission also published a number of guidance documents in December 2017 in relation to Environmental Impact Assessment of Projects (Directive 2011/92/EU as amended by 2014/52/EU) including 'Guidance on Screening', 'Guidance on Scoping' and 'Guidance on the preparation of the Environmental Impact Assessment Report. MKO has prepared the EIAR in accordance with these guidelines also.

The Applicant 1.4

Newtown Farming Ltd. are the applicants for the Proposed Development. The applicant has over 15 years of experience in the operation and management of quarrying activities within Ireland.

Need for the Proposed Development 1.5

The extractive industries and quarrying operations such as the Proposed Development, make a significant contribution to economic development in Ireland. The products and by-products of the industry are vital to the construction, transport, and infrastructural sectors, in providing basic materials essential for construction and day-to-day life.

As the intrinsic value of this natural resource is often low, it is essential that such extraction sites can be located where the resource is found or close to the markets they serve. The Proposed Development site will supply high-quality bulk sand to the local and regional markets, keeping the cost of this sand competitive for the end users given the location of the extraction site and proximity to the markets and outlets for the product. The recent upturn in the economy and the construction industry has led to an increase in demand for high-quality sand, which is already a scarce commodity both in Galway and nationwide.

The Proposed Development (if permitted) will provide both mortar and plaster sand to the construction industry at a time when the demand for such materials is high.

Purpose and Scope of the EIAR 16

The purpose of this EIAR is to document the current state of the environment in the vicinity of the Proposed Development site and to quantify the likely significant effects of the Proposed Development on the environment. The compilation of this document served to highlight any areas where mitigation measures may be necessary in order to protect the surrounding environment from the possibility of any negative impacts arising from the Proposed Development.



It is important to distinguish the EIA to be carried out by the GCC, from the EIAR accompanying the planning application. The EIA is the assessment carried out by the competent authority, which includes an examination that identifies, describes and assesses in an appropriate manner, in the light of each individual case and in accordance with Articles 4 to 11 of the Environmental Impact Assessment Directive, the direct and indirect effects of the Proposed Development on the following:

- a) population and human health
 b) biodiversity, with particular attention to species and habitats protected under Directive 2000/147/F.C.
- **c**) land, soil, water, air and climate
- d) material assets, cultural heritage and the landscape
- the interaction between the factors referred to in points (a) to (d) e)

The EIAR submitted by the applicant provides the relevant environmental information to enable the EIA to be carried out by the competent authority. The information to be contained in the EIAR is prescribed by statutory regulation, as described in Section 1.3 above.

Structure and Content of the EIAR 1.7

General Structure 1.7.1

This EIAR uses the grouped structure method to describe the existing environment, the potential impacts of the Proposed Development thereon and the proposed mitigation measures. Background information relating to the Proposed Development, scoping and consultation undertaken and a description of the Proposed Development are presented in separate sections. The grouped format sections describe the impacts of the Proposed Development in terms of population and human health, biodiversity, land, soils and geology, water, air and climate, noise and vibration, landscape and visual, cultural heritage and material assets such as traffic and transportation, together with the interaction of the foregoing.

The chapters of this EIAR are as follows:

- Introduction
- Background to the Proposed Development
- **Reasonable Alternatives**
- Description of the Proposed Development
- Population & Human Health
- Biodiversity,
- Land, Soils and Geology
- Hydrology and Hydrogeology
- Air and Climate
- Noise and Vibration
- Landscape and Visual
- Cultural Heritage
- Material Assets including Traffic
- Major Accidents and Natural Disasters
- Interaction of the Foregoing
- Schedule of Mitigations and Monitoring

The EIAR also includes a non-technical summary, which is a condensed and easily comprehensible version of the EIAR document. The non-technical summary is laid out in a similar format to the main EIAR document and comprises a description of the Proposed Development followed by the existing environment, impacts and mitigation measures presented in the grouped format.



1.7.2 **Description of Likely Significant Effects and Impacts**

As stated in the 'Guidelines on the Information to be Contained in Environmental Impact Assessment Reports' (EPA, May 2022), an assessment of the likely impacts of a Proposed Development is a statutory requirement of the EIA process. The statutory criteria for the presentation of the characteristics of potential impacts requires that potential significant impacts are described with reference to the extent, magnitude, complexity, probability, duration, frequency, reversibility and transformation nature (if applicable) of the impact.

The classification of impacts in this EIAR follows the definitions provided in the Glossary of Impacts contained in the following guidance documents produced by the Environmental Protection Agency (EPA):

- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports' (EPA, May 2022)
- 'Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report' (EC, 2017).

The European Commission published a number of guidance documents in December 2017 in relation to Environmental Impact Assessment of Projects (Directive 2011/92/EU as amended by 2014/52/EU) including '*Guidance on Screening*', '*Guidance on Scoping*' and '*Guidance on the preparation of the Environmental Impact Assessment Report*', which have also been consulted.

Table 1-1 presents the glossary of impacts as published in the EPA guidance documents. Standard definitions are provided in this glossary, which permit the evaluation and classification of the quality, significance, duration and type of impacts associated with a Proposed Development on the receiving environment. The use of pre-existing standardised terms for the classification of impacts ensures that the EIA employs a systematic approach, which can be replicated across all disciplines covered in the EIAR. The consistent application of terminology throughout the EIAR facilitates the assessment of the Proposed Development on the receiving environment.

Impact Characteristic	Term	Description
Quality	Positive	A change which improves the quality of the environment
	Neutral	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
	Negative	A change which reduces the quality of the environment
Significance	Imperceptible	An effect capable of measurement but without significant consequences
	Not significant	An effect which causes noticeable changes in the character of the environment

Table 1-1 Impact Classification Terminology (EPA, 2022)



Impact Characteristic	Term	Description
^		but without significant
		consequences.
	Slight	An effectubish serves Co
	Sugn	noticeable changes in the
		character of the environment
		without affecting its sensitivities
	Moderate	An effect that alters the character of the environment in a manner consistent with existing and emerging baseline
	Significant	An effect, which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
	Very significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment
	Profound	An effect which obliterates sensitive characteristics
	Extent	Describe the size of the area, number of sites and the proportion of a population affected by an effect
Extent & Context		
	Context	Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions
	Likely	Effects that can reasonably be expected to occur because of the planned project if all mitigation measures are
Probability		properly implemented
	Unlikely	Effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented



Impact Characteristic	Term	Description	
	N.		
	Momentary	Effects lasting from seconds to minutes	
	Brief	Effects lasting less than a day	
	Temporary	Effects lasting less than a year	
	Short-term	Effects lasting one to seven years	
	Medium-term	Effects lasting seven to fifteen years	
Duration and Frequency	Long-term	Effects lasting fifteen to sixty years	
	Permanent	Effect lasting over sixty years	
	Reversible	Effects that can be undone, for example through remediation or restoration	
	Frequency	Describe how often the effect will occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)	
Туре	Indirect	Impacts on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway	
	Cumulative	The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.	
	'Do Nothing'	The environment as it would be in the future should the subject project not be carried out	
	Worst Case'	The effects arising from a project in the case where mitigation measures substantially fail	



Impact Characteristic	Term	Description
	Indeterminable	When the full consequences of a change in the environment cannot be described
	Irreversible	When the character, distinctiveness, diversity, or reproductive capacity of an environment is permanently lost
	Residual	Degree of environmental change that will occur after the proposed mitigation measures have taken effect
	Synergistic	Where the resultant effect is of greater significance than the sum of its constituents

Each impact is described in terms of its quality, significance, extent & context, probability, duration & frequency, and type, where possible. A 'Do-Nothing' impact is also predicted in respect of each environmental theme in the EIAR. Residual impacts are also presented following any impact for which mitigation measures are prescribed. The remaining impact types are presented as required or applicable throughout the EIAR.

Project Team

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Table 1-2 below details the companies and staff that were responsible for completion of the EIAR:

Consultants	Principal Staff Involved in Project	EIAR Input
МКО	Michael Watson	Project Managers, Scoping and
	Pat Roberts	Consultation, Preparation of
Tuam Road,	Owen Cahill	Natura Impact Statement,
Galway,	Eoin O' Sullivan	EIAR Report Sections:
H91 VW84	Sean McCarthy	
	Mary Kelleher	1. Introduction
	Tom Madden	2. Background to the Proposed
	John Hynes	Development
	Sarah Mullen	3. Reasonable Alternatives
	Claire Stephens	4. Description of the Proposed
	Padraig Desmond	Development
	Jack Workman	5. Population & Human Health
	Killian Devereux	6. Biodiversity
	James Newell	9. Air & Climate
	Joseph O'Brien	10. Noise and Vibration
	Damian Brosnan	11. Landscape & Visual
		14. Major Accidents and
		Natural Disasters
		15. Interaction of the Foregoing

Table 1-2 Companies and Staff Responsible for EIAR Completion



Consultants	Principal Staff Involved in Project	EIAR Input
		The second se
Hydro Environmental Services	Michael Gill	Drainage Design, Preparation
	David Broderick	of EIAR Sections:
22 Lower Main Street		7. Land, Soils & Geology 🕗
Dungarvan		8. Hydrology & Hydrogeology
Co. Waterford		
Tobar Archaeological Services	Miriam Carroll	Preparation of Report Section
		12. Cultural Heritage
Saleen, Midleton		
Co. Cork		
Alan Lipscombe Traffic and	Alan Lipscombe	Traffic counts and preparation
Transport Consultants		of EIAR Section
		13. Material Assets - Traffic and
Claran,		Transport
Headford,		_
Co. Galway		

1.8.1 **Project team Members**

1.8.1.1 **MKO**

Michael Watson - Associate Director - Environmental

Michael Watson is an Associate Director and head of the Environment Team in MKO. Michael has over 19 years' experience in the environmental sector. Following the completion of his Master's Degree in Environmental Resource Management, Geography, from National University of Ireland, Maynooth he worked for the Geological Survey of Ireland and then a prominent private environmental & hydrogeological consultancy prior to joining MKO in 2014. Michael's professional experience includes managing Environmental Impact Assessments, EPA License applications, hydrogeological assessments, environmental due diligence and general environmental assessment on behalf of clients in the wind farm, waste management, public sector, commercial and industrial sectors nationally. Michaels key strengths include project strategy advice for a wide range and scale of projects, project management and liaising with the relevant local authorities, Environmental Protection Agency (EPA) and statutory consultees as well as coordinating the project teams and sub-contractors. Michael is a key member of the MKO senior management team and as head of the Environment Team has responsibilities to mentor various grades of team members, foster a positive and promote continuous professional development for employees. Michael also has a Bachelor of Arts Degree in Geography and Economics from NUI Maynooth, is a Member of IEMA, a Chartered Environmentalist (CEnv) and Professional Geologist (PGeo).

Pat Roberts - Principal Ecologist

Pat Roberts joined MKO (then Keville & O'Sullivan Associates) in 2005 following completion of a B.Sc. in Environmental Science. He has extensive experience of providing ecological services in relation to a wide range of developments at the planning, construction and monitoring stages. He has wide experience of large scale industrial and civil engineering projects. He is highly experienced in the completion of ecological baseline surveys and impact assessment at the planning stage. He has worked closely with construction personnel at the set-up stage of numerous construction sites to implement and monitor any prescribed best practice measures. He has designed numerous Environmental Operating Plans and prepared many environmental method statements in close conjunction with project teams

and contractors. He has worked extensively on the identification, control and management of invasive species on numerous construction sites.

Pat has worked as project manager and ecologist on numerous ecological assessments completed by the company to date, including a wide range of work within sensitive ecological areas, and currently y09/07/202# manages the work of the MKO Ecology Team.

Owen Cahill – Senior Environmental Engineer

Owen is an Environmental Engineer with MKO with over 16 years of experience in the environmental management and construction industries. Owen holds BSc. (Hons) and MSc. in Construction Management and a Masters in Environmental Engineering. Prior to taking up his position with MKO in October 2013, Owen worked as an Environmental Officer with Kepak and prior to which he held a post with Pentland Macdonald Contaminated Land & Water Specialist in Northern Ireland. Prior to working in planning and environmental consultancy, Owen was employed within the construction industry where he gained significant experience on a variety of civil, residential and commercial projects. Owen's wide ranging multi sector experience has provided him with specialist knowledge and understanding of the challenges in the planning and delivery of developments with the minimum environmental impact and with practicality and constructability in mind. Owen's key strengths and areas of expertise are in project management, environmental impact assessment, wind energy & solar energy construction & environmental management planning and waste permit management. Since joining MKO Owen has been involved as a Project Manager on a range of energy infrastructure, commercial, residential, waste facility and quarry projects as well as managing the licensing requirements of a number of EPA licensed facilities. Within MKO Owen plays a large role in the management and confidence building of junior members of staff and works as part of a large multidisciplinary team to produce EIA Reports. Owen has project managed the Environmental Impact Assessment of a range of development projects across the Ireland and holds Full Membership with the Institute of Environmental Management & Assessment and is a Chartered Environmentalist.

Tom Madden - Environmental Scientist

Tom Madden is an Environmental Scientist with over 3 years' experience in professional environmental consultancies. Tom holds a BSc (Hons) in Environmental Science from the University of Limerick. Prior to joining MKO, Tom worked with environmental consultancies in Dublin and Carlow where he gained experience from working on a wide range of different projects. Tom's key strengths are in compilation of various types of environmental reports such as EIAR Chapters, EIA Screenings, Construction & Environmental Management Plans and Construction Waste Management Plans. Tom is also proficient in conducting environmental sampling and monitoring such as groundwater, surface water, noise and odour. Since joining MKO, Tom has worked widely on energy infrastructure, commercial, recreational and residential projects, and plays a role in preparing Environmental Impact Assessment Reports, EIA Screening Reports, Construction Environmental Management Plans and Decommissioning and Restoration Plans.

Sean McCarthy – Project Director - Planning

Sean McCarthy is a Project Planner with McCarthy O'Sullivan Ltd. with over 9 years of experience in both private practice and local authorities. Sean holds BSc. (Hons) in Property Studies and a Masters in Regional & Urban Planning. Prior to taking up his position with MKO in September 2015, Sean worked as a Planning Officer with the Western Isles Council in Scotland in the UK and prior to that worked as a Graduate Planner with Tipperary County Council. Sean is a chartered town planner with specialist knowledge in one off rural housing, renewable energy developments, quarry consents and retail planning. Since joining MKO Sean has been involved as a Project Planning Consultant on a significant range of energy infrastructure, commercial, housing, retail and residential projects in addition to project managing circa 26MW of solar energy planning applications through the statutory planning system,



with more projects in the pipeline. Sean holds chartered membership of the Royal Town Planning RCEILED. Institute.

Mary Kelleher - Project Planner

Mary Kelleher is a Project Planner with MKO with 1.5 years of experience as a planner in private practice. Mary holds BSc. (Major) in Environmental Earth Systems Science (Ecology) and Masters in Planning and Sustainable Development (MPlan). Prior to taking up her position with MKO in February 2022, Mary worked in Education Outreach with Blackrock Castle Observatory (under Cork Institute of Technology). Mary has worked on a number of outreach reach projects in the Arts and Culture sectors, notably Test Site Project in Cork City an Arts Council funded project under the Architecture in Place Award. In her work with MKO Mary has experience across a range of sectors including commercial, residential, renewable energy and industrial, as well as having experience with providing development advice and appraisals to clients, conducting strategic land searches, submitting planning applications for residential, commercial, and renewable energy sector clients, along with providing strategic planning advice, preparing planning appeals, attending client meetings and conducting site visits. Mary has also worked on applications to An Board Pleanála for Strategic Infrastructure Projects related to electricity transmission infrastructure and has experience working alongside MKO Environment Team on Environmental Impact Assessment Projects. Marys key strengths and areas of expertise are in development management, provision of planning advice and project management of small and medium sized projects.

Isobel O' Beirne Morrisey - Planner

Isobel is a planner who has worked with MKO since September 2022. She holds a Bachelor of Arts International in Geography and English from Maynooth University and a Masters in Urban and Regional Planning from the University of Amsterdam. As part of her work within MKO, she has experience working on a range of projects that have included commercial, residential, retail and energy infrastructure developments. In addition, she has worked on Environmental Impact Assessment Reports for Large Scale Residential Developments, as well as Strategic Infrastructure and Renewable energy developments.

John Hynes - Associate Director - Ecology

John Hynes is Associate Director of the Ecology team with MKO Ltd. He has over 10 years of experience in both private practice and local authorities. John holds a B.SC in Environmental Science and a M.Sc. in Applied Ecology. Prior to taking up his position with MKO in March 2014, John worked as an Ecologist with Ryan Hanley Consulting Ltd. and Galway County Council. John has specialist knowledge in Flora and Fauna field surveys. Geographic Information Systems, data analysis, Appropriate Assessment, Ecological Impact Assessment and Environmental Impact Assessment, John's key strengths and areas of expertise are in project management. GIS and impact assessment. Since joining MKO John has been involved as a Senior Ecologist on a significant range of energy infrastructure, commercial, national roads and private/public development projects. Within MKO John plays a large role in the management and confidence building of junior members of staff and works as part of a large multi-disciplinary team to produce EIS Reports. John has project managed a range of strategy and development projects across the Ireland and holds CIEEM membership.

Padraig Desmond - Project Ecologist

Pádraig is a Project Ecologist with MKO with 4 years post graduate ecological experience and over 2.5 years of which have been in ecological consultancy. Pádraig holds a BSc (Hons) in Ecology and Environmental Biology from University College Cork. Pádraig took up his position with MKO in December 2021, prior to which he worked as a Junior Ecologist with Envirico. Through these consultancy roles Pádraig has gained excellent experience in producing ecological reports such as Natura Impact



Statements, Ecological Impact Assessments, Biodiversity chapters, Invasive Species Management Plans, and Constraints Reports for a wide range of projects including small private developments to housing developments and renewable energy projects such as solar and wind farms. Prior to the above roles, Pádraig worked as a field ecologist for the Department of Conservation in New Zealand, where he developed a strong field-based skill set.

Pádraigs key strengths and areas of expertise are in terrestrial ecology, including vegetation surveys, habitat identification, invasive species surveys, mammal surveys, Appropriate Assessment and Ecological Impact Assessment. Pádraig is also skilled in GIS.

Jack Workman – Project Director – Landscape and Visual

Jack Workman is Project Director of the Landscape and Visual team in MKO. He is a Landscape and Visual Impact Assessment Specialist with an academic background in the field of Environmental Science and Geography. Jack's primary role at MKO is conducting Landscape and Visual Impact Assessment (LVIA) for Environmental Impact Assessment reports. Jack holds a BSc. in Psychology, and an MSc. in Coastal and Marine Environments (Physical Processes, Policy & Practice) where he was awarded the Prof. Máírín De Valéra distinction in science research award. Prior to taking up his position with MKO, Jack worked as a Geospatial Analyst and Research Assistant with NUIG and also held previous posts in the coastal engineering sector with Royal Haskoning DHV and Saltwater Technologies. Since joining MKO in February 2020, Jack has conducted and project managed all aspects of LVIA for a broad range of commercial infrastructure developments including wind and solar energy projects, grid infrastructure, extraction industry and Strategic Housing Developments. Jack holds a membership with the Chartered Institute of Water and Environmental Management and is also a member of the Landscape Research Group.

Killian Devereux - CAD Technician

Killian is a CAD Technician at MKO with over 6 years of drafting experience in various sectors of the building industry. He holds BSc (Hons) in Architectural Technology from Galway Mayo Institute of Technology. Prior to taking up his position with MKO in October 2022, Killian worked as a Structural CAD/BIM Technician for Tobin Consulting Engineers and as an Architectural Technician for some small-scale Consultants. He was primarily involved in a variety of Commercial / Residential projects where he was responsible for the structural drawing packages but also has experience working in RC concrete Drawings, Architectural and Civil drawings, FSC's /DAC's and one-off housing planning applications. His key strengths and areas of expertise are in Auto CAD, Revit, Cads RC and Google Sketch up.

James Newell - CAD & Graphics Technician

James Newell is a Graphics Technician with McCarthy O'Sullivan Ltd. with over 20 years of experience in private practice. James holds a City and Guilds CAD Certificate in 2D and 3D. Prior to taking up his position with McCarthy Keville O'Sullivan in May 2006, James worked as a pre-press graphic designer with Clodoiri Lurgan Teo. Inverin, Co. Galway. James is a highly creative individual with proficient in numerous graphic & GIS applications. James's key strengths are in photomontage development for the wind & solar energy sector and design production of reports illustrating their visual impacts. Since joining MKO James has contributed to EIS reports in the areas of Wind & Solar farm site drawing design, photomontage, ZTV mapping & shadow flicker analysis. Within MKO James works as part of a shared resources team supporting a variety of teams with varied skillsets in addition to managing the KOS's Information technology (I.T.) needs, such as computer & software training & maintenance, virus threats & daily Backups.



Damian Brosnan – Senior Acoustician



Damian Brosnan (Senior Acoustic Consultant) is an acoustician with MKO since August 2023. Damian has over 20 years' experience in scoping and carrying out environmental noise monitoring occupational noise surveys and noise impact assessments for a wide range of both public and private clients. Damian has extensive experience in Ireland working on a range of projects including industrial facilities, quarries, waste management facilities, wind energy developments and wastewater treatment plants. Prior to joining MKO, Damian was Principal Acoustic Consultant at Damian Brosnan Acoustice.

Damian qualified with a BSc (Hons) in 1993 from University College Cork. He was awarded a Diploma in Acoustics and Noise Control in 2009 from the Institute of Acoustics. In 2015 he was awarded a MSc (Distinction) in Applied Acoustics from the University of Derby. Damian is a Member of the Institute of Acoustics (MIOA) and secretary of the Irish branch. He is a founding member of the Association of Acoustic Consultants of Ireland (AACI) and a Member of Engineers Ireland (MIEI).

Joseph O'Brien - CAD & Mapping Technician

Joseph O'Brien holds the position of CAD Technician. Joseph holds a BA Honours Level 8 Modelmaking, Design and Digital Effect, Institute of Art Design and Technology (IADT), Dun Laoghaire & City & Guilds Level 3 2D & 3D AutoCAD certificates. Joseph's role entails various wind and solar farm projects which require various skills such as mapping, aerial registration and detailed design drawings for projects. Prior to joining MKO, Joseph worked as a free-lance Modelmaker and CAD Technician. His previous experience included designing various models and props through CAD and then making them for various conventions such as Dublin Comic Con and Arcade Con.

1.8.1.2 Hydro Environmental Services Ltd

Michael Gill

Michael Gill is an Environmental Engineer with over ten years' environmental consultancy experience in Ireland. Michael has completed numerous hydrological and hydrogeological impact assessments of wind farms in Ireland. He has also managed EIA/EIS assessments for infrastructure projects and private residential and commercial developments. In addition, he has substantial experience in wastewater engineering and site suitability assessments, contaminated land investigation and assessment, wetland hydrology/hydrogeology, water resource assessments, surface water drainage design and SUDs design, and surface water/groundwater interactions.

David Broderick

David Broderick is a hydrogeologist with over seven years' experience in both the public and private sectors. Having spent two years working in the Geological Survey of Ireland working mainly on groundwater and source protection studies. David moved into the private sector. David has a strong background in groundwater resource assessment and hydrogeological/hydrological investigations in relation to developments such as quarries and wind farms. David has completed numerous geology and water sections for input into EIAs for a range of commercial developments.

1.8.1.3 **Tobar Archaeological Services**

Tobar Archaeological Services have been in operation since 2003 and offer professional nationwide services ranging from pre-planning assessments to archaeological excavation, and cater for clients in state agencies, private and public sectors.

Tobar's director, Miriam Carroll is licensed by the Department of Arts, Heritage and the Gaeltacht (DoAHG). Tobar has a proven track record in various types of developments from EIS stage through to construction stage when archaeological monitoring and/or testing are frequently required.



1.8.1.4 Alan Lipscombe Traffic and Transport Consultants

Alan Lipscombe

RCEILED. In January 2007, Alan Lipscombe set up an independent traffic and transportation consultancy providing advice for a range of clients in the private and public sectors. Prior to this Alan was a founding member of Colin Buchanan's Galway office having moved there as the senior transportation engineer for the Galway Land Use and Transportation Study. Since the completion of that study in 1999, Alan has worked throughout the West of Ireland on a range of projects including: major development schemes, the Galway City Outer Bypass, Limerick Planning Land-Use and Transportation Study, Limerick Southern Ring Road Phase II, cost benefit analyses (COBA) and various studies for the NUI Galway. Before moving to Galway in 1997, Alan was involved in a wide variety of traffic and transport studies for CBP throughout the UK, Malta and Indonesia. He has particular expertise in the assessment of development related traffic and transport modelling, including for numerous wind farm developments, and is an accomplished analyst who has experience of a wide variety of modelling packages and methods.

Difficulties Encountered 1.9

There were no technical difficulties encountered during the preparation of this EIAR.

Viewing and Purchasing of the EIAR 1.10

Copies of this EIAR will be available online, including the Non-Technical Summary (NTS), on the Planning Section of the Galway County Council website.

https://www.eplanning.ie/GalwayCC/searchtypes under the relevant Planning Reference Number (to be assigned on lodgement of the application).

This EIAR and all associated documentation will also be available for viewing at the offices of GCC. The EIAR may be inspected free of charge or purchased by any member of the public during normal office hours at the following address:

Planning Development Galway County Council Áras n Chontae, Prospect Hill, Galway H91 H6KX

This EIAR will also be available to view online via the Department of Housing, Local Government and Heritage EIA Portal, which will provide a link to the planning authority's website on which the application details are contained. This EIA Portal was set up by the Department as an electronic notification to the public of requests for development consent which are accompanied by an EIAR.

(https://www.housing.gov.ie/planning/environmental-assessment/environmental-impact-assessment-eia/eiaportal).