

1 INTRODUCTION

1.1 Introduction

This Environmental Impact Statement (EIS) has been prepared by McCarthy Keville O’ Sullivan Ltd. on behalf of Waterways Ireland. Waterways Ireland applied to Kildare County Council, Laois County Council and Carlow County Council for planning permission for the development of a multi-use shared leisure route (Blueway) along the Barrow River and Barrow Line of the Grand Canal in January 2017. Between the 21st and 23rd March 2017, each of the Local Authorities issued a Request for Further Information (FI Request) in relation to the applications. For ease of reference, the EIS submitted with the applications has been revised to take account of a number of changes to the proposed scheme and address each of the queries raised in the FI Request. Further details are set out in Section 1.2 below.

The intention of the project is to develop the existing navigation towpath along the banks of the Grand Canal and existing trackway along the River Barrow between Lowtown, Co. Kildare and St Mullins, Co. Carlow. The proposed route follows the route of the existing Barrow National Waymarked Trail on the banks of the Grand Canal Barrow Line and River Barrow.

The proposed Blueway path has a typical width in most areas of 2.5 metres, using the existing marked trail along the majority of the route. Short sections of local road will also be upgraded and incorporated into the development. The route is approximately 115 kilometres (km) in length and will include tailored surface finishes, information, directional and safety signage, and all other associated ancillary works.

The route commences in Lowtown, County Kildare, passes through County Laois and finishes in St. Mullins, County Carlow. Approximately 52km of the route is in County Carlow, 16km in County Laois and 47km in County Kildare.

1.2 Planning Application Background

Waterways Ireland applied to Kildare County Council, Laois County Council and Carlow County Council for planning permission for the proposed development in January 2017 (PL Ref 17/81 Kildare, 17/37 Laois, & 17/18 Carlow). In March 2017, each of the Local Authorities issued an FI Request in relation to the applications. Many of the queries raised are common between the three Local Authority’s with a number of queries specific to each County.

In preparing this revision of the EIS for the proposed development, the applicant and design team have considered in full the FI Request that issued from each of the Local Authority’s and have integrated the detailed responses to the various items, where relevant.

Appendix 1-1 provides a summary of the various further information queries that have been raised, summarises the responses to each FI query and references where these have been dealt with within the EIS and application documentation. A copy of the FI Requests are also included in Appendix 1-1.

1.3 Guidance and Legislation

McCarthy Keville O’Sullivan Ltd. were appointed as Environmental Consultants on this project and commissioned to prepare an EIS which fulfils the requirements set out by the Environmental Protection Agency (EPA) in the *‘Guidelines on the Information to be contained in Environmental Impact Statements’* (EPA, 2002) and Schedule 6 of the Planning and Development Regulations 2001, relating to the information to be contained in an EIS.

European Union Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (the ‘EIA Directive’), is currently transposed into Irish planning legislation by the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001 (as amended). The EIA Directive was amended by Directive 2014/52/EU the provision of which as of the date of preparation of this revised EIS have not yet been transposed into Irish law.

Member States had until 16th May 2017 to transpose the amended EIA Directive into national legislation. Although the transposition had not occurred on the specified transposition date the Department of Housing, Planning, Community and Local Government (Department) issued a Circular Letter PL 1/2017 on the 15th May 2017 providing advice on the implementation of the Directive. This included advice to competent authorities on the assessment of applications for planning permission received on or after 16th May 2017. The Circular states the following:

“In respect of applications for planning permission or other development consent received on or after 16 May 2017 falling within the scope of Directive 2011/92/EU, or within the scope of Directive 2014/52/EU, competent authorities are advised to consider applying the requirements of Directive 2014/52/EU by way of administrative provisions in advance of the transposition of Directive 2014/52/EU into Irish law.”

The planning applications for the proposed development were lodged before the 16th May 2017 and so it is understood that the Local Authority will assess and process the applications under the procedures in place prior to May 16th 2017.

For completeness, it is proposed to address the key additional topics included for in the amended Directive including Population & Human Health, Biodiversity and vulnerability to natural disasters.

EIAR Guidance

The Environmental Protection Agency (EPA) recently published its *‘Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports’* (EPA, August 2017), which are intended to guide practitioners preparing an EIAR during the transition to new Regulations transposing the revised EIA Directive. This revised EIS has been completed with cognisance of these draft guidelines and using the assessment terminology set out in this document as it is the most recent available. The use of this terminology simply allows for a consistent approach to be adopted across the EIA topics.

In preparing this EIS, regard has also been taken of the provisions of *‘Advice Notes on Current Practice in the Preparation of EIS’* (EPA, 2003) and the *‘Guidelines for Planning Authorities and An Bórd Pleanála on Carrying out Environmental Impact Assessment’*, published by the Department of the Environment, Community and Local Government

(DECLG) in March 2013 to the extent these guidelines are relevant having regard to the enactment of the revised EIA Directive.

1.4 The Applicant

The applicant for the proposed development is Waterways Ireland. Waterways Ireland is one of the six North/South Implementation Bodies established under the British Irish Agreement in 1999.

Waterways Ireland manages, maintains, develops and promotes over 1000km of inland navigable waterways principally for recreational purposes. The waterways under the remit of the body are the Barrow Navigation, the Erne System, the Grand Canal, the Lower Bann, the Royal Canal, the Shannon-Erne Waterway and the Shannon Navigation.

Waterway Ireland's Corporate Plan 2014-2016 provides a strategic planning framework to guide Waterways Ireland's work programmes over the next three years. Central to their vision for the future is the development of recreational, heritage and environmental opportunities that link people, history and nature, providing both local communities and visitors with compelling reasons to spend more time in the waterways environment. It recognises that the inland waterways are an intrinsic part of our past and future. They are at the heart of community life, yet they also provide important regeneration opportunities to transform and create vibrant prosperous communities.

1.5 Brief Description of the Proposed Development

The proposed Blueway runs from Lowtown along the route of the Grand Canal Barrow Line through Rathangan, Monasterevin, Vicarstown and Athy where it joins the River Barrow and follows the trackway alongside this river through the towns of Carlow, Leighlinbridge, Bagenalstown and Graiguenamanagh before terminating in St. Mullins.

The proposed works will include the re-surfacing of the existing trackway on both the River Barrow and on the Grand Canal Barrow Line to facilitate multiple activities in the area. The surfaced area will be 2.5 metres in width along the majority of the route to accommodate cyclists, walkers and other recreational users as well as maintenance vehicles that already use the towpath. In certain sections, the path will be narrowed locally, where necessary, due to topography, surrounding habitats or existing structures (e.g. at locks or bridge underpasses) and will include a typical buffer of a 1 metre verge (where possible) on both sides (between the riverbank and hedge or backdrain on the inland side), which will be vegetated in most cases.

The surface will be a granular stone finish over the majority of the route with tarmacadam in the more heavily trafficked urban areas. Two sections, one close to St Mullins lock and another north of Leighlinbridge in Co Carlow, will comprise a concrete surface to protect these sections from the effects of erosion. The project will also include some signage and information points. At some locations, cyclists will be required to cross local roads due to physical restrictions at bridge locations including head height and width of the existing path. A new pedestrian foot bridge will be provided at Athy, and a second provided in Rathangan Co. Kildare, A section of cantilevered path will be provided at Bagenalstown, Co Carlow. There are 11 no existing car parks along the route which will be resurfaced as indicated in the drawings, and 2 no proposed new car parks A detailed description of the proposed development is included in Chapter 3.

1.6 Need for the Proposed Development

The Barrow River and Barrow Line of the Grand Canal are waterway corridors of National and International importance, and spectacular recreation and leisure amenities. Given the importance of these waterways, the existing National Waymarked Trail is not fit for purpose. It does not facilitate uninterrupted access for cyclists nor does it provide a suitable consistent surface for walkers of varying abilities and children. It is varied in both finish and dimensions and does not conform to any established or recognised standard of design and construction. In some locations easy or safe passage is restricted due to poor surface quality and restricted visibility and proper safety signage at road interface areas and crossing points.

The proposed Blueway includes tailored surface finishes which will provide access for a wider range of users, along all sections of the trail, providing enhanced safety and accessibility in all weather conditions.

The proposed Blueway is supported by Carlow County Development Partnership, County Kildare Leader Partnership, the Department of the Communications, Climate Action and Environment, The European Agricultural Fund for Rural Development and the Kilkenny Leadership Partnership.

It is hoped that this development would benefit local communities by providing a secure and safe environment for walkers and cyclists, leading to an increased opportunity for physical exercise. It would also provide a unique and novel experience for visitors to the area.

As part of Fáilte Ireland's Tourism Product Development Strategy, a review of the Irish tourism product has shown that Ireland's tourism industry needs to catch up with other European countries concerning its core tourism products such as:

- Heritage and culture
- Walking
- Cycling
- Marine Sports

Furthermore, the Regional Planning Guidelines for the South-East-Region 2010-2022, identifies the Barrow as an important regional amenity corridor for navigation and walking routes.

1.6.1 Benefits of this Blueway

"Blueways are a network of approved and branded multi-activity recreational trails and sites, based on or closely with the water, together with providers and events facilitating access to activities and experiences."

The proposed Barrow Blueway would support a myriad of recreational activities, and help grow and develop business along its length. The Blueway brand which Waterways Ireland has developed in conjunction with the National Trails Office, Fáilte Ireland and Canoeing Ireland, would be used to promote, both regionally and internationally, the special journeys which take place either on foot, bicycle or boat on shared use trails along Ireland's Inland Waterways.

In addition to the economic benefit, the Barrow Blueway would yield health, community and social dividends.

Walking, cycling and canoeing activities have been shown to be highly sustainable as people engage in low group numbers, all year round and require services and facilities similar to those readily available in the towns and villages along the Barrow Valley. The proposed Barrow Blueway would be ideally suited to belong to this brand and well placed to add to the economic and social sustainability of its towns and villages.

1.7 Purpose and Scope of the EIS

The purpose of this EIS is to document the current state of the environment in the vicinity of the proposed development site in an effort to quantify the likely significant effects, if any, of the proposed development on the environment. The assessment process that led to the compilation of this document served to highlight any areas where mitigation measures may be necessary in order to protect the surrounding environment from any negative impacts of the proposed development.

The objective of this process is to facilitate the most efficient and positive design of the proposed development in order to enable the development to be incorporated into the surrounding landscape insofar as possible and to plan for the identified effects so that measures are in place to ensure the environment is protected before any negative impacts are allowed to occur.

It is important to distinguish the Environmental Impact Assessment (EIA) to be carried out by the Local Authorities, from the Environmental Impact Statement (EIS) 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 2011/92/EU (as amended), the direct and indirect effects of the proposed development on the following:

1. human beings, flora and fauna,
2. soil, water, air, climate and landscape,
3. material assets and the cultural heritage, and
4. the interaction between the factors ...

The EIS 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 EIS is prescribed by statutory regulation.

1.8 Structure and Content of the EIS

1.8.1 General Structure

This EIS uses the grouped structure method to describe the existing environment, the potential effects 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 effects of the proposed development in terms of human beings, flora and fauna, soils and geology, water, air and climate, noise, landscape, cultural heritage and material assets such as traffic and transportation, together with the interaction of the foregoing.

The chapters of this EIS are as follows:

- Introduction
- Background to the Proposed Development

- Description of the Proposed Development
- Human Beings, Population and Human Health
- Flora and Fauna. Biodiversity
- Geology and Soils
- Hydrology and Hydrogeology
- Air and Climate and Noise
- Landscape
- Cultural Heritage
- Material Assets
- Interactions of the Foregoing

The EIS also includes a Non-Technical Summary, which is a condensed and easily comprehensible version of the EIS document. The non-technical summary is laid out in a similar format to the main EIS document and comprises a description of the proposed development followed by the existing environment, effects and mitigation measures presented in the grouped format.

1.9 Description of Likely Significant Effects and Impacts

As stated in the *Guidelines on the Information to be contained in Environmental Impact Statements* (EPA, 2002), an assessment of the likely effects of a proposed development is a statutory requirement of the EIA process. The statutory criteria for the presentation of the characteristics of potential effects requires that potential significant effects and impacts are described with regards to the extent, magnitude, complexity, probability, duration, frequency, reversibility and transfrontier nature (if applicable) of the impact.

The classification of impacts in this EIS 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 – Draft August 2017* (EPA 2017).
- *'Advice Notes on Current Practice in the Preparation of Environmental Impact Statements'* (EPA, 2003)
- *'Guidelines on the Information to be contained in Environmental Impact Statements'* (EPA, 2002)
- *Revised Guidelines on the Information to be contained in Environmental Impact Statements – Draft September 2015* (EPA 2015)
- *'Advice Notes for Preparing Environmental Impact Statements – Draft September 2015'* (EPA 2015).

Standard definitions are provided in this glossary, which permit the evaluation and classification of the quality, significance, duration and type of effects 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. The consistent application of terminology throughout the EIS facilitates the assessment of the proposed development on the receiving environment.

Table 1.1 reproduces the glossary of impacts as published in the most recent EPA guidance documents referred to above.

Table 1.1 Impact Classification Terminology (EPA, 2017)

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 but without significant consequences.
	Slight	An effect which causes 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 trends
	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 & Context	Extent	Describe the size of the area, number of sites and the proportion of a population affected by an effect
	Context	Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions
Probability	Likely	Effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented
	Unlikely	Effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented
Duration and Frequency	Momentary	Effects lasting from seconds to minutes
	Brief	Effects lasting less than a day
	Temporary	Effects lasting less than a year

Impact Characteristic	Term	Description
	Short-term	Effects lasting one to seven years
	Medium-term	Effects lasting seven to fifteen years
	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)
Type	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
	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, duration & frequency and type, where possible. A ‘Do-Nothing’ impact is also predicted in respect of each environmental theme in an 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 EIS.

1.10 Project Team

The companies and staff listed in Table 1.2 were responsible for completion of the EIA of the proposed development.

Table 1.2 Project Team

Consultants	Principal Staff Involved in Project	EIS Input
McCarthy Keville O’ Sullivan Ltd. Block 1, GFSC, Moneenageisha Road, Galway	Michael Watson Jimmy Green Pat Roberts Dr. John Staunton Simon Mills Evelyn Sikora John Hynes James Newell	EIA Project Managers, Co-ordination and editing of EIS, Scoping and consultation, EIS Sections 1, 2, 3, 4, 5, 8, 9, 11.2 & 12
Ann Carey 80 Portacarron, Ballymoneen Road, Galway	Ann Carey	Archaeology EIS Section 10: Cultural Heritage

1.10.1 Project Team Members

1.10.1.1 McCarthy Keville O’Sullivan Ltd.

Michael Watson, MA; CEng, PGeo, MCIWM

Michael Watson joined the company as a Project Director and head of the Environment Team having gained over 15 years’ experience in the environmental sector working previously for the Geological Survey of Ireland and subsequently for a prominent Cork-based Environmental and Hydrogeological consultancy firm. Michael has extensive experience in implementing a wide range of projects, including hydrogeological assessments, unauthorised waste disposal site assessments, groundwater well installation, environmental monitoring programmes, contaminated land assessments and compilation of Environmental Impact Statements for various sectors including quarry’s, wind farms, manufacturing, Green & Blueway infrastructure, waste management etc. Michael is now responsible for overseeing and directing all of the EIS projects as well as the regulatory compliance work undertaken by MKO given his significant and relevant industry experience. He has a Masters Degree in Environmental Resource Management, Geog from NUI Maynooth, is a Professional Geologist (PGeo), member of the Institute of Geologists of Ireland, is also a member of the Chartered Institution of Wastes Management (MCIWM) and is a Full Member of IEMA, i.e. a Chartered Environmentalist.

Jimmy Green BA, MRUP; MIPI

Jimmy Green holds the position of Senior Planner in McCarthy Keville O’Sullivan and has a wide range of experience in project management and coordination, planning research, analysis, and retail planning. Jimmy has extensive planning experience in both the public and private sectors having worked as an Assistant Planner in Donegal County Council and subsequently as both an Executive and Senior Executive Planner in Galway County Council prior to joining private practice in October 2004. Since moving into the private sector he has provided consulting services to a wide range of private and public sector clients, and his experience includes planning application project management, environmental impact assessment preparation, retail impact assessment, development potential reporting, preparation of linguistic impact

statements and submissions to Development Plans/Local Area Plans. Jimmy has a Bachelor of Arts Degree in Human and Physical Geography from National University Ireland Galway and a Masters in Regional and Urban Planning from University College Dublin. Jimmy is also a corporate member of the Irish Planning Institute.

Pat Roberts B.Sc. (Env.) MCIEEM

Pat Roberts joined MKO (then Keville & O'Sullivan Associates) in 2005 following completion of an Honours B.Sc. in Environmental Science. Prior to joining the company, Pat worked extensively in Ireland, the USA and UK as a tree surveyor, having previously worked with The National Trust in Cornwall for three years. He also has over five years' practical conservation experience working both as a volunteer and employee in National Parks in Texas, Utah and at Exmoor National Park in the UK. Patrick has worked as project manager and ecologist on over 150 ecological assessments completed by the company to date, including a wide range of work within sensitive ecological areas. He has extensive experience of on-site supervision of construction and civil engineering works and has worked closely with construction personnel at the set up stage of construction sites in the design systems to prevent environmental damage.

John Hynes B.Sc. (Env.), M.Sc. (Ecol.) Grad CIEEM

John Hynes is a qualified ecologist, with an Honours B.Sc in Environmental Science from National University of Ireland, Galway 2010 and a Masters in Applied Ecology, University College Cork 2011 with five years' post-graduate experience. John is also an approved Environmentalist in relation to agri-environment schemes with the Department of Agriculture. His experience includes 2 years consultancy experience, concentrated mainly on aquatic projects for public sector projects including water and wastewater supply schemes, arterial drainage schemes and habitat mapping and assessment. Prior to consultancy, John worked for Galway County Council in the Western River Basin District Office as GIS and Assistant Coordinator where he developed significant GIS and mapping skills. John has also been a project manager and senior ecologist on large scale ecological and GIS projects requiring co-ordination assessment of multiple large scale sites over the past 2 years.

Evelyn Sikora BA, MPLAN, MIPI

Evelyn Sikora graduated as from Edinburgh College of Art with a degree in Landscape Architect and also holds a Masters in Planning and Sustainable Development from University College Cork (2010). She has worked as a Landscape Architect on a range of projects including commercial, residential and recreational projects and has also experience in planning projects relating to employment, recreation and natural heritage. Evelyn has completed the Landscape and Visual Impact Assessment for numerous wind farm projects, ranging from single-turbine developments to large-scale projects of up to 50 turbines. She has also worked on Landscape and Visual Impact Assessments for a range of infrastructural projects, quarries, flood relief schemes, solar arrays, and residential and commercial developments. Evelyn is a Corporate member of the Irish Landscape Institute.

John Staunton PhD, B.Sc. (Env.)

John Staunton joined McCarthy Keville O'Sullivan Ltd. in October 2014 following completion of a PhD and B.Sc. in Environmental Science. His main duties include input into EISs and other reports, ecological surveys, planning and literature searches, landscape impact assessment and site visits. John has proven report writing, presentation and interpersonal skills and can work well with large interdisciplinary teams. Prior to joining the team at MKO, John developed many project design, field,

laboratory, data analysis and writing skills during his PhD research and research assistant positions.

Simon Mills, B.S.c (Env)

Simon joined McCarthy Keville O’Sullivan in March 2016 following completion of a BSc. in Environmental Science, National University of Ireland Galway (1:1, first class honours) in 2014. Following completion of his undergraduate degree Simon worked in wastewater treatment, with an integrated constructed wetland, where he gained experience in waste licencing, environmental monitoring, wastewater treatment and environmental sampling. Since joining, Simon has had an input to various EISs, ERs and other reports and has gained significant experience in a wide range of areas including; waste licencing, environmental risk assessment, invasive species management, and landscape impact assessment.

Eoin O’Sullivan – MSc. CWEM CEnv

Eoin O’Sullivan is a Senior Environmental Consultant with MKO with 9 years of experience working in the fields of environmental and human health risk assessment, waste management, waste policy and permitting. Eoin holds a BSc (Hons) in Environmental Science & Technology and an MSc in Environmental Engineering and has been responsible for the design, implementation and interpretation of all phases of geo-environmental and geotechnical site investigations, remediation design and validation for a wide variety of ‘brownfield’ sites. Eoin has routinely undertaken detailed quantitative risk assessment for the protection of controlled waters and ground gas risk assessments. Eoin has also experience in completing PPC Permit Applications and in the preparation of Environmental Impact Statements for non-hazardous landfill sites and anaerobic digesters for both public and private clients. Other key strengths and areas of expertise include remediation options appraisals, remediation method assessments and waste management planning. Eoin is a Chartered Member of the Chartered Institute of Water and Environmental Management and Chartered Environmentalist with the Society of Environment.

James Newell

James holds the position of CAD and Information Technology Technician with MKO since joining the Company in May 2006. Prior to joining MKO, he worked as a graphic designer and illustrator for over eight years. In recent years James’ role has extended to include all wind farm visual modelling completed by the company. He is proficient in the use of MapInfo GIS software in addition to AutoCAD and other design and graphics packages.

Anne Carey B.A. (Arch.& History) 1989; UCG, M.A. (Archaeology) 1993; UCG. M.A. (Urban Planning and Building Conservation) 2004; UCD

Anne is a Built Heritage Specialist and published Archaeologist with over 20 years of both national and international experience. She has worked on a large number of sites covering a wide time-span throughout the country. In addition to rural project, including roads projects for the NRA, she has worked on the urban landscape of towns and cities, with projects carried out at buildings in Galway City, inner city Dublin, Sligo, Kilkenny, Drogheda, Castlebar, Roscommon town, Ennis, Gort, Loughrea, Tuam, Kinvara, Killala, Eyrecourt, Clifden, Ahascragh, Cong and Kilconly. Clients have included the Department of the Environment, Heritage and Local Government, Galway County Council, Mayo County Council, National University of Ireland Galway and numerous private developers.