KILBEGGAN TO MULLINGAR GREENWAY

Environmental Options Report

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Prepared by:	Prepared for:
RPS	**Westmeath County Council**

Dublin | Cork | Galway | Sligo | Kilkenny
rpsgroup.com

RPS Group Limited, registered in Ireland No. 91911
RPS Consulting Engineers Limited, registered in Ireland No. 161581
RPS Engineering Services Limited, registered in Ireland No. 99795
The Registered office of each of the above companies is West Pier Business Campus, Dun Laoghaire, Co. Dublin, A96 N6T7

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1 INTRODUCTION

1.1 The Project

RPS have been commissioned by Westmeath County Council (WCC) to provide multi-disciplinary engineering and specialist consultancy services for the development of a greenway between Kilbeggan and Mullingar towns in Co. Westmeath. RPS are commissioned to carry out services through Phase 1 to Phase 4 of the project lifecycle in accordance with TII Publication; PE-PMG-02047-01 - Project Manager's Manual for Greenways, July 2022 (PE-PMG-02047-01).

This project is currently at Phase 2 Options Selection in accordance with PE-PMG-02047-01. The options selection process also takes account of the TII Publication; PE-PAG-02036 - Project Appraisal Guidelines for National Roads Unit 13.0 - Appraisal of Active Modes, February 2024 (PAG Unit 13.0) and the new Department of Transport - Transport Appraisal Framework (2023) (TAF).

The Kilbeggan to Mullingar Greenway will be a recreational trail, providing tourists, commuters and leisure users (collectively Non-Motorised Users - NMU) with a dedicated corridor linking Kilbeggan Town to Mullingar Town. The project will be a purposeful recreational facility for use by cyclists, walkers and other NMU users.

This project will also aim to provide a strategic connection between the Royal Canal Greenway/ Old Rail Trail in Mullingar and the Grand Canal Greenway (via the Kilbeggan Branch of the Grand Canal). The Grand Canal Greenway follows the route of the Grand Canal and links Dublin and the River Shannon via Tullamore and a number of other towns and villages on the route. In Offaly, the Grand Canal runs from Shannon Harbour in the west to Edenderry in the east. There is an existing section of greenway between Tullamore and Kilbeggan Harbour via the Grand Canal Greenway at Ballycommon (east of Tullamore). These completed sections of the greenway utilise the old towpath along the canal.

The National Cycle Network (NCN) also includes proposals to link Mullingar with Tullamore with a cycling route.

Since the commencement of this project in March 2023, changes have been made to Department of Transport (DoT) appraisal framework. This project commenced under the DoT Common Appraisal Framework (CAF) for Transport Projects and Programmes (published in 2016 and subsequently updated). The CAF was replaced by the Transport Appraisal Framework (TAF) in 2023. The TAF provides appraisal and implementation guidance that aims to promote investment in the transport system which meets the needs of society, fulfils strategic policy objectives, and delivers value for money through a common framework for appraising transport investments in accordance with the Infrastructure Guidelines (IG).

The TAF was first published in June 2023 with updates published in July 2024. This phase of the project is being carried out in accordance with the TAF guidance issued in July 2024, with reference to work carried out under the previous version of TAF carried out in Phase 1.

1.1.1 Project Objectives

The first step in identifying RCO's was to set out a clear set of Project Objectives for the Kilbeggan to Mullingar Greenway. These Project Objectives were developed through discussions with WCC and TII. The Project Objectives have been arranged to broadly address the overarching categories required by TAF with sub-objectives identified under each objective that specifically address the requirements of the Kilbeggan to Mullingar Greenway. The objectives and sub-objectives are presented in **Table 1.1**.

Table 1.1 Project Objectives

Objective	Ref	Sub-objective
Transport User Benefits and Other Economic Impacts - Support connectivity and economic growth in the local and regional area.	EC1	To increase the economic contribution of tourism to the regional and local economy, by increasing the numbers of domestic and international visitors to the area through the delivery of a greenway that is scenic and attractive.
	EC2	To create local employment and increase economic opportunities for new and expanded enterprises.

Objective	Ref	Sub-objective
Accessibility Impacts – Enhance accessibility to existing amenities, services and facilities.	AC1	To increase the number of people who choose to take part in physically active outdoor recreation and leisure activities.
	AC2	To connect to other tourist activities or attractions within the region, such as historic and cultural heritage sites, and recreational activities.
Social Impacts – Enhance social inclusion and promote healthier communities through linking communities and disadvantaged areas.	SO1	To be attractive to people of all age groups and abilities, with multiple accesses to the route allowing use for long or short distances.
	SO2	To benefit local communities through promotion of inclusive accessibility for all to existing amenities, services and facilities.
Land Use Impacts – Support and facilitate the implementation of national, regional and local policy.	LU1	To connect to existing transport infrastructure including greenways, cycleways, rail, canals, roads, and public transport.
	LU2	To encourage modal shift to more sustainable modes, i.e. walking and cycling, by facilitating connections to places of employment, schools, recreational hubs and urban centres, where possible.
	LU3	To facilitate the implementation of the National Cycle Network (NCN) through connecting the population centres of Mullingar and Kilbeggan.
Safety Impacts - Provide safe and accessible infrastructure that improves safety and security for vulnerable road users	SA1	To provide Greenway infrastructure that is substantially segregated from motorised traffic.
	SA2	To provide Greenway infrastructure that is a safe and secure environment for all users, regardless of age or ability.
Climate Change Impacts - Contributes to the offsetting/ reduction in GHG emissions and is robust and resilient to negative climate change effects.	CC1	To ensure consideration of sustainable development principles and measures to minimise effects on the environment to support the government's Climate Action Plan.
Local Environment Impacts - Increase public appreciation of the natural environment while protecting and enhancing natural assets and biodiversity.	EN1	To minimise the impact to the natural environmental, especially habitats in ecologically sensitive areas.
	EN2	To increase public appreciation of the natural environment by encouraging people to experience the countryside through prioritising scenic and environmentally diverse routes.
	EN3	To protect and where possible enhance biodiversity and ecological connectivity.

1.2 Scheme Development to Date

Phase 1 of this project commenced in March 2023 and was complete with Gateway approval received on 29th February 2024. In Phase 1 - Concept & Feasibility, a Feasibility Report was prepared in accordance with PE-PMG-02047 guidance. This guidance required options to be developed and an options assessment to be undertaken to determine that there is at least one feasible option. In compliance with this guidance, in Phase 1, a longlist of options consisting of nine Route Corridor Options (RCO's) was developed.

The feasibility of the longlist of RCO's was assessed. Along with the RCO's feasibility, their alignment with the Project Objectives was also comparatively assessed to shortlist options that best align with the Project Objectives to maximise the offering a greenway between Kilbeggan and Mullingar can give to the surrounding areas. This resulted in two options being recommended for advancement to Phase 2. The options being appraised in Phase 2 are illustrated in Figure 1.1.

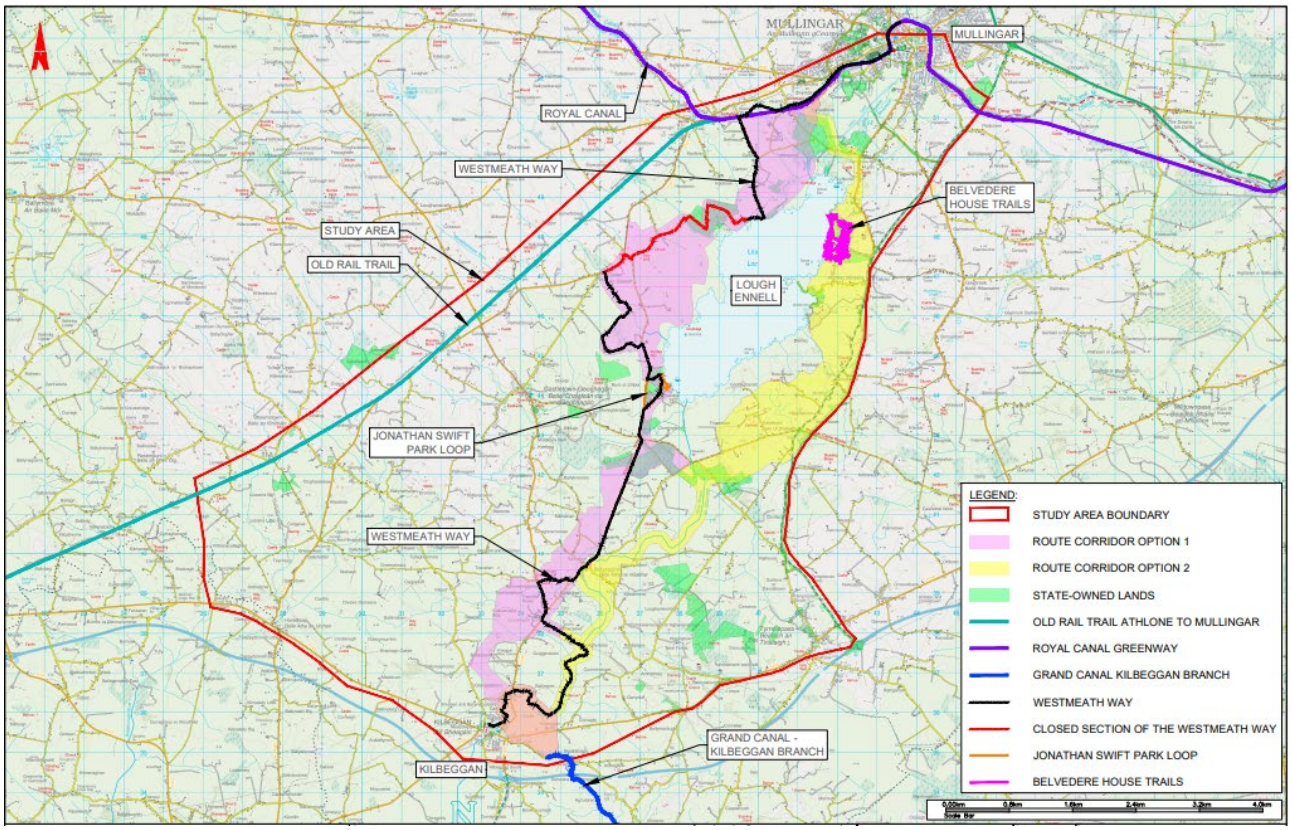


Figure 1.1 Emerging Corridors from Feasibility Report

During phase 1 an examination of both RCO's identified that they have five "nodes" in common around which a EPRC can be developed, during the initial review and site visit completed in Phase 2, an additional node was developed along an existing road/path on the Split Hills Esker at Teernacreeve, which is also a part of the existing Westmeath Way walking trail.

The five nodes are located at:

- Kilbeggan Harbour
- Split Hills Esker (Teernacreeve)
- Ballynagore
- Clonsingle (Just south of Lough Ennell)
- The Old Rail Trail (Just south of Mullingar)

Using these nodes the two RCO's have been split into four sections where the EPRCO can deviate between options to select the optimum corridor between the two RCO's. The Stage Two appraisal will be completed on both RCO's in each of the four sections. The best preforming RCO Need in each section will be developed into the EPRCO. **Figure 1.2** shows the breakdown of the two RCO's into their four sections.

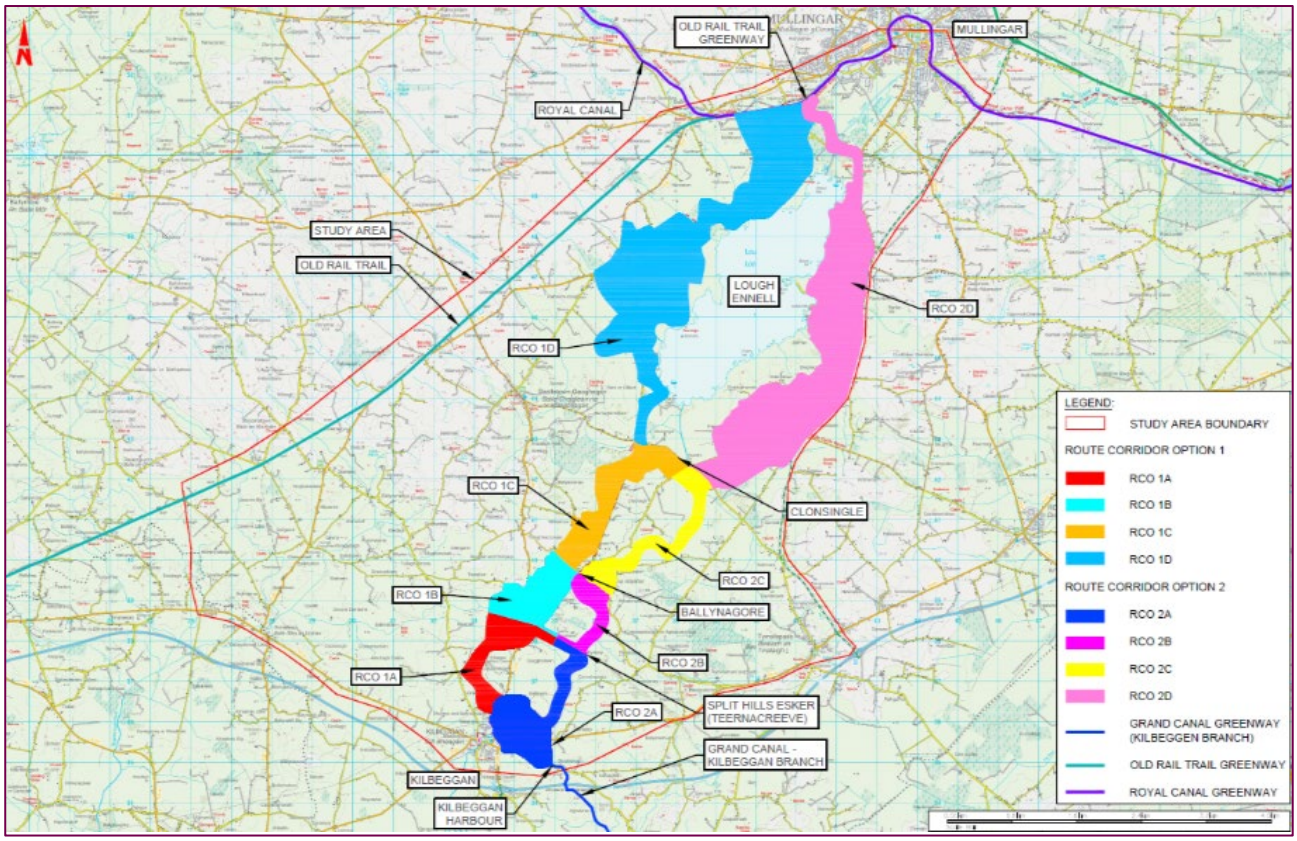


Figure 1.2 Route Corridor Options Sections

1.3 This Report

This Report sets out the environmental constraints contained within the route corridor options (RCO's). In Phase 1 (Concept and Feasibility), the first public consultation for the Kilbeggan to Mullingar Greenway Project was held in May 2023 and displayed the study area for the project. Feedback from the first public consultation helped inform the identification of areas of interest and constraints, which in turn informed the development of RCOs within which a route for the greenway could be developed.

Following an appraisal process, feasible RCOs have been identified. The RCOs have been developed to connect likely tourism and leisure attractions and use publicly owned land where possible. Both RCOs start in Kilbeggan Harbour and end in Mullingar with one corridor to the west of Lough Ennell and one corridor to the east of Lough Ennell.

1.3.1 Structure of this Report

This report addresses the requirements set out in PAG Unit 13.0 for the appraisal of the RCO's using the TAF Transport and Accessibility Appraisal (TAA) template. The appraisal criteria specifically addressed in this Report are;

- Climate Change
    - Climate Mitigation
    - Climate Adaption
- Local Environment Impact
    - Air Quality
    - Noise and Vibration
    - Biodiversity
    - Water Resources and Soil Quality

- Landscape and Visual Quality
- Cultural Heritage

The results of the appraisal carried out in this report will be combined with the results of the TAA criteria relating to;

- Accessibility Impact,
- Social Impact
- Land Use Impact
- Safety Impacts

This combined TAA will be used to inform the selection of an Emerging Preferred Route Corridor Option (EPRCO).

Note: It is recognised that the published TII Population and Human Health Standard (PE-ENV-01108), whilst applicable to road schemes, will prove to be a useful guidance to reference at EIAR stage specific to a number of TAA criteria.

Human Health in Environmental Impact Assessment (EIA) takes a public health approach, meaning it reaches conclusions on the health outcomes to defined populations, rather than the health outcomes of individuals.

The following key parameters will be examined (at EIAR stage for the scheme) as those having the potential to result in likely significant effects on human health receptor groups:

Transport modes, access and connections;

Air Quality;

Noise and Vibration;

Community identity, culture, resilience and influence;

Water Quality;

Employment and Income; and

Public understanding of Risk.

An overview of potential impacts considered in relation to the above parameters during the construction and operational phases will be presented in the EIAR for the preferred option.

2 CLIMATE CHANGE AND ADAPTION

2.1 Introduction

The Government of Ireland have made commitments set out in the Climate Action Plan 2024 (CAP) to tackle climate change and supports the adoption of a net zero target by 2050 at EU level. The Climate Action and Low Carbon Development (Amendment) Act puts in place plans to transition to a climate resilient and climate neutral economy by no later than the end of the year 2050. The management of impacts on climate and the effects of climate change on projects offers an opportunity to improve the resilience of a proposed project to future climate conditions and reduce the potential impacts of a proposed project on climate by minimising greenhouse gas (GHG) emissions as far as possible.

2.2 Methodology

2.2.1 Legislation and Policy

A desktop study has been undertaken with reference to the inputs required for a Phase 2, Preliminary Options Assessment, as defined in the Transport Infrastructure Ireland (TII, DRAFT) Guidance document "TII Transport and Planning Services for National Roads". The main objectives of this stage are:

- Lifecycle GHG impact assessment – an assessment of the likely effect of GHG emissions arising from the Options on the climate during its lifetime; and
- Climate change resilience (CCR) review – the resilience of the Options to projected climate change impacts.

2.2.1.1 Relevant Legislation Guidance and Policy

Relevant legislation, guidance and policy is presented in Table 2.1 Legislation, Planning and Policy Requirements with Potential to Influence the Kilbeggan to Mullingar Greenway.

Table 2.1 Legislation, Planning and Policy Requirements with Potential to Influence the Kilbeggan to Mullingar Greenway

Legislation/Plan/Policy	Constraints/Requirements of the Kilbeggan to Mullingar Greenway
EU Level	
Kyoto Protocol	An international agreement linked to the United Nations Framework Convention on Climate Change (UNFCCC), which commits its Parties by setting internationally binding emission reduction targets. Under Article 4 of the Kyoto Protocol, the EU created an Effort Sharing Regulation that requires the setting of individual binding GHG emission reduction targets for each of its Member States. The current Effort Sharing Decision (ESD) commits Ireland to a 39% reduction in GHG emissions for the period 2021 to 2030.
UN Paris Agreement	A legally binding agreement within the UN framework convention on climate change which requires all signatories to strengthen their climate change mitigation efforts to keep global warming to below 2°C this century.
National Level	
Climate Action and Low Carbon Development (Amendment) Act 2021,	The Irish Government published the 'Climate Action and Low Carbon Development National Policy Position' in April 2014 committing Ireland to an 80% reduction in carbon emissions in the energy sector compared to 1990 levels by 2050.

Legislation/Plan/Policy	Constraints/Requirements of the Kilbeggan to Mullingar Greenway
National Energy and Climate Plan 2021-2030,	Sets out Ireland's objectives regarding the five EU energy dimensions together with planned policies and measures to ensure that these objectives are achieved.
Climate Action Plan 2024	The Climate Action Plan follows the Climate Act 2021 which commits Ireland to a legally binding target of net zero greenhouse gas emissions no later than 2050, and a reduction of 51% by 2030. Oversight of the delivery of Climate Action Plan 2024 by the Department of the Taoiseach will continue to ensure that critical coordination across all Departments and Agencies is in place. This will mean that stakeholders remain focussed on timely implementation in their areas and anticipate any corrective measures needed.
Project Ireland 2040: National Planning Framework	The National Planning Framework highlights the importance of reducing GHG emissions to accelerate action on climate change, adopting principles of the circular economy and managing waste in a more sustainable manner.
Regional and Local Level	
Westmeath County Development Plan 2021-2027	Westmeath County Council acknowledges that Climate Change is one of the most important and urgent issues facing the County today and accordingly has dedicated a standalone chapter to this subject matter. It is further noted that whilst Climate Change is a global phenomenon, the Council must take a leading role at local level to guide individuals, communities and business interests to mitigate against and adapt to Climate Change and its impacts. The aim is to transition to a low carbon and climate resilient County, with an emphasis on reduction in energy demand and greenhouse gas emissions, through a combination of effective mitigation and adaptation responses to climate change.
Westmeath County Council Climate Action Plan 2024 - 2029	As part of Irelands Climate Action and Low Carbon Development (Amendment) Act 2021 Westmeath County Council has committed to developing and implementing this county focused Climate Action Plan. The plan focuses on five thematic areas with a view to assessing the actions which can be carried out in order to tackle climate breakdown at a local level by carrying out measures to decrease emissions and enhance biodiversity locally with a view to slowing down and ultimately reversing climate change while closely focusing on quality of life for Westmeath citizens.
Westmeath County Council Climate Change Adaptation Strategy 2024 - 2029	Westmeath County Council has developed a Climate Change Adaptation Strategy in response to the impact that climate change is currently having, and will continue to have, on County Westmeath. It is Westmeath County Councils intention to be an exemplar in our Actions to address this global issue. This Adaptation Strategy, as a working document, will be continually monitored by a dedicated Climate Action Team working across all Department of Westmeath County Council. They will be assisted by the newly established Eastern and Midlands Climate Action Regional Office (CARO), which will ensure that the Strategy is fully updated every five years to reflect the latest advancements in policy, technology and climate-

Legislation/Plan/Policy	Constraints/Requirements of the Kilbeggan to Mullingar Greenway
	related impacts and to ensure that the Adaptation Strategy continues to be informed by international best practice and regional research institutions.
Transport Infrastructure Ireland (TII) Climate Adaptation Strategy, 2022	TII is adapting to the impacts of climate change alongside taking mitigation actions to reduce its carbon emissions. This Climate Adaptation Strategy addresses the first of those challenges, with the TII Climate Action Roadmap detailing TII's approach to reducing its Emissions. This Climate Adaptation Strategy builds on TII's previous climate adaptation strategy, Strategy for Adapting to Climate Change on Ireland's Light Rail and National Road Network, published in 2017.
Transport Infrastructure Ireland (TII, 2024) Carbon Tool for Road, Greenway and Light Rail Projects: User Guidance Document.	The purpose of this document is to provide guidance on the use of the Transport Infrastructure Ireland (TII) Carbon Tool for assessing lifecycle carbon emissions for National road, greenway and light rail infrastructure projects in Ireland. This document will also provide users of the TII Carbon Tool with additional background information on the development, format and content use of the TII Carbon Tool.
Transport Infrastructure Ireland (TII, 2023) Guidance document "Environmental Planning of National Road and Greenway Projects.	The purpose of this Technical Document is to assist those involved in the planning of national road and greenway projects to navigate some of the complex environmental and planning law that they will commonly encounter in their work. the document should: • Help increase the legal robustness of applications and screening decisions. • Potentially lower risk of: • Permissions being refused; • Applications for judicial review; and, • Successful judicial reviews. • Improve the quality of projects.

In relation to climate, the following legislation is relevant for this section:

- Climate Action and Low Carbon Development Act 2015 ('the 2015 Act'); and
- Climate Action and Low Carbon Development (Amendment) Act 2021 ('the 2021 Amendment Act').

Section 15 of the Climate Action and Low Carbon Development Act, 2015 defines the duties of certain bodies under the Act. This section was amended by Section 17 of the 2021 Climate Action and Low Carbon (Amendment) Act which has replaced Section 15(1) of the 2015 Act to now read as follows:

> *15. (1) A relevant body shall, in so far as practicable, perform its functions in a manner consistent with—*
>
> *(a) the most recent approved climate action plan,*
>
> *(b) the most recent approved national long term climate action strategy,*
>
> *(c) the most recent approved national adaptation framework and approved sectoral adaptation plans,*
>
> *(d) the furtherance of the national climate objective, and*
>
> *(e) the objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State.*

WCC, as a body established by statute, is a public body and therefore a relevant body under the Act of 2015 and the above duties apply to WCC. The primary obligation under the Acts for WCC is to develop a Climate Action Plan for the county which has been prepared and published[1].

2.2.1.2 Assessment Guidance

The assessment documents referenced in this section are:

- PAS 2080 Carbon Management in Infrastructure is a global standard for managing infrastructure carbon.
- IEMA Environmental Impact Assessment Guide to Climate Change Resilience and Adaptation (IEMA, 2020): provides a framework for effective consideration of climate change resilience and adaptation in the EIA process.
- Transport Infrastructure Ireland (TII, 2024) Carbon Tool for Road, Greenway and Light Rail Projects: User Guidance Document.
- Transport Infrastructure Ireland (TII, 2023) Guidance document "Environmental Planning of National Road and Greenway Projects.

2.3 Constraints

The lands that are present within the Constraints Study Area comprise open/agricultural fields, forestry, small to large residential housing estates, recreation and amenity areas (for example Lilliput Adventure Centre, Mullingar Golf Club and Belvedere House Gardens & Park), and natural habitats including bogs, wetlands, scrub, woodland hedgerows and treelines at various levels of maturity. The proposed options route corridors pass through sections of Split Hills and Long Hill Esker SAC/NHA, Lough Ennell SAC/SPA/pNHA/Ramsar and Nure Bog NHA.

The communities associated with the majority of the Constraints Study Area are agricultural, residential and working communities. The lands surrounding most of the Constraints Study Area are a mix of open agricultural land, heath and peat land and forest/shoreline walking trails.

2.3.1 Lifecycle Greenhouse Gas (GHG) Impact Assessment

2.3.1.1 Study Area

All GHG emissions are classed as being capable of being significant on the basis that all emissions contribute to climate change (IEMA, 2022). For the purposes of a GHG assessment, the global climate has been identified as the receptor. The sensitivity of the climate to GHG emissions is considered to be ‘high’. The rationale supporting this includes:

- GHG emission impacts could compromise Ireland’s ability to reduce its GHG emissions, in line with international and national carbon targets;
- The need to reduce GHG emissions to reduce the risks and impacts of climate change, as broadly identified by the climate science community and the Paris Agreement which aims to keep global temperature rise to below two degrees above pre-industrial levels. Additionally, the Intergovernmental Panel on Climate Change highlight the importance of limiting global warming below 1.5°C; and
- A disruption to global climate is already having diverse and wide-ranging impacts to the environment, society, economic and natural resources. Known effects of climate change include increased frequency and duration of extreme weather events, temperature changes, rainfall and flooding, and sea level rise and ocean acidification. These effects are largely accepted to be negative, profound, global, likely, long-term to permanent, and are transboundary and cumulative from many global actions.

IEMA (2022) guidance states that all GHG emissions have the potential to be significant and as such there is no defined threshold or significance criteria published. Therefore, it is considered good practice to

[1] Available: Westmeath County Council (WCC) Climate Action Plan 2024-2029

contextualise emissions against National level budgets/GHG Inventory, sectoral targets, and pre-determined carbon budgets to understand the magnitude of the impact (IEMA, 2022).

2.3.1.2 Route Corridors

2.3.1.2.1 Construction

Construction will result in GHG emissions from embodied carbon in materials, energy use by plant/vehicles during construction, transport of materials to site, waste disposal and transport of workers to site. Construction activity is likely to include earthworks, paving, and haul routes for construction vehicles, all which will lead to an increase in GHG emissions.

During construction, there is a potential for designated habitats such peat lands from land use change as well as Split Hills and Long hill Esker SAC/NHA, Lough Ennell SAC/SPA/pNHA/Ramsar and Nure Bog NHA to be impacted by the works; should the Options require construction activity within 100 m of the designated habitats, appropriate mitigation measures should be implemented to avoid the loss of land/peat land, which has the potential to increase GHG emissions.

2.3.1.2.2 Operation

It is envisaged that the greenway will be used by commuters and for recreational purposes. Although there are no emissions associated with the use of the greenway itself, GHG emissions may increase due to:

- An increase in vehicles on roads as people access the greenway through their localised car park; and
- Once operational the greenway will offer the opportunity for people to cycle, helping to normalise cycling over cars, thus reducing traffic emissions.

As Ireland moves toward the greater uptake of electric vehicles and other low carbon modes of transport, this impact is likely to decrease over time.

The Department of Transport recognises and supports the wide range of benefits arising from Greenways including their positive economic impact on local businesses, enabling increased physical activity that will benefit the health and wellbeing of users and supporting safe journeys to and from home, work, education and shops.

2.3.2 Climate Change Resilience Review

It is widely predicted that the climate in Ireland will change in the future, leading to an increase in storm event magnitude and frequency, and rainfall depths, intensities and patterns. There are also predicted to be increases in sea level rise as a result of climate change. These impacts, along with others due to land use changes owing to urbanisation and deforestation, are likely to have detrimental implications on identified receptors. The degree of these impacts over time are, however, subject to significant uncertainty.

2.3.2.1 National Level

The Environmental Protection Agency (EPA) Research Programme 2014–2020 published an ensemble of regional climate model projections for Ireland against a baseline period of 1981-2000. This report provides an analysis of the impacts of global climate change on the mid-21st-century climate of Ireland. The projections are based on the output of an ensemble of high-resolution regional climate models (RCMs), and produced the following information:

- Projections for mid-century indicate an increase of 1–1.6°C in mean annual temperatures, with the largest increases seen in the east of the country.;
- Significant decreases in average precipitation amounts are projected for the spring and summer months as well as over the full year.;
- Rainfall projections indicate a significant decrease in average precipitation levels for summer with “likely” reductions in rainfall ranging from 0% to 13% and from 3% to 20% for the medium- to low-emission and high-emission scenarios;
- Projections for average winter precipitation are less certain;

- "Likely" increases in the number of 'wet days' and 'very wet days' for winter of 24% and 30%, respectively;
- The number of extended dry periods (defined as at least 5 consecutive days for which the daily precipitation is less than 1mm) is also expected to increase over the year, particularly in summer and autumn, with "likely" values ranging from a 12% to 40% increase;
- Storms affecting Ireland are anticipated to decrease in frequency, but increase in severity, increasing the risk of damage to infrastructure;
- Wind energy is projected to decrease in spring, summer and autumn, while projected increases in wind energy in the winter were found to be statistically insignificant; and
- The projected decreases were largest for summer, with "likely" values ranging from 3% to 10% for the medium- to low-emission scenario and from 7% to 15% for the high-emission scenario. The projected increase in extreme storm activity over Ireland is expected to adversely affect the future wind energy supply.

On 4th June 2024, Met Éireann[2] published a climate statement for May 2024 using the Island of Ireland dataset. Overall, May 2024 was the warmest May on record with an average temperature of 13.08°C, which is 2.53°C above the 1961-1990 long term average (LTA) or 1.74°C above the 1991-2020 LTA for May.

This is only the 2nd time (in 125), that the May average temperature exceeded 13°C. The previous warmest May was May 2008 with an average monthly temperature of 13.03°C. The coldest May remains May 1923 (102 years ago) with an average temperature of 8.67°C.

2.3.2.2 Local Level

The Westmeath County Council Climate Action Plan 2024 – 2029 presents a summary of a Baseline Emissions Inventory undertaken on behalf of Westmeath County Council. The report looks at baseline greenhouse gas emissions (GHG) from various societal sectors in the county and for the local authority organisation in 2018. The results of this study allows Westmeath County Council to measure the emission reductions required to achieve the emission reduction target of reducing GHG emissions by 51% by 2030.

The sectors that have been included in the county-wide analysis are;

- Residential
- Commercial and Industrial
- Industrial Processes
- Agriculture
- Transport
- Waste and Wastewater
- Land Use, Land Use Change and Forestry (LULUCF)

Overall, the emissions generated from all analysed sectors in the county equate to 1,639,108 tCO_2-eq in the baseline year. An overall emission reduction of 835,945 tCO_2-eq to 803,163 tCO_2-eq is required for the county across all sectors to achieve the target of reducing GHG emissions by 51% by 2030.

The top three sectors in the county in terms of GHG emission levels were Agriculture, Transport and Residential producing 40%, 21% and 16% of tCO_2-eq respectively, of the total emissions in the county. The analysis shows that these sectors should be the main targets of county wide climate action initiatives.

A percentage breakdown of sectoral GHG emissions in County Westmeath in the baseline year is provided in Figure 2.1 below.

[2] https://www.met.ie/climate-statement-for-may-2024

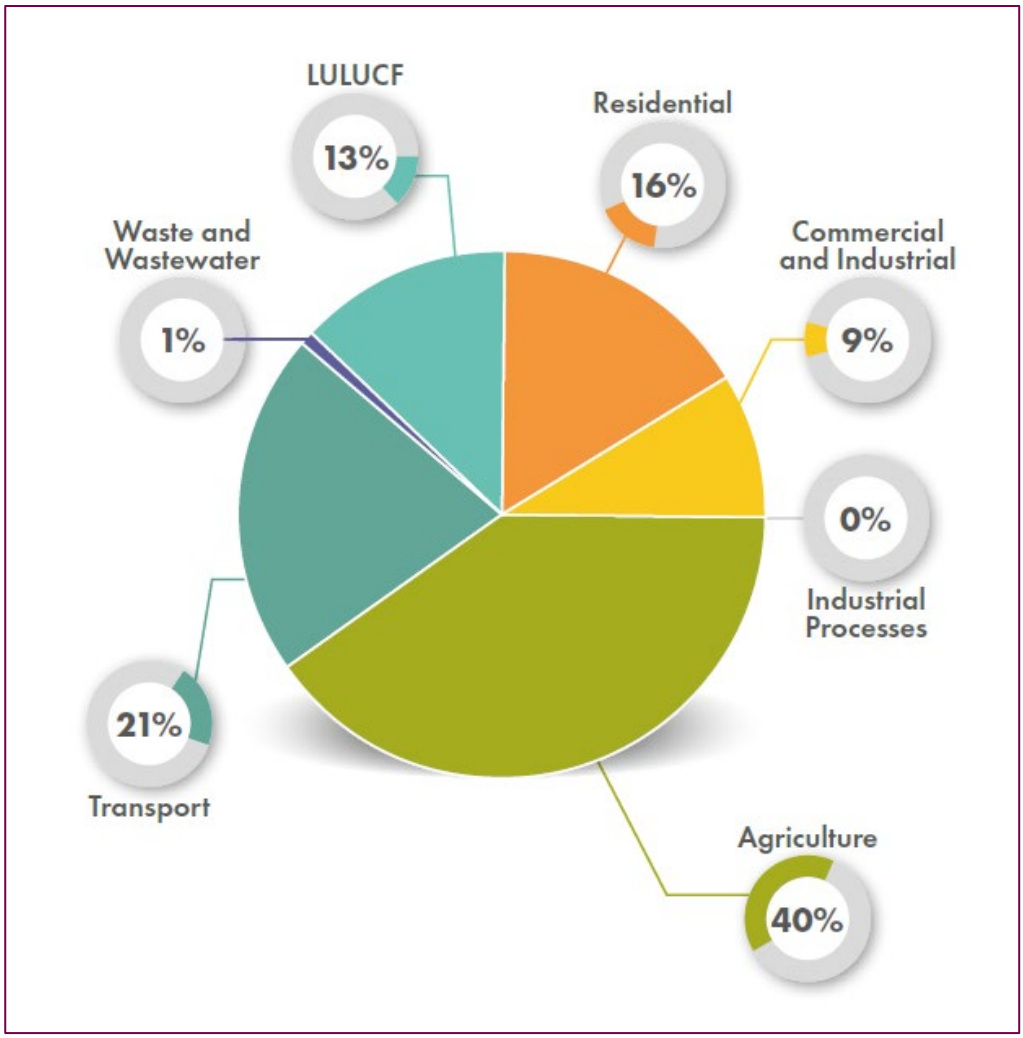


Figure 2.1 Percentage Breakdown of Sectoral GHG Emissions in County Westmeath

Recent climate hazards experienced by Westmeath County include extreme rainfall and strong winds, flooding, and heatwaves. Climate change-induced changes to these variables are summarised in **Table 2.2**.

Flooding is one of the most evident impacts of climate change experienced in County Westmeath. In Westmeath the change in rainfall pattern is particularly evident both in the number of days with heavy rainfall increasing and the amount of extreme flooding events rising significantly within the last 10 years. High and low temperature events have also become far more common in County Westmeath. This was witnessed recently in 2018 moving from a Status Red weather warning for snow in February to one of the hottest summers on record during June and July of the same year. Flooding can occur through fluvial (rivers and watercourses) and pluvial (rainfall) flood events. It is clear that such events have increased in frequency in recent years, as a direct consequence of climate change.

Green areas can absorb and attenuate this water, and this is referred to as a more 'sustainable urban drainage system' (SUDS). These systems aim to reduce the rate of surface water runoff and thus contribute towards mitigating the impact of flooding as well as providing green spaces in built up areas.

Table 2.2: Future Change in Impacts of Climate Risks on the Local Authority (Westmeath County Council Climate Action Plan 2024 – 2029)

Hazard	Assets		Health and Wellbeing		Environment		Social		Cultural Heritage		Financial		Reputational	
	Current	Future (2050)	Current	Future (2050)	Current	Future (2050)	Current	Future (2050)	Current	Future (2050)	Current	Future (2050)	Current	Future (2050)
Heatwave	Moderate	Major	Negligible	Minor	Moderate	Major	Minor	Moderate	Negligible	Minor	Minor	Moderate	Negligible	Minor
Drought	Negligible	Minor	Negligible	Minor	Moderate	Major	Minor	Moderate	Minor	Moderate	Negligible	Minor	Negligible	Minor
Cold Spell	Moderate	Moderate	Moderate	Moderate	Negligible	Negligible	Moderate	Moderate	Negligible	Negligible	Moderate	Moderate	Negligible	Negligible
Heavy Snowfall	Minor	Minor	Moderate	Moderate	Minor	Minor	Minor	Minor	Negligible	Negligible	Moderate	Moderate	Minor	Minor
Severe Windstorm	Moderate	Moderate	Minor	Minor	Negligible	Negligible	Moderate	Moderate	Minor	Minor	Moderate	Moderate	Minor	Minor
Pluvial Flood	Moderate	Major	Minor	Moderate	Minor	Moderate	Minor	Moderate	Negligible	Minor	Minor	Moderate	Moderate	Major
River Flood	Moderate	Major	Minor	Moderate	Minor	Moderate	Minor	Moderate	Negligible	Minor	Moderate	Major	Moderate	Major
Groundwater Flood	Negligible	Negligible	None	None	Negligible	Negligible	Negligible	Negligible	None	None	Negligible	Negligible	None	None

*** Highlights where there is a predicted change between current and future impacts.*

*** Current Blue*

*** Future Orange*

2.3.3 Summary of Constraints

The construction phase will be quantitatively assessed in terms of expected GHG emissions arising from on-site construction activities, loss of carbon sink through land use change, embodied carbon in the construction materials, transportation of construction materials and workers, and waste disposal.

The operational phase will be quantitatively assessed in terms of expected GHG emissions arising from operational energy use. In relation to Ireland's national GHG inventory, the impact of GHG emissions during the operation of the project is expected to be minimal (low significance) due to reduction in GHG emissions from road users. There would be unavoidable GHG emissions resulting from the construction phase of the project.

2.4 Options Appraisal

2.4.1 TAA Criteria - Climate Change Impact

Climate Mitigation

The impacts to be measured for this criterion refer to the *Modal Shift* and the associated potential reduction in emissions through modal shift and change in travel behaviour as a result of the proposed scheme. The main indicators of performance in relation to this aspect are specific to percentage change in mode share from private vehicles to active travel modes. As this greenway does not directly target commuters it is assumed that the percentage change in mode share from private vehicles to active travel modes will be low. It is considered to be reasonable to assume that a modal shift within the region of 2-3% could be possible. Using the TAA Climate Mitigation scorecard, this gives an impact score of Positive under this criteria for each RCO.

Climate Adaption

Climate adaptation refers to measures to prepare for and respond to the impacts of climate change. Projects can increase the resilience and robustness of the transport network to protect it from the negative impacts of climate change. Robustness refers to the ability of links in the system to avoid closure due to extreme weather events, while resilience refers to the ability of the network to continue to function despite the failure of some links. Climate change adaptation is a key consideration for roads infrastructure sub-sectors – including greenways. Roads and greenways are subject to increased climate-related hazards. As well as normal wear and tear and changing use patterns, greenways and active travel paths need to be able to withstand the repercussions from increased flooding and extreme weather events.

In the Transport and Accessibility Appraisal (TAA) Guidance on Scoring (Table 1 page 24), presented in Transport Appraisal Framework – Module 7 – Detailed Guidance on Appraisal Techniques[3], it refers to climate change impact and two distinct breakdowns, namely Climate Change Mitigation and Climate Change Adaptation.

Key aspects of this topic are the assessment of vulnerability to climate impacts and likelihood of impact. The potential data source recommended are climate change assessment tools (where available) and where this is not available a qualitative assessment is the preferred approach. When a qualitative assessment is employed it is advised that it is based on robust evidence such as observed impact of schemes of a similar scale.

2.4.2 Climate Adaption Appraisal of Route Corridor Options

There is no Coastal Flooding or Coastal Erosion in any of the RCOs given the inland location of the proposed development. Climate Change Adaption has been appraised in accordance with the TAA guidance and the Adaptation Scorecard set out in the TAA. The following has been considered:

- A review the OPW maps was undertaken, and

[3] *Transport Appraisal Framework Appraisal Guidelines for Capital Investments in Transport Module 7 - Detailed Guidance on Appraisal Techniques, Strategic Research and Analysis Division, Department of Transport, July 2024.*

- A record made of current/historical climate hazards identified within the scheme area.

This section also details future climate events such as 1 in 100 year flooding events.

2.4.2.1 RCO1a

Referring to the OPW mapping there is a total of 0.5% High Probability Present Day Flooding within RCO1a. This is associated with Grangegibbon (IE_SH_25B090400) and Ballinlaban Stream (IE_SH_25G010300). This is of limited impact and only affects a small portion of the scheme.

For the future scenario there are also limited portions of fluvial flooding. Medium Probability flood events have approximately a 1-in-a-100 chance of occurring or being exceeded in any given year. This is also referred to as an Annual Exceedance Probability (AEP) of 1%. This is deemed to be of limited impact and only affects a small portion of the scheme. The image to the right indicates the limited area of a 1–100-year future flood event on Grangegibbon (IE_SH_25B090400).

In this instance for RCO1a the Total Impact Score is deemed to be Neutral, due to its limited observed and projected impact according to the TAA Adaptation Scorecard.

2.4.2.2 RCO1b

There are no areas of High Probability Present Day Flooding within RCO1b. Similarly there are no Medium Probability flood events predicted. In this instance for RCO1b the Total Impact Score is deemed to be Neutral, due to no observed and projected impact according to the TAA Adaptation Scorecard.

2.4.2.3 RCO1c

Referring to the OPW mapping there is a total of 3.1% High Probability Present Day Flooding within RCO1c. This is associated with Killinlahan IE_SH_25B090400 watercourse and Monaghanstown IE_SH_25M010500. This is of limited impact and only affects a small portion of the scheme. The majority of this flooding area for present day occurs in the northern peripheries of the RCO and envelopes portions of the existing Westmeath Way. There are no areas of Medium Probability flood events in this RCO, an event having approximately a 1-in-a-100 chance of occurring or being exceeded in any given year.

In this instance for RCO1c the Total Impact Score is deemed to be Neutral, due to its limited observed and projected impact according to the TAA Adaptation Scorecard.

2.4.2.4 RCO1d

The watercourse associated with this corridor are as follows:

- Dysart (Stream) IE_SH_25D050400,
- Barrettstown stream IE_SH_25B090200,
- Grange South IE_SH_25B090200,
- Kilpatrick 25 IE_SH_25B090200,
- Stokestown 25 IE_SH_25B090200,
- Curristown_or_Bellmount IE_SH_25B090200,
- Dysart (Stream) IE_SH_25B090200,
- Brosna Branch West IE_SH_25B090200,
- Brosna IE_SH_25B090200,
- Monaghanstown IE_SH_25B090200,
- Monaghanstown IE_SH_25M010500

Referring to the OPW mapper there is a total of 5.4% High Probability Present Day Flooding within RCO1d. This is associated with Killinlahan IE_SH_25B090400 watercourse and Monaghanstown IE_SH_25M010500. This is of limited impact and only affects a small portion of the scheme. The majority of this flooding area for

present day occurs in the northern peripheries of the RCO and envelopes portions of the existing Westmeath Way. There are no areas of Medium Probability flood events in this RCO an event as having approximately a 1-in-a-100 chance of occurring or being exceeded in any given year.

In this instance for RCO1d the Total Impact Score is deemed to be Neutral, due to its limited observed and projected impact according to the TAA Adaptation Scorecard.

2.4.2.5 RCO2a

According to the OPW mapping there is a total of 1.9% High Probability Present Day Flooding within RCO1b. This is associated with Grangegibbon (IE_SH_25B090400), Aghyrassy IE_SH_25B090400, Brosna IE_SH_25B090400 and Loughanagore IE_SH_25B090400. This is of limited impact and only effects a small portion of the scheme.

For the future scenario in regard to RCO1b there are also limited portions of fluvial flooding in this route corridor segment. Medium Probability flood events have approximately a 1-in-a-100 chance of occurring or being exceeded in any given year. This is also referred to as an Annual Exceedance Probability (AEP) of 1%. Again, this is deemed to be of limited impact and only affects a small portion of the scheme. Figure 6-2 of Annex A indicates the limited area of a 1–100-year future flood event on the Brosna IE_SH_25B090400.

In this instance for RCO2A the Total Impact Score is deemed to be Neutral, due to its limited observed and projected impact according to the TAA Adaptation Scorecard.

2.4.2.6 RCO2b

There are no areas of High Probability Present Day Flooding within RCO2b. This is of limited impact and only effects a small portion of the scheme.

For the future scenario in regard to RCO2b there are also limited portions of fluvial flooding in this route corridor segment. Medium Probability flood events have approximately a 1-in-a-100 chance of occurring or being exceeded in any given year. This is also referred to as an Annual Exceedance Probability (AEP) of 1%. Again, this is deemed to be of limited impact and only affects a small portion of the scheme. The image to the right indicates the limited area of a 1–100-year future flood event near Ballynagore Bridge.

In this instance for RCO2b the Total Impact Score is deemed to be Neutral, due to its limited observed and projected impact according to the TAA Adaptation Scorecard.

2.4.2.7 RCO2c

According to the OPW mapping there is a total of 0.8% High Probability Present Day Flooding within RCO2c. This is associated with Tyrrellspass stream IE_SH_25B090250 Brosna IE_SH_25B090400 and Dalystown IE_SH_25B090250. This is of limited impact and only effects a small portion of the scheme.

For the future scenario in regard to RCO2c there are also limited portions of fluvial flooding in this route corridor segment. Medium Probability flood events have approximately a 1-in-a-100 chance of occurring or being exceeded in any given year. This is also referred to as an Annual Exceedance Probability (AEP) of 1%. Again, this is deemed to be of limited impact and only affects a small portion of the scheme. The image indicates the limited area of a 1–100-year future flood event on the Brosna IE_SH_25B090400 south of Newells Bridge.

In this instance for RCO2c the Total Impact Score is deemed to be Neutral, due to its limited observed and projected impact according to the TAA Adaptation Scorecard.

2.4.2.8 RCO2d

As detailed on the OPW mapping there is a total of 0.9% High Probability Present Day Flooding within RCO2d. This is associated with Brosna IE_SH_25B090200, Dunboden Park Stream IE_SH_25D160150, Dunboden Park Stream IE_SH_25B090200, Gaddaghanstown IE_SH_25B090250, Higginstown 25 IE_SH_25B090200, Rochfort Demesne IE_SH_25B090200 and Dalystown IE_SH_25B090250. This is of limited impact and only effects a small portion of the scheme with the vast majority of the flooding to the west of the N52 and south of Rockfort Demesne.

For the future scenario in regard to RCO2d there are also limited portions of fluvial flooding in this route corridor segment with the majority occurring in the vicinity of the Caravan Park. In this instance for RCO2d the Total

Impact Score is deemed to be Neutral, due to its limited observed and projected impact according to the TAA Adaptation Scorecard.

3 AIR QUALITY

3.1 Introduction

In addition to greenhouse gases, there are other harmful emissions such as nitrogen oxides (NO_x) and particulate matter that are produced through activity in the transport sector. Petrol and especially diesel propelled vehicles emit harmful particulate matter (PM_{10} and $PM_{2.5}$) as a result of the internal combustion process. Other particulate emissions may occur from vehicle brakes, tyre and road wear, and resuspension.

This particulate matter is detrimental for the physical health of humans especially with consistent exposure. Transport projects and programmes can impact the level of human exposure to such particulate matter through the addition or removal of traffic. This can be classed as a primary effect and can be quantitatively valued through examination of the quantity of these harmful emissions removed or added and/or through applying the values for these emissions which are outlined in TAF Module 8. Air quality impacts are local by nature, and any analysis of them must consider the number of people exposed to the emissions in question.

3.2 Methodology

3.2.1 TII Publication: Project Appraisal Guidelines Unit 13.0 - Appraisal of Active Modes, PE-PAG-02036

Air quality from the transport sector is an important consideration, particularly in urban areas and/or in congested smaller towns which may have localised concentration of air pollution from traffic. Replacing car trips with active modes can improve local air quality by reducing the most pervasive pollutants to health and ecosystems, particularly nitrogen oxides (NO_X), fine particulate matter (PM), Carbon Monoxide (CO) and Volatile Organic Compounds (VOCs). Local Environmental Impacts criteria is set out in Table 13.0.8

A desktop study has been undertaken with reference to the inputs required for a Preliminary Options Assessment, as defined in the TII Publication: Project Appraisal Guidelines Unit 13.0 - Appraisal of Active Modes, PE-PAG-02036 February 2024 (PAG Unit 13.0).

The sub criteria in accordance with the TAF Local Environmental impacts (from Table 13.0.8 from PE-PAG-02036) are as follows:

Sub-Criteria Air Quality: Impact on non-greenhouse gas emissions from transport that have a negative impact on human health, such as nitrous oxides and particulate matter.

The PAG Unit 13.0 details how the assessment of potential change in GHG and Air Quality (NOx/PM) - and level of exposure may be considered:

- NTA ENEVAL
- TII REM
- COPERT (for changes in fleets)
- Scheme details (Qualitative Assessment)

There is also a recommendation in PAG Unit 13.0 to establish the percentage change in the following local air pollutants should be estimated where possible:

- Particulate Matter ($PM_{2.5}$)
- Particulate Matter (PM_{10})
- Sulphur Dioxide (SO_2)
- Nitrogen Dioxide (Oxides of Nitrogen) NO_x

3.2.2 TII - Air Quality Assessment of Specified Infrastructure Projects – Overarching Technical Document – December 2022

The TII Guidance (2022) states the following:

"These Guidelines should be applied to National Roads, motorway service areas and toll schemes light rail, metro rail, rural cycleways (offline & greenways), where the proposed scheme results in a significant change in traffic flow/composition or alignment of a road during the operational or construction phase. For each of these proposed schemes, the pollutants of most concern in relation to emissions from road traffic are NO2, PM10 and PM2.5.

In addition, the effects of ammonia and NOx should be considered with respect to the potential effects on sensitive designated habitats. These Guidelines should also be applied to National Roads, motorway service areas and toll schemes, light rail, metro rail, rural cycleways (offline & greenways), where sensitive receptors are located within 200m of the boundary of the site or route used by construction vehicles on the public highway as potential dust effects are of concern.

For the Index of Overall Change in Exposure assessment all sensitive human receptors, located within 50 m of the affected road network (ARN) should be included in the assessment.

For the local AQA, worse-case sensitive receptors should be selected up to 200 m from the ARN. Both human and sensitive designated habitats should be selected as applicable. This larger study area is proposed for the local assessment (compared to 50 m for the Index of Overall Change as described above), to allow for changes in pollutant contributions from multiple roads to be captured in the assessment." (TII, 2022)

During the operation of the Scheme, it is envisaged that the greenway will be used primarily for recreational purposes. Although there are no emissions associated with the use of the greenway itself, air quality effects may arise on the surrounding local road network due to:

- An increase in vehicles on roads as people access the car parks and
- A decrease in vehicles on some roads as people use the greenway to travel locally.

Sensitive receptors close to roads which would see changes in traffic flow due to the greenway may experience air quality impacts either positively or negatively.

3.2.3 Relevant Policy and Legislative Guidance

The relevant policy and legislative guidance at EU, National and Regional levels are detail below in Table 3.1.

Table 3.1: Legislation, Planning and Policy Requirements with Potential to Influence the Kilbeggan to Mullingar Greenway

Legislation/Plan/Policy	Constraints/Requirements of the Kilbeggan to Mullingar Greenway
EU Level	
European Union Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe (CAFE)	This EU directive is implemented by The Air Quality Standard Regulations 2011 and is discussed below.
National Level	
Air Quality Standard Regulations 2011	The Air Quality Standard Regulations 2011 implement the European Union Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe (CAFE) and designate the EPA as the competent authority responsible for assessing ambient air quality in the territory of the State. They also establish legally binding Limit Values (LVs) and alert thresholds for concentrations of certain pollutants in ambient air, to prevent or reduce harmful effects on human health and the environment. LVs were published for seven pollutants, with alert thresholds for an additional five pollutants. National assessments have demonstrated that there is no risk of carbon monoxide (CO), 1,3-butadiene, benzene, lead, and sulphur dioxide (SO_2) concentrations exceeding the limits due to emissions from traffic anywhere in Ireland. The remaining pollutants are nitrogen dioxide (NO_2) and particulate matter in the fractions of equal to or less than 10 µm (PM_{10}) and equal to or less than 2.5 µm ($PM_{2.5}$).

Legislation/Plan/Policy	Constraints/Requirements of the Kilbeggan to Mullingar Greenway
Air Pollution Act 1987 (as amended) (Number 6 of 1987)	The Air Pollution Act 1987 (as amended) provides local authorities with the primary responsibility for monitoring air quality, including the nature, extent and effects of emissions within their administrative area. Local authorities are also given powers under the Act to take measures to prevent or limit air pollution in their administrative area. For this Proposed Development, the responsible local authority is Westmeath County Council.
Environmental Protection Agency Act 1992 (as amended) (Number 7 of 1992)	The Environmental Protection Agency (EPA) Act 1992 (as amended) established the remit of the environmental regulator in Ireland to make further and better provision for the protection of the environment and the control of pollution. Amongst the many duties of the Agency is the monitoring of local air quality across the country and the regulation of licenced activities with emissions to air.
Project Ireland 2040	Project Ireland 2040 is the Government's long-term overarching strategy for future development and infrastructure in Ireland. It consists of several documents, including the National Planning Framework, which is the Government's high-level strategic Plan for shaping the future growth and development of Ireland up to 2040. The Framework includes the following overarching aim that is relevant to this assessment: *"Creating a Clean Environment for a Healthy Society:* *Promoting Cleaner Air: Addressing air quality problems in urban and rural areas through better planning and design."* The Framework includes National Policy Objective 64, which stresses the importance of improving ambient air quality: *"National Policy Objective 64: Improve air quality and help prevent people being exposed to unacceptable levels of pollution in our urban and rural areas through integrated land use and spatial planning that supports public transport, walking and cycling as more favourable modes of transport to the private car, the promotion of energy efficient buildings and homes, heating systems with zero local emissions, green infrastructure planning and innovative design solutions."* Project Ireland 2040 also includes the Government's National Development Plan. This document is focused on Ireland's long-term economic, environmental, and social progress up to 2027, and references improvements in air quality as an additional benefit to improving energy efficiency for the primary purpose of reducing carbon emissions.
Regional and Local Level	
Westmeath County Development Plan 2021-2027	Poor air quality both in the urban and rural environment can lead to major environmental problems and be detrimental to the health of citizens of the County. The most sensitive areas in relation to air quality are built-up urban areas and major transport developments. Air pollution continues to present challenges including; • transport emissions, especially road transport emissions of NOx, fine particulate matter (PM2.5) and black carbon arising from increase in diesel cars and buses in our cities and towns; • power generation and emissions from industry, agriculture and agricultural activities that lead to methane and nitrous oxide emissions; • burning of fossil fuels e.g. gas, peat, and coal resulting in carbon dioxide emissions and the persistent problem of 'smoky' emissions from the use of solid fuel in homes and backyard burning. Air pollution is monitored by the Environmental Protection Agency (EPA) and Westmeath County Council. The Council recognise the need to ensure the highest standards of air quality. It is a policy objective of Westmeath County Council to: - **CPO 10.130** Promote the preservation of best ambient air quality compatible with sustainable development in accordance with the EU Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/5/0/EC) and ensure that all air emissions associated with new developments are within Environmental Quality Standards as out in the Air Quality Standards Regulations 2011 (SI No. 180 of 201) (or any updated / superseding documents). - **CPO 10.131** It is a strategic aim of the county to reduce polluting emissions and support the implementation of measures to improve indoor and outdoor air quality by: • Participating in, and facilitating national programmes of air quality monitoring, • Support the development and promotion of the Air Quality Index for Health, • Support the development of Local Air Quality Management Plans that identify pollution 'hot spots' and aim to reduce pollution through local action on emissions,

Legislation/Plan/Policy	Constraints/Requirements of the Kilbeggan to Mullingar Greenway
	• Assessing radon levels in indoor settings in council properties and support the promotion of radon testing all indoor settings.
Westmeath County Climate Action Plan	WCC shall seek to continue to improve air quality throughout the county through various means including liaison with the EPA regarding control and enforcement of discharge licences.

3.3 Baseline

3.3.1 EPA Ambient Air Quality Network

The EPA manages the national ambient air quality network in Ireland, which consists of 30 monitoring stations located across the country that monitor a range of pollutants. Under the Clean Air for Europe Directive (2008/50/EC) EU Member States must designate "Zones" for the purpose of managing air quality. For Ireland, four Zones have been defined in the Air Quality Standards Regulations (2011). These zones are largely categorised based on population counts derived from 2011 CSO Census as follows:

- **Zone A**: Dublin
- **Zone B**: Cork
- **Zone C**: Other cities and large towns comprising Limerick, Galway, Waterford, Drogheda, Dundalk, Bray, Navan, Ennis, Tralee, Kilkenny, Carlow, Naas, Sligo, Newbridge, **Mullingar**, Wexford, Letterkenny, Athlone, Celbridge, Clonmel, Balbriggan, Greystones, Leixlip and Portlaoise.
- **Zone D**: Rural Ireland; i.e., the remainder of the State excluding Zones A, B and C.

The study area lies within Zone C in Mullingar town and Zone D in rural Ireland. The most recent EPA Air Quality in Ireland Report available was published in 2022 and is based on information gathered in 2021 and earlier. The report is supported by the Summary Data Tables 2021, which contain the 2021 monitoring data.

The EPA 2022 air quality reports key message is that:

"Air quality in Ireland is generally good, however there are concerning localised issues. Fine particulate matter ($PM_{2.5}$) from solid fuel combustion and nitrogen dioxide (NO_2) from vehicle emissions are the main pollutants. People's health and the health of our environment is impacted by these pollutants. Ireland's ambition in the Clean Air Strategy is to move towards the World Health Organisation (WHO) Air Quality guidelines, this will be challenging but will have a significantly positive impact on health." (EPA, 2022).

The EU CAFE Directive sets out standards for a variety of pollutants to protect human health, vegetation, and ecosystems. *"Ireland met all of its EU CAFE Directive legal requirements in 2022"* (EPA, 2022).

Table 3.2 below details the selected pollutants measured in 2022 and their adherence to EU legal limit values (CAFE Directive).

Table 3.2: Ireland Measured Pollutant Levels (EPA 2022)

Pollutant	Number of Stations, Parameter Monitored in 2022	EU Legal Limit Values
PM_{10}	85	No Exceedances
$PM_{2.5}$	79	No Exceedances
NO_2	31	No Exceedances
Ozone (O_3)	22	No Exceedances
Sulphur Dioxide (SO_2)	15	No Exceedances
PAHs	5	No Exceedances
Heavy Metals	5	No Exceedances
All Other Pollutants	-	No Exceedances

3.3.1.1 Air Quality Index for Health

The EPA Air Quality Index for Health (AQIH) is numbered from 1 to 10 indicating the current air quality at different stations. The readings from 1 to 10 show whether the air quality is very poor or good, informing the public if it is safe for their health, as shown below in Table 3.3 and Table 3.4[4].

Table 3.3: The Air Quality Index for Health

Band	Index	Ozone (µg/m³) *8 hour mean*	Nitrogen Dioxide (µg/m³) *1 hour mean*	Sulphur Dioxide (µg/m³) *1 hour mean*	PM2.5 (µg/m³) *24 hour mean*	PM10 (µg/m³) *24 hour mean*
Good	1	0 - 33	0 - 67	0 - 29	0 - 11	0 - 16
	2	34 - 66	68 - 134	30 - 59	12 - 23	17 - 33
	3	67 - 100	135 - 200	60 - 89	24 - 35	34 - 50
Fair	4	101 - 120	201 - 267	90 - 119	36 - 41	51 - 58
	5	121 - 140	268 - 334	120 - 149	42 - 47	59 - 66
	6	141 - 160	335 - 400	150 - 179	48 - 53	67 - 75
Poor	7	161 - 187	401 - 467	180 - 236	54 - 58	76 - 83
	8	188 - 213	468 - 534	237 - 295	59 - 64	84 - 91
	9	214 - 240	535 - 600	296 - 354	65 - 70	92 - 100

[4] Environmental Protection Agency – Air Quality Index for Health 2024 - Air Quality Index for Health | AirQuality.ie

Band	Index	Ozone (µg/m³) *8 hour mean*	Nitrogen Dioxide (µg/m³) *1 hour mean*	Sulphur Dioxide (µg/m³) *1 hour mean*	PM2.5 (µg/m³) *24 hour mean*	PM10 (µg/m³) *24 hour mean*
Very Poor	10	241 or more	601 or more	355 or more	71 or more	101 or more

Table 3.4: The health advice associated with the Air Quality Index for Health

Band	Index	Health Advice for General Population	Health Advice for At-Risk Groups
Good	1	Enjoy your usual outdoor activities.	Enjoy your usual outdoor activities.
	2		
	3		
Fair	4	Enjoy your usual outdoor activities.	Adults and children with lung problems, and adults with heart problems, who experience symptoms, should consider reducing strenuous physical activity, particularly outdoors.
	5		
	6		
Poor	7	Anyone experiencing discomfort such as sore eyes, cough or sore throat should consider reducing activity, particularly outdoors.	Adults and children with lung problems, and adults with heart problems, should reduce strenuous physical activity, particularly outdoors, and particularly if they experience symptoms. People with asthma may find they need to use their reliever inhaler more often. Older people should also reduce physical exertion.
	8		
	9		
Very Poor	10	Reduce physical exertion, particularly outdoors, especially if you experience symptoms such as cough or sore throat.	Adults and children with lung problems, adults with heart problems, and older people, should avoid strenuous physical activity. People with asthma may find they need to use their reliever inhaler more often.

3.3.2 Air Quality Monitoring Stations

The EPA in partnership with Local Authorities, public/semi state bodies and universities an air quality monitoring network has been established with 107 operational stations at the end of 2022 (116 stations by 2023). This monitoring provides real-time air quality results along with public health advice for local areas.

The two closest monitoring stations to the constraints study area are Mullingar and Tullamore, as show in Figure 3-1 within Annex A (Monitoring stations map). The Mullingar station located in the town centre, beside Mullingar swimming pool and tennis courts, monitoring for particulate matters PM_{10} and $PM_{2.5}$, the air quality index for this location was classified as *'Good'.*

The Tullamore site is located in Tullamore town centre, northeast of Lloyd Town Park. Monitoring at this site is a local network and monitors for particulate matters PM_{10} and $PM_{2.5}$. The air quality for this location was classified as *"Good".*

Mullingar and Tullamore stations are not located within either RCO. However, the levels monitored at the two nearest air quality monitoring stations are both classified as 'good'.

3.3.2.1 Scheme Specific Monitoring

Scheme specific air quality monitoring should only be undertaken on a proposed scheme where a quantitative local AQA is being undertaken. Furthermore, the need to undertake scheme specific air quality monitoring depends upon the availability of existing air quality data and the complexity of the proposed scheme. For example, a greenway scheme would not, in general, require monitoring as these schemes are not complex and likely to result in no or small changes in traffic flow/composition and therefore air quality effects are likely to be not significant. The pollutants of most concern in relation to emissions from road traffic are NO_2, $PM_{10,}$ $PM_{2.5}$ and ammonia (for sensitive designated habitats). Therefore, scheme specific monitoring should focus on these pollutants only.

3.3.3 Sensitive Receptors

Within the study area there are numerous sensitive receptors located in Mullingar and Kilbeggan town and sporadically throughout the two RCO's as shown in Figure 3-2 and Figure 3-3 withing Annex A (Receptors Map). Designated habitats which may be sensitive air quality receptors include Split Hills and Long hill Esker SAC/NHA, Lough Ennell SAC/SPA/pNHA/Ramsar and Nure Bog NHA. These designations are illustrated in Annex A Figure 5-1.

3.3.4 Route Option Assessment

3.3.4.1 RCO1a

There are 80 properties (residential and non-residential) within RCO1a that may be impacted during construction, but the impact following completion of construction is considered to be nil. The EPA Air Quality Index is Good in this segment for NO_x, SO_2, $PM_{2.5}$ and PM_{10}. The scheme will not have detrimental impact on air quality as there are no emissions from the transport uses on the Greenway and the impact is deemed to be Neutral.

3.3.4.2 RCO1b

There are 54 properties (residential and non-residential) within RCO1b that may be impacted during construction but the impact following completion of construction is considered to be nil. The EPA Air Quality Index is Good in this segment for NO_x, SO_2, $PM_{2.5}$ and PM_{10}. The scheme will not have detrimental impact on air quality as there are no emissions from the transport uses on the Greenway and the impact is deemed to be Neutral.

3.3.4.3 RCO1c

There are 14 properties (residential and non-residential) within RCO1c that may be impacted during construction, but the impact following completion of construction is considered to be nil. The EPA Air Quality Index is Good in this segment for NO_x, SO_2, $PM_{2.5}$ and PM_{10}. The scheme will not have detrimental impact on air quality as there are no emissions from the transport uses on the Greenway and the impact is deemed to be Neutral.

3.3.4.4 RCO1d

There are 73 properties (residential and non-residential) within RCO1d that may be impacted during construction, but the impact following completion of construction is considered to be nil. The EPA Air Quality Index is Good in this segment for NO_x, SO_2, $PM_{2.5}$ and PM_{10}. The scheme will not have detrimental impact on air quality as there are no emissions from the transport uses on the Greenway and the impact is deemed to be Neutral.

3.3.4.5 RCO2a

There are 72 properties (residential and non-residential) within RCO2a that may be impacted during construction, but the impact following completion of construction is considered to be nil. The EPA Air Quality Index is Good in this segment for NO_x, SO_2, $PM_{2.5}$ and PM_{10}. The scheme will not have detrimental impact on air quality as there are no emissions from the transport uses on the Greenway and the impact is deemed to be Neutral.

3.3.4.6 RCO2b

There are 17 properties (residential and non-residential) within RCO2b that may be impacted during construction, but the impact following completion of construction is considered to be nil. The EPA Air Quality Index is Good in this segment for NO_x, SO_2, $PM_{2.5}$ and PM_{10}. The scheme will not have detrimental impact on air quality as there are no emissions from the transport uses on the Greenway and the impact is deemed to be Neutral.

3.3.4.7 RCO2c

There are 15 properties (residential and non-residential) within RCO2c that may be impacted during construction, but the impact following completion of construction is considered to be nil. The EPA Air Quality Index is Good in this segment for NO_x, SO_2, $PM_{2.5}$ and PM_{10}. The scheme will not have detrimental impact on air quality as there are no emissions from the transport uses on the Greenway and the impact is deemed to be Neutral.

3.3.4.8 RCO2d

There are 123 properties (residential and non-residential) within RCO2d that may be impacted during construction, but the impact following completion of construction is considered to be nil. The EPA Air Quality Index is Good in this segment for NO_x, SO_2, $PM_{2.5}$ and PM_{10}. The scheme will not have detrimental impact on air quality as there are no emissions from the transport uses on the Greenway and the impact is deemed to be Neutral.

3.1 Summary

On operation, the greenway will be used by walkers and cyclists. The greenway will be mainly comprised of hardstanding and dust production will be negligible. However, there is potential for an increase in traffic emissions from greenway users visiting and parking at car parks. In addition to greenhouse gases, there are other harmful emissions such as nitrogen oxides (NO_x) and particulate matter that are produced through activity in the transport sector. Petrol and especially diesel propelled vehicles emit harmful particulate matter (PM_{10} and $PM_{2.5}$) as a result of the internal combustion process. Other particulate emissions may occur from vehicle brakes, tyre and road wear, and resuspension. This particulate matter is detrimental for the physical health of humans especially with consistent exposure. Transport projects and programmes can impact the level of human exposure to such particulate matter through the addition or removal of traffic. This can be classed as a primary effect and can be quantitatively valued through examination of the quantity of these harmful emissions removed or added and/or through applying the values for these emissions which are outlined in TAF Module 8. Air quality impacts are local by nature, and any analysis of them must consider the number of people exposed to the emissions in question. The main air quality impacts that may arise during demolition and construction activities are (these are temporary impacts):

1. dust deposition, resulting in the soiling of surfaces;

2. visible dust plumes, which are evidence of dust emissions;

3. elevated PM_{10}, $PM_{2.5}$ concentrations from demolition and construction activities (including earthworks and trackout); and

4. an increase in concentrations of PM_{10}, $PM_{2.5}$ and nitrogen dioxide due to exhaust emissions from vehicles and equipment used on site (non-road mobile machinery) and vehicles accessing the site.

It is anticipated a CEMP would be in place during the construction phase to manage potential construction phase impacts.

European air quality legislation requires that each member state be defined in terms of Zones and Agglomerations for air quality, with Ireland divided into four zones. Dublin Conurbation is one zone – Zone A and Cork Conurbation is defined as Zone B. Zone C consists of 24 cities and towns (such as Galway, Limerick and Waterford cities and towns such as Naas, Newbridge, Celbridge, Leixlip) with a population of greater than 15,000 while Zone D covers the remainder of the country. The proposed development is in Zones C and D.

Replacing car trips with active modes can improve local air quality by reducing the most pervasive pollutants to health and ecosystems. The EPA Air Quality Index is Good in this segment for NOx, SO_2, $PM_{2.5}$ and PM_{10}. The scheme will not have detrimental impact on air quality as there are no emissions from the transport uses on the Greenway and the impact is deemed to be Neutral.

4 NOISE AND VIBRATION

4.1 Introduction

This section appraises the noise and vibration impacts within the study area and offers comparison of the impacts associated with each of the RCO's under consideration. For this project, noise and vibration constraints comprise both receptors sensitive to noise within the RCO's and existing noise sources with the potential to impact on the quality of enjoyment of the greenway.

For the operational phase, likely noise emissions will be limited to use of the Greenway by walkers and cyclist, traffic associated with walkers and cyclists accessing the route and a low impact maintenance routine. This usage will occur during daylight hours. As such, noise levels associated with the operation of the Greenway will be minimal and no operational noise criteria will likely be specified. The potential for vibration at neighbouring sensitive locations during construction is typically limited to any potential piling works, rock breaking, excavation works and lorry movements on uneven road surfaces. The most significant of these is the vibration from potential piling operations; the method of which, if required, will be selected, and controlled to ensure there is no likelihood of structural or even cosmetic damage to existing neighbouring dwellings. Considering the distances from the majority of potential Works locations, and the nearest sensitive locations, vibration will be localised and vibration from construction activities will not have a significant impact on the nearest sensitive locations.

There will be no significant continuous or intermittent noise sources along the proposed development corridor during its operational phase. For this phase, likely noise emissions will be limited to use of the route by walkers and cyclist, traffic associated with walkers and cyclists accessing the route and low impact maintenance routine. This usage will occur during daylight hours. As such, noise levels associated with the operation of the proposed Greenway will be minimal. There is no potential for vibration due to the proposed development during its operational phase.

4.2 Methodology

Noise and vibration constraints associated within the study area and each of the RCOs have been identified and reviewed within this section. The relevant policy and guidance which is relevant to the noise and vibration constraints and options selection is listed and summarised below.

Although the impact assessment will be carried out at a later stage of the project, considering the relevant standards and guidance at this stage provides a basis for comparison of the RCOs and enables identification of the study area and receptors for each potential noise or vibration impact.

The noise and vibration impact of this project has been reviewed to establish the various constraints considered within this options report. The noise and vibration constraints relevant to the comparison of the RCOs are as follows:

- Outward Noise Impact - Construction Noise;
- Inward Noise Impact – Road Traffic Noise.

The operational greenway will not generate significant noise or vibration and vibration during the construction phase is not expected to be significant. As such, these factors have not been considered in the comparison of RCOs.

4.2.1 Policy and Guidance

The following policy and guidance have been referred to in the appraisal of the noise and vibration constraints within each RCO. In the absence of specific guidance for greenway noise and vibration, guidance for road schemes has been referred to, due to similarities, particularly in the construction phase. In addition, where no Irish or European guidance or standards exist, for example for construction noise, reference has been made to other relevant guidance and standards.

4.2.1.1 County Westmeath Noise Action Plan 2018 – 2023

This action plan summarises the results of the strategic noise mapping and identifies areas to be subjected to Noise Management Activities. The noise mapping results relate to noise from major roads and other infrastructure i.e. airports. The N52 is included in the noise mapping, however only certain sections meet the AADT criteria to be considered a 'major road'.

4.2.1.2 TII Publications DN-GEO-03047 Rural Cycleway Design (Offline & Greenway)

This guidance document provides some guidance on the environment for greenway users. This includes an aspect of inward noise impact from the existing environment. Cycle facilities should be designed in harmony with their environment such that the whole experience makes cycling an attractive option. A route should complement and where possible, enhance the area through which it passes. The cycle route should pass through interesting places and their design should be sensitive to environmental issues including lighting, personal security, aesthetics, environmental quality, and noise. Cycle facilities should be well maintained and free from litter and broken glass. The ability for people to socialise by walking or cycling two abreast, or to stop and rest or look at a view, makes for a more pleasant experience.

4.2.1.3 Guidelines for the Treatment of Noise and Vibration in National Road Schemes – National Roads Authority (NRA), 2004

The purpose of these guidelines published by National Roads Authority (NRA), now part of Transport Infrastructure Ireland (TII), is to provide guidance on the treatment of noise and vibration during the planning and design of national road schemes.

The greenway, although not a road scheme, will include construction activities of a similar nature to those required for road schemes. In the absence of an Irish or International standard relevant to construction noise, the guidelines state that BS5228: Part 1 can be referred to. The guidelines include a table of indicative noise levels which are 'typically deemed acceptable', while noting that it may be appropriate to apply more stringent limits in areas where pre-existing noise levels are low'.

Days & Times	$L_{Aeq\ (1hr)}$, dB	$L_{pA(max)slow}$, dB
Monday to Friday	70	80
Monday to Friday	60	65
Saturday	65	75
Sundays and Bank Holidays	60	65

4.2.1.4 Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes – National Roads Authority (NRA), 2014

This guidance document was produced by the NRA following the 2004 Guidelines for the Treatment of Noise and Vibration in National Road Schemes. The 2014 good practice guide considers a review of the 2004 guidelines in the context of various constraints studies, route selection studies and present practice in other countries including revisions to the Design Manual for Roads and Bridges (DMRB).

The good practice guide is intended to supplement and 'amplify' the 2004 guidelines and should be read in conjunction with them.

The guidance states that where it is deemed necessary to predict noise levels associated with construction activities *this should be done in accordance with a recognized standard such as BS5228: Part 1*.

4.2.1.5 British Standard BS5228 BS 5228:2009+A1:2014 Noise and Vibration Control on Construction and Open Sites

BS 5228 consists of two parts and covers control of noise and vibration for persons living and working in the vicinity of construction and open sites. The standard recommends procedures for noise and vibration control in respect of construction operations and for architects, contractors and site operatives, designers, developers, engineers, local authority environmental health officers and planners. This guidance document has been used for the assessment control of construction noise from the Proposed Development.

British Standard BS5228: 2009+A1:2014, Code of Practice of Noise and Vibration Control on Construction and Open Sites Part 1: Noise

Part 1 of the standard provides a method of calculating noise from construction plant, including:

- Tables of source noise levels;
- Methods for summing up contributions from intermittently operating plant;
- A procedure for calculating noise propagation;
- A method for calculating noise screening effects; and
- A way of predicting noise from mobile plant, such as haul roads.

The standard also provides guidance on legislative background, community relations, training, nuisance, project supervision and control of noise and vibration.

Although BS5228 does not establish a definitive construction noise study area, it warns that at distances over 300 m noise predictions have to be treated with caution, especially where a soft ground correction factor has been applied, because of the increasing importance of meteorological effects.

4.2.1.6 Design Manual for Roads and Bridges Volume 11, Section 3, Part 7, LA 111 Noise and Vibration

Another useful document to reference in relation to construction noise is DMRB, although not directly relevant to Ireland, defines a study area for construction noise on road schemes. Although the greenway is not a road scheme, the construction methodology for the greenway will be similar to many aspects of road construction works.

The DMRB sets out the requirements for noise and vibration assessments from road projects, applying a proportionate and consistent approach using best practice and ensuring compliance with relevant legislation. In relation to construction noise, DMRB states that “A study area of 300m from the closest construction activity is normally sufficient to encompass noise sensitive receptors.”

4.3 Noise and Vibration Impact Appraisal –

4.3.1 Outward Noise Impact

Active transport modes will not result in excessive noise levels, in fact, a mode shift to active transport modes can alleviate transport-related noise impacts. The outward noise impact of the project will occur primarily during the construction phase. There is the potential for high levels of noise associated with construction works, which may adversely impact existing noise-sensitive receptors.

Construction noise is assessed for receptors within 300m of the construction works, as per BS5228 and DMRB. As such, it is important at this stage to consider receptors within 300m of each RCO segment, including receptors which lie within the segments themselves. The density of receptors provides an indication of the relative outward noise impact.

The highest density of receptors within the study area are within the town of Kilbeggan. Both RCO’s terminate at Kilbeggan and just outside Mullingar, with the route corridors overlapping somewhat at each end.

Residential and non-residential receptors have been identified within 300m of each RCO and those within the RCO itself. The number of receptors relevant to segment is detailed in Table 4.1, with the receptor locations shown in the associated figure contained in Annex A.

Table 4.1: Receptor Counts for Route Corridor Options

Route Corridor Option	Number of Receptors within Segment	Number of Receptors within 300m of RCO	Total Number of Receptors
RCO1a	80	369	449
RCO1b	54	42	96
RCO1c	14	67	81
RCO1d	73	83	156
RCO2a	72	349	421
RCO2b	17	33	50
RCO2c	15	56	71
RCO2d	123	121	244

The majority of receptors are located in and close to Kilbeggan and Mullingar, and many receptors are common (shared) receptors to more than one RCO at each end of the route.

Any outward noise impact on receptors will occur temporarily, during the construction phase only, and will be managed with appropriate mitigations and scheduling. The outward impact following completion of construction works will be minimal, with only features such as car parking likely to have any noise impact.

4.3.2 Inward Noise Impact

The TII Rural Cycleway Design document highlights the potential for noise to affect the quality of the greenway experience for users:

Cycle facilities should be designed in harmony with their environment such that the whole experience makes cycling an attractive option. A route should complement and where possible, enhance the area through which it passes. The cycle route should pass through interesting places and their design should be sensitive to environmental issues including lighting, personal security, aesthetics, environmental quality, and noise. Cycle facilities should be well maintained and free from litter and broken glass. The ability for people to socialise by walking or cycling two abreast, or to stop and rest or look at a view, makes for a more pleasant experience.

Constraints are existing noise sources with the potential to impact on the quality of enjoyment of the greenway, particularly road traffic noise. The likely inward noise and vibration impact of the existing noise environment on future greenway users has been reviewed for each RCO, with the primary focus on proximity to existing roads. Road traffic noise is considered to be the most significant noise or vibration factor with the potential to impact the use of the greenway. Road traffic noise on motorways and other high-speed roads can travel for significant distances, typically audible for up to several km due to its low frequency component. Proximity to existing trunk roads can be used to indicate relative inward noise impact for the various RCO's.

Two major roads are located in proximity to the RCO's; the M6 Motorway and the National Road N52. Buffers at 500m increments (up to 2km) were mapped for each of these key roads, and the area (km^2) of each segment within each buffer was calculated. Table 4.2 and Table 4.3 show these areas in km^2 and as a percentage of the total area of each RCO. A map of the buffers in relation to each segment can be found in Figure 4.1

Table 4.2: Proximity Calculations for RCO's Relative to M6 Motorway

Within:	2km of M6		1.5km of M6		1km of M6		500m of M6	
Area	Area of RCO, km²	% of RCO	Area of RCO, km²	% of RCO	Area of RCO, km²	% of RCO	Area of RCOt, km²	% of RCO
RCO1a	1.8	47.2	1.1	28.9	0.4	10.4	0.0	0.1
RCO1b	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RCO1c	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RCO1d	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RCO2a	1.8	66.7	1.1	38.9	0.4	14.0	0.0	0.2
RCO2b	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RCO2c	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RCO2d	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 4.3: Proximity Calculations for RCO Relative to N52 National Road

Within:	2km of N52		1.5km of N52		1km of N52		500m of N52	
Area	Area of RCO, km²	% of RCO	Area of RCO, km²	% of RCO	Area of RCO, km²	% of RCO	Area of RCO, km²	% of RCO
RCO1a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RCO1b	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RCO1c	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RCO1d	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RCO2a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RCO2b	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RCO2c	0.1	4.5	0.0	0.0	0.0	0.0	0.0	0.0
RCO2d	10.9	93.6	9.5	82.0	6.6	56.9	3.1	26.6

In addition to the inward impact of road traffic noise, each segment was reviewed for other significant noise sources, with details included in the relevant sections below.

4.3.2.1 RCO1a

There is a mineral extraction and processing site located within this segment, which has the potential for negative noise impact on greenway users. Sources typically associated with mineral extraction and processing sites may include blasting, excavation, tipping, crushing etc.

Kilbeggan Racecourse is also located within RCO1a, which would give rise to occasional high levels of noise in RCO1a.

RCO1a is located in close proximity to the Heavily trafficked M6, with 0.1% of the segment (by area) within the 500m buffer, and 47.2% within the 2km buffer from the Motorway. In this instance for RCO1a the Total Impact Score is deemed to be Neutral, due to its limited observed and projected impact according to the TAA Adaptation Scorecard.

4.3.2.2 RCO1b

RCO1b is not within 2km of the M6 or N52. No other significant noise sources have been identified within this segment. In this instance for RCO1b the Total Impact Score is deemed to be Positive, due to no major traffic noise sources that impinge on this segment according to the TAA Adaptation Scorecard.

4.3.2.3 RCO1c

RCO1c is not within 2km of the M6 or N52. No other significant noise sources have been identified within this segment. In this instance for RCO1c the Total Impact Score is deemed to be Positive, due to no major traffic noise sources that impinge on this segment according to the TAA Adaptation Scorecard.

4.3.2.4 RCO1d

RCO1d is not within 2km of the M6 or N52. No other significant noise sources have been identified within this segment. In this instance for RCO1d the Total Impact Score is deemed to be Slight Positive, due to a result in a lower inward noise impact compared to RCO2d according to the TAA Adaptation Scorecard.

4.3.2.5 RCO2a

RCO2a is located in close proximity to the Heavily trafficked M6, with 0.2% of the segment (by area) within the 500m buffer, and 66.7% within the 2km buffer from the Motorway. In this instance for RCO2A the Total Impact Score is deemed to be Neutral, due to its limited observed and projected impact according to the TAA Adaptation Scorecard.

4.3.2.6 RCO2b

RCO2b is not within 2km of the M6 or N52. No other significant noise sources have been identified within this segment. In this instance for RCO2b the Total Impact Score is deemed to be Positive, due to no major traffic noise sources that impinge on this segment according to the TAA Adaptation Scorecard.

4.3.2.7 RCO2c

RCO2c is located within 2km (4.5%) buffer from the heavily trafficked N52. No other significant noise sources have been identified within this segment. In this instance for RCO2b the Total Impact Score is deemed to be Positive, due to a result in a lower inward noise impact compared to RCO1c according to the TAA Adaptation Scorecard.

4.3.2.8 RCO2d

RCO2a is located in close proximity to the N52 Road, with 26.6% of the segment (by area) within the 500m buffer, and 93.6% of the segment within the 2km buffer from the Motorway. No other significant noise sources have been identified within this segment. In this instance for RCO2d the Total Impact Score is deemed to be Negative, due to a likely higher inward noise impact compared to RCO1d due to the proximity of RCO2d to the national road N52 and ribbon development within the corridor.

Figure 4.1 below shows the proposed Greenway route corridor options in relation to motorways and national roads.

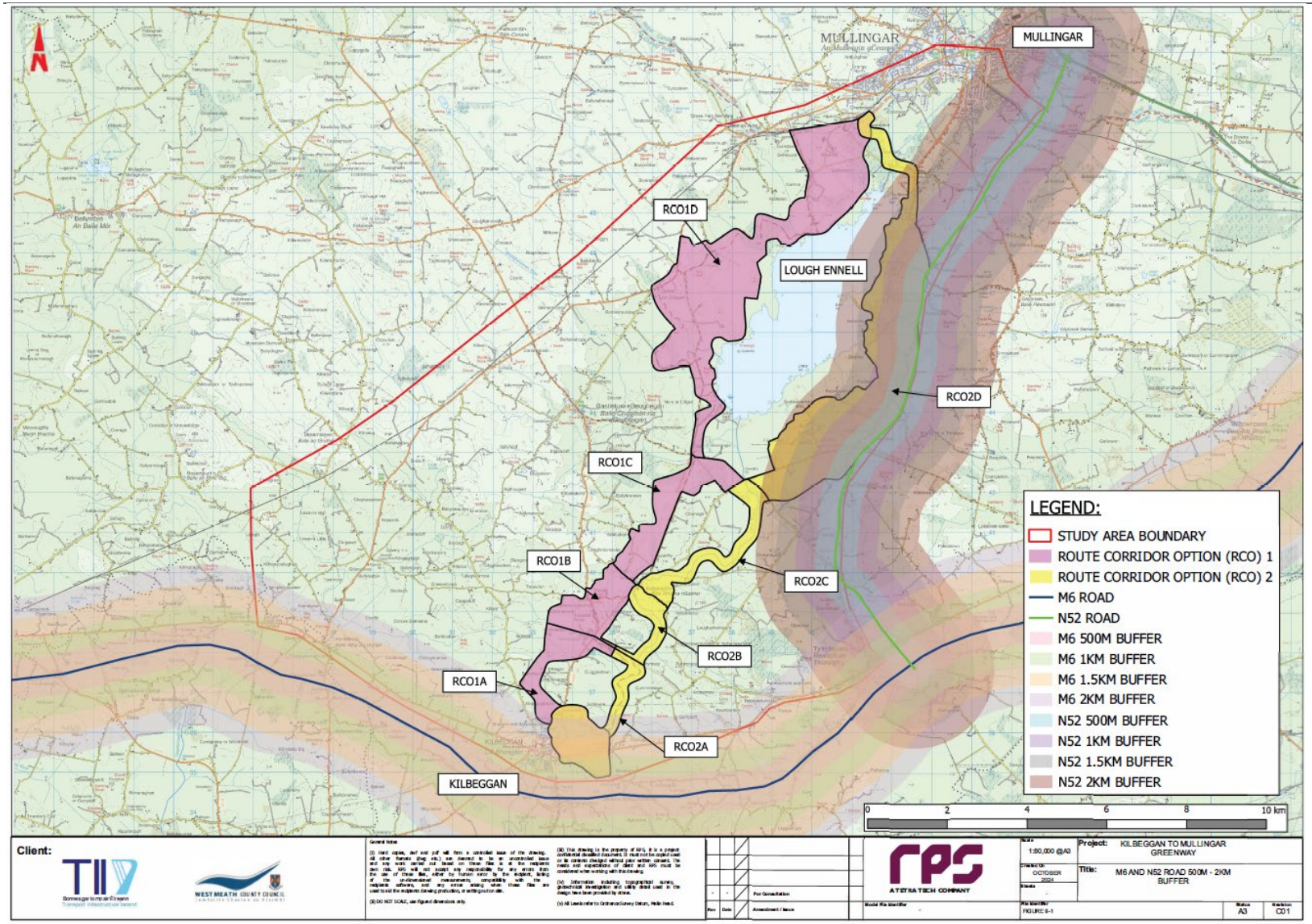


Figure 4.1: Proximity of Motorway and National Roads to Greenway Route Corridor Options

4.4 Summary

The noise and vibration constraints associated within each RCO have been identified and reviewed.

There is potential for outward noise impact during the construction phase. The constraints are the existing receptors sensitive to noise and vibration within the study area. The majority of receptors are located in the towns of Kilbeggan and Mullingar, where both route corridors terminate. The RCO's which encompass the start and end of the Greenway (RCO1a and RCO2a, RCO1d and RCO2d) contain significant areas of overlap, wherein the number of receptors affected by either option for the terminal segments will not vary significantly. The outward effect will be temporary, reducing significantly or to nil following the construction phase.

Inward noise and vibration impact on the proposed development could be expected from the existing environment, specifically road traffic noise. Road traffic noise on motorways and other high-speed roads can travel for significant distances, typically audible for up several km due to its low frequency component. Constraints are existing noise sources with the potential to impact on the quality of enjoyment of the greenway, particularly road traffic noise. The extent of the inward noise impact for each segment has been quantified in terms of % in proximity (500m to 2km) to major roads in the vicinity and through review of other potential noise sources within each segment. The highest inward noise impact would be expected in segments RCO1a, due to proximity to the M6 motorway, in addition to a mineral extraction and processing site, and in segments RCO2a and RCO2d due to proximity to the M6 and N52, respectively. Inward noise impact for all other RCO's is expected to be negligible.

5 BIODIVERSITY

5.1 Introduction

This section details the methodology and potential or confirmed constraints, in respect to biodiversity, which have been identified through the desk study process as being relevant to the greenway.

County Westmeath supports a wide range of habitat types and landscapes including peatlands, lakes, canals, woodlands, wetlands, grasslands, eskers, and hedgerows. Important natural sites include the Hill of Uisneach, Cavestown and Knockeyon Woods, Rivers Shannon and Brosna, Loughs Ree, Owel, Ennell, Derravaragh, Lene and Sheelin. Peatlands are a prominent part of Westmeath's landscape and cover about 17,000 ha or 9% of the county.

European Sites include Natura 2000 sites, the European network of SACs under the Habitats Directive and SPAs under the Birds Directive, provided for by Article 3(1) of the Habitats Directive. The EU Habitats Directive and EU Birds Directive have been transposed into Irish legislation by the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended). The sites can be protected for habitats and/ or species (collectively called the qualifying interests of the European site) and will have site specific conservation objectives.

The potential for impacts on protected sites is not only limited to within the boundaries marked on a map (insitu). Habitats and species protected under Annex I and Annex II of the Habitats Directive can occur outside of protected sites (ex-situ) and are also protected. Similarly, habitats that support protected species must also be considered as any impacts on those habitats may indirectly impact on a protected species and therefore impact on the integrity of the European site.

Disturbance is similarly an issue. The European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) requires public authorities, in the exercise of their functions, to avoid disturbance of the species for which European Sites have been established, in so far as such disturbance could be significant in relation to the objectives of the Birds Directive or the Habitats Directive [Regulation 27(4)(c)]. Recreational amenities with an objective of providing scenic experiences with lots to see and do may bring users into or adjacent to European sites, increasing the risk of disturbance effects on protected species, particularly birds.

Consequently, it is important to carefully consider the routing of a greenway through or in close proximity to protected sites, and areas that have an affinity to the habitats and species associated with the protected sites.

An Bord Pleanála decisions in relation to greenways have highlighted the need to carefully consider the options for projects, particularly where the construction and/or operation of a chosen route has the potential to adversely affect the integrity of a European site.

5.2 Methodology

A desk study exercise has been undertaken to inform the optioneering process. The purpose is to identify known biodiversity constraints within the RCO's. This includes designated sites of nature conservation importance, locations of protected species from existing records, species of conservation concern and habitats of nature conservation importance. It is also important to identify the potential for habitats across the study area to support protected species, in addition to known records of invasive non-native species.

While the vast majority of information which informed the option selection process was obtained via a desk study, in order to further inform a robust appraisal of the route corridor options in light of areas of wetland and peatland habitat within the study area, some site-based ornithological surveys have been carried out to establish their relative value for wintering and breeding birds. In addition, an ecological walkover survey of a number of areas along the RCO's was undertaken on 21st July 2024 and 5th September 2024.

5.2.1 Legislation and Policy

5.2.1.1 International Directives

5.2.1.1.1 Council Directive on the Conservation of Natural Habitats of Wild Fauna and Flora (92/43/EEC) (The Habitats Directive)

The main aim of the Directive is to promote the maintenance of biodiversity through the conservation of natural habitats and wild species listed on the Annexes of the Directive. Member States are required to take measures to maintain or restore, at favourable conservation status, biodiversity whilst taking account of economic, social, cultural requirements and regional and local characteristics.

It gives effect to site and species protection measures through establishment of the Natura 2000 network and designation of European Sites including Special Areas of Conservation (SAC) and Special Protected Areas (SPA). It also establishes a list of species (other than birds) whose habitats must be protected to secure their survival. These priority species and habitats are subject to a higher level of protection.

The Directive also requires appropriate assessment of any plan or project not directly connected with or necessary to the management of a European Site, but likely to have significant effects upon a European site, either individually or in combination with other plans or projects.

5.2.1.1.2 Council Directive on the Conservation of Wild Birds (2009/147/EC) (The Birds Directive)

The Directive provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. It makes provisions for the maintenance of the wild bird populations across their natural range; conserves the habitats for rare or vulnerable species listed in Annex I and of migratory species through the classification of SPAs and provides protection for all wild birds.

5.2.1.2 Irish Legislation

The European Communities (Birds and Natural Habitats) (Amendment) Regulations 2015 (S.I. No. 355 of 2015) provides that the following shall be construed together as one:

- Wildlife Act 1976;
- Wildlife (Amendment) Acts of 2000, 2010 and 2012;
- European Communities (Birds and Natural Habitats) (Restrictions of the Use of Poison Bait) Regulations 2010;
- European Communities (Birds and Natural Habitats) Regulations 2011;
- European Communities (Birds and Natural Habitats) (Amendment) Regulations of 2013, 2015; and
- Wildlife Amendment Bill 2016.

5.2.1.2.1 European Communities (Birds and Natural Habitats) Regulations 2011 to 2015

The Regulations give effect to requirements relating to the designation of protected sites under the Birds Directive and Habitats Directive. The Regulations provide for the protection and management of European Sites (also referred to as Natura 2000 sites) and place obligations on all public authorities to have regard to the requirements of the Habitats Directive beyond the realms of planning related consents issued under the Planning and Development Act 2000, as amended (the PDA). The Regulations also provide for the protection of species of European importance.

5.2.1.2.2 Wildlife Acts 1976 to 2012

The Acts provide for *inter alia* the protection of wildlife. The Acts prohibit the intentional killing, taking, or injuring of certain wild birds or wild animals; or the intentional destruction, uprooting or picking of certain wild plants.

5.2.1.3 Local Development Plan

5.2.1.3.1 Westmeath County Development Plan 2021-2027

One of the strategic aims of the development plan in relation to Natural Heritage and Biodiversity is to continue to protect the biodiversity of the County.

The WCDP also sets out a range of natural heritage policy objectives to help protect and preserve the natural environmental and biodiversity of the county. The natural heritage policy objectives are detailed in Annex A of this document.

5.2.1.3.2 Westmeath Strategic Heritage Plan 2024-2030

The Westmeath Strategic Heritage Plan sets out a framework for the work of Westmeath County Council heritage Office, in partnership with groups and agencies, to deliver heritage projects within the County.

This document sets out a number of overarching objectives with associated proposed actions.

These objectives and actions, where relevant to biodiversity, have been set out within the accompanying Annex A of this document.

5.2.1.3.3 Westmeath Biodiversity Action Plan (2014-2020)

The Westmeath Biodiversity Action Plan (2014-2020) remains the current relevant local biodiversity action plan document for the county.

This document sets out a range of proposed measures for the protection of biodiversity within Westmeath with a number of habitats subject to particular attention including lakes, rivers and callows, peatlands, Eskers, semi-natural woodlands, hedgerows, grasslands, exposed rock and disturbed ground, urban biodiversity and Demesnes and country estates.

A range of important and protected species are also given consideration including flora, with a particular focus on those of bogs and fens, grassland and meadows and rivers and lakes, bryophytes, a range of invertebrate fauna, a number of fish species and a range of mammals, amphibians, reptiles and birds.

The document also sets out a range of identified threats to biodiversity and strategic issues for biodiversity within the county, recommendations for residents and a list of actions for biodiversity protection and enhancement.

5.2.1.4 Relevant Guidance

A range of published guidance was considered to inform the methodology of the desk study exercise and the content of this section of the Options Report. Relevant guidance includes:

- CIEEM (2024) Guidelines for Ecological Impact Assessment in the UK and Ireland, Terrestrial, Freshwater and Coastal and Marine, Technical Guidance Series, Version 1.3, Chartered Institute of Ecology and Environmental Management, Winchester;
- National Roads Authority 'Guidelines for Assessment of Ecological Impacts of National Road Schemes' (NRA, 2009a); and,
- Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA 2022).

5.2.2 Scope of Assessment

This assessment has been undertaken to identify the natural heritage constraints present within the study area and assess the relative implications for the RCO's. This includes the detailing of a risk hierarchy associated with these potential constraints and opportunities to inform recommendations on the avoidance of areas subject to higher levels of protection and to inform potential mitigation measures.

This process includes consideration of the following range of potential natural heritage constraints:

- Internationally designated sites of nature conservation importance (SACs, SPAs and Ramsar sites);

- Nationally designated sites of nature conservation importance (NHAs, pNHAs);
- Non-designated areas supporting examples of habitat representative of those listed at Annex I of the Habitats Directive;
- Non-designated areas supporting populations of species listed at Annex II of the Habitats Directive;
- Populations of species listed at Annex IV of the Habitats Directive (European protected species);
- Populations of protected species listed in Schedules four and five of the Wildlife Acts (1976);
- Flora Protection Order (2022) plant species;
- Habitats and species included within the National and Westmeath Biodiversity Action Plans.
- Birds of Conservation Concern in Ireland (BoCCI) (Gilbert et al., 2021);
- Species listed in the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) (as amended) or included within definition of invasive species as set out by the National Biodiversity Data Centre (NBDC); and
- Other rare species noted as being of conservation concern.

This assessment has been informed primarily through desk-based research supplemented with some targeted field surveys. As such, it is anticipated that many of the constraints listed above can only be assessed at the high level and significant uncertainty will remain as to their presence or absence within the relevant areas of the study area, which would be subject to the completion of dedicated site-based ecological surveys that will be undertaken in Phase 3 Design and Environmental Evaluation.

The information gathered from desk study and the site-based ecological surveys undertaken has been used to prepare a simple matrix comparing the relative importance of the constraint against the likelihood of its presence (where this is not known). This matrix has been prepared in accordance with the following guidelines which were used to derive valuation and assessment criteria and magnitude of effect criteria as set out in Table 5.1 and Table 5.2.

Section 3.7.3 of the Environmental Protection Agency's (EPA) *Guidelines on the Information to be contained in Environmental Impact Assessment Reports* (2022) note that "*where more specific definitions exist within a specialised factor or topic e.g. biodiversity, these should be used in preference to these generalised definitions*". Importance rating of the relevant constraint criteria has been undertaken following the methodology set out in *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018, updated 2019); and with reference to the National Roads Authority *'Guidelines for Assessment of Ecological Impacts of National Road Schemes*' (NRA, 2009); *EPA Guidelines on the Information to be contained in Environmental Impact Assessment Reports* (EPA 2022); and *BS 42020:2013 Biodiversity: Code of practice for planning and development* (BSI, 2013).

Table 5.1: Ecological Valuation Criteria for Ecological Features.

Value	Criteria
International	• 'European Sites' including Special Areas of Conservation (SAC) & Special Protection Areas (SPA). • Sites that satisfy the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive). • Features essential to maintaining the coherence of the Natura 2000 Network. • Sites containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive. • Resident or regularly occurring populations (assessed to be important at the international level) of the following:

Value	Criteria
	– Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or – Species of animal and plants listed in Annex II and/or IV of the Habitats Directive. • Ramsar Sites. • World Heritage Sites. • Sites hosting significant populations of species under the Bonn Convention. • Sites hosting significant populations of species under the Berne Convention.
National	• Wildlife Refuge for species protected under the Wildlife Acts. • Resident or regularly occurring populations (assessed to be important at the national level) of the following: – Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or – Species of animal and plants listed in Annex II and/or IV of the Habitats Directive. • Natural Heritage Areas (NHA) or proposed NHA. • National Nature Reserves (NNR). • Marine Nature Reserve (MNR).
County	• Sites listed as part of the Ecological Network in the County Development Plan (CDP). • Areas subject to a Tree Preservation Order in a CDP. • Resident or regularly occurring populations (assessed to be important at the County level) of the following: – Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; – Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; – Species protected under the Wildlife Acts (1976-2018); and/or – Species listed on the relevant Red Data list. • Sites containing areas of the habitat types listed in Annex I of the Habitats Directive that occur outside of designated

Value	Criteria
	International (SAC/SPA/Ramsar) or National (NHA/pNHA) sites. • Regionally important populations of species or viable areas of semi-natural habitats or natural heritage features identified in a Biodiversity Action Plan (BAP) prepared for an administrative area, if this have been prepared. • Sites containing natural habitat types with high biodiversity in a regional context and a high degree of naturalness, or populations of species that are uncommon within the County.
Local (Higher)	• Locally important populations of a priority or protected species; or habitats or features of natural heritage importance identified in a BAP, if this has been prepared. • Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality. • Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.
Local (Lower)	• Sites containing small areas of semi-natural habitat that are of limited local importance for wildlife.

Table 5.2: Magnitudes of Effect upon Ecological Features.

Impact Significance	Magnitude of Effect	Criteria
Significant negative effect	**Major adverse**	• Loss of, permanent damage to or adverse impact on any part of a site of international or national importance; • Loss of a substantial part or key feature of a site of regional importance; • Loss of favourable conservation status (FCS) of a legally protected species; • Loss of or moderate damage to a population of nationally rare or scarce species.
	Moderate adverse	• Temporary disturbance to a site of international or national importance, but no permanent damage; • Loss of or permanent damage to any part of a site of regional importance; • Loss of a key feature of local importance; • A substantial reduction in the numbers of legally protected species such that there is no loss of FCS but the population is significantly more vulnerable; • Reduction in the amount of habitat available for a nationally rare or scarce species, or species that are notable at a regional or county level.
	Minor adverse	• Temporary disturbance to a site of regional value, but no permanent damage; • Loss of, or permanent damage to, a feature with some ecological value in a local context but that has no nature conservation designation; • A minor impact on legally protected species but no significant habitat loss or reduction in FCS; • A minor impact on populations of nationally rare or scarce species or species that are notable at a regional or county level.

Impact Significance	Magnitude of Effect	Criteria
No Significant Effect	**Negligible**	• No impacts on sites of international, national or county importance; • Temporary disturbance or damage to a small part of a feature of local importance; • Loss of or damage to land of negligible nature conservation value; • No reduction in the population of legally protected, nationally rare, nationally scarce or notable (regional level) species on the site or its immediate vicinity. • Beneficial and adverse impacts balance such that resulting impact has no overall affect upon feature.
Significant positive effect	**Minor beneficial**	• A small but clear and measurable gain in general wildlife interest, e.g. small-scale new habitats of wildlife value created where none existed before or where the new habitats exceeds in area that habitats lost.
	Moderate beneficial	• Larger new scale habitats (e.g. net gains over 1 ha in area) created leading to significant measurable gains in relation to the objectives of biodiversity action plans.
	Major beneficial	• Major gains in new habitats (net gains of at least 10 ha) of high significance for biodiversity being those habitats, or habitats supporting viable species populations, of national or international importance cited in Annexes I and II of the habitats Directive or Annex I of the Birds Directive.

The ecological valuation criteria, as set out above, have been referenced against the known or relative likelihood of a constraint being present to assign a constraint risk rating to each of the relevant constraints assuming the scheme will give rise to a significant negative effect on that relevant constraint, as per the above magnitude of effect criteria. This matrix of constraint significance is presented below at Table 5.3.

Table 5.3 Constraint Significance Matrix

Ecological Value	Magnitude of Effect	Constraint Significance	Description
International	Major Adverse	Major	Internationally designated sites of nature conservation significance are likely to represent a significant constraint to the scheme should the proposals involve significant adverse effects to these features. Such impacts are likely to require significant further assessment and ecological survey work in addition
	Moderate Adverse	Major	

Ecological Value	Magnitude of Effect	Constraint Significance	Description
	Minor Adverse	Major	to the requirement for significant mitigation measures and/or the requirement for extensive consultation during the determination process including Appropriate Assessment and, where necessary Article 6(4) Assessment. In addition to internationally designated sites, other features of international importance, such as protected species populations or the presence of Annex I habitats are likely to represent significant constraints to the proposals, despite the relatively lower levels of legal protection afforded. Such constraints have potential to prevent the consenting of the scheme, where the design does not adequately consider the protection of such features.
	Negligible	None	
	Minor Beneficial	None	
	Moderate Beneficial	None	
	Major Beneficial	None	
National	Major Adverse	Major	As above, nationally designated sites of nature conservation significance are likely to represent a significant constraint to the scheme should the proposals involve significant adverse effects to these features. This is also true for other ecological features considered to be of value at the national level including populations of protected species considered to be of importance at this level. Such impacts are likely to require significant further assessment and ecological survey work in addition to the requirement for significant mitigation measures and the potential requirement for extensive consultation during the determination process. Such constraints have some potential to prevent the consenting of the scheme, where the design does not adequately consider the protection of such features.
	Moderate Adverse	Major	
	Minor Adverse	Moderate	
	Negligible	None	
	Minor Beneficial	None	
	Moderate Beneficial	None	
	Major Beneficial	None	
County	Major Adverse	Major	The extent to which ecological features of county level importance represent a constraint to the scheme is highly proportionate to the nature of the impacts which will occur. Furthermore, the baseline situation in respect of such features is largely unknown, in the absence of site-based ecological surveys. In the vast majority of cases, it is envisaged that mitigation or compensation measures are likely to be deliverable to prevent significant adverse effects in respect of these features and circumstances in which they prevent consenting may be limited however design changes and wildlife licensing may be required.
	Moderate Adverse	Moderate	
	Minor Adverse	Minor	
	Negligible	None	
	Minor Beneficial	None	
	Moderate Beneficial	None	
	Major Beneficial	None	
Local (Higher)	Major Adverse	Moderate	The extent to which ecological features of local (higher) level importance represent a constraint to the scheme is somewhat proportionate to the nature of the impacts which will occur. Furthermore, the baseline situation in respect of such features is largely unknown, in the absence of site-based ecological surveys. It is envisaged that such features are likely to generally represent relatively minor constraints to the proposals, depending upon the nature of the impacts. Mitigation or compensation may be required in some cases, to address the loss of habitats or impacts to protected species.
	Moderate Adverse	Moderate	
	Minor Adverse	Minor	
	Negligible	None	
	Minor Beneficial	None	
	Moderate Beneficial	None	
	Major Beneficial	None	

Ecological Value	Magnitude of Effect	Constraint Significance	Description
Local (Lower)	Major Adverse	Minor	Such features are unlikely to represent a significant constraint to the proposals, with impacts likely to be addressed through the implementation of mitigation or compensation measures. Where mitigation or compensation cannot be undertaken, constraint is likely to be minor in a worse-case scenario.
	Moderate Adverse	Minor	
	Minor Adverse	Minor	
	Negligible	None	
	Minor Beneficial	None	
	Moderate Beneficial	None	
	Major Beneficial	None	

5.2.3 Information Sources Used

The National Biodiversity Data Centre (NBDC) is a national organisation that collates, manages, analyses, and disseminates data on Ireland's biodiversity. It is funded by the Heritage Council and the Department of Arts, Heritage and the Gaeltacht. The NBDC provides access to all validated biodiversity data through Biodiversity Maps and the on-line biodiversity data portal.

Biodiversity records and full species accounts can be viewed and scrutinised through an interactive Biodiversity Maps portal (http://maps.biodiversityireland.ie/#/Home). This is a tool that can be used to help make a preliminary assessment of biodiversity issues when considering site-specific developments.

The chosen search area using the NBDC search tool was customised in order to capture all records within the study area. The following 10km grid squares, which overlap and encompass the entirety of the study area were utilised: N23, N33, N34, N35, N43, N44 and N45. The principal purpose of this task is to capture any records of protected species or species of natural heritage importance. Given the large extent of the study area the record search was not extended further than the study area boundary, as the purpose of the exercise is to ascertain the potential presence of species within this area to inform potential avoidance of important habitats and species populations.

NPWS GIS habitat data files were used to overlie the site to determine the presence of features of ecological significance.

Site-based ecological surveys are limited to ornithological surveys undertaken in 2024 of limited areas of wetland habitat, deemed to be potentially of higher significance for this group, within the study area. The methodology utilised for these surveys is set out below.

5.2.4 Field Surveys Undertaken

5.2.4.1 Wintering Bird Survey

The site-based ecological surveys undertaken to date are inclusive of limited wintering bird surveys inclusive of a small proportion of the relevant areas within the RCOs. Further information on the surveyed areas is included within the accompanying Ecological Survey for Wintering Birds (Annex C).

The methodology employed was a scaled down version of the British Trust for Ornithology's (BTO) Common Bird Census (CBC) methodology (Bibby et al., 2000 & Gilbert et al., 1998), which aims to capture overwintering bird activity within the survey area.

Three visits were made across the winter season: mid-November 2023, mid-January 2024, and early-March 2024. Overwintering surveys are being repeated across the 2024-2025 non-breeding season.

The primary target species for the purposes of this survey were all waterbirds, and secondary species recorded included water-dependant passerines (i.e., grey wagtail and dipper), raptors and any other Annex 1 species.

The survey area consisted of two sections of RCO1 and three along RCO2 (part of the section immediately north of Kilbeggan). The justification for excluding areas along the option route corridors included sections which pass through woodland, urban areas and intensively managed improved farmland which are not near waterbodies (i.e., areas that are not preferred by overwintering waterbirds). Further information on the surveyed areas is included within the accompanying Ecological Survey for Wintering Birds (Annex C).

5.2.5 Limitations and Data Gaps

Given the desk-based nature of this assessment, there are significant limitations and data gaps arising from the lack of site-based ecological survey undertaken. As such, the information presented here is relatively high level and while reliable in respect of known and highly significant ecological constraints, such as the location of designated sites of national or international significance, is unlikely to provide useful information on the presence or distribution of a range of protected or important species within the study area. Available historical records may provide an indication as to the presence or absence of these species however such information is unreliable when contrasted to the findings of up-to-date baseline ecological surveys.

As discussed above, the purpose of this assessment is to give preference to proposed options which avoid known feature of natural heritage importance and to create a risk hierarchy associated with other ecological constraints. Recommendations, on the basis of desk study information and the known ecology of protected species are also provided to attempt to minimise the risks associated with the final route placement and to minimise the ecological footprint of the pursued option.

Given that all desk study results are comprised of third party-controlled data purchased or obtained for the purposes of this report only, RPS cannot guarantee its accuracy and cannot be held liable for any inaccuracies.

5.2.6 Consultations

Consultation has been undertaken with NPWS in respect of the RCOs and the potential natural heritage impacts associated with the scheme. NPWS have provided a response on the scheme dated 14th June 2024. This response dealt with a number of specific concerns in respect of biodiversity which are summarised in turn, below.

5.2.6.1.1 Split Hill and Long Hill Esker SAC

In respect of this designated site NPWS emphasise the importance of the site-specific conservation objectives (SSCOs) for the site and the presence of the Annex I habitat [6210]- Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*- *important orchid sites), including its occurrence outside of the SAC boundary. This concern is in the context of the potential RCO's which have been proposed which both pass through this SAC.

NPWS provided information sources which can be used to ascertain the extent of the Annex I habitat within the SAC, which have been made use of within this assessment, and raised the point that Flora Protection Order species are present within the western extent of the SAC. Furthermore, the NPWS stated that the proposals will be required to ensure that they do not give rise to the spread of invasive non-native species, especially given the known presence of areas of cotoneaster in proximity to the proposed development location.

5.2.6.1.2 Lough Ennell SAC

In respect of this designated site NPWS emphasise that two of the proposed RCO's presented (1D & 2D), had potential to impact upon areas of Annex I [7230] Alkaline Fen. As detailed mapping of the location of this habitat is not mapped for the SAC further survey is likely to be required, however a range of information sources are provided on the distribution of this habitat which have been used within this assessment.

The NPWS stated that alkaline fen habitats[5] rely on an appropriate hydrological regime and as such the proposals should be accompanied by a hydrological study and monitoring period to ensure no negative impacts

[5] *RPS have indicated the likely locations on constraints mapping and options alignments are aware of fen habitat.*

occur. The response also states that other notable species[6] should be considered and surveyed for in support of the project.

5.2.6.1.3 Other Biodiversity Considerations

The NPWS response also raises a number of additional concerns, including the importance of areas of habitat outside of the Lough Ennell SPA boundary for a foraging whooper swan Cygnus cygnus population and the presence of a range of breeding bird species of conservation concern including waders and ground-nesting songbirds. The requirement for breeding bird surveys undertaken over a minimum of two years and ideally three years is set out.

5.3 Constraints

5.3.1 Designated Sites

5.3.1.1 Internationally Designated Sites

The Study Area supports three Natura 2000 sites, namely the Split Hills and Long Hill Esker SAC, Lough Ennell SAC and Lough Ennell SPA and Ramsar site.

Each of these sites is listed below in Table 5.4, with a description of their respective qualifying interests and conservation objectives. The location of these sites within the study area has been illustrated within Figure 5-1 contained in Annex A.

It is noted that the two RCO's being assessed pass within the boundaries of the three European sites supported within the study area. RCO1d passes within the Lough Ennell SAC and SPA and Ramsar site to the west of the Lough while RCO2d predominantly runs along the boundary of these sites to the east.

The proposals should seek to entirely avoid areas of qualifying habitat within the SAC boundaries, this includes areas of Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (*important orchid sites) within the Split Hills and Long Hill Esker SAC, Alkaline Fen and Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. Within the Lough Ennell SAC and wetland habitat within the Lough Ennell SPA. The extent of Annex I qualifying habitats Semi-natural dry grasslands and scrubland facies on calcareous substrates and Alkaline fens of the Split Hills and Long Hill Esker SAC and Lough Ennell SAC respectively are illustrated at Figure 5-2 contained in Annex A. This mapped distribution of habitat was sourced from 2019 Article 17 Reporting data available via the NPWS website.

The extent of the Annex I freshwater habitat: Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. is not currently available from NPWS, however it is assumed to include all areas of freshwater within the Lough Ennell SAC.

In regard to Semi-natural dry grasslands and scrubland facies on calcareous substrates of the Split Hills and Long Hill Esker SAC, both of the route corridor options overlap with areas mapped as supporting this Annex I qualifying habitat. It is envisaged that further specialist survey works are likely to be required to determine the precise distribution of this habitat within the SAC boundary and the associated impact of the finalised route.

As set out by NPWS within their consultation response, and evident from the conservation objectives of all three European sites, the loss of any qualifying habitat as a result of the proposals would likely be unacceptable in a legal context and would require justification under Article 6(4) of the Habitats Directive and associated domestic legislation. This requires the requirement to demonstrate that the project is to be undertaken for Imperative reasons of overwhelming public interest and would further require compensation for loss of qualifying Annex I habitat. NPWS have request that the proposals, where involving works within or in proximity to such habitat will require hydrological monitoring for three to five years.

As above, while further surveys are likely to be required, it is recommended that the proposals seek to avoid any land take within areas which have been previously recorded to support Annex I qualifying Alkaline fen

[6] The site synopsis for Lough Ennell SAC lists other notable species that should be considered and surveyed for. Further information on their locations can be requested through the NPWS data request form.

within the Lough Ennell SAC or Semi-natural dry grasslands and scrubland facies on calcareous substrates within the Split Hills and Long Hill Esker SAC.

In addition to Annex I habitat associated with the SACs, the proposed route corridor options also overlap with areas of habitat which are likely to represent wetlands which form a special conservation interest (SCI) of the Lough Ennell SPA. Mapping of these areas does not appear to be available via NPWS however it can be assumed that these include areas of fen previously addressed in respect of the Lough Ennell SAC and in all likelihood, additional areas of habitat lying along the lough shore which are not included within the mapped areas of alkaline fen and within the SPA boundary.

In addition to direct effects associated with land take within the SAC the proposed development will also have potential to give rise to other adverse effects upon internationally designated sites including construction and operational phase aerial noise and visual disturbance, alterations to hydrology and ground conditions, water quality and habitat deterioration effects, operational phase recreational pressures in addition to other potential effects depending upon the finalised design. It is recommended that where possible, such effects are addressed or avoided through the design stage.

Extensive further surveys of areas proposed for the preferred route will be required to fully assess the use of these areas by SPA bird populations. As stated by NPWS, such surveys will be required to be undertaken over a minimum survey period of two years and preferably three.

Table 5.4 Internationally Designated Sites

Site Code	European Site	Qualifying Interests	Conservation Objectives	Location
001831	Split Hills and Long Hill Esker SAC	1. [6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (*important orchid sites)	Conservation Objectives Version 1 (20th June 2018) (NPWS 2018a) To restore the favourable condition of the Semi-natural dry grasslands and scrubland facies on calcareous substrates qualifying habitat as defined by the following list of attributes and targets: 2. Habitat area - Area stable or increasing subject to natural processes. 3. Habitat Distribution - No decline, subject to natural processes. 4. Vegetation composition: positive indicator species – At least seven positive indicator species present, including two “high quality” species. 5. Vegetation composition: negative indicator species - Negative indicator species collectively not more than 20% cover, with cover by an individual species not more than 10%. 6. Vegetation composition: non-native invasive species – Cover of non-native species not more than 1%. 7. Vegetation composition: woody species and bracken - Cover of woody species (except certain listed species) and bracken (*Pteridium aquilinum*) not more than 5% cover. 8. Vegetation structure: broadleaf herb to grass ratio - Broadleaf herb component of vegetation between 40% and 90%. 9. Vegetation structure: sward height - At least 30% of sward between 5cm and 40cm tall. 10. Vegetation structure: litter - Litter cover not more than 25%. 11. Physical structure: bare soil - Not more than 10% bare soil. 12. Physical structure: disturbance - Area of the habitat showing signs of serious grazing or other disturbance less than 20m².	Within the Study Area. Overlaps with RCO 1A, 1B, 2A and 2B..
000685	Lough Ennell SAC	13. [3140] Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. 14. [7230] Alkaline fens	Conservation Objectives Version 1 (12th January 2018) (NPWS 2018b) To maintain the favourable conservation condition of Alkaline fens in Lough Ennell SAC, which is defined by the following list of attributes and targets: 15. Habitat area - Area stable or increasing subject to natural processes. 16. Habitat Distribution - No decline, subject to natural processes.	Within the Study Area. Overlaps with RCO 1D, 2C and 2D..

Site Code	European Site	Qualifying Interests	Conservation Objectives	Location
			17. Ecosystem function: soil nutrients - Maintain soil pH and nutrient status within natural ranges. 18. Ecosystem function: peat formation - Maintain active peat formation, where appropriate. 19. Ecosystem function: hydrology - groundwater levels - Maintain, or where necessary restore, appropriate natural hydrological regimes necessary to support the natural structure and functioning of the habitat. 20. Ecosystem function: hydrology - surface water flow - Maintain, or where necessary restore, as close as possible to natural or semi-natural drainage condition. 21. Ecosystem function: water quality - Maintain appropriate water quality, particularly pH and nutrient levels, to support the natural structure and functioning of the habitat. 22. Community diversity - Maintain variety of vegetation communities, subject to natural processes. 23. Vegetation composition: brown mosses - Maintain adequate cover of typical brown moss species. 24. Vegetation composition: typical vascular plants - Maintain adequate cover of typical vascular plant species. 25. Vegetation composition: native negative indicator species - Cover of native negative indicator species at insignificant levels. 26. Vegetation composition: non-native species - Cover of non-native species less than 1%. 27. Vegetation composition: native trees and shrubs - Cover of scattered native trees and shrubs less than 10%. 28. Vegetation composition: soft rush and common reed cover - Total cover of soft rush (*Juncus effusus*) and common reed (*Phragmites australis)* less than 10%. 29. Vegetation structure: litter - Total cover of litter not more than 25%. 30. Physical structure: disturbed bare ground - Cover of disturbed bare ground not more than 10%. 31. Physical structure: tufa formations - Disturbed proportion of vegetation cover where tufa is present is less than 1% 32. Indicators of local distinctiveness - No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat; maintain features of local distinctiveness, subject to natural processes	

Site Code	European Site	Qualifying Interests	Conservation Objectives	Location
004044	Lough Ennell SPA and Ramsar Site	33. [A059] Pochard (Aythya ferina) 34. [A061] Tufted Duck (Aythya fuligula) 35. [A125] Coot (Fulica atra) 36. [A999] Wetland and Waterbirds	Conservation Objectives Version 1 (28th May 2024) (NPWS 2024) To restore the Favourable conservation condition of Pochard in Lough Ennell SPA, which is defined by the following list of attributes and targets: 37. Winter population trend - Long term winter population trend is stable or increasing. 38. Winter spatial distribution - Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population target. 39. Disturbance at wintering site - Disturbance occurs at levels that do not significantly impact the achievement of targets for population trend and spatial distribution. 40. Barriers to connectivity and site use - Barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA. 41. Forage spatial distribution, extent and abundance - Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target. 42. Roost spatial distribution and extent - Sufficient number of locations, area and availability of suitable roosting habitat to support the population target. To restore the Favourable conservation condition of Tufted Duck in Lough Ennell SPA, which is defined by the following list of attributes and targets: 43. Winter population trend - Long term winter population trend is stable or increasing. 44. Winter spatial distribution - Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population target. 45. Disturbance at wintering site - Disturbance occurs at levels that do not significantly impact the achievement of targets for population trend and spatial distribution. 46. Barriers to connectivity and site use - Barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA. 47. Forage spatial distribution, extent and abundance - Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target.	Within the Study Area. Overlaps with RCO 1D and 2D..

Site Code	European Site	Qualifying Interests	Conservation Objectives	Location
			48. Roost spatial distribution and extent - Sufficient number of locations, area and availability of suitable roosting habitat to support the population target. To maintain the Favourable conservation condition of Coot in Lough Ennell SPA, which is defined by the following list of attributes and targets: 49. Winter population trend - Long term winter population trend is stable or increasing. 50. Winter spatial distribution - Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population target. 51. Disturbance at wintering site - Disturbance occurs at levels that do not significantly impact the achievement of targets for population trend and spatial distribution. 52. Barriers to connectivity and site use - Barriers do not significantly impact the wintering population's access to the SPA or other ecologically important sites outside the SPA. 53. Forage spatial distribution, extent and abundance - Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target. 54. Roost spatial distribution and extent - Sufficient number of locations, area and availability of suitable roosting habitat to support the population target. To maintain the Wetland habitats in Lough Ennell SPA as a resource for the regularly-occurring migratory waterbirds that utilise these areas. This is defined by the following list of attributes and targets: 55. Wetland habitat area - No significant loss to wetland habitat within the SPA, other than that occurring from natural patterns of variation. 56. Wetland habitat quality and functioning - No significant impact on the quality or functioning of the wetland habitat within the SPA, other than that occurring from natural patterns of variation.	

5.3.1.2 Nationally Designated Sites

The study area supports four nationally designated sites of nature conservation importance including five NHAs, Nure Bog NHA and Cloncrow Bog (New Forest) NHA, and three pNHAs, Split Hills and Long Hill Esker pNHA, Royal Canal pNHA and Lough Ennell pNHA. These designated sites and their respective qualifying features are set out at Table 5.5 and their locations illustrated in Figure 5-3 contained in Annex A.

Both of the pNHAs within the study area underpin the SAC designations of the same name, and as such potential effects upon these sites has already been discussed in respect of the higher-level international designation, above. As per the Split Hills and Long Hill Esker SAC and Lough Ennell SAC, these pNHAs are considered to represent a **Major Constraint** to the proposed project.

Neither of the RCO's intersects with the Cloncrow Bog (New Forest) NHA. On this basis it is considered unlikely that this NHA is likely to represent a significant constraint to the proposals. Should the proposed route change and involve land take within this NHA or be sufficiently close to raise the potential for indirect effects upon this site then it is likely to represent a **Major Constraint** to the proposals.

The RCO1 overlaps with the Nure Bog NHA, inclusive of a total area of approximately 42.1 ha. While an ecological survey is likely to be required to establish the extent of peatland habitat to be affected by the proposed RCO1, it is noted that NHAs are protected under the Wildlife (amendment act) 2000, which requires works which are liable to destroy or to significantly alter, damage, or interfere with the features to be subject to ministerial approval and only subject to said approval where necessary for imperative reasons of overriding public interest, which interest may be of a social or economic nature, and, in the absence of an alternative and viable solution.

As such, it is considered that the proposed development should seek to avoid habitat loss within this NHA where possible.

As set out in this section, in respect of internationally designated sites, the greenway also has potential to give rise to adverse effects upon the Nure Bog NHA through additional indirect effects including construction and operational phase aerial noise and visual disturbance, alterations to hydrology and ground conditions, water quality and habitat deterioration effects, operational phase recreational pressures in addition to other potential effects depending upon the finalised design.

It is considered that in the absence of further detailed ecological surveys the Nure Bog NHA is likely to represent a **Major Constraint** to RCO1d.

Table 5.5 Nationally Designated Sites

Nationally Designated Site	Site Code	Description	Location
Nure Bog NHA	001725	Peatlands – Raised bog habitat.	Within the study area. Overlaps with a RCO1d.
Cloncrow Bog (New Forest) NHA	000677	Peatlands – Raised bog habitat.	Within the study area. Not within any RCO.
Split Hills and Long Hill Esker pNHA	001831	See Split Hills and Long Hill Esker SAC and SPA (**Table 5.4**).	Within the Study Area. Overlaps with RCO1a, RCO1b, .RCO2a and RCO2b. .
Royal Canal pNHA	002103	Man-made waterway - hedgerow, tall herbs, calcareous grassland, reed fringe, open water, scrub and woodland	Within the Study Area. Overlaps with RCO1d.
Lough Ennell pNHA	000685	See Lough Ennell SAC and SPA (**Table 5.4**).	Within the Study Area. Overlaps with RCO1d.

5.3.1.3 Other Designations

The study area, in addition to the statutory and non-statutory designations listed above, supports three areas of ancient or long-established woodland, named Coolalough, Aghyrassy and Newtownlow Esker Woodland respectively. The extent of these areas are mapped in Figure 5-4 contained in Annex A .

Such habitats are afforded protection through the National and Local biodiversity action plans and the loss of these habitats is likely to represent a **Major Constraint** to the project.

Of the two RCO's only one is inclusive of a route corridor which overlaps with an area of ancient and long-established woodland, Achyrassy. This is inclusive of an area of 0.79 ha, which lies within the route corridor segment RCO2A. In addition to potential for loss of ancient and long-established woodland habitat through land take the proposals may have potential to give rise to indirect impacts upon this habitat through alterations to hydrology and ground conditions and operational phase recreational pressures.

5.3.2 Habitats

5.3.2.1 Annex I (Non-Qualifying) Habitat

In addition to areas of qualifying Annex I habitat within the boundary of SACs, as discussed in the previous section, the study area also supports significant areas of Annex I habitat which is either non-qualifying within the boundary of the supported SACs or lies outside of any SAC boundary. This includes areas of the following non-qualifying Annex I habitat within the study area:

- [7230] Alkaline Fen;
- [7210] Calcareous fens with Cladium mariscus and species of the Caricion davallianae;
- [7140] Transition mires and quaking bogs;
- [6510] Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*);
- [6410] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*); and
- [6210] Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*), (note that this includes the priority feature "important orchid rich sites").

The locations of these areas of non-qualifying Annex I habitat are mapped in Figure 5-5 contained in Annex A.

These habitats in the context of the study area are likely to represent a **Moderate Constraint** to the project, where they are to be lost to facilitate the proposals. Other impacts of lesser significance may also have potential to arise through indirect effects.

The extent of the relative areas of non-qualifying Annex I habitat lying within the route corridors of these options are set out below within Table 5.6. It is noted that linear and point data for these habitats was not included in the area calculations.

Further areas of Annex I habitat may be present and unmapped within the study area. Further detailed habitat surveys will be required to fully assess the baseline situation across the proposed routes or preferred route.

Table 5.6: Non-Qualifying Annex I Habitat Distribution and Proposed Route Corridors - Overview

Non-Qualifying Annex I Habitat	Area Size within RCO1 Segment	Area Size within RCO2 Segment
[7230] Alkaline Fen	RCO1D – 0.4km^2	RCO2D – 0.2km^2
[7210] Calcareous fens with Cladium mariscus and species of the Caricion davallianae	RCO1D – 0.4km^2	RCO2D – 0.2km^2
[7110] Active raised bogs	None	None
[6510] Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	RCO1A - 0.006km^2	None

Non-Qualifying Annex I Habitat	Area Size within RCO1 Segment	Area Size within RCO2 Segment
[6410] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	None	None

5.3.2.2 Other Habitats

Mapping is not available for non-Annex I habitat supported within the study area. As such the extent of habitats of relatively lower conservation significance within the study area is not currently known. Further detailed site-based survey will be required to achieve a full account of the supported baseline situation.

From a review of aerial imagery the study area appears to support largely managed agricultural grasslands, in addition to areas of woodland, cutover peatland, raised bog and a range of developed areas, largely residential and agricultural in nature.

5.3.3 Protected Species

5.3.3.1 Birds

A Desk study seeking data from National Biodiversity Data Centre (NBDC), returned records of 142 bird species from within the relevant grid squares. Grid square records of 13 bird species listed below overlap with the RCOs.

This included a number of Annex I bird species comprising the following:

- Bewick's Swan Cygnus columbianus subsp. bewickii - Two records in total within lough Ennell but not in RCOs;
- Kingfisher Alcedo atthis - 34 records in total;
- Common tern Sterna hirundo - 7 records in total;
- Corncrake Crex crex – 9 records in total;
- Dunlin Calidris alpina – 2 records in total;
- Golden plover Pluvialis apricaria – 25 records in total;
- European nightjar Caprimulgus europaeus – single record;
- Great northern diver Gavia immer – 11 records in total;
- Greater white-fronted goose Anser albifrons – 5 records in total;
- Hen harrier Circus cyaneus – 7 records in total;
- Little egret Egretta garzetta – 12 records in total;
- Merlin Falco columbarius – 6 records in total;
- Peregrine Falco peregrinus – 7 records in total; and
- Whooper swan Cygnus cygnus – 36 records in total.

In addition, records of the following red-listed species were returned from the RCOs concentrated around Lough Ennell, primarily RCO1d and RCO2d:

- Barn owl *Tyto alba* – 29 records in total;
- Black-headed gull *Chroicocephalus ridibundus* – 80 records in total;
- Common redshank *Tringa totanus* – 12 records in total;
- Herring gull *Larus argentatus* – 18 records in total; and
- Yellowhammer *Emberiza citrinella* – 97 records in total.

In addition to these red-listed species, records of a range of amber listed species were also returned including the following species, swallow *Hirundo rustica,* kittiwake *Rissa tridactyla,* brent goose *Branta bernicla,* grasshopper warbler *Locustella naevia,* greenshank *Tringa nebularia,* kestrel *Falco tinnunculus,* linnet *Carduelis cannabina,* common sandpiper *Actitis hypoleucos,* shelduck *Tadorna tadorna,* starling *Sturnus vulgaris,* swift *Apus apus,* tree sparrow *Passer montanus,* great black-backed gull *Larus marinus,* cormorant *Phalacrocorax carbo,* great crested grebe *Podiceps cristatus,* house martin *Delichon urbicum,* house sparrow

Passer domesticus, lesser black-backed gull *Larus fuscus,* little grebe *Tachybaptus ruficollis,* common gull *Larus canus,* mute swan *Cygnus olor,* northern wheatear *Oenanthe oenanthe,* red kite *Milvus milvus,* ringed plover *Charadrius hiaticula,* sand martin *Riparia riparia,* skylark *Alauda arvensis,* Slavonian grebe *Podiceps auritus,* spotted flycatcher *Muscicapa striata,* stock dove *Columba oenas,* water rail *Rallus aquaticus* and whinchat *Saxicola rubetra*.

Further records of species protected under the Wildife Acts were also returned from NBDC. Namely, ,white-tailed eagle *Haliaeetus albicilla* (five records), marsh harrier *Circus aeruginosus* (single record) were also returned from NBDC.

Exact locations of these species records, or indications on the areas of the study are which might be of particular value for these species are not provided within the NBDC dataset, as such and in line with the NPWS consultation response, it is anticipated that extensive bird surveys will be required to support an impacts assessment of the chosen route. This includes surveys to demonstrate the relative significance of areas of habitat within and outside of the Lough Ennell SPA boundary for the SCI species populations in addition to the presence of other species of conservation concern.

This Biodiversity section of the Report has been informed overwintering bird surveys undertakenbetween November 2023 and March 2024 and detailed within the accompanying Overwintering Bird Survey Report. These surveys incorporated three survey visits and incorporated a number of survey areas, principally focused along areas adjacent to Lough Ennell in addition to areas of primarily agricultural land to the south-west of Lough Ennell, along the proposed route corridors.

These surveys recorded the use of areas of Lough Ennell in proximity to the RCO's as being used by SCI bird species populations of the SPA, with a large percentage of the SPA population of Coot being recorded within the survey areas. In addition, a range of non-SCI wetland birds species and birds of prey were recorded within the survey areas.

It is considered that the level of constraint relevant to birds varies on the basis of the conservation status of the population. Presence of SCI species populations on a regular basis, within or adjacent to the proposed route corridor is likely to represent a **Major Constraint** to the proposals given the levels of protection afforded to the SPA. The presence of populations of other bird species of conservation concern may be more limited but in the case of a number of species may still be significant. Bird populations of conservation concern are envisaged to constitute a **Minor to Moderate Constraint** on the project.

Further survey work, as requested by NPWS and recommended within the overwintering bird survey report, would be required in support of the submissions for the preferred RCO to provide an accurate and robust baseline assessment of the value of the relevant areas for birds. NPWS have requested that such surveys are undertaken over a minimum period of two years.

The desk study exercise has identified a relatively large number of records of barn owl from within the RCOs. It is considered therefore, depending upon the detailed design of the preferred route that should impacts potentially arise to barn owl, such as the loss of buildings or trees with potential to offer nesting opportunities for the species, further survey work should be undertaken to establish the presence of barn owl within the affected areas. Survey methodology for Barn owl should adhere to TII Guidelines.

As such surveys recommended by RPS include:

- Breeding bird surveys – breeding season 2025 and 2026; incorporating barn owl survey and;
- Overwintering bird survey – non-breeding season 2024/2025 and 2025/2026.

5.3.3.2 Otter

The desk study exercise, undertaken with NBDC, returned a large number of records of otter from within the relevant grid squares, overlapping the study area. A total of 67 records of the species were returned. Otter are therefore clearly regularly present within the study area and particularly around RCO1d. Records can also be found with RCO1a, RCO2a, RCO2d, and RCO2c.

The study area supports a number of watercourses including the River Brosna, the Royal Canal and Lacy's Canal in addition to a large number of minor watercourses. Many of these watercourses, particularly the River Brosna, in addition to the shores of Lough Ennell itself are considered highly likely to comprise an important part of at least one otter territory.

The RCO's will involve works along the shore of Lough Ennell, with the proposed options 2a and 2b inclusive of a significant length adjacent to the River Brosna.

As such, both RCO's have potential to give rise to adverse impacts upon otter, through potential disturbance to holts or dens and individual otter during construction, water quality and habitat deterioration effects during construction, recreational disturbance during the operational phase and adverse lighting effects during the operational phase.

Further detailed ecological survey will be required to ascertain the baseline situation in respect of otter along the preferred route. In addition, it is recommended that the early design should look to incorporate buffer zones along waterbodies where possible, sensitive lighting strategy where relevant and consideration of potential for minimising recreational disturbance along watercourses.

5.3.3.3 Bats

The desk study exercise, undertaken with NBDC, returned a large number of records of bat species from within the relevant grid squares. Grid square records of 7 bat species listed below overlap with the RCOs. These included the following species and record numbers:

- Brown long-eared bat *Plecotus auritus* – 20 records in total;
- Common pipistrelle *Pipistrellus pipistrellus* – 438 records in total;
- Daubenton's bat *Myotis daubentoniid* – 401 records in total;
- Leisler's bat *Nyctalus leisleri* – 95 records in total;
- Nathusius pipistrelle *Pipistrellus nathusii* – 8 records in total;
- Natterers bat *Myotis nattereri* – 3 records in total;
- Unidentified pipistrelle *Pipistrellus sp.* – 94 records in total (within study area but not RCOs); and
- Soprano pipistrelle *Pipistrellus pygmaeus* – 193 records in total.

It is apparent that the study area is likely to support most of the bat species found in Ireland, for the purposes of foraging and commuting. Furthermore trees and buildings within the study area will certainly support bat roosts.

Watercourses and waterbodies within the study area are likely to be of relatively greater significance in the local context, acting as corridors for movement of a range of species as well as good foraging habitat for these species including species with a preference for over-water foraging species such as Daubenton's bat and nathusius pipistrelle.

Agricultural lands, forestry, hedgerows, scrub, peatlands and other semi-natural habitats across the study area are likely to provide opportunities for foraging commuting bats, including all the species returned from the data search.

Both of the RCO's will involve land take across a range of habitats likely to provide foraging and commuting habitat for bats. Furthermore both options will also involve works in close proximity to watercourses which are likely to be of high value for foraging and commuting bats.

Furthermore both RCO's are likely to involve impacts to trees and potentially buildings with potential to support roosting bats.

Further detailed surveys for bats will be required in support of either RCO. As discussed in respect of otter, it is recommended that consideration is given to the proposed lighting arrangements associated with the project, particularly in proximity to waterbodies within the study area.

It is considered that bats are likely to represent a **Moderate Constraint** to the project.

5.3.3.4 Badger

The desk study exercise, undertaken with NBDC, returned a large number of records of badger from within the relevant grid squares, overlapping with all RCOs included within this assessment (RCO1a – RCO2d), with a total of 482 records. As such, it can be assumed that the RCOs are extensively utilised by badger.

The RCOs support largely agricultural land and a range of other habitats which are considered to offer good opportunities for badger. Further surveys of the preferred route will be required to ascertain the extent of potential impacts upon this species.

It is considered that badger are likely to represent a **Minor to Moderate Constraint** to the project depending upon the nature of the potential impacts.

5.3.3.5 Amphibians and Reptiles

The desk study exercise, undertaken with NBDC, returned a number of records of amphibians and reptiles from within the relevant grid squares Grid square records of amphibians and reptiles species listed below overlap with the RCOs and included the following:

- Common frog *Rana temporaria* – 88 records (most RCOs);
- Common lizard *Zootoca vivipara* – 13 records (RCO2a only);
- Smooth newt *Lissotriton vulgaris* – 16 records (RCO1a and RCO1b); and
- Slow worm *Anguis fragilis* – single record (non-native) (not in RCOs study area only);
- Records of non-native turtle including Cumberland slider *Trachemys scripta troostii* (RCO2d) and yellow-bellied slider *Trachemys scripta scripta* (not in RCOs study area only)

As such, it can be assumed that the three returned native species, subject to protection, are likely to be present within the study area.

All RCO's will involve works within areas of agricultural land, and within or at the margins of peatland which have potential to support waterbodies with potential for amphibians and habitats of potential value for common lizard.

Further surveys for these species will likely be required to establish the ecological baseline and to fully assess the potential impacts of either preferred route corridor.

It is considered that protected amphibians and reptiles are likely to represent a **Minor to Moderate Constraint** to the project depending upon the nature of the potential impacts.

5.3.3.6 Red Squirrel

The desk study exercise, undertaken with NBDC, returned a number of records of red squirrel from within the relevant grid squares, those of which were scattered throughout the RCOs the most prevalent being RCO1d, a total of 44 records. As such, it can be assumed that the species is present within the study area.

Various habitats within the study area can be potentially affected by the proposed route corridor options including those that hold potential to support red squirrel. This could include habitats such as dreys, treelines, areas of woodland and forestry.

Further surveys for this species will likely be required to establish the ecological baseline and to fully assess the potential impacts.

It is considered that red squirrel are likely to represent a **Minor to Moderate Constraint** to the project depending upon the nature of the potential impacts.

5.3.3.7 Pine Marten

The desk study exercise, undertaken with NBDC, returned a number of records of pine marten from within the relevant grid squares, those of which were scattered throughout the RCOs the most prevalent being RCO2d, a total of 100 records. As such, it can be assumed that the species is present within the study area.

Various habitats within the study area can be potentially affected by the proposed route corridor options including those that have potential to support the species. These habitats include treelines, areas of woodland and forestry. Buildings and trees within the route corridors may have potential to support breeding pine marten.

Further surveys for this species will likely be required to establish the ecological baseline and to fully assess the potential impacts associated with the preferred route.

It is considered that pine marten are likely to represent a **Minor to Moderate Constraint** to the project depending upon the nature of the potential impacts.

5.3.3.8 Other Protected Species

The desk study exercise, undertaken with NBDC, returned a single record of flora protection order plant species from within the relevant grid squares, overlapping the study area that being varnished hook-moss *Hamatocaulis vernicosus*, with a total of 120 records (RCO1d and RCO2d). Further survey work is likely to be required to ascertain the relevance of this constraint to the preferred route corridor option.

Records of the Annex I species freshwater crayfish *Austropotamobius pallipes*, also protected under the Wildlife Acts, were returned from the search area inclusive of a total of 53 records (RCO1d and RCO2b). This species, associated with slow -flowing and running watercourses may be present within a number of watercourses present within the study area and potentially affected by the proposed route corridor options. This species has potential to represent a **Minor** to **Moderate Constraint** to the project and further survey and assessment will be required to ascertain the significance of this constraint to the proposals and to identify the requirement for mitigation measures.

Records of the Annex I species marsh fritillary *Euphydryas aurinia*, also protected under the Wildlife Acts, were returned from the search area inclusive of a total of 95 records (RCO1d and RCO2d). This species, associated with wet grasslands supporting devils-bit scabious *Sucissa pratensis,* likely to present within the study area and potentially affected by the proposed route corridor options. This species has potential to represent a **Minor** to **Moderate Constraint** to the project and further survey and assessment will be required to ascertain the significance of this constraint to the proposals and to identify the requirement for mitigation measures.

10 records of the Wildlife Acts protected pygmy shrew *Sorex minutus* were returned from NBDC from within the data search area (RCO2d). This species is fairly widespread but threatened and potentially represents a **Minor Constraint** to the project.

Records of hedgehog *Erinaceus europaeus* were returned from the search area (all RCOs except RCO1c) in relatively high numbers (146 total records) and as such this species is considered likely to be widespread within the RCOs. This species is considered likely to represent a **Minor Constraint** to the proposed development.

Three records of European eel *Anguilla anguilla* were returned from the NBDC search area however are not within any RCOs. This fish species is likely to be present within a number of watercourses within the study area. Any impacts to watercourses which would arise as a result of the proposed project should be supported by aquatic habitat and fish surveys, as relevant to European eel in addition to other freshwater species including the protected Atlantic salmon *Salmo salar* and white-clawed crayfish.

Further protected species may be present within the study area and further ecological surveys would be required to fully ascertain the presence of protected species within the area to be affected by the preferred route.

5.3.4 Invasive Species

5.3.4.1 Scheduled Invasive Species

The desk study exercise conducted with NBDC returned records of a number of scheduled invasive species, for which legal requirements for control or eradication exist. These records include the following species:

- American mink *Mustela vison* – 11 records;
- American skunk-cabbage *Lysichiton americanus* – 3 records;
- Canada goose *Branta canadensis* – single record;
- Canadian waterweed *Elodea canadensis* – 23 records;
- Fallow deer *Dama dama* – 8 records;
- Harlequin ladybird *Harmonia axyridis* – single record;
- Himalayan knotweed *Persicaria wallichii* – single record;
- Japanese knotweed *Fallopia japonica* - 38 records;
- Nuttall's waterweed *Elodea nuttallii* – single record;
- Rhododenron *Rhododendron ponticum* – 11 records;
- Roach *Rutilus rutilus* – 10 records;
- Three-cornered garlic *Allium triquetrum* – 5 records; and
- Zebra mussel *Dreissena polymorpha* – 9 records.

In addition to these scheduled invasive non-native species a range of non-scheduled but high or medium impact invasive species, as classified by NDBC, were returned from within the search area including bank vole *Myodes glareolus,* Budapest slug *Tandonia budapestensis,* buddleia *Buddleja davidii,* cherry laurel *Prunus laurocerasus,* common broomrape *Orobanche minor,* common garden snail *Cornu aspersum,* douglas fir *Pseudotsuga menziesii,* European rabbit *Oryctolagus cuniculus*, ferret *Mustela furo,* greater white-toothed shrew *Crocidura russula,* Himalayan honeysuckle *Leycesteria formosa,* Keeled slug *Tandonia sowerbyi,* least duckweed *Lemna minuta,* pitcherplant *Sarracenia purpurea,* sycamore *Acer pseudoplatanus,* traveller's joy *Clematis vitalba,* wall cotoneaster *Cotoneaster horizontalis* and wrinkled snail *Candidula intersecta*.

It is clear that the study area supports a range of scheduled and non-scheduled invasive non-native species which are likely to represent variable constraints to the project. The exact finalised footprint of the preferred option would be highly relevant to the assessment of the extent of the potential for impacts associated with invasive species. Further ecological survey will be required in association with the preferred route corridor to establish the presence or extent of invasive species within the proposed working area.

While the presence of invasive species within the working area (defined at the referred route stage) is likely to represent a **Minor Constraint** to the achievement of consent for the project, subject to the implementation of a range of mitigation measures as part of an Invasive Species Management Plan (ISMP), the treatment and control of such species can have significant financial and programme implications. Invasive species are therefore considered to represent a **Minor to Moderate** constraint to the project.

5.4 Summary

Effects on biodiversity are generally considered in terms of impacts on specific flora or fauna, or on defined habitats. The EU Habitats Directive (92/43/EEC) on the conservation of natural habitats and of wild fauna and flora should be considered if the construction, presence, and operation of transport infrastructure can impact on nature conservation resources through direct loss or damage to habitat or specific species or creation of barriers to population movement. More indirect effects on biodiversity should also be considered including changes in water quality levels, air quality, noise, or light levels. It should also be noted that biodiversity appraisal requirements are becoming more stringent, reflected in the growing case law in this area, and there is a risk to the delivery of projects if provision is not made at the outset of investment decisions to ensure that transport projects are compliant with biodiversity and ecology obligations. Particular consideration should be given to the following:

- Potential to affect protected areas including European Sites (SAC, SPA and RAMSAR), National Sites (NHAs, pNHAs) and other sites of regional or local importance (Areas of Special Scientific Interest (ASSI), Areas of Outstanding Natural Beauty (AONBs), Nature Reserves, National Heritage Sites, Wildlife Reserves).

- Potential to impact biodiversity in non-designated areas.
- Potential to spread invasive species during construction work.

5.4.1 Corridor Segment Breakdown

5.4.1.1 RCO1a

The following designations are located within this section of route corridor; Split Hills and Long Hill Esker SAC (7.5% of corridor area), Split Hills and Long Hill Esker pNHA and Grand Canal pNHA (Total PNHA 20% of corridor area). In addition, there is a portion of Orchid Rich Grassland Calcareous Grassland (2855m^2) within this portion of corridor - this is an Annex I Qualifying Interest habitat. Also present are Lowland Hay Meadows (6414m^2) on the northern fringes of this section of corridor. Without any mitigation measures in place this segment holds a “Negative” rating due to the ecological features enveloped within RCO1a.

5.4.1.2 RCO1b

There are low numbers of ecological designations located within this section of route corridor; Split Hills and Long Hill Esker SAC (0.7% of corridor segment) and Split Hills and Long Hill Esker pNHA (0.5% of corridor segment). The areas of protected habitats in this corridor segment are extremely limited and therefore it could be argued that the rated is "Neutral".

5.4.1.3 RCO1c

This segment has no designations contained within. There are no SACs, SPAs, pNHAs or qualifying habitats within this portion of route corridor. The are no areas of protected habitats in this corridor segment and therefore it could be argued that the rated is "Neutral".

5.4.1.4 RCO1d

For this section of corridor 1 there are a high number of ecological sensitivities. There are 6 no. designations in RCO1d. These are: Lough Ennell SPA, Lough Ennell SAC, Lough Ennell Ramsar, Nure Bog NHA, Lough Ennell pNHA and Royal Canal pNHA. There are also Alkaline Fens (3.3% of the corridor) and Caldium Fens (3.3% of the area of the corridor) situated in this segment. Total percentages of these elements in the route corridor segment are - SPA – 2.2%, SAC 16.5%, Ramsar – 2.2%, NHA – 3.4% and pNHA – 15.9%. Recommended design implication of the above assessment include the avoidance of all areas within the boundary of an internationally or nationally designated site of nature conservation interest where possible, the avoidance of areas of ancient or long-established woodland, avoidance of areas known to support non-qualifying examples of non-qualifying Annex I habitat, and the avoidance, where possible, of the placement of the preferred route corridor adjacent to or in close proximity of major watercourses and waterbodies including Lough Ennell and the River Brosna. Again, without the employment of preventative measure or appropriate amelioration there is the potential of impacts on some of these protected areas and subsequent environmental implications. Without any mitigation measures in place this segment holds a “High Negative” rating due to the ecological features enveloped within RCO1d.

5.4.1.5 RCO2a

Not a significant amount of ecological sensitivities in this corridor segment although it still encounters some. The following designations are located within this section of route corridor; Split Hills and Long Hill Esker SAC (2.5% of corridor area), Split Hills And Long Hill Esker pNHA and Grand Canal pNHA (a combined total of 3.2% of corridor segment area). In addition, there is a portion of Orchid Rich Grassland Calcareous Grassland (2965m^2) within this portion of corridor - this is an Annex I Qualifying Interest habitat. This portion also follows the River Brosna for a portion of the segment area. The placement of the preferred route corridor adjacent to or in close proximity of major watercourses and waterbodies including the River Brosna may cause impacts on those features. Without any mitigation measures in place this segment may have a negative impact on some ecological features enveloped within RCO2a.

5.4.1.6 RCO2b

Similar to corridor segment RCO1b, there is not an abundance of ecological feature in this portion of the corridor. The following designations are located within this section of route corridor; Split Hills and Long Hill Esker SAC (less than 0.1% of corridor segment area) and Split Hills and Long Hill Esker pNHA (less than 0.1% of corridor segment area). The areas of protected habitats in this corridor segment are extremely limited and therefore it could be argued that the rated is "Neutral".

5.4.1.7 RCO2c

There is one designated area within RCO2c, namely, Lough Ennell SAC – with the overlapping portion within RCO2c being 0.3m^2 in size - less than 1% of the route corridor segment. This portion also follows the River Brosna for a portion of the segment area. Where possible, of the placement of the preferred route corridor adjacent to or in close proximity of major watercourses and waterbodies including the River Brosna. The areas of protected habitats in this corridor segment are extremely limited and therefore it could be argued that the rated is "Neutral".

5.4.1.8 RCO2d

There are 4 no. designations in RCO2d. These are: Lough Ennell SPA, Lough Ennell SAC, Lough Ennell Ramsar and Lough Ennell pNHA. There are also Alkaline Fens (1.2%) and Caldium Fens (1.2%) situated in this route corridor. The total areas present in the route corridor are as follows: SPA - 0.7%, SAC - 1.9%, Ramsar - 0.7% and pNHA - 1.9%. As such it is recommended that the preferred route corridor design should seek to avoid, wherever possible, works within the SACs and SPAs supported within the study area and particularly within the known footprint of Annex I qualifying habitat. The inclusion of a proposed working area which lies within qualifying Annex I habitat or wetland habitat of an SPA is likely to represent a constraint of major significance for the scheme, and may precipitate the refusal of the proposal if not adequately addressed. Without any mitigation measures in place this segment holds a “Slight Negative” rating due to the ecological features enveloped within RCO2d.

5.5 References

Bibby, C.J., Burgess, N.D., Hill, D.A. & Mustoe, S.H. (2000). *Bird Census Techniques* (2nd Ed). Academic Press: London.

BS 42020:2013 Biodiversity: Code of practice for planning and development (BSI, 2013)

CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd Edition, Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM (2017). *Guidelines for Ecological Report Writing*. Chartered Institute of Ecology and Environmental Management: Winchester.

CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland, Terrestrial, Freshwater and Coastal and Marine, Technical Guidance Series, Version 1.1, Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM (2022) Code of Professional Conduct, Chartered Institute of Ecology and Environmental Management, Hampshire.

EPA (2015) *Advice Notes for Preparing Environmental Impact Statements* - Draft September 2015.

EPA (2022) Guidelines on the information to be contained in Environmental Impact Assessment Reports, Environment Protection Agency, Wexford.

Fossitt, J. (2000) *A Guide to Habitats in Ireland*. Heritage Council, Kilkenny. *Species.* RSPB: Sandy

Gilbert, G., Stanbury, A. & Lewis, L. (2021). Birds of Conservation Concern in Ireland 2020–2026. Irish Birds 43: 1–22.

Heritage Council (2011) *Best Practice for Habitat Survey and Mapping*, The Heritage Council. best_practice_guidance_habitat_survey_mapping_onscreen_version_2011_8mb.pdf (heritagecouncil.ie)

NPWS (2018a) Conservation Objectives - Split Hills and Long Hill Esker SAC. Version 1. 20/06/2018 ConservationObjectives.rdl (npws.ie) (accessed June 2024).

NPWS (2018b) Conservation Objectives – Lough Ennell SAC. Version 1. 12/01/2018 ConservationObjectives.rdl (npws.ie) (accessed June 2024).

NRA (2009) *Guidelines for Assessment of Ecological Impacts of National Road Schemes*, revision 2, National Roads Authority, Dublin.

NRA (2009) *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*, National Roads Authority, Dublin.

6 WATER RESOURCES & HYDROLOGY

6.1 Introduction

This section identifies the key constraints within the RCO's relating to water resources including hydrology and drainage. This section should be read in conjunction with the assessments presented within the Biodiversity, Soils/ Geology, and Hydrogeology sections of this report.

Developments have the potential to impact surface water features through processes including:

- Increased sediment runoff and/or spills to water features from construction works;
- Change to river baseflow through changes in surfacing;
- Impacts on flood regimes through introduction of structures or changes to water features;
- Potential for contamination of surface water features, either directly or through drainage systems, from substances such as fuels and cement;
- Locations of floodplains and water features may place constraints on the areas available for development.

6.2 Methodology

6.2.1 Information Sources Used

In order to inform the baseline assessment, a desktop study of publicly available information was undertaken, from the following sources:

- OS survey vector, six inch and 'discovery' series mapping; Aerial photography;
- The Office of Public Works (https://www.floodinfo.ie/);
- Water Framework Directive (WFD) national website and Water Maps viewer; (www.wfdireland.ie); and
- Environmental Protection Agency (https://www.epa.ie/)

6.2.2 Constraints

The following constraints were assessed for each RCO:

- Surface Water Features;
- Drinking Water Protected Areas (DWPA);
- Flood Risk; and
- Water Quality

6.2.3 Legislation and Policy

Relevant legislation guidance and policy is presented in Table 6.1.

Table 6.1: Legislation and Guidance

Legislation/Plan/Policy	Constraints/Requirements of the Kilbeggan to Mullingar Greenway
EU Level	
European Union Water Framework Directive (WFD) (2000/60/EC).	All works will need to satisfy the requirements of the WFD.

Legislation/Plan/Policy	Constraints/Requirements of the Kilbeggan to Mullingar Greenway
Directive 2007/60/EC on the Assessment and Management of flood risks	Aim is to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity. Establish a framework for the assessment and management of flood risks.
National Level	
European Communities Environmental Objectives (Surface Water) Regulations, 2009 (S.I. No. 272 of 2009), as amended	Prevent pollution of surface waters throughout the project.
Regional and Local Level	
Local Development Plan	
CPO 10.104	Implement and comply fully with the recommendations of the Strategic Flood Risk Assessment prepared as part of the Westmeath County Development Plan 2021-2027
CPO 10.105	Have regard to the "Guidelines for Planning Authorities on the Planning System and Flood Risk Management" (DoEHLG/OPW 2009) and Circular PL2/2014, through the use of the sequential approach and application of the Justification Tests in Development Management.
CPO 10.106	Ensure that a flood risk assessment is carried out for any development proposal within 200m of a watercourse and at risk of flooding, in accordance with the "Guidelines for Planning Authorities on the Planning System and Flood Risk Management" (DoEHLG/OPW 2009). This assessment shall be appropriate to the scale and nature of risk to the potential development.
CPO 10.107	Support the implementation of recommendations in the CFRAM Programme to ensure that flood risk management policies and infrastructure are progressively implemented.
CPO 10.108	Support the implementation of recommendations in the Flood Risk Management Plans (FRMP's), including planned investment measures for managing and reducing flood risk.
CPO 10.109	Consult with the OPW in relation to proposed developments in the vicinity of drainage channels and rivers for which the OPW are responsible, and to retain a strip on either side of such channels where required, to facilitate maintenance access thereto.
CPO 10.110	110 Assist the OPW in developing catchment-based Flood Risk Management Plans for rivers in County Westmeath and have regard to their provisions/recommendations.
CPO 10.111	Protect and enhance the County's floodplains and wetlands as 'green infrastructure' which provides space for storage and conveyance of floodwater, enabling flood risk to be more effectively managed and reducing the need to provide flood defences in the future, subject to normal planning and environmental criteria.
CPO 10.112	Protect the integrity of any formal (OPW or Westmeath County Council) flood risk management infrastructure, thereby ensuring that any new development does not TRANSPORT, INFRASTRUCTURE AND ENERGY 10 Westmeath County Development Plan 2021-2027 327 negatively impact any existing defence infrastructure or compromise any proposed new infrastructure.

Legislation/Plan/Policy	Constraints/Requirements of the Kilbeggan to Mullingar Greenway
CPO 10.113	3 Ensure that where flood risk management works take place that the natural and cultural heritage, rivers, streams and watercourses are protected and enhanced.
CPO 10.114	Ensure each flood risk management activity is examined to determine actions required to embed and provide for effective climate change adaptation as set out in the OPW Climate Change Sectoral Adaptation Plan Flood Risk Management applicable at the time.
CPO 10.115	Consult, where necessary, with Inland Fisheries Ireland, the National Parks and Wildlife Service and other relevant agencies in the provision of flood alleviation measures in the County.

6.3 Constraints Corridor Segment Breakdown

6.3.1.1 RCO1a

To determine the impact on surface and ground waters within Route Corridor Option (RCO) 1A, the National Indicative Fluvial Mapping (NIFM) flood mapping was reviewed. The maps indicated that within RCO1A there is one key area highlighted being of high probability to flood from rivers as shown on the Water Resources Maps. However, this area within RCO1A is small and isolated to the corresponding river locations within this segment. This area of high probability flooding within RCO1A accounts for 0.5% of the area.

This segment (RCO1A) envelopes a number of waterbodies including the rivers Grangegibbon, Loughanagore, Ballinlaban Stream and Brosna River, which when combined create a total length of 843m.

There are no surface waterbodies in the RCO defined as DWPAs based on water abstraction data on the abstraction register and from other sources in 2018. All groundwater bodies nationally are identified as DWPA. DWPA layers can be viewed at https://gis.epa.ie/EPAMaps/Water.

Due to these factors, it has been determined to have an indicator score of “Slight Negative”.

6.3.1.2 RCO1b

Upon review of the NIFM flood mapping, it was determined that RCO1B has no key areas of high probability flooding from the corresponding rivers.

This segment (RCO1B) crosses the rivers Killinlahan and Toorlisnamore which when combined create a total length of 1063m.

There are no surface waterbodies in the RCO defined as DWPAs based on water abstraction data on the abstraction register and from other sources in 2018. All groundwater bodies nationally are identified as DWPA.

RCO1B has been determined to have an indicator score of “Slight Negative”.

6.3.1.3 RCO1c

Within RCO1C, the NIFM maps indicated that there is one key area highlighted being of high probability to flood from rivers as shown on the Water Resources Maps. However, this area within RCO1C is small and isolated to the corresponding river locations within this segment. This area of high probability flooding within RCO1C accounts for 0.8% of the area.

This segment crosses two rivers named Killinlahan and Monaghanstown, which when combined create a total length of 1309m.

There are no surface waterbodies in the RCO defined as DWPAs based on water abstraction data on the abstraction register and from other sources in 2018. All groundwater bodies nationally are identified as DWPA.

Due to these factors, it has been determined to have an indicator score of “Slight Negative”.

6.3.1.4 RCO1d

When reviewing the NIFM flood mapping, it was determined that RCO1D has six key areas highlighted as being of high probability to flood from rivers as shown on the Water Resources Maps. However, these areas within RCO1D are isolated to the corresponding river locations within this segment. These areas of high probability flooding within RCO1D covers 5.4% of the total area.

This segment contains numerous rivers namely the Dysart (Stream), Barrettstown Stream, Grange South, Kilpatrick, Stokestown, Curristown, Brosna and Monaghanstown. When combined these create a total length of 10460m within RCO1D. Approximately 0.3% of Lough Ennell is situated within this route corridor segment.

There are no surface waterbodies in the RCO defined as DWPAs based on water abstraction data on the abstraction register and from other sources in 2018. All groundwater bodies nationally are identified as DWPA.

Due to these factors, it has been determined to have an indicator score of “Negative”.

6.3.1.5 RCO2a

The NIFM flood mapping indicated that within RCO2A there is one key area highlighted being of high probability to flood from rivers as shown on the Water Resources Maps. However, this area within RCO2A is small and isolated to the corresponding river locations within this segment. This area of high probability flooding within RCO2A accounts for 1.9% of the area.

This segment follows the Brosna for a large portion of its alignment, however, also contains numerous fragments of rivers namely; Grangegibbon, Aghyrassy, Loughanagore, Grangegibbon and the Brosna River. When combined these create a total length of 7475m within RCO2A.

There are no surface waterbodies in the RCO defined as DWPAs based on water abstraction data on the abstraction register and from other sources in 2018. All groundwater bodies nationally are identified as DWPA.

Due to these factors, it has been determined to have an indicator score of “Negative”.

6.3.1.6 RCO2b

Upon review of the NIFM flood mapping, it was determined that RCO2B has no key areas of high probability flooding from the corresponding rivers. This segment (RCO2B) crosses numerous rivers such as Killinlahan, Brosna River, Teernacreeve, Toorlisnamore and Tyrrellspass, which when combined create a total length of 3295m.

There are no surface waterbodies in the RCO defined as DWPAs based on water abstraction data on the abstraction register and from other sources in 2018. All groundwater bodies nationally are identified as DWPA.

RCO2B has been determined to have an indicator score of “Negative”.

6.3.1.7 RCO2c

The NIFM flood mapping indicated that within RCO2C there are two key area highlighted being of high probability to flood from rivers as shown on the Water Resources Maps. However, these areas within RCO2C are small and isolated to the corresponding river locations within this segment. These areas of high probability flooding within RCO2C accounts for 0.8% of the total area.

This segment contains numerous fragments of rivers namely the Brosna River, Tyrrellspass Stream and Dalystown. When combined these create a total length of 5772m within RCO2C. There is also

evidence of surface water fringing on the path of the River Brosna on the northern edges of the route option section.

There are no surface waterbodies in the RCO defined as DWPAs based on water abstraction data on the abstraction register and from other sources in 2018. All groundwater bodies nationally are identified as DWPA.

Due to these factors, it has been determined to have an indicator score of “Negative”

6.3.1.8 RCO2d

When reviewing the NIFM flood mapping, it was determined that RCO2D has one key area highlighted as being of high probability to flood from rivers as shown on the Water Resources Maps. However, this area within RCO2D is small and isolated to the corresponding river locations within this segment. This area of high probability flooding within RCO2D accounts for 0.9% of the area.

This segment contains numerous rivers namely the Brosna, Dalystown, Dunboden Park Stream, Gaddaghanstown, Higginstown and Rochfort Demesne. When combined these create a total length of 7826m within RCO2D. Approximately 0.3% of Lough Ennell is situated within this route corridor segment.

There are no surface waterbodies in the RCO defined as DWPAs based on water abstraction data on the abstraction register and from other sources in 2018. All groundwater bodies nationally are identified as DWPA.

Due to these factors, it has been determined to have an indicator score of “Slight Negative”.

7 LANDSCAPE & VISUAL

7.1 Introduction

This section of the wider Kilbeggan to Mullingar Greenway Options Report details the methodology utilised and identifies the potential constraints, in respect to landscape and visual amenity, which have been identified through a desk study process and which have been identified as being relevant to the proposed scheme.

The study area, comprises an area of approximately 193.7 km^2, including large areas of agricultural land, woodland, forestry plantation, peatlands, Lough Ennell and its surrounding lands, in County Westmeath.

7.2 Methodology

A desktop study was carried out to identify potential constraints within the wider Study Area and to identify those of relevance to each of the Route Corridor Options.

7.2.1 Legislation and Policy

7.2.1.1 International Directives

7.2.1.1.1 Council of Europe's European Landscape Convention

Ireland signed and ratified the Council of Europe's European Landscape Convention (ELC) which came into effect on 1 March 2004. The Convention has been ratified by thirty-eight countries. It obliges Ireland to implement policy changes and objectives concerning the management, protection and planning of the landscape.

7.2.1.2 National Landscape Strategy for Ireland 2015 – 2025

The National Landscape Strategy is Ireland's way of meeting obligations and delivering on the objectives under the European Landscape Convention.

The objective of the National Landscape Strategy (NLS) is to provide a high-level policy framework to achieve balance between the protection, management and planning of the landscape by way of supporting actions. The NLS recognises the importance of landscape protection and its interconnectivity with biodiversity and climate change. A core objective of the strategy is to develop a national Landscape Character Assessment, to provide a framework for greater consistency in the approach to landscape classification and assessment to ensure the conservation of special landscape areas, which by their nature often extend across administrative boundaries. It also sets out specific measures to integrate and embed landscape considerations in all sectors which influence the landscape and improve and enhance the quality of decision-making by those who have an impact on it

Its implementation can also assist Ireland in complying with United Nations, EU and national targets to foster sustainable development along with the implementation of *Our Sustainable Future, a Framework for Sustainable Development for Ireland (2012),* the *National Climate Change Adaptation Framework (2012),* the *National Biodiversity Action Plan 2011-2016 (2011)* and the *Government Policy on Architecture 2009-2015 (2009)*.

Key objectives of the National Landscape Strategy include;

- Recognise landscapes in law
- Develop a National Landscape Character Assessment
- Develop Landscape Policies
- Increase Landscape Awareness
- Identity Education, Research and Training Needs Local Development Plan

- Strengthen Public Participation

7.2.1.3 National Planning Framework – Project Ireland 2040

The National Planning Framework (NPF) acknowledges the value of landscape which offers a wealth of natural and cultural assets which in turn support our quality of life and our visitor economy. It aims to facilitate landscape protection, management and change through the preparation of a National Landscape Character Map and development of guidance on local landscape character assessments, (including historic landscape characterisation) to ensure a consistent approach to landscape character assessment, particularly across planning and administrative boundaries. The NPF also seeks to protect and promote the sense of place and culture and the quality, character and distinctiveness of the Irish rural landscape that make Ireland's rural areas authentic and attractive as places to live, work and visit.

7.2.1.4 Local Development Plan

7.2.1.4.1 Westmeath County Development Plan 2021-2027

A review has been undertaken of the Westmeath County Development Plan 2021-2027 (WCDP) to establish whether there are any relevant landscape and visual designations that may influence the assessment within the study area.

Policies and objectives of relevance to this project in the current WCDP are provided in Table 7.1.

Table 7.1: Westmeath County Development Plan: Landscape and Visual Policies of relevance

WCDP Policy No.	Description
CPO 9.24.	Restrict development not related to farming practices and tourism in all High Amenity Areas, with the exception of housing for the immediate family (son/daughter) of established residents living on landholdings, who demonstrate a housing need and have long-term intrinsic links with the area. The entire landholding will be demonstrated to have been in the resident's ownership 5 years prior to the date of application.
CPO 12.13	Protect, manage and enhance the natural heritage, biodiversity, landscape and environment of County Westmeath, in recognition of its importance as both a non-renewable resource and a natural asset.
CPO 12.15	Support the protection of all native woodlands listed in the National Survey of Native Woodlands 2003 to 2008.
CPO 12.24	Protect and where possible enhance biodiversity and ecological connectivity, including woodlands, trees, hedgerows, semi-natural grasslands, rivers, streams, natural springs, wetlands, geological and geo-morphological systems, other landscape features, natural lighting conditions, and associated wildlife where these form part of the ecological network and/or may be considered as ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive. Appropriate mitigation and/or compensation to conserve biodiversity, landscape character and green infrastructure networks will be required where habitats are at risk or lost as part of a development.
CPO 12.25	Recognise that nature conservation is not just confined to designated sites and acknowledge the need to protect non-designated habitats and landscapes and to conserve the biological diversity.
CPO 12.37	Preserve and enhance the amenity and biodiversity value of the County, by promoting the protection of trees, groups of trees and ancient woodlands, of significant amenity value, especially native and broadleaf species.
CPO 12.38	Protect trees subject to Tree Preservation Orders and seek to designate additional Tree Preservation Orders, where appropriate.
CPO 12.40	Protect and preserve existing hedgerows in new developments, particularly species rich roadside and townland boundary hedgerows, and where their removal is necessary during the course of road works or other works seek their replacement with new hedgerows of native species indigenous to the area
CPO 12.43	Encourage the protection of the trees which are considered an important component of demesne landscapes

WCDP Policy No.	Description
CPO 12.76	Ensure green infrastructure responds to and reflects landscape character including historic landscape character, conserving and enhancing the existing landscapes and townscapes of Westmeath which contribute to a distinctive sense of place.
CPO 13.1	Support the implementation of the National Landscape Strategy.
CPO 13.2	Protect the distinctiveness, value and sensitivity of County Westmeath's landscapes and lakelands by recognising their capacity to sustainably integrate development.
CPO 13.3	Support and implement objectives contained in any Regional Landscape Character Assessment.
CPO 13.4	Conserve and enhance the high nature conservation value of the Landscape Character Areas in order to create/protect ecologically resilient and varied landscapes.
CPO 13.5	Identify and integrate new green and blue infrastructure networks within the existing landscape character areas in the interests of biodiversity and climate change and in recognition of the tourism potential of these assets.
CPO 13.6	Require that development is sensitively designed, so as to minimise its visual impact on the landscape, nature conservation, archaeology and groundwater quality.
CPO 13.8	Protect the landscapes and natural environments of the County by ensuring that any new developments do not detrimentally impact on the character, integrity, distinctiveness or scenic value of their area. Any development which could unduly impact upon such landscapes will not be permitted
CPO 13.9	Ensure the preservation of the uniqueness of a landscape character type by having regard to the character, value and sensitivity of a landscape in new development proposals.
CPO 13.10	Ensure development reflects and, where possible, reinforces the distinctiveness and sense of place of the landscape character types, including the retention of important features or characteristics, taking into account the various elements which contribute to their distinctiveness
CPO 13.11	Explore the potential for natural resource tourism, such as fishing, boating, walking, cycling, nature trails, natural and cultural resource tourism etc., in conjunction with relevant tourism bodies such as Waterways Ireland, Fáilte Ireland, Community Development Agencies and the National Parks and Wildlife Service
CPO 13.12	Require a Landscape and Visual Impact Assessment for proposed developments with the potential to impact on significant landscape features within the county
CPO 13.15	Landscape Character Area 5: Continue to work with Waterways Ireland to enhance and protect the visual corridor of the Royal Canal, by incorporating a visual buffer zone on each side of the bank of the canal.
CPO 13.17	Minimise impact on the ecological, archaeological, biodiversity and visual amenity surrounding quarry sites and quarrying of sensitive sites within the Landscape Character Areas including the lake valley landscape, eskers and canal corridor.
CPO 13.20	Protect High Amenity areas from inappropriate development and reinforce their character, distinctiveness and sense of place.
CPO 13.21	Protect and preserve designated High Amenity Areas from inappropriate urban generated housing development or any other development which would be injurious to or detract from the natural amenity of Areas of High Amenity.
CPO 13.22	Protect lakeshores from any inappropriate development which would detract from the natural amenity of the area.
CPO 13.23	Protect and enhance the special landscape character and exceptional landscape value of the Lough Ree Islands, including their significant archaeological, cultural and natural heritage value. Support the preparation for a Plan for the Islands in conjunction with the National Monuments Service and the National Parks and Wildlife Service
CPO 13.25	Promote, in association with Fáilte Ireland, the sustainable tourism potential of Areas of High Amenity centred around the Lakelands.
CPO 13.26	Protect existing public rights of way in Areas of High Amenity.
CPO 13.68	Support the implementation of the Habitat Management Plan prepared for Council owned lands at Belvedere, Ladestown, Lilliput
CPO 13.72	Sustain the established appearance and character of views of Lough Ennell from the N52, Butler's Bridge and La Mancha.

WCDP Policy No.	Description
CPO 13.81	Protect and sustain the established appearance and character of views listed in Appendix 5 of this plan that contribute to the distinctive quality of the landscape from inappropriate development.
CPO 13.82	Provide and maintain facilities, including safe pedestrian access and/or car parking, and where appropriate, associated seats and signs in the immediate vicinity of views that are identified in this plan.

7.2.2 Relevant Guidance

A range of published guidance was considered to inform the methodology of the desk study exercise and the content of this section of the Options Report. Relevant guidance includes:

- Landscape Institute and Institute of Environmental management and Assessment, Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, (2013);
- Transport Infrastructure Ireland 'Landscape Character Assessment (LCA) and Landscape and Visual Impact Assessment (LVIA) of Specified Infrastructure Projects - Overarching Technical Document (TII, 2020);
- Transport Infrastructure Ireland 'Landscape Character Assessment (LCA) and Landscape and Visual Impact Assessment (LVIA) of Proposed National Roads – Standard Guidelines for Assessment of Ecological Impacts of National Road Schemes' (TII, 2020); and
- Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA 2022).

7.3 Constraints – Study Areas

7.3.1 Study Area

7.3.1.1 Landscape Character

A Landscape Character Assessment (LCA) of Westmeath has been undertaken as part of the WCDP and provides an understanding of the value and sensitivity of the County's landscapes and its future management needs.

Relevant descriptive data contained in Chapter 13; Landscape and Lake Management of the WCDP and specific Policies relevant to each identified Character Area is presented below for each of the Character Areas which fall within the study area (refer Annex A; Figure 7-1).

It is noted that the Landscape Character Assessment contained within Chapter 13 of the WCDP does not make any reference to visual or landscape detractors and does not evaluate the sensitivity, vulnerability or value of the identified character areas.

Character Area 4 Central Hills and Lakes

The landscape is described as follows:

"*The Central Hills and Lakes Character Area is located to the north of the centre of the county. This area is typified by undulating hills and lakes, the most prominent of which are Lough Derravaragh and Lough Owel. These lakes are designated Areas of High Amenity, SAC and SPA. A number of fens occur throughout the area, the most notable being Scragh Bog which is of international importance. The high scenic quality and amenity value of this area is reflected by the high number of preserved views. There are a number of demesne landscapes in the area and associated valuable areas of semi-natural woodland, including oak on some upland areas, such as around Lough Derravaragh at Knockeyon and Crookedwood. This area has a number of small settlements such as Crookedwood, Multyfarnham and the larger settlement of Castlepollard. The Character Area reflects the historic landscape from Bronze Age Sites on Lough Derravaragh and Frewin Hill at Lough Owel to the monastic*

associations of Portloman Abbey and the Franciscan Friary at Multyfarnham. The lake edges are attractive locations for recreation and amenity."

Character Area 5 Royal Canal Corridor

The landscape is described as follows:

"*The Royal Canal has been a historic feature of the Westmeath landscape since the early 1800's, flowing east to west through the county and is an important amenity feature. The canal flows through low-lying areas with the surrounding corridor typified by grassland, peatland and some areas of conifer plantation. The canal corridor is largely rural in nature, apart from the urban centre of Mullingar. To the west of Mullingar, the canal traverses a rural landscape of high scenic quality with undulating landform and a mature vegetation cover of hedgerows and trees. Some large conifer plantations border the canal towpath and dominate the visual corridor where present. The canal corridor includes features of vernacular architecture and industrial heritage such as stone bridges, lock keeper's cottages, lock gates and milestones which enhance the waterway. Westmeath County Council in cooperation with Waterways Ireland and funding from the Department of Transport, Tourism and Sport have developed a 47.6km length of the Royal Canal towpath as a walking and cycling route which extends to the County boundaries of Meath and Longford*."

Character Area 8 South Central Hills

The landscape is described as follows:

"*This Character Area includes the hilly pasture land that exists to the east of Ballymore, stretching almost as far as Lough Ennell, north as far as the Royal Canal Corridor and is bounded to the south by an area predominantly characterised by esker systems. The area is typified by smooth, gentle hills and undulating pastures, with occasional northwest, south-east ridges. The highest point within this area is 200 metres, which is at Knockastia, Coolatore, a volcanic outcrop just south of the Hill of Uisneach, which also has the steepest slopes in the Landscape Character area. This hilltop allows panoramic views across neighbouring counties and the approach to the hill, particularly from the Ballymore Road offers impressive opportunities to appreciate its scale. The Character Area also includes part of a system of eskers at Streamstown, which are displayed though a series of low ridges traversing the landscape in a northerly direction, resulting in a rural feel to these local roads as the land rises on either side. The area contains a number of small villages and clustered settlements but has remained quite rural in nature*."

Character Area 10 Lough Ennell and South Eastern Corridor

The landscape is described as follows:

"*This Character Area comprises pasture land of mixed productivity. Lough Ennell is situated to the western side of this Landscape Character Area (LCA) and is designated as an Area of High Amenity, SPA and SAC. A number of preserved views are listed from the R446 between Tyrrellspass and Rochfortbridge. The area around Lough Ennell and particularly to the south of the lake is characterised by scrub land with a mixture of marsh, bog and poor pasture land. There is also a large tract of bog to the east of Rochfortbridge and Milltownpass along the county boundary. The bog areas in this LCA are mainly exploited but some have been left intact. This area has a large number of old demesnes, which are easily recognisable in the landscape with the existence of fine mature hardwood trees and estate walls in some cases.*

Settlements within this landscape have developed mainly along the main road network. These include Kinnegad, Milltownpass, Rochfortbridge, and Tyrrellspass along the former N6. Recreational areas have been developed on the shores of Lough Ennell including Ladestown, Lilliput and Tudenham. The M6 traverses the southern part of the LCA. The N52 By-Pass has also added to the transport corridor around Mullingar."

Character Area 11 South Westmeath Eskers

The landscape is described as follows:

"*This landscape type occupies the southernmost area of the County and is distinguished by the prevalence of esker ridges. The area extends from Castletown-Geoghegan to Ballinagore, Rahugh and Horseleap. The area is bisected by the former N6 and the M6. Apart from the N6/M6 and the Ballynagore - Kilbeggan road, the area is traversed by a network of tertiary roads which in places run parallel to the esker ridges and create an enclosed and intimate landscape*."

7.3.1.2 High Amenity Areas

A review of the WCDP has identified that land within the Study Area surrounding Lough Ennell are designated as a High Amenity Area, which can be seen on Map - 64: Westmeath High Amenity Areas, Volume 2 Book of Maps of the Westmeath County Development Plan 2021 – 2027 (refer Annex A; Figure 7-1).

7.3.1.3 Protected Views

A review of the WCDP has identified several Protected Views located within the Study Area (refer Annex A; Figure 7-1), which are identified as follows in Table 7.2;

Table 7.2: Protected Views with Study Area

Viewpoint Nr	Viewpoint Name	Location and Description of View	Significance
10	View of the south-east face of Kilbeggan Distillery from bridge over the River Brosna on Regional Road R-446	The focus of this view is the east face of Kilbeggan Distillery and the river below it.	County
11	View of Old Mill outside Kilbeggan from the intersection of the Local Road L-524 with the Regional road R-389.	The focus of this view is the north face of the Old Mill beside the river	Local
12	View of Long Hill Esker from south of the R-446 Regional Road.	The focus of this view is the wooded hill of Long Hill Esker to the NE. This view should be considered to being at junction of local road and R446 at Derrylusk (636839,636839) and end at the base of Long Hill Esker (636839,736084)	County
15	View of Lough Ennell from Lilliput Pitch and Putt from pier at lake shore	The focus of this view is Lough Ennell to the northeast. The lough's wooded shores form the background and are an important feature of the view.	Local
16	Views of Lough Ennell along coast beside Lough Ennell Caravan Park From picnic walkway by lake shore.	The focus of this view is Lough Ennell to the west. The lough's wooded shores form the background and are an important feature of the view.	Local
17	View of Lough Ennell from Belvedere House gardens from picnic walkway by lake shore.	The focus of this view is Lough Ennell to the north. The lough's wooded shores form the background and are an important feature of the view.	County
18	View of Lough Ennell from carpark from the parking area by lake shore.	The focus of this view is Lough Ennell to the south. The lough's islands and wooded shores form the background and are an important feature of the view.	County
19	Scenic route through forest and woodlands from Butler's Bridge/Kilpatrick Bridge, Local road L-1137. View from the bridge on the local road L-1137 and end at the shore of Lough Ennell	This is a scenic route through a forest trail. The trail is edged by mature trees and follows a stream which enters Lough Ennell. At the end of the trail (though not surfaced) is a wide clear view of Lough Ennell from the shore. From a scenic trail. This view should be considered to begin at the bridge on the local road L-1137 and end at the shore of Lough Ennell.	Local

7.3.1.4 Scenic Routes and Trails

A review of the WCDP has identified that there are a number of Scenic Routes, Public Rights of Way, Greenways, Blueways, Walking Routes and Cycle loops that fall within the Study Area.

These features have been identified from; WCDP; Volume 2 Book of Map; Map 73 – Public Rights of Way, Map 74 – Green Infrastructure Networks and Appendix 5 – List of Amenity Routes and Protected Views.

Relevant routes which fall within the Study Area include;

- Royal Canal Right of Way;
- Cloncrow Bog Right of Way;
- Mullingar to Lough Owel Greenway;
- The Royal Canal Greenway / Blueway;
- The Old Rail Trail Greenway;
- Kilbeggan to Ballycommon Greenway;
- The Westmeath Way Walking Route
- Mullingar Cycle Hub – Cycle Loop 2
- Mullingar Cycle Hub – Cycle Loop 3
- Old Rail Trail
- Royal Canal Way

7.3.1.5 Tree preservation orders

A review of the WCDP has identified that there are three identified areas subject to Tree Preservation Orders located within the Study Area which can be seen on Map - 75: Westmeath Tree Protection Orders, Volume 2 Book of Maps of the Westmeath County Development Plan 2021 – 2027.

The Tree Protection Orders are all located in the vicinity of Lough Ennell and have been identified as follows;

- Ref 4 - Trees and groups of trees on west shore of Lough Ennell at Lilliput, Dysart.
- Ref 5 - Trees to west of National Secondary Route N52 at Bloomfield, Mullingar.
- Ref 6 - Trees at Dysart Island, Lough Ennell, Mullingar.

7.3.1.6 Historic Gardens and Designed Landscapes

A review of the National Built Heritage Services information has identified that Belvedere House and associated grounds are located on the eastern shores of Lough Ennell.

7.3.2 RCO1

7.3.2.1 Landscape Character Areas

RCO1 (refer Annex A; Figure 7-2) includes;

- 64.31 ha approx. of the Royal Canal Corridor Character Area.
- 1335.72 ha approx. of the Lough Ennell & South Eastern Corridor Character Areas.
- 686.97 ha approx. of the South Westmeath Eskers Character Area.
- 15.76 ha approx. of the South Central Hills Character Area.

7.3.2.2 High Amenity Area

RCO1 includes;

- 850.23 ha approx. of High Amenity Area – Lough Ennell.

7.3.2.3 Protected Views

RCO1 has the potential to impact on the following Protected views;

- View 11 – Local View.
- View 15 – Local View.
- View 18 – County View.
- View 19 – Local View.

7.3.2.4 Scenic Routes and Trails

RCO1 has the potential to impact on the following Scenic Routes and trails;

- Royal Canal Right of Way;
- The Royal Canal Greenway / Blueway;
- Kilbeggan to Ballycommon Greenway;
- The Westmeath Way Walking Route
- Mullingar Cycle Hub – Cycle Loop 2
- Mullingar Cycle Hub – Cycle Loop 3
- Old Rail Trail
- Royal Canal Way

7.3.2.5 Tree preservation orders

RCO1 has the potential to impact on Tree Protection Order;

- Ref 4 - Trees and groups of trees on west shore of Lough Ennell at Lilliput, Dysart.

7.3.2.6 Residential Receptors

Whilst the final route for RCO1 has not been finalised, RCO1 has the potential to impact on approximately 732 high sensitivity residential receptors.

7.3.3 RCO2

7.3.3.1 Landscape Character Areas

RCO2 (refer Annex A; Figure 7-3) includes

- 13.69 ha approx. of the Royal Canal Corridor Character Area
- 1282.80 ha approx. of the Lough Ennell & South Eastern Corridor Character Areas
- 438.49 ha approx. of the South Westmeath Eskers Character Area

7.3.3.2 High Amenity Area

RCO2 includes

- 567.76 ha approx. of High Amenity Area – Lough Ennell.

7.3.3.3 Protected Views

RCO2 has the potential to impact on the following Protected views;

- View 11 – Local view

- View 16 – Local View
- View 17 – County View
- View 19 – Local View

7.3.3.4 Scenic Routes and Trails

RCO2 has the potential to impact on the following Scenic Routes and trails;

- Royal Canal Right of Way;
- The Royal Canal Greenway / Blueway;
- Kilbeggan to Ballycommon Greenway;
- The Westmeath Way Walking Route
- Mullingar Cycle Hub – Cycle Loop 2
- Mullingar Cycle Hub – Cycle Loop 3
- Old Rail Trail
- Royal Canal Way

7.3.3.5 Tree preservation orders

RCO2 has the potential to impact on Tree Protection Order;

- Ref 5 - Trees to west of National Secondary Route N52 at Bloomfield, Mullingar.

7.3.3.6 Historic Gardens and Designed Landscapes

RCO2 has the potential to impact on Belvedere House Historic Garden and Designed Landscape (HGD) located on the eastern shores of Lough Ennell, with 138.1 ha approx. of the HGD designated lands contained within the Route Corridor Option 2 area.

7.3.3.7 Residential Receptors

Whilst the final route for RCO2 has not been finalised, RCO2 has the potential to impact on approximately 743 high sensitivity residential receptors.

7.3.4 Corridor Segment Breakdown

7.3.4.1 RCO1a

For RCO1a, landscape and visual factors were accessed to determine the impact on local landscapes and viewpoints. This segment of the route corridor resides entirely within Landscape Character Area 11 South Westmeath Eskers, which accounts for a total of 100% of the corridor area. This landscape type occupies the southernmost area of the County and is distinguished by the prevalence of esker ridges. This segment of the route corridor also contains two notable protected viewpoints on the northern fringes of Kilbeggan that envelopes this section. These are listed as:

- Viewpoint Number 10: View of the south-east face of Kilbeggan Distillery from bridge over the River Brosna on Regional Road R-446; and
- Viewpoint Number 11: View of Old Mill outside Kilbeggan from the intersection of the Local Road L-524 with the Regional road R-389.

RCO1a has been determined to have an indicator score of “Slight Positive” as the route corridor segment could avail of the attractiveness of the viewpoints.

7.3.4.2 RCO1b

RCO1bB resides entirely within Landscape Character Area 11 South Westmeath Eskers, which accounts for a total of 100% land coverage of the route option segment. This landscape type occupies the southernmost area of the County and is distinguished by the prevalence of esker ridges. This segment does not avail of any protected views, and thus RCO1b has been determined to have an indicator score of “Neutral”.

7.3.4.3 RCO1c

For RCO1c, the route corridor resides spans across two Landscape Character Areas. These are Landscape Character Area 11 South Westmeath Eskers (a total of 38.6% of the entire segment) and Landscape Character Area 10 Lough Ennell & South Eastern Corridor (a total of 61.4% of the segment). Character Area 11 South Westmeath Eskers occupies the southernmost area of the County and is distinguished by the prevalence of esker ridges. Character Area 10 Lough Ennell & South Eastern Corridor comprises pasture land of mixed productivity. This segment does not avail of any protected views, and thus RCO1c has been determined to have an indicator score of “Neutral”.

7.3.4.4 RCO1d

For RCO1d, the route corridor spans across two Landscape Character Areas. These are Landscape Character Area 10 Lough Ennell & South Eastern Corridor (a total of 90.3% of the entire segment) and Landscape Character Area 5 Royal Canal Corridor (a total of 7.9% of the entire segment). Character Area 10 Lough Ennell & South Eastern Corridor comprises pasture land of mixed productivity. Character Area 5 Royal Canal Corridor has been a historic feature of the Westmeath landscape since the early 1800’s, flowing east to west through the county and is an important amenity feature.

This segment of the route corridor also contains two notable protected viewpoints situated in this portion of route corridor. These are listed as:

- Viewpoint 15: View of Lough Ennell from Lilliput Pitch and Putt from pier at lake shore; and
- Viewpoint 18: View of Lough Ennell from carpark from the parking area by lake shore

Viewpoint 19 is also in close proximity which resides on the northeastern outskirts of this section and is described as; A scenic route through forest and woodlands from Butler’s Bridge/Kilpatrick Bridge, with views from the bridge on the local road L-1137 and at the end of the shore of Lough Ennell. This segment also accounts for a total of 68.6% of the high amenity area Lough Ennell.

RCO1d has been determined to have an indicator score of “Slight Positive” as the route corridor segment could avail of the attractiveness of the viewpoints and high amenity spaces.

7.3.4.5 RCO2a

For RCO2a, the entirety of this route corridor segment resides within Landscape Character Area 11 South Westmeath Eskers, which accounts for a total of 100% of the route segment. This landscape type occupies the southernmost area of the County and is distinguished by the prevalence of esker ridges. This segment of the route corridor also contains two notable protected viewpoints on the northern fringes of Kilbeggan and eastern periphery of this segment. These are listed as:

- Viewpoint Number 11: View of Old Mill outside Kilbeggan from the intersection of the Local Road L-524 with the Regional road R-389; and
- Viewpoint Number 12: View of Long Hill Esker from south of the R-446 Regional Road.

RCO2a has been determined to have an indicator score of “Neutral” however the route corridor segment could avail of the attractiveness of the viewpoints.

7.3.4.6 RCO2b

RCO2b resides entirely within Landscape Character Area 11 South Westmeath Eskers, which accounts for a total of 100% of the route segment. This landscape type occupies the southernmost area of the County and is distinguished by the prevalence of esker ridges. This segment does not avail of any protected views, and thus RCO2b has been determined to have an indicator score of “Neutral”.

7.3.4.7 RCO2c

For RCO2c, the route corridor spans across two Landscape Character Areas. These are Landscape Character Area 11 South Westmeath Eskers (a total of 32.7% of the route segment) and Landscape Character Area 10 Lough Ennell & South Eastern Corridor (a total of 67.3% of the srgment). Character Area 11 South Westmeath Eskers occupies the southernmost area of the County and is distinguished by the prevalence of esker ridges. Character Area 10 Lough Ennell & South Eastern Corridor comprises pasture land of mixed productivity. This segment does not avail of any protected views, and thus RCO2c has been determined to have an indicator score of “Neutral”.

7.3.4.8 RCO2d

For RCO2d, the route corridor spans across two Landscape Character Areas. These are Landscape Character Area 10 Lough Ennell & South Eastern Corridor (a total of 98.3% of the segment) and Landscape Character Area 5 Royal Canal Corridor (a total of 1.7% of the segment). Character Area 10 Lough Ennell & South Eastern Corridor comprises pasture land of mixed productivity. Character Area 5 Royal Canal Corridor has been a historic feature of the Westmeath landscape since the early 1800’s, flowing east to west through the county and is an important amenity feature.

This segment of the route corridor also contains two notable protected viewpoints situated in this portion of route corridor. These are listed as:

- Viewpoint 16: Views of Lough Ennell along coast beside Lough Ennell Caravan Park From picnic walkway by lake shore; and
- Viewpoint 17: View of Lough Ennell from Belvedere House gardens from picnic walkway by lake shore. Belvedere House is also located at Viewpoint 17.

Viewpoint 19 is also in close proximity which resides on the northeastern outskirts of this section and is described as; A scenic route through forest and woodlands from Butler’s Bridge/Kilpatrick Bridge, with views from the bridge on the local road L-1137 and at the end of the shore of Lough Ennell. This segment also accounts for a total of 48.8% of the high amenity area Lough Ennell.

RCO2d has been determined to have an indicator score of “Slight Positive” as the route corridor segment could avail of the attractiveness of the viewpoints and high amenity spaces.

8 CULTURAL HERITAGE

8.1 Introduction

The following constitutes the Cultural Heritage Impact Assessment carried out for the purposes of the Phase 2 Route Option Section for the Kilbeggan to Mullingar Greenway. The aim was to undertake a detailed assessment of two route options that emerged following a Phase 1 Constraints Study (RPS 2023) and to select the Preferred Option for the project.

The two assessment corridors emerged as Route Option 1 (RO1) along the west side of Lough Ennell and Route Option 2 (RO2) along the east side, and for ease of discussion each option was sub-divided into four segments: 1A–1D and 2A–2D. A GIS-based Cultural Heritage Dataset (CHD) to assess and compare both routes were established and the Cultural Heritage Receptors (CHRs) (e.g. archaeology, architectural heritage, industrial heritage, folklore, history, demesne landscapes) were evaluated for their Importance and Amenity Value.

In total, 271 CHRs have been identified, 134 within RO1 and 160 within RO2, of which 23 overlap between both areas (Table 8.1; and **Annex A Figures 8-14–8-24**). Notably, in Table 8.1 three CHRs (9, 16 and 68) are counted twice (all three in RO1 and one in RO2) because they are within the Record of Protected Structures but also appear in the Record of Monuments and Places (RMP).

Table 8.1: Types of CHRs per Route Option

Type of CHR	Route Option 1	Route Option 2
Protected Structure (RPS)	18	35
National Inventory of Architectural Heritage (NIAH)	0	2
Record of Monuments and Places (RMP)	51	41
Sites and Monuments Record (SMR)	11	6
Westmeath Industrial Heritage Survey	52	69
Identified from historic mapping	4	6
Identified from aerial imagery	1	1
Identified from fieldwork	0	1
Total	**137**	**161**

The legal protection afforded to Protected Structures is set out in Part IV of the Planning and Development Act 2000, and this protection extends to the land and outbuildings in the curtilage of such a site, as well as all fixtures and features forming part of the structure or any structure on the grounds attached to it. Accordingly, some of the features in this landscape identified as industrial heritage sites, such as sluice gates, mill races, mill ponds and kilns are related to various mills which are Protected Structures. Accordingly, they are also afforded protection under their associated structures, specifically those linked to Marshall's Corn Mill (CHR 9), Coola Mill (CHR 12) and Knockycosker Mill (CHR 80).

The *Record of Monuments and Places* (RMP) was established under Section 12 of the National Monuments (Amendment) Act 1994), with all sites included in the RMP protected under the National Monuments Acts (1930–2004). The *Record of Monuments and Places for County Westmeath* was last published in 1996 with many of those currently included in the *Sites and Monuments Record* (SMR) scheduled for inclusion in the next revision of the RMP.

Of these 271 CHRs, 124 are deemed to be of High Importance, 33 of Medium Importance, 93 of Low Importance and 21 of Negligible Importance, with the breakdown per route detailed in Table 8.2 (**Annex A Figures 8-25–35**). Eighteen high amenity value sites (Amenity 1–18) have also been proposed, 11 within or in the vicinity of RO1 and 10 within or in the vicinity of RO2, of which 3 overlap between both route option corridors (**Annex A Figures 8-36–8-41**).

Table 8.2*:* Importance of CHRs per Route Option

Importance of CHR	Route Option 1	Route Option 2
Very High	0	0
High	64	75
Medium	18	20
Low	42	53
Negligible	10	12
Total	**134**	**160**

The size of the route corridors varies in width between 250 m and 2.7 km and they currently lack a centreline. Accordingly, it is not yet possible to fully determine the impact, positive or negative, that the greenway will have on the CHRs. More detailed field survey and analysis will follow once the preferred route option is established and measures to both mitigate adverse effects and enhance access to and awareness of CHRs will be proposed.

Route Option 1 traverses in part 35 townlands: Farranfolliot; Balnamona or Charlestown; Kilpatrick (Moyashel & Magheradernon By); Curristown or Bellmount; Cartron (Ed Hopestown); Lynn; Ladestown; Keoltown; Hanstown; Dysart; Rathnamuddagh; Nure or Lilliput; Monaghanstown; Clonsingle; Cloonagh; Ballybrennan; Lissakilly; Killinlahan; Ballykilroe; Ballynagore; Tullaghnacrossan; Balrath (Moycashel By); Benalbit and Derryroe; Toorlisnamore; Teernacreeve; Greenan; Loughanagore; Ballyoban; Grangegibbon; Ballinwire; Coola; Camagh (Moycashel By); Kilbeggan; Kilbeggan North and Skeahanagh. These townlands are within the Civil Parishes of Mullingar, Lynn, Dysart, Castletownkindalen and Kilbeggan, in the Baronies of Moyashel & Magheradernon, Fartullagh and Moycashel.

Route Option 2 traverses in part 38 townlands: Farranfolliot; Balnamona or Charlestown; Kilpatrick (Moyashel & Magheradernon By); Clonmore (Moyashel & Magheradernon By); Srahenry; Gorteen (Fartullagh By); Lynn; Belvedere; Rochfort Demesne; Carrick (Fartullagh By); Brackagh (Fartullagh By); Robinstown (Fartullagh By); Walterstown; Gaddaghanstown; Higginstown (Fartullagh By); Friarstown; Clonsingle; Dalystown (Fartullagh By); Clonyhague; Cloonagh; Lissakilly; Ballynagore; Knockycosker; Ballykilroe; Knockmore; Aghyrassy; Teernacreeve; Guigginstown; Cumminstown (Moycashel By); Clonaglin; Loughanagore; Grangegibbon; Ballinwire; Coola; Camagh (Moycashel By); Kilbeggan; Kilbeggan North and Skeahanagh. These townlands are within the Civil Parishes of Mullingar, Lynn, Moylisker, Carrick, Clonfad, Castletownkindalen, Newtown and Kilbeggan, also in the Baronies of Moyashel & Magheradernon, Fartullagh and Moycashel.

There is some overlap of the two route options to the north, in the townlands of Farranfolliot, Kilpatrick and Balnamona or Charlestown, as well as to the south, in the townlands of Ballinwire; Loughanagore; Grangegibbon; Camagh; Kilbeggan; Kilbeggan North and Skeahanagh, with both options incorporating the entire townland of Coola.

This chapter was prepared by Donald Murphy and Dr Kerri Cleary of Archaeological Consultancy Services Unit (ACSU). Donald Murphy (BA(Hons), MA, MIAI) is the founder and Managing Director of ACSU and he has over 30 years of experience as an archaeological consultant. Donald has completed EIARs for a variety of projects across Ireland, has prepared constraint studies and route selections, and has managed the archaeological work in advance of several large infrastructural schemes, such as the M3 and M4 motorways. Dr Kerri Cleary (BA(Hons), MA, PhD, MIAI) is an Archaeologist with over 15 years of experience. She specialises in research and report production, with extensive experience in preparing cultural heritage impact assessment chapters for EIARs. She has worked with ACSU since 2018 and completed assessments for several projects across Ireland, including housing, infrastructure developments and public realm projects.

This Cultural Heritage Impact Assessment was prepared by Donald Murphy and Dr Kerri Cleary of Archaeological Consultancy Services Unit (ACSU).

8.1.1 The Development

The Kilbeggan to Mullingar Greenway will be a recreational trail, providing tourists, commuters and leisure users (collectively non-motorised users) with a dedicated corridor linking the two towns. The project will also provide a connection between the Royal Canal Greenway/Old Rail Trail in Mullingar and the Grand Canal Greenway (via the Kilbeggan Branch of the Grand Canal). The Old Rail Trail links Athlone and Mullingar with a 43 km cycling/walking trail that utilises a converted stretch of the disused Midlands Great Western Railway. Just to the west of Mullingar, at Newbrook, the Old Rail Trail meets the Royal Canal Greenway. The Old Rail Trail forms part of the proposed Galway to Dublin Cycleway that will eventually link Galway City with Dublin City. The Kilbeggan Branch of the Grand Canal, which links the River Shannon to Dublin, leaves the main Grand Canal at Ballycommon (just east of Tullamore) and links to Kilbeggan Harbour to the north. The completed sections of the Royal Canal Greenway utilise the old towpath for the canal.

The Westmeath Way is a pre-existing walking route that includes some 33 km from Kilbeggan to Mullingar, along the west side of Lough Ennell (RO1). It consists of mixed surfaced roads, forest tracks and grass paths that is divided into three sections, from Kilbeggan to Lilliput, Lilliput to Dysart and Ladestown to Mullingar, with no access over the privately-owned land from Ladestown to Keoltown Wood. Starting at Kilbeggan it follows the River Brosna before crossing to the village of Ballinagore and on to the shore of Lough Ennell at Lilliput, around the lake via Dysart village to Bellmount Bridge where it follows the Royal Canal to Mullingar, using the disused Mullingar–Athlone railway line.

Cultural heritage features in the vicinity of the Westmeath Way that the associated brochure and mapping draw people's attention to includes Locke's Distillery in Kilbeggan; Coola Mill (CHR 12); Coola Bridge (CHR 13); Ballinagore village (e.g. Ballynagore Bridge CHR 85, Glen Brosna House CHR 84, Ballynagore House CHRs 81, 82 and 86, Knockycosker Water Pump CHR 83) and its milling history (e.g. Knockycosker Mill and Miller's House CHRs 79 and 80); Lilliput (Lilliput House CHR 27); Lough Ennell and its crannógs; Ballaghy bog; Dysart ecclesiastical enclosure, church and graveyard (CHRs 53, 54 and 56); St Maol Tuile's (St Multilly's) holy well (CHR 47); Ladestown (Ladestown House and gate lodge CHRs 68 and 69); the Royal Canal; Harbour Bridge and Mullingar's Roman Catholic Cathedral and eighteenth–nineteenth-century streetscape. Other cultural heritage sites that are also in the vicinity of the Westmeath Way include Marshall's Corn Mill (CHR 9); Balrath graveyard (CHR 16); Rathnamuddagh moated site (CHR 29); Dysart ringforts (CHRs 43, 44 and 46); Kilpatrick Bridge (NIAH 15401902) and Bellmount Bridge (CHR 259).

8.2 Appraisal Methodology

The Feasibility Report carried out in 2023 incorporated a study area broadly bounded by the Old Rail Trail in the west, Mullingar to the north, the N52 to the east and an axis between Horseleap-Kilbeggan-Tyrrellspass to the south (RPS 2023). From nine initial option corridors, four (Option 5–8) were selected for feasibility assessment and following their evaluation two options (Option 5 and 7) were identified for detailed assessment in Phase 2.

This Phase 2 assessment comprises a review of the cultural heritage data gathered during Phase 1 and a more detailed analysis of the known and potential constraints and opportunities within these two route options (now referred to as Route Option 1 and 2). Research for this route selection study has been carried out in accordance with the aforementioned *TII Guidelines* (PE-ARC-02009) and includes the following sources:

- Sites and Monuments Record for County Westmeath.
- Record of Monuments and Places for County Westmeath.
- Topographical files of the National Museum of Ireland.
- Previous archaeological assessments (Constraints Study carried out by RPS).
- Database of Irish Excavation Reports (https://excavations.ie/).
- Cartographical evidence: The Down Survey of Ireland (1656–1658), William Petty's map of The County of West Meath (1685), the Longfield Map Collection (1770–1840), William Larkin's A map of the County of Westmeath (1808) and Ordnance Survey maps, all editions.
- Aerial photographs: Ordnance Survey 1995–2018, Google Earth 2005–2022.

- Westmeath Strategic Heritage Plan 2024–2030.
- Westmeath County Development Plan 2021–2027.
- National Inventory of Architectural Heritage (NIAH).
- Belvedere Conservation Management Plan 2023.
- Westmeath Industrial Heritage Survey 2019.
- The School's Collection of folklore compiled by the Irish Folklore Commission between 1937 and 1939.
- National Inventory of Intangible Cultural Heritage.
- Irish Townlands Database.
- Irish Placename Database.

Based on the above, the heritage assets included can be divided into the following categories:

1. Architectural or built heritage sites listed in the *National Inventory of Architectural Heritage* (NIAH) and/or the Record of Protected Structures (RPS) in Volume 8 of the *Westmeath County Development Plan 2021–2027*.
2. Archaeological sites listed in the *Record of Monuments and Places* (RMP) and/or *Sites and Monuments Record* (SMR).
3. Industrial heritage sites listed in the 2019 *Westmeath Industrial Heritage Survey*.
4. Other potential archaeological or cultural heritage sites identified on historic mapping and/or through aerial photography and site visit.

Intangible heritage identified through folklore records or local information was also considered and where identified could sometimes be linked to sites already included in the above categories, for example, folklore on why sites such as the Jealous Wall (CHR 131) in Belvedere Park and Newells Bridge (CHR 88) were built, as well as stories relating to unspecified ringforts and an unlocated mass rock (Section 8.4.12). The same applies to some of the artefacts recorded in the National Museum of Ireland's topographical files (Section 8.4.10), which can be linked to known sites such as Coola Mill (CHR 12), Balrath Castle (CHR 18), Dysart monastery (CHR 56), Keoltown cist (CHR 64) and Lynn Church (CHR 145). Many others were recovered from Lough Ennell, particularly many of the islands, such as Rocky Island, Rushy Island, Big Island, Dysart Island, Goose Island, Cró-Inis, Cherry Island and Ash Island, several of which represent crannógs.

These Cultural Heritage Receptors (CHRs) form the Cultural Heritage Dataset (CHD), which includes geo-referenced data on each identified heritage asset within the two route options (**Annex A Figures 8-14–8-24**). This data was largely generated through desktop research. Some site visits, including the use of UAV (drone) photography, were also conducted to assess the level of preservation and condition of sites that have the potential to be high amenity sites. More detailed field survey will follow once a centreline for the preferred route option is established.

8.2.1 Standards and Guidelines

This chapter's methodology is guided by a legislative framework that governs how aspects of archaeological, cultural and architectural heritage are protected. It has been prepared in compliance with all relevant EIAR legislation and guidance and conforms with the Environmental Protection Agency's 2022 Guidelines on the information to be contained in Environmental Impact Assessment Reports and 2003 Advice Notes on Current Practice (in the preparation of Environmental Impact Statements), along with the Department of Arts, Heritage and the Gaeltacht's 2011 Architectural Heritage Protection: Guidelines for Planning Authorities, as well as the 2024 Guidelines for Cultural Heritage Impact Assessment of TII National Road and Greenway Projects (PE-ARC-02009; TII 2024a), which is referred to throughout as TII Guidelines.

8.2.2 Analysis

As part of this preferred route option selection process, the CHD was used to compare the quantity and quality of potential constraints within the two route options, as well as areas of existing and potential high amenity value. To appraise the types of sites, the importance of each CHR was assessed using the methodology established in Section 5.5.1 of the 2024 *TII Guidelines* (PE-ARC-02009; TII 2024a). Due to the varied size of the route option corridors, which range in width from 250 m to 2.7 km, as well as the associated absence of centrelines, it is not yet possible to complete a full assessment of possible impacts and enhancement opportunities.

8.2.2.1 Importance rating

Alongside professional judgement and experience, the five-level rating system of Very High–High–Medium–Low–Negligible, as set out in Table 5.6 of the *TII Guidelines* (PE-ARC-02009), was used to help categorise the importance of each CHR. The latter can be summarised as follows in Table 8.3:

Table 8.3: TII Guideline Five-Level Rating System

Rating	Rationale
Very High	Sites of international importance, including World Heritage Site (WHS) properties; National Monuments in State Care; historic landscapes and other features (tangible and intangible) of very high quality/importance; built heritage sites rated by the NIAH as being of international importance.
High	Sites of national importance, including World Heritage Tentative List (WHTL) properties; sites and monuments on the Record of Monuments and Places (RMP, or scheduled for inclusion on next revision of RMP) of high quality and importance; sites and monuments subject to Preservation Order (PO) or Temporary PO; historic landscapes and other features (tangible and intangible) of high quality/importance; Architectural Conservation Areas (ACA); Protected Structures; built heritage sites rated by the NIAH as being of national importance.
Medium	Sites of regional importance, including sites and monuments on the Record of Monuments and Places (RMP, or scheduled for inclusion on next revision of RMP) of medium quality and importance; historic landscapes and other features (tangible and intangible) of medium quality/importance; historic townscapes with surviving features; built heritage sites rated by the NIAH as being of regional importance.
Low	Sites of low importance, including sites and other features (tangible and intangible) of local importance; sites, monuments, and historic landscapes of low quality/importance due to poor preservation; historic townscapes with limited surviving features; built heritage sites rated by the NIAH as being of local importance.
Negligible	Sites, monuments, and historic landscapes with very little surviving cultural heritage interest, including those only recorded from historical references with no specific location known and those already excavated; previously unknown/potential sites identified as part of the assessment.

Alongside the above, the following criteria were also used when assessing the importance of each CHR:

- **Amenity Value**: What, if any, is the existing and/or potential amenity value, including group amenity value.

- **Condition/Preservation**: What is the present condition, largely based on assessing existing descriptions and aerial imagery, with some site visits also conducted.
- **Group Value**: Is the importance enhanced when considered alongside other CHRs in the area.
- **Visibility in the Landscape**: Is the importance enhanced by high visibility in the landscape and intervisibility with other CHRs and/or sites outside the route option corridors.

Both tangible and intangible aspects of the CHRs were considered together, for example, Lilliput House (CHR 27) is a Protected Structure that is now used as an adventure centre, with local lore suggesting it was visited in the eighteenth century by Jonathan Swift.

8.3 Receiving Environment

8.3.1 Natural Landscape

This esker and lakelands landscape of County Westmeath is dominated by Carboniferous rock types dating to about 360 and 330 million years ago, when the area was covered by a shallow tropical sea with the different marine life environments ultimately forming different types of limestone (Meehan et al. 2019, 27). The underlying geology of both route options consists of the Lucan Formation of dark limestone and shale, with a section of Waulsortian Limestones also extending along the east side of Lough Enell (Geological Survey Ireland). During the last 1.6 million years, ice ages came and went, with the last one ending about 10,000 years ago and resulting in some of the finest glacial deposits of sand and gravel (eskers) across the lowlands. The final stage of landscape evolution has been the growth in the last 10,000 years of raised bogs, largely in wet depressions in the landscape (ibid.). The quaternary sediments of the landscape range from till derived from limestones to lacustrine sediments to pockets of peat and gravels derived from limestones (Geological Survey Ireland).

Lough Ennell is a large, limestone lake located between Mullingar and Kilbeggan, measuring approximately 6.5 km long and about 2 km wide. It has a large area of shallow water, with almost half being under 3 m in depth (O'Sullivan 2004, 1:175). It also has several natural islands such as Dysart Island, Inchcrone and Cherry Island, which were attached to the land following drainage schemes in the 1950s, which significantly altered the shoreline of the lake. The lough is a Special Protection Area (SPA) under the E.U. Birds Directive and represents one of the most important Midland lakes for wintering waterfowl. The lough and some of the adjacent lands are also a Special Area of Conservation (SAC) under the E.U. Habitats Directive. The River Brosna is the principal inflowing and outflowing river associated with Lough Ennell, running from Lough Owel in a south-west direction through Mullingar and into the lough before exiting to the south and flowing through Kilbeggan, where it still powers the Kilbeggan Distillery mill, before ultimately being joined by the Silver River at Ferbane, Co. Offaly, and flowing north of Banagher where it joins the River Shannon. Several mills were positioned along the River Brosna in the late eighteenth into the early twentieth century (Section 8.4.3). Also extending through the southern extent of both route option corridors, in the townlands of Toorlisnamore, Teernacreeve and Aghyrassy, is the SAC Split Hills and Long Hill Esker, which comprises semi-dry grasslands and scrubland on calcareous substrates.

8.3.2 Archaeological, Historical & Folklore Background

Westmeath, in the heart of the Irish midlands, is known for its lake-rich landscape that was part of the historic Kingdom of Mide (Meath), so named because it was located in the geographical centre of Ireland. This 'centre' is traditionally seen as the Hill of Uisneach, located about 15 km southwest of Mullingar. This site was an important late prehistoric ceremonial centre that was subsequently used as a so-called 'royal site' of the Clann Cholmáin, with evidence for an early medieval conjoined ringfort and field system (Schot 2006). Another royal settlement associated with this dynasty is Dún na Sgiath and Cró-Inis on Lough Ennell, which comprises a bivallate, platform-type ringfort on the west shore of the lake and an associated crannóg (ibid., 65; see further below). This, along with the many other records and upstanding remains of crannógs and ringforts/settlement enclosures dotted around the lake attests to the extensive early medieval occupation of this landscape. There are, however, also a small number of prehistoric sites recorded, most of which have been discovered as subsurface remains during ploughing and development works. These indicate that the area was also probably extensively settled in prehistory.

8.3.2.1 Prehistoric period

Prehistoric activity along the west side of Lough Ennell is confirmed by the presence of a possible barrow monument (CHR 65) and a nearby cist (CHR 64) in the townland of Keoltown, just off the lakeshore (**Annex A Figure 8-23**). The cist was discovered in 1976 when backfilling a small, disused gravel pit and was recorded as containing a small pottery vessel and cremated bone representing at least one individual (Kelly 1982–3). It was reported that the barrow or ring-work included a large tree known locally as 'The Hangman's Tree' (ibid.). To the southwest of the lake, further Early Bronze Age (2200–1600 BC) burials were previously excavated in the townlands of Ballybrennan and Ballykilroe, with the former comprising four cists discovered in a sandpit (Cahill and Sikora 2011, 1:484–501) and the latter a single cist discovered during ploughing (Lucas 1973, 188–9). Both sites included human remains (both inhumated and cremated) and pots (bowl and vase food vessels), with worked flint tools also recorded at Ballybrennan. On the east side of the lake there is another possible barrow monument (CHR 76; **Annex A Figure 8-15**) recorded in Cumminstown, although there is no above-ground trace of this site today. About 700 m to the south of this, in the same townland but outside the route corridor, is another barrow (WM038-019----) that survives as a large upstanding mound (Figure 8.1).



Figure 8.1: Upstanding remains of barrow monument (WM038-019----), looking southwest

The townland of Dalystown is also notable as it includes several prehistoric sites identified as the result of archaeological investigations, including burnt mounds ranging in date from 2500–800 BC and a Late Bronze Age (1100–800 BC) ring-barrow with associated deposits of cremated bone (see Section 8.4.9). A possible standing stone (CHR 92) is also recorded in this townland, represented by a small boulder at the centre of the northern of two, conjoined sub-rectangular enclosures (CHR 91) and marked 'Standing Stone' on the earliest (1836) Ordnance Survey mapping (**Annex A Figure 8-21**). Accordingly, the identification of this as a prehistoric monument remains tentative in the absence of further investigation. Additional burnt mound activity was previously identified in Rochfort Demesne, while habitation dated to the Chalcolithic period (2500–2200 BC) was uncovered in the townland of Carrick (Section 8.4.9).

In addition, several prehistoric objects have been recovered from Lough Ennell, including stone axeheads, worked flint and a Late Bronze Age Class 4 sword, which was assigned to the townland of Ladestown. Stone axeheads are also recorded from Lilliput Bog and Monaghanstown Bog, as well as the townlands of Camagh and Kilpatrick (Section 8.4.10; Appendix 3).

8.3.2.2 Early Medieval period

As mentioned, the nearby Hill of Uisneach was likely a significant Late Bronze Age and Iron Age site that remained an important location for local tribal groups into the fourth and fifth centuries AD before being appropriated by the Southern Uí Néill dynasty by the sixth or seventh century (O'Sullivan 2004, 1:210). This is also attested by frequent references to Southern Uí Néill kings as 'the king of Uisnech'. From the eighth century onwards, this part of the midlands was dominated by the Clann Cholmáin, one of the two great Southern Uí Néill dynasties, while the area corresponding to the barony of Magheradernan, along the west shore of Lough Ennell, was possibly occupied by the Uí Thígernáin, although the Uí Gussáin are also mentioned in relation to this area (O'Sullivan et al. 2007, 66). The Fir Tulach are also known to have occupied areas east of Lough Ennell representing the barony of Fartullagh from as early as the sixth century, but by the mid-eighth century the area was largely dominated by the Clann Cholmáin (Connon 2012). The twelfth-century saint's life, Betha Colmáin maic Lúachain or Life of Colmán, describes much of the early medieval settlement landscape around Lough Ennell, including several references to its crannógs, islands and ecclesiastical sites, with the royal residences and fortified bases of the Clann Cholmáin dynasty specifically referenced to Lough Ennell (O'Sullivan et al. 2007, 67). During the tenth century, the Clann Cholmáin kings imposed their power eastwards towards Hiberno-Norse Dublin and the Síl nÁedo Sláine territories of Brega, but were also the subject of attacks in return, many of which targeted the crannógs on Lough Ennell and elsewhere (O'Sullivan 2004, 1:203). Notably, more Viking age silver has been found in and around Lough Ennell than on any other site in Ireland, with the artefacts dating to between the ninth and tenth centuries and generally interpreted as the result of trade with the Vikings by members of the Clann Cholmáin rather than from raiding (Karkov and Ruffing 1997).

Crannógs

A study of the crannógs of Westmeath was previously undertaken by O'Sullivan (2004, 2:82–106), who details 28 on Lough Ennell, some of which have associated early medieval dates and artefacts, such as the copper-alloy pins, finger ring and sword pommel, stone lamp and iron spearhead recovered from Ash Island (WM025-163----). This built on the earlier work of Karkov and Ruffing (1991; 1993; 1997), which was specifically focused on Lough Ennell, along with work carried out by the Crannóg Archaeological Project (CAP), which was a collaboration in the 1980s and early 1990s between Cornell University, the National Museum of Ireland and the Archaeological Survey of Ireland (Farrell et al. 1989; Farrell 1990). These various stages of field work identified numerous crannógs around the lake, ranging from submerged sites to crannógs still in the water and those now on dry land but clearly within the compass of earlier lake levels (Farrell 1990, 29). These likely represent both prehistoric and historic activity around the lake, with some of the smaller cairns of stones, measuring 10–12 m in diameter, at Inchacrone, Wren Point and Goose Island, as well as underwater cairns, platforms and jetties around the eastern shore, of possible prehistoric date (O'Sullivan 2004, 1:67). In historic times, Lough Ennell may have represented a political boundary, as reflected in the current boundaries between the three baronies of Moyashel & Magheradernon, Fartullagh and Moycashel, which extend down the middle of the lake (ibid., 1:221). This would have meant that many of the crannógs on the lake were intentionally positioned to overlook these boundaries.

One of the most notable crannógs is Cró-Inis or Cróinis (WM025-150----), also known as Cormorant Island, located in the southern end of the lake. This, and the nearby ringfort or raised rath (CHR 31) in the townland of Dysart (known as Dún na Sciath/Sgiath or 'fort of the shields') are historically attested as the royal seat of the Ua Maelsechlainn kings of the Clann Cholmáin dynasty of the Southern Uí Néill (**Annex A Figures 8-14–8-24**; O'Sullivan 2004, 1:227–31; 2:88). Limited investigations and dendrochronological dating from the crannóg suggests it was built prior to the ninth century AD, re-fortified in the early twelfth century (AD 1107 ± 9) and probably also occupied in the late medieval period, with a fifteenth-century reference recorded in the Annals of Connacht (ibid.). Additional crannógs (WM025-147----; WM025-164----; WM025-165---- and CHR 30) in the vicinity are also likely to relate to this royal complex and the associated ecclesiastical site of Dysart (CHR 56; **Annex A Figure 8-19**). Further north, another notable crannóg (WM025-118----), known as Dysart Island, is associated with three Viking silver hoards (Ryan et al. 1984). These were reportedly found on and close to this site,

although O'Sullivan (2004, 2:92) speculates that one hoard of three large, boat-shaped silver ingots (NMI 1982:29a–b) may have come from another crannóg (WM025-166----) to the northeast that is known locally as Rocky Island, as shown in Figure 8.2.



Figure 8.2: Dún na Sciath ringfort (CHR 31), Cró-Inis crannóg (WM025-150) and nearby crannógs (WM025-147, -164, -165 and -168) on 2022 Google Earth imagery.

On the northwest edge of the lake within the townland of Kilpatrick, another crannóg (WM026-103----), called Rushy Island, is associated with Viking hack silver, as well as a dugout boat and large quantities of animal bone and midden material (ibid., 2:102). An adjacent crannóg (WM026-102----), called Schoolboy Island, is known in local folklore to have been the island used by Owen Roe O'Neill's troops in the seventeenth century and a lead musketball was previously recovered from here (**Annex A Figures 8-40** and Figure 8.3; ibid., 2:104). Two early medieval handbells were also reportedly found in the water just off this crannóg, possibly related to the early ecclesiastical enclosure (CHR 142; **Annex A Figure 8-23**) at Lynn, just 800m to the northeast, or the ecclesiastical enclosure (CHR 72; **Annex A Figure 8-20**) at Kilpatrick, just under 2 km to the northwest. Just off the east shore of the lake, adjacent to the Belvedere estate, a crannóg (WM026-109----) on Goose Island was found to date to the late ninth to mid-tenth century AD, with a later stone building, possibly a tower house, also built on the island (**Annex A Figures 8-24 and 8-40**; ibid., 1:68). This area is also overlooked by two ringforts (CHR 127 and CHR 130). Further south, at the southern end of Carrick Bay, the remains of a stone cashel are recorded on Cherry Island crannóg (WM025-152----) and this may correspond with the island known as Inis na Cairrge, which is linked in historical references to a fort known as Dún na Cairrge, both of which are known to have been residences of the kings of Fir Tulach (ibid.). Although it remains speculative that this is Cherry Island, it is notable that the Life of Colmán claims that Dún na Cairrge was taken by the king of Mide, Conchubar Ua Maelsechlainn, from Cúchaille, son of Dublaide, king of Fartullagh, and given to his queen, suggesting it may have been under the ownership of a queen after the mid-eleventh century (ibid., 1:156–7). Viking Age silver has also been found on Cherry Island and a silver hoard was recovered from the adjacent lands.



Figure 8.3: Crannóg (WM026-102----), known as Schoolboy Island, on Lough Ennell, looking south-west from lake shore

Ringforts or settlement enclosures

There is also a high density of ringforts in this area of Westmeath, particularly in the baronies of Corkaree, Rathconrath and Moyashel & Magheradernon, where they are typically located on good quality, well-drained agricultural land, many in close proximity to crannógs (O'Sullivan 2004, 1:209, 219; Figure 8.4 and Figure 8.5). To the west of Lough Ennell, for example, there is a dense linear distribution that extends across the southern part of the barony of Rathconrath. Excavations at one such ringfort (CHR 126; **Annex A Figure 8-24**), in Rochfort Demesne, revealed a univallate enclosure with at least two episodes of ditch-digging that suggested roughly continuous use from the seventh to the twelfth century (Channing 2012; see Section 8.4.9). An Iron Age ring-headed pin and an early medieval needle recovered from pits at the entranceway were speculated as intentional deposits related to the protection of the settlement, with the site overall interpreted as probably having a role in supporting a nearby minor royal seat of the Fir Tulach (ibid., 80). Generally, the ringforts of Westmeath, as elsewhere, were primarily focused on agricultural production and represent farmsteads that are regarded as the typical residences of the nobility and freemen of early Irish society (O'Sullivan 2012, 14).



Figure 8.4: Oblique aerial view of ringfort -rath CHR 14 (RO1) in the townland of Teernacreeve, looking south-west.



Figure 8.5: Oblique aerial view of ringfort -rath CHR 20 (RO1) in the townland of Ballykilroe, looking north-east.

Ecclesiastical sites

The church held much of the land across this area, with the Life of Colmán describing the extensive monastic lands at Lynn (CHR 142; **Annex A Figure 8-23**) in the northern half of Fir Tulach, which comprised properties across Meath and Westmeath, including much of the present parish of Lynn (as well as modern day Mullingar). The earliest reference to a church in Fir Tulach is found in the late seventh-century Life of St Patrick by Tírecháin, when the saint travels from Tara to Uisneach, founding a number of churches along the way, including 'on the plain of Tulach' within the townland of Kilbride, with no less than 17 churches ultimately recorded in Fir Tulach (Connon 2012). A number of these churches were reputedly associated with the monastery of Lynn, which was founded by Colmán son of Luacháin. This monastery also had formal relationships with a host of other Mide churches outside Fir Tulach, including Dísert Maoil Tuile or Dysart (CHR 56; **Annex A Figure 8-29**). This was a monastery or hermitage founded on the west side of Lough Ennell in the late eighth or early ninth century AD by Maol Tuile, who was reputedly the son of Nóchaire of the Ceinéal Laoghaire of Meath (Ó Riain 2011, 447). Of the various artefacts recorded in the National Museum of Ireland from across the area (see Section 8.4.10), many came from the vicinity of Dysart monastery, ranging from copper-alloy harness fittings, mounts and buckles to lead weights and moulds to a silver brooch. Many of these early ecclesiastical sites ultimately developed into medieval parish churches with associated graveyards, the remains of which can still be found today at Lynn (CHRs 143 and 145; Figure 8.6 and Figure 8.7), Dysert (CHRs 53 and 54) and Kilpatrick (CHRs 73 and 74).



Figure 8.6: Entrance to Lynn graveyard (CHR 143)



Figure 8.7: Lynn church (CHR 145)

Late Medieval period

With the arrival of the Anglo-Normans in the late twelfth century AD, both church and lay property was plundered and burned and although not yet fully under their control, the land of Mide was granted to Hugh de Lacy (Murphy 2012). Early on he built a castle at Killare, within sight of the Hill of Uisneach, which served as the principal seat of his lordship, although it was destroyed in AD 1187 and the focus shifted to Ballymore/Lough Sewdy. De Lacy also retained 'the lake and vill of Dissert', which represents Lough Ennell and Dysart on its western shore, although there is no evidence that there was a manor or early castle built there (ibid., 51). Lands were given to various people, with William le Petit granted the barony of Magheradernon and Hugh Tyrell granted part or all of Fartullagh, although Gaelic families still controlled nearby territories, such as Moycashel. Surviving records also document the manorial village at Lynn, which in the thirteenth century included 2,400 medieval acres and was jointly held by Ralph de Pitchford and his wife, with the manor itself including a manse (dwelling house) with a garden and a mill, demesne lands and woodland (ibid.). Just south of Lynn, Rochfort Demesne may have been in the hands of one of the free tenants of that manor. Over the following centuries, while many of the Anglo-Norman families, such as the Tyrells of Fartullagh, became increasingly Gaelicised, feuding between areas was also common as struggles for land and power continued. In the fifteenth century, the ascendancy of the O'Connor's of Offaly brought further disruption to the area, including the burning and robbing of Mullingar in AD 1427 (ibid., 53). The Earls of Kildare subsequently acquired lands in this area, with the manor or vill of Robertston (Robinstown in Carrick parish) recorded as in the possession

of Gerald Earl of Kildare in AD 1541 and comprising a ruined stone castle, two cottages, 240 acres of arable land and a fishing weir.

Post-medieval period

The post-medieval period, from the seventeenth-century onwards, saw many changes across this landscape, particularly the development of estates with the building of country houses and the landscaping of associated demesne lands. The Rochforts, who were a long-established family, with their seat at nearby Gaulston, built Belvedere House (CHR 132; **Annex A Figures 8-23 and 8-34**) on the east shore of Lough Ennell in c. 1740 (Sharkey 1989/90, 248). This was constructed as a fishing lodge for Robert Rochfort (Lord Belfield and 1st Earl of Belvedere), whose brother George lived nearby at Rochfort House, later known as Tudenham Park House (CHR 125; **Annex A Figure 8-23**). Both Belvedere House and Rochfort House were designed by the famous architect Richard Castles, who planned the majority of the Palladian mansions in Ireland. It is reported that the Jealous Wall Folly (CHR 131; **Annex A Figures 8-23 and 8-34**) was built c. 1760 in order to block Robert's view of his brothers much larger house (see Section 8.4.12 for related folklore). In 1774, Robert's son George Augustus Rochfort (2nd Earl of Belvedere) took possession of Belvedere House and later the estates were passed partly to George Augustus Boyd, a son of the 2nd Earl's widow by her second husband, Abraham Boyd, and partly to the descendants of the 2nd Earl's sister, Jane, who was Countess of Lanesborough (ibid., 253; Scantlebury 1953, 130–31). In 1837, Lewis records Belvedere as the property of Lord Lanesborough, and comments on its fine lawn that descends to the shore of 'Lough Innel' and the finely wooded promontory of Rochfort, where Rochfort House is the seat of Colonel Rochfort and one of the finest mansions in the county. Belvedere ultimately passed to the Countess of Lanesborough's great-grandson, Charles Brinsley Marley and when he died in 1912 his accumulated properties passed to his cousin, Lieutenant-Colonel Howard-Bury. Rochfort House was purchased by Sir Francis Hopkins c. 1837, and the name was subsequently changed to Tudenham Park House. By c. 1870 it had been sold to the Tottenham family. During World War I it was used was a hospital and later as a convalescent home for army officers, before being gutted by a fire in 1957 (NIAH database).



Figure 8.8: Belvedere House (CHR 132)



Figure 8.9: The Jealous Wall Folly (CHR 131)

Bloomfield House (CHR 265; **Annex A Figure 8-23**), directly to the north of Belvedere House, is reported to have been the dower house of the Rochfort Estate and is also referred to as Belvedere Lodge. It is believed to have been built originally to mark the marriage of Dorothea Bloomfield to the 2nd Earl of Belvedere (Scantlebury 1953, 130). In 1866, Charles Brinsley Marlay, the then owner of Belvedere House, purchased the Bloomfield Estate along with its adjoining estate Lynnwood with the intention of amalgamating the properties to create one substantial park to be known by the collective name of Belvedere. After World War I, Lieutenant-Colonel Howard-Bury made Bloomfield House available to the International Red Cross to be used as a hospital for wounded soldiers and by 1932 it was donated to the Franciscan Nuns before passing to a group of local businessmen in 1979 to be developed into a hotel (Bloomfield House Hotel History). Just north of Bloomfield was La Mancha House (CHR 266; **Annex A Figure 8-23**), which was reportedly built by the Henley family in the mid-eighteenth century. In 1837, Lewis records it and Lynn House as properties of R. Swift, Esq., who was residing nearby at Lynn Lodge (depicted on both the 6-inch (1836) and 25-inch (1911) edition OS mapping). On 22 June 1895, The Catholic Journal (page 6) records the Lord Chancellor appointing well-known Nationalist Mr Thomas Shaw of La Mancha, Mullingar, to the Commission of the Peace for Westmeath.

On the west side of Lough Ennell, Ladestown House (CHR 68; **Annex A Figure 8-23**), the seat of the Lyons Family, was built c. 1823 and incorporated an earlier eighteenth-century house and probably a much earlier castle. The house was once home to John Charles Lyons who was famous for his work with orchids, which he grew in the glass houses of Ladestown. He also had a private printing press here and published the first manual on the cultivation of tropical orchids. Although the house fell into disrepair and was demolished c. 1960, the stables and other features from the demesne, such as the walled garden, ice house (CHR 67) and gate lodge (CHR 69) remain preserved.

Lewis (1837) also records the market and post-town of Kilbeggan as containing a new branch from the Grand Canal, a large distillery, a brewery, two mills for flour and oatmeal, and a manufactory for tobacco and snuff. He also refers to the principal seats as including Coola (CHR 261; **Annex A Figure 8-14**), the property of Gustavus Lambart Esq. and occupied by J. Conolly Esq. (ibid.). The canal was one of the most important infrastructural advances in the region in the nineteenth century and the eight-mile canal from Ballycommon to Kilbeggan was funded as part of the general scheme for poor relief in Ireland (Delany and Delany 1966). It was opened to traffic in 1836 and was eventually closed in the early 1960s when a dam was built across the entrance and the canal bed was allowed to dry out.

8.3.3 National Inventory of Architectural Heritage and Record of Protected Structures

The *National Inventory of Architectural Heritage* (NIAH) identifies, records, and evaluates the post-1700 architecture of Ireland 'to ensure that our built heritage is valued, protected, and carefully adapted where necessary, so that its character and special interest can be enjoyed by future generations'. In considering the architectural heritage significance of each structure the NIAH also assigns a final rating: International, National, Regional, Local and Record Only. Those given an International, National or Regional Rating form the basis of a list for structures that should be included in the Record of Protected Structures (RPS) complied by local authorities. A Protected Structure is a structure that a planning authority thinks is of special interest from an architectural, historical, archaeological, artistic, cultural, scientific, social, or technical point of view. The structured is recognised as important and is protected from harm under legislation. Every local authority in Ireland must keep an RPS in their development plans and they are listed in Volume 8: Record of Protected Structures in the *Westmeath County Development Plan 2021–2027*.

The NIAH, available via the National Monuments Service Historic Environment Viewer (www.archaeology.ie), records 18 sites within Route Option 1, all of which are also Protected Structures, and 37 sites within Route Option 2, of which 35 are also Protected Structures (Table 8.4 to Table 8.5). The two structures not yet included in the RPS are Rochfort Mill (CHR 120) and the associated Miller's House (CHR 121). In addition, Marshall's Corn Mill (CHR 9) and part of Ladestown House - farmyard complex (CHR 68) are also Recorded Monuments, as is Balrath graveyard (CHR 16) where the entrance gates are protected (see Section 8.4.4). The published descriptions of these sites are provided in the inventory (Appendix 1) at the end of this report.

Eleven of these structures overlap between the two study areas near Kilbeggan: Canal store/warehouse (CHR 1); Kilbeggan Branch – Grand Canal Harbour/dock/port (CHR 2); Harbour Master's House (CHR 3); Harbour Road House (CHR 4); Saint Mary's Convent of Mercy – Graveyard/cemetery (CHR 5); Saint Mary's Convent of Mercy (CHR 6); Saint James's Catholic Church – gates/railings/walls (CHR 7); Saint James's Hall – Community Centre (CHR 8); Marshall's Corn Mill (CHR 9); Coola Mill (CHR 12) and Coola Bridge (CHR 13).

The NIAH survey of all these structures was completed between September 2004 and July 2006, and 40 are deemed to be of regional significance, with the remaining 4 of national significance, all of which are located in Route Option 2. The latter includes Tudenham Park's Country House (CHR 125) and 'The Jealous Wall' Folly (CHR 131), the hunting/fishing lodge (CHR 132) and 'The Gothic Arch' Folly (CHR 135), all of which are associated with Belvedere House. Lilliput House (CHR 27) is also speculated to have been used by Jonathan Swift, albeit at the time it was called Nure House. He is said to have often been a guest of the Rochfort family of Gaulstown House, not far from Belvedere House and the area of Dysart on the shores of Lough Ennell became commonly known as Lilliput after Gulliver's Travels was published in 1726 (Westmeath Examiner, 5 January 2011). The following two tables (Table 8.4 and Table 8.5) show the built heritage within the RCO's.

Table 8.4: Built heritage within Route Option 1

CHR No.	NIAH Reg. No.	RPS Ref. No.	Structure	Importance	Figure
1	15403817	038-072	Canal store/warehouse	High	8-14
2	15403816	038-071	Kilbeggan Branch – Grand Canal Harbour/dock/ port	High	8-14
3	15403819	038-074	Harbour Master's House	High	8-14
4	15321053	038-048	Harbour Road House	High	8-14
5	15321034	038-032	Saint Mary's Convent of Mercy – Graveyard/cemetery	High	8-14
6	15321057	038-052	Saint Mary's Convent of Mercy	High	8-14
7	15321059	038-054	Saint James's Catholic Church – Gates/railings/ walls	High	8-14
8	15321058	038-053	Saint James's Hall – Community Centre	High	8-14
9	15321036	038-033	Marshall's Corn Mill	High	8-14
12	15321032	038-030	Coola Mill	High	8-14
13	15321031	038-029	Coola Bridge	High	8-14
Option 1b					
16	15403204	032-041	Balrath Graveyard – Gates/railings/walls	High	8-15
27	15403206	032-043	Lilliput House	High	8-18
32	15402543	025-039	Kilcooley House – Farm house	High	8-18
68	15402502	025-002	Ladestown House – Farmyard complex	High	8-23
69	15402503	025-002	Ladestown House – Gate Lodge	High	8-23
71	15402501	025-001	Kilpatrick House	High	8-20
259	15401802	018-003	Bellmount Bridge	High	8-20

Table 8.5: Built heritage within Route Option 2

CHR No.	NIAH Reg. No.	RPS Ref. No.	Structure	Importance	Figure
Option 2a					
1	15403817	038-072	Canal store/warehouse	High	8-14
2	15403816	038-071	Kilbeggan Branch – Grand Canal Harbour/dock/ port	High	8-14
3	15403819	038-074	Harbour Master's House	High	8-14
4	15321053	038-048	Harbour Road House	High	8-14
5	15321034	038-032	Saint Mary's Convent of Mercy – Graveyard/ cemetery	High	8-14
6	15321057	038-052	Saint Mary's Convent of Mercy	High	8-14
7	15321059	038-054	Saint James's Catholic Church – Gates/railings/ walls	High	8-14
8	15321058	038-053	Saint James's Hall – Community Centre	High	8-14
9	15321036	038-033	Marshall's Corn Mill	High	8-14
12	15321032	038-030	Coola Mill	High	8-14
13	15321031	038-029	Coola Bridge	High	8-14
Option 2b					
79	15319006	032-027	Miller's House, Knockycosker	High	8-16
80	15319005	032-026	Knockycosker Mill	High	8-16
84	15319004	032-025	Glen Brosna House	High	8-16
Option 2c					
78	15319014	032-045	Knockycosker Water Pump	High	8-15
81	15319012	032-033	Ballynagore House – Gates/railings/walls	High	8-16
82	15319010	032-031	Ballynagore House – Gates/railings/walls	High	8-16

CHR No.	NIAH Reg. No.	RPS Ref. No.	Structure	Importance	Figure
83	15319009	032-030	Knockycosker Water Pump	High	8-16
85	15319003	032-024	Ballynagore Bridge	High	8-16
86	15319011	032-032	Ballynagore House	High	8-16
87	15319017	032-037	Knock House	High	8-16
88	15403207	032-044	Newells Bridge	High	8-22
Option 2d					
89	15403208	032-045	Dalystown House	High	8-22
99	15403302	033-023	Robinstown House – Country House	High	8-21
105	15402624	026-020	Carrick House – Country House	High	8-21
115	15402623	026-019	Carrick House – Boathouse	High	8-24
120	15402620	-	Rochfort Mill	Medium	8-24
121	15402621	-	Rochfort Mill – Miller's House	Medium	8-24
125	15402617	026-015	Tudenham Park – County House	High	8-24
131	15402614	026-012	Belvedere House – 'The Jealous Wall' Folly	High	8-24
132	15402615	026-013	Belvedere House – Hunting/fishing lodge	High	8-24
133	15402613	026-011	Belvedere House – 'Gothic Octagon' Folly	High	8-23
135	15402612	026-010	Belvedere House – 'The Gothic Arch' Folly	High	8-23
136	15402666	026-046	La Mancha House – Demesne walls/gates/ railings	High	8-23
138	15402606	026-006	Lynnbury – Demesne walls/gates/railings	High	8-23
139	15402604	026-004	Lynnbury Gate Lodge	High	8-23
140	15402602	026-002	Lynn House – Demesne walls/gates/ railings	High	8-23

8.3.4 Recorded Monuments

The term ‘National Monument’ is defined by the National Monuments Act (1930) as being ‘a monument or the remains of a monument the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic, or archaeological interest attaching thereto’. The aforementioned Act states that the consent of the Minister is required for archaeological works at or near a National Monument in the ownership or guardianship of the Minister or a local authority, or to which a preservation order applies. There are no National Monuments within the Route Option corridors.

The Sites and Monuments Record (SMR), available via the National Monuments Service Historic Environment Viewer (www.archaeology.ie), records 62 known archaeological sites within Route Option 1 and 47 known archaeological sites within Route Option 2. Of these, three overlap between the two study areas near Kilbeggan (CHRs 9, 10 and 11, a water mill, building and enclosure, respectively; **Annex A Figure 8-14**). The published descriptions, as derived from the National Monuments Service Archaeological Survey Database, are provided in the inventory (Appendix 2) at the end of this report. As outlined in Section 8.4.3, three known archaeological sites (CHRs 9, 16 and 68), or parts thereof, are also recorded in the NIAH and are Protected Structures. The following two tables (Table 8.6 and Table 8.7) list the Recorded Monuments located within the two route options:

Table 8.6: Recorded Monuments within Route Option 1

CHR No.	SMR No.	Type	Townland	Importance	Figure
Option 1a					
9	WM038-017008-	Water mill – vertical-wheeled	Kilbeggan	High	8-14
10	WM038-018----	Building	Coola	Medium	8-14
11	WM038-064----	Enclosure	Coola	Medium	8-14
14	WM032-106----	Ringfort – rath	Teernacreeve	High	8-15
15	WM032-101----	Ringfort – cashel	Toorlisnamore	Medium	8-15
16	WM032-102----	Graveyard	Balrath (Moycashel By.)	High	8-15
17	WM032-102001-	Church	Balrath (Moycashel By.)	High	8-15
18	WM032-103001-	Castle – unclassified	Balrath (Moycashel By.)	Medium	8-15
19	WM032-103002-	Enclosure	Balrath (Moycashel By.)	Medium	8-15
20	WM032-104----	Ringfort - rath	Ballykilroe	High	8-15
Option 1c					
21	WM032-062----	Enclosure	Ballybrennan	High	8-17
22	WM032-063----	Enclosure	Ballybrennan	High	8-17
23	WM032-062001-	House – indeterminate date	Ballybrennan	High	8-17
24	WM032-062002-	House – indeterminate date	Ballybrennan	High	8-17
25	WM032-062003-	Hut site	Ballybrennan	High	8-17
26	WM032-062004-	Hut site	Ballybrennan	High	8-17
Option 1d					

CHR No.	SMR No.	Type	Townland	Importance	Figure
28	WM032-112-----	Burial	Nure or Lilliput	Negligible	8-18
29	WM025-146-----	Moated site	Rathnamuddagh	High	8-18
30	WM025-168-----	Crannog	Lough Ennell	Medium	8-18
31	WM025-145-----	Ringfort - rath	Dysart (Moyashel & Magheradernon By.)	High	8-18
33	WM025-144-----	Ringfort - rath	Dysart (Moyashel & Magheradernon By.)	High	8-18
34	WM025-117-----	Castle - unclassified	Dysart (Moyashel & Magheradernon By.)	High	8-18
35	WM025-117001-	Bawn	Dysart (Moyashel & Magheradernon By.)	High	8-18
258	WM025-117002-	Water mill - unclassified	Dysart (Moyashel & Magheradernon By.)	Medium	8-18
36	WM025-115-----	Ringfort – unclassified	Dysart (Moyashel & Magheradernon By.)	Medium	8-19
37	WM025-114-----	Enclosure – large enclosure	Dysart (Moyashel & Magheradernon By.)	High	8-19
38	WM025-111003-	House – indeterminate date	Dysart (Moyashel & Magheradernon By.)	High	8-19
39	WM025-111002-	House – indeterminate date	Dysart (Moyashel & Magheradernon By.)	High	8-19
40	WM025-112-----	Ringfort – rath	Dysart (Moyashel & Magheradernon By.)	High	8-19
41	WM025-113-----	Enclosure – large enclosure	Dysart (Moyashel & Magheradernon By.)	High	8-19
42	WM025-111001-	Field system	Dysart (Moyashel & Magheradernon By.)	High	8-19
43	WM025-108-----	Ringfort - rath	Dysart (Moyashel & Magheradernon By.)	High	8-19
44	WM025-107-----	Ringfort - rath	Dysart (Moyashel & Magheradernon By.)	High	8-19
45	WM025-160-----	Water mill - unclassified	Dysart (Moyashel & Magheradernon By.)	Medium	8-19
46	WM025-104-----	Ringfort – rath	Dysart (Moyashel & Magheradernon By.)	High	8-19
47	WM025-109-----	Ritual site – holy well	Dysart (Moyashel & Magheradernon By.)	High	8-19

CHR No.	SMR No.	Type	Townland	Importance	Figure
48	WM025-105----	Enclosure	Dysart (Moyashel & Magheradernon By.)	Negligible	8-19
49	WM025-106002-	Field system	Dysart (Moyashel & Magheradernon By.)	High	8-19
50	WM025-106001-	Ringfort - rath	Dysart (Moyashel & Magheradernon By.)	High	8-19
51	WM025-169002-	Fish-pond	Dysart (Moyashel & Magheradernon By.)	High	8-19
52	WM025-110001-	Souterrain	Dysart (Moyashel & Magheradernon By.)	High	8-19
53	WM025-110004-	Graveyard	Dysart (Moyashel & Magheradernon By.)	High	8-19
54	WM025-110002-	Church	Dysart (Moyashel & Magheradernon By.)	High	8-19
55	WM025-110005-	High Cross	Dysart (Moyashel & Magheradernon By.)	High	8-19
56	WM025-110003-	Ecclesiastical enclosure	Dysart (Moyashel & Magheradernon By.)	High	8-19
57	WM025-169003-	Castle - ringwork	Dysart (Moyashel & Magheradernon By.)	High	8-19
58	WM025-169001-	Bawn	Dysart (Moyashel & Magheradernon By.)	High	8-19
59	WM025-169----	Castle – unclassified	Dysart (Moyashel & Magheradernon By.)	High	8-19
60	WM025-070----	Mound	Dysart (Moyashel & Magheradernon By.)	Medium	8-19
61	WM025-116----	Moated site	Dysart (Moyashel & Magheradernon By.)	Medium	8-19
62	WM025-075----	Ringfort - rath	Dysart (Moyashel & Magheradernon By.)	High	8-19
63	WM025-071----	Ringfort - unclassified	Dysart (Moyashel & Magheradernon By.)	High	8-19
64	WM025-076002-	Cist	Keoltown	Negligible	8-23
65	WM025-076001-	Barrow - unclassified	Keoltown	High	8-23
66	WM025-173----	Earthwork	Ladestown	Medium	8-23
67	WM025-072----	Icehouse	Ladestown	High	8-23

CHR No.	SMR No.	Type	Townland	Importance	Figure
68	WM025-073001-	House – fortified house	Ladestown	High	8-23
70	WM026-112----	Water mill – unclassified	Kilpatrick (Moyashel & Magheradernon)	Negligible	8-20
72	WM025-028002-	Ecclesiastical enclosure	Kilpatrick (Moyashel & Magheradernon)	High	8-20
73	WM025-028----	Church	Kilpatrick (Moyashel & Magheradernon)	High	8-20
74	WM025-028001-	Graveyard	Kilpatrick (Moyashel & Magheradernon)	High	8-20
75	WM018-169----	Rabbit warren	Kilpatrick (Moyashel & Magheradernon)	Medium	8-20

Table 8.7: Recorded Monuments within Route Option 2

CHR No.	SMR No.	Type	Townland	Importance	Figure
Option 2a					
9	WM038-017008-	Water mill – vertical-wheeled	Kilbeggan	High	8-14
10	WM038-018----	Building	Coola	Medium	8-14
11	WM038-064----	Enclosure	Coola	Medium	8-14
76	WM038-006----	Barrow – unclassified	Cumminstown	High	8-15
77	WM038-062----	Enclosure – large enclosure	Guigginstown	Medium	8-15
Option 2d					
90	WM032-065----	Ringfort – rath	Dalystown (Fartullagh By.)	High	8-22
91	WM032-030----	Enclosure	Dalystown (Fartullagh By.)	High	8-21
92	WM032-030001-	Standing stone	Dalystown (Fartullagh By.)	High	8-21
93	WM032-028----	Ecclesiastical enclosure	Friarstown	High	8-21
94	WM032-028001	Religious house – Dominican friars	Friarstown	High	8-21

CHR No.	SMR No.	Type	Townland	Importance	Figure
95	WM032-027----	Ringfort – rath	Friarstown	High	8-21
96	WM033-004	Ringfort – unclassified	Higginstown (Fartullagh By.)	Medium	8-21
97	WM033-003----	Ringfort – rath	Higginstown (Fartullagh By.)	High	8-21
98	WM033-006----	Ringfort – unclassified	Walterstown	Medium	8-21
100	WM032-026----	Ringfort – rath	Robinstown (Fartullagh By., Carrick Par.)	High	8-21
101	WM032-029----	Ringfort – rath	Gaddaghanstown	High	8-21
102	WM032-024----	Enclosure	Friarstown	Medium	8-21
103	WM033-001----	Castle – unclassified	Robinstown (Fartullagh By., Carrick Par.)	High	8-21
104	WM026-111-----	Water mill – unclassified	Carrick (Fartullagh By.)	Negligible	8-21
106	WM026-084----	Field system	Carrick (Fartullagh By.)	High	8-21
107	WM026-083001-	Graveyard	Carrick (Fartullagh By.)	High	8-21
108	WM026-083----	Church	Carrick (Fartullagh By.)	High	8-21
109	WM026-085----	Ringfort – rath	Carrick (Fartullagh By.)	High	8-24
110	WM026-081----	Ringfort – rath	Carrick (Fartullagh By.)	High	8-24
111	WM026-081001-	House – indeterminate date	Carrick (Fartullagh By.)	High	8-24
112	WM026-081002-	House – indeterminate date	Carrick (Fartullagh By.)	High	8-24
113	WM026-081003-	House – indeterminate date	Carrick (Fartullagh By.)	High	8-24
114	WM026-081004-	House – indeterminate date	Carrick (Fartullagh By.)	High	8-24
116	WM026-080----	Ringfort – rath	Carrick (Fartullagh By.)	High	8-24
117	WM026-052002-	Castle – unclassified	Carrick (Fartullagh By.)	Negligible	8-24

CHR No.	SMR No.	Type	Townland	Importance	Figure
118	WM026-052001-	House – indeterminate date	Carrick (Fartullagh By.)	Negligible	8-24
119	WM026-079----	Ringfort – rath	Carrick (Fartullagh By.)	High	8-24
122	WM026-054----	Ringfort – rath	Rochfort Demesne	High	8-24
123	WM026-053----	Ringfort - rath	Rochfort Demesne	High	8-24
124	WM026-048----	Designed landscape feature	Rochfort Demesne	High	8-24
126	WM026-051----	Ringfort – rath	Rochfort Demesne	Negligible	8-24
127	WM026-049----	Ringfort – rath	Rochfort Demesne	High	8-24
128	WM026-115001-	Settlement platform	Rochfort Demesne	Medium	8-24
129	WM026-115----	Settlement platform	Rochfort Demesne	Medium	8-24
130	WM026-050----	Ringfort – rath	Rochfort Demesne	High	8-24
134	WM026-113----	Crannog	Lough Ennell	Medium	8-23
137	WM026-024----	Enclosure	Lynn	Medium	8-23
141	WM026-002002-	Burial ground	Lynn	High	8-23
142	WM026-003002	Ecclesiastical enclosure	Lynn	High	8-23
143	WM026-003001	Graveyard	Lynn	High	8-23
144	WM026-003003-	Font	Lynn	Negligible	8-23
145	WM026-003----	Church	Lynn	High	8-23

8.3.5 Westmeath Industrial Heritage Survey

A survey of industrial heritage in County Westmeath was undertaken in 2019 on behalf of Westmeath County Council (Giacometti and Ní Cheallaigh 2019). This was based on cartographic and historical information, such as Ó Conlainn's register of Westmeath mills, alongside existing surveys of historic monuments. Over 4,800 potential sites were identified across the county. This survey represents part

of Objective 2 in the Westmeath Strategic Heritage Plan 2024–2030 and access to the database for the current report was facilitated by the Westmeath Heritage Officer, Melanie McQuade.

In addition to any structures already covered by the built heritage and Recorded Monuments detailed in Sections 8.4.3 and 8.4.4, this survey records 52 sites within Route Option 1 and 68 sites within Route Option 2 (Table 8.8 and Table 8.9). Of these, eight overlap between the two study areas near Kilbeggan (CHRs 146–153), most of which refer to additional features associated with the canal system and Coola Mill, while two are water pumps. These sites, which are largely depicted on the Ordnance Survey (OS) 6-inch mapping of the 1830s and/or the 25-inch mapping of the 1910s[7], are dominated by 56 lime kilns (50%) and 26 water/wind pumps (23%). The remaining sites vary from earlier buildings associated with the canal in Kilbeggan to features such as sluice gates, mill races, mill ponds, kilns and an aqueduct associated with various known mills, such as Marshall's Corn Mill (CHR 9), Coola Mill (CHR 12), Knockycosker Mill (CHR 80), Carrick Mill (CHR 104) and Rochfort Mill (CHR 120). Also identified in the townland of Ballykilroe was the location of a smithy (CHR 175), an eel weir (CHR 199) and a previously unrecorded corn mill (CHR 200), with a corn kiln (CHR 189) related to a flour mill noted in the townland of Nure or Lilliput, and the location of a windmill (CHR 240) noted in the townland of Robinstown and associated with Robinstown Country House (CHR 99).

Table 8.8: Industrial Heritage within Route Option 1

CHR No.	Survey Ref No.	Type	Townland	OS 1st ed 6-inch	OS 3rd ed 25-inch	Importance	Figure
Option 1a							
146	2740	Goods shed(s), replaced by CHR 1	Kilbeggan	ü	X	Negligible	8-14
147	2738	Grand Canal	Kilbeggan	ü	ü	High	8-14
148	2743	Water pump	Kilbeggan	X	ü	Low	8-14
149	1638	Water pump	Coola	X	ü	Low	8-14
150	2748	Sluice (part of CHR 9 Marshall's Corn Mill)	Kilbeggan	X	ü	High	8-14
151	349	Mill race (part of CHR 12 Coola Mill)	Ballinwire	ü	ü	High	8-14
152	1636	Sluice and aqueduct (part of CHR 12 Coola Mill)	Coola	X	ü	High	8-14
153	1639	Mill pond (part of CHR 12 Coola Mill)	Coola	ü	ü	Medium	8-14

[7] The second edition 6-inch mapping of Westmeath took place in 1874–6. This mapping was not consulted for the initial Westmeath Industrial Heritage Survey, nor for this Phase of the assessment as it is not as freely available as the first (1830s) and third (1910s) edition mapping. It will, however, be consulted when this assessment is updated for the preferred route option.

CHR No.	Survey Ref No.	Type	Townland	OS 1st ed 6-inch	OS 3rd ed 25-inch	Importance	Figure
154	1051	Gravel pit?	Camagh	X	ü	Negligible	8-14
155	1049	Gravel pit	Camagh	ü	ü	Negligible	8-14
156	3390	Water pump	Loughanagore	X	ü	Low	8-15
157	4552	Lime kiln	Teernacreeve	ü	ü	Low	8-15
158	4554	Lime kiln	Teernacreeve	ü	X	Low	8-15
159	4558	Lime kiln	Teernacreeve	ü	ü	Low	8-15
160	4553	Lime kiln	Teernacreeve	ü	X	Low	8-15
161	4561	Gravel pit	Teernacreeve	X	ü	Negligible	8-15
162	4653	Lime kiln	Teernacreeve	ü	X	Low	8-15
Option 1b							
163	4652	Lime kiln	Toorlisnamore	ü	X	Low	8-15
164	4650	Lime kiln	Toorlisnamore	X	ü	Low	8-15
165	4555	Lime kiln	Teernacreeve	ü	ü	Low	8-15
166	4654	Lime kiln	Toorlisnamore	ü	X	Low	8-15
167	4556	Lime kiln	Teernacreeve	X	ü	Low	8-15
168	4557	Lime kiln	Teernacreeve	ü	X	Low	8-15
169	782	Lime kiln	Balrath	ü	X	Low	8-15
170	784	Lime kiln	Balrath	ü	X	Low	8-15
171	781	Lime kiln	Balrath	ü	X	Low	8-15
172	787	Lime kiln	Balrath	ü	X	Low	8-15
173	783	Lime kiln	Balrath	ü	X	Low	8-15
174	785	Lime kiln	Balrath	ü	ü	Low	8-15
175	485	Smithy	Ballykilroe	X	ü	Low	8-15
176	482	Water pump	Ballykilroe	X	ü	Low	8-16
Option 1c							
177	484	Lime kiln	Ballykilroe	ü	X	Low	8-16
178	3000	Lime kiln	Killinlahan	ü	X	Low	8-16
179	3332	Lime kiln	Lissakilly	ü	X	Low	8-16
180	3003	Lime kiln	Killinlahan	ü	ü	Low	8-16

CHR No.	Survey Ref No.	Type	Townland	OS 1st ed 6-inch	OS 3rd ed 25-inch	Importance	Figure
181	3002	Lime kiln	Killinlahan	ü	X	Low	8-16
182	3001	Lime kiln	Killinlahan	ü	X	Low	8-16
183	2999	Lime kiln	Killinlahan	ü	X	Low	8-16
184	3338	Lime kiln	Lissakilly	ü	X	Low	8-16
185	376	Lime kiln	Ballybrennan	ü	X	Low	8-16
186	1564	Lime kiln	Cloonagh	ü	X	Low	8-16
187	1510	Nure Bridge	Clonsingle	ü	ü	Low	8-17
Option 1d							
188	3584	Lime kiln	Monaghanstown	X	ü	Low	8-17
189	3918	Corn kiln	Nure or Lilliput	ü	X	Low	8-17
190	3919	Sand pit	Nure or Lilliput	ü	ü	Negligible	8-18
191	4206	Gravel pit?	Rathnamuddagh	X	ü	Negligible	8-18
192	2189	Water pump	Dysart	X	ü	Medium	8-18
193	2187	Water pump	Dysart	X	ü	Low	8-18
194	2188	Water pump	Dysart	X	ü	Low	8-19
195	2191	Wind pump	Dysart	X	ü	Low	8-19
196	3248	Water pump	Ladestown	X	ü	Medium	8-23
197	775	Level Crossing	Balnamona or Charlestown	X	ü	Low	8-20

Table 8.9: Industrial Heritage within RCO2

CHR No.	Survey Ref No.	Type	Townland	OS 1st ed 6-inch	OS 3rd ed 25-inch	Importance	Figure
Option 2a							
146	2740	Goods shed(s), replaced by CHR 1	Kilbeggan	X	ü	Negligible	8-14
147	2738	Grand Canal harbour	Kilbeggan	ü	ü	High	8-14
148	2743	Water pump	Kilbeggan	X	ü	Low	8-14
149	1638	Water pump	Coola	X	ü	Low	8-14

CHR No.	Survey Ref No.	Type	Townland	OS 1st ed 6-inch	OS 3rd ed 25-inch	Importance	Figure
150	2748	Sluice (part of CHR 9 Marshall's Corn Mill)	Kilbeggan	X	ü	High	8-14
151	349	Mill race (part of CHR 12 Coola Mill)	Ballinwire	ü	ü	High	8-14
152	1636	Sluice and aqueduct (part of CHR 12 Coola Mill)	Coola	X	ü	High	8-14
153	1639	Mill pond (part of CHR 12 Coola Mill)	Coola	ü	ü	Medium	8-14
198	4559	Lime kiln	Teernacreeve	ü	X	Low	8-15
Option 2b							
199	4551	Eel weir	Ballykilroe	ü	X	Low	8-15
200	481	Corn mill	Ballykilroe	ü	X	Low	8-15
201	3171	Mill race (part of CHR 80 Knockycosker Mill)	Knockycosker	ü	ü	High	8-15
202	3213	Weir (part of CHR 80 Knockycosker Mill)	Knockycosker	X	ü	High	8-15
Option 2c							
203	3217	Gravel pit	Knockycosker	ü	ü	Negligible	8-15
204	3209	Water pump	Knockycosker	X	ü	Low	8-16
205	3172	Mill buildings and mill race	Knockycosker	ü	ü	Negligible	8-16
206	3220	Flour mill	Knockycosker; Ballinagore	ü	ü	Negligible	8-16
207	3214	Weir	Knockycosker	X	ü	Low	8-16
208	3211	Lime kiln	Knockycosker	X	ü	Low	8-16
209	3337	Lime kiln	Lissakilly	ü	X	Low	8-16
210	3210	Water pump (part of CHR 87 Knock House)	Knockycosker	X	ü	Low	8-16
Option 2d							
211	2031	Lime kiln	Dalystown	ü	ü	Low	8-22

CHR No.	Survey Ref No.	Type	Townland	OS 1st ed 6-inch	OS 3rd ed 25-inch	Importance	Figure
212	2026	Water pump (part of CHR 89 Dalystown House)	Dalystown	X	ü	Low	8-22
213	2023	Lime kiln	Dalystown	ü	X	Low	8-22
214	2030	Wind pump	Dalystown	X	ü	Low	8-22
215	2032	Quarry?	Dalystown	ü	X	Negligible	8-22
216	2024	Lime kiln	Dalystown	X	ü	Low	8-22
217	2022	Lime kiln	Dalystown	ü	X	Low	8-22
218	2029	Water pump	Dalystown	X	ü	Low	8-21
219	2028	Water pump	Dalystown	X	ü	Low	8-21
220	2021	Lime kiln	Dalystown	ü	X	Low	8-21
221	2315	Water pump	Friarstown	X	ü	Low	8-21
222	2312	Lime kiln	Friarstown	ü	X	Low	8-21
223	2319	Gravel pit?	Friarstown	X	ü	Negligible	8-21
224	2316	Water pump	Friarstown	X	ü	Low	8-21
225	2313	Lime kiln	Friarstown	X	ü	Low	8-21
226	2317	Water pump	Friarstown	X	ü	Low	8-21
227	2314	Lime kiln	Friarstown	X	ü	Low	8-21
228	2318	Water pump	Friarstown	X	ü	Low	8-21
229	2620	Lime kiln	Higginstown	ü	X	Low	8-21
230	2619	Lime kiln	Higginstown	ü	X	Low	8-21
231	2622	Lime kiln	Higginstown	ü	X	Low	8-21
232	4788	Lime kiln	Walterstown	ü	X	Low	8-21
233	4787	Lime kiln	Walterstown	ü	X	Low	8-21
234	2627	Gravel pit	Higginstown	X	ü	Negligible	8-21
235	2621	Lime kiln	Higginstown	ü	X	Low	8-21
236	2617	Water pump	Higginstown	X	ü	Low	8-21
237	2624	Lime kiln	Higginstown	ü	ü	Low	8-21
238	4789	Lime kiln	Walterstown	ü	ü	Low	8-21
239	2623	Lime kiln	Higginstown	X	ü	Low	8-21

CHR No.	Survey Ref No.	Type	Townland	OS 1st ed 6-inch	OS 3rd ed 25-inch	Importance	Figure
240	4312	Windmill (part of CHR 99 Robinstown House)	Robinstown	ü	X	Medium	8-21
241	4307	Lime kiln	Robinstown	X	ü	Low	8-21
242	4306	Water pump	Robinstown	X	ü	Low	8-21
243	4308	Lime kiln	Robinstown	ü	X	Low	8-21
244	4309	Lime kiln	Robinstown	X	ü	Low	8-21
245	1142	Lime kiln	Carrick	ü	X	Low	8-21
246	1141	Lime kiln	Carrick	ü	X	Low	8-21
247	1138	Water pump	Carrick	X	ü	Low	8-21
248	1140	Lime kiln	Carrick	ü	X	Low	8-21
249	949	Lime kiln	Brackagh	X	ü	Low	8-21
250	1148	Mill pond (part of CHR 104 mill)	Carrick	ü	ü	Medium	8-21
251	1139	Lime kiln (part of CHR 104 mill)	Carrick	X	ü	Low	8-21
252	1145	Mill race and sluice (part of CHR 104 mill)	Carrick	ü	ü	Medium	8-21
260	4331	Tuck Mill (part of CHR 120 Rochfort Mill)	Rochfort Demesne	ü	ü	Medium	8-24
253	4333	Water pump (part of CHR 120 Rochfort Mill)	Rochfort Demesne	X	ü	Low	8-24
254	4332	Water pump (part of CHR 125 Tudenham Park House)	Rochfort Demesne	X	ü	Low	8-24
255	879	Water pump (part of CHR 131–135 Belvedere House)	Belvidere	X	ü	Low	8-24
256	3426	Water pump (part of CHR 266 La Mancha House)	Lynn	X	ü	Low	8-23
257	3425	Butler’s Bridge	Lynn	ü	ü	Low	8-20

8.3.6 Cartographic Review

As demonstrated above by the industrial heritage survey, potential archaeological or cultural heritage features can often be marked on historic maps, which are a useful resource in identifying sites of potential interest, particularly if they no longer have any above ground remains. Several cartographic sources were consulted as part of this assessment, namely *The Down Survey of Ireland* (1656–1658), William Petty's map of *The County of West Meath* (1685), the Longfield Map Collection (1770–1840), which includes part of the Rochfort Demesne, William Larkin's *A map of the County of Westmeath* (1808) and both the first (surveyed 1836 – published 1838) and third edition (surveyed 1911–1912 – published 1913) Ordnance Survey (OS) maps.

An additional eight cultural heritage sites were identified during this review, two of which are located in the overlap between both route option corridors, resulting in four in RO1 (Table 8.10) and six in RO2 (Table 8.11).

Table 8.10: Cultural heritage sites identified on historic mapping within Route Option 1

CHR No.	Type	Townland	OS 1st ed 6-inch	OS 3rd ed 25-inch	Importance	Figure
Option 1a						
261	Coola Cottage	Coola	ü	ü	Medium	8-14
262	Millrace Cottages	Coola	ü	ü	Medium	8-15
263	Boathouse	Nure or Lilliput	X	ü	Low	8-17
264	Well	Nure or Lilliput	X	ü	Low	8-17

Table 8.11: Cultural heritage sites identified on historic mapping within Route Option 2

CHR No.	Type	Townland	OS 1st ed 6-inch	OS 3rd ed 25-inch	Importance	Figure
Option 2a						
261	Coola Cottage	Coola	ü	ü	Medium	8-14
262	Millrace Cottages	Coola	ü	ü	Medium	8-14
Option 2d						
265	Bloomfield House	Lynn	ü	ü	Medium	8-23
266	La Mancha House	Lynn	ü	ü	Medium	8-23
267	Rochfort House	Rochfort Demesne	ü	ü	Medium	8-24
268	Hermitage	Carrick	ü	ü	Low	8-24

8.3.6.1 Seventeenth- to early nineteenth-century mapping

Much of the seventeenth- to early nineteenth-century mapping is at a scale that depicts more general features, for example, the Down Survey map and Petty's 1685 map both call the lake 'Lough Hannell', with the ecclesiastical sites of Lyn, Dysart and Carrick also depicted (Figure 8.10), while Larkin's 1808 map names Lilliput along with many of the demesne lands around the lake. Longfield's map of Rochfort Demesne, however, is a more detailed illustration focused on Rochfort House and related features, including the 'Island of Rinn' and 'Inchicroghan Island' (Inchacrone), a boat quay, 'Pigeon House' (Rochfort Ho in ruins on 6-inch OS map) and a pond (Figure 8.11).



Figure 8.10: Extract from William Petty's 1685 map The County of West Meath (source gallica.bnf.fr/Bibliothèque nationale de France)



Figure 8.11: Robert Ormsby Longfield'smap of the Rochfort Demesne 1770–1840 (© National Library of Ireland)

8.3.6.2 Mid-nineteenth- to early twentieth-century mapping

Additional potential cultural heritage sites and features were identified on the more detailed mid-nineteenth and early twentieth-century Ordnance Surveying mapping. These often include meticulous illustrations of 18th- and 19th-century demesne lands, for example, ranging from landscaped gardens to features such as ponds and boathouses.

Within RCO1, for example, a tree-lined avenue, landscaped gardens and walled garden are illustrated around Dysart House (CHR 59) on the first edition 6-inch map (1836), albeit the house is already marked as 'in ruins'. The extensive demesne lands associated with Ladestown House (CHR 68) are also illustrated on the 1836 map, including a walled garden with a central feature that may represent a pond or fountain, a nursery to the north of the house, a formal avenue leading from the gate lodge (CHR 69) to the front of the house, as well as an informal pathway leading to the rear. By the time of the 1911 25-inch map, part of the grounds to the north-east of the house are labelled 'Westmeath Polo Ground' and have an associated stand for spectators. Landscaped tree planting around Kilpatrick House (CHR 71) is also evident on the first edition 6-inch map.

Similar landscaped demesnes are illustrated along the east side of the lake, within RCO2. There are landscaped gardens depicted on the 1836 map around Glen Brosna House (CHR 84) in Ballynagore, Knock House (CHR 87), Robinstown House (CHR 99) and Carrick House (CHR 105). In Ballynagore village these appear to be rear gardens associated with the buildings fronting on to the west side of the street. By the time of the 1912 25-inch map, however, Glen Brosna House (CHR 84) has been built (built c.1852) in the village and this includes landscaped gardens. While that adjacent Knock House (CHR 87) represents a small, formal garden, possibly walled, the landscaping around Robinstown House (CHR 99) is more informal but with a windmill (CHR 240) and a possible orchard depicted to the south of the house. Carrick House (CHR 105) has both formal landscaped gardens and more informal woodlands with pathways.

The first edition 6-inch map also illustrates the extensive Rochfort Demesne lands around Rochfort House/Tudenham Park (CHR 125) and 'Belvidere' (CHR 132). The elaborate landscaped gardens include a walled garden and orchards, while the larger demesne includes a deer park, more informal woodland with pathways, various follies (CHRs 131, 133 and 135), as well as several archaeological sites (ringforts CHRs 119, 122, 123, 126, 127 and 130), a boat house (CHR 115), Rochfort Mill (CHR 120) and the associated miller's house (CHR 121). The Rochfort Demesne lands also include an earlier Rochfort House in ruins (CHR 267) and a 'hermitage' (CHR 268), which was situated on the lake shore and represented a retreat where people could take a rest on their walks of the grounds. Both are depicted on the first edition 6-inch OS map, as well as the 25-inch map (Figure 8.12). Due to dense forestry it is currently unknown if any remains of the hermitage survive above ground but nothing of Rochfort House is visible on aerial imagery. It is possible that subsurface remains of Rochfort House may survive, however, and it is deemed to be of Medium Importance due to its connection with the other buildings that survive within Rochfort Demesne, particularly the new Rochfort House, later Tudenham Park House (CHR 125), which was built nearby in the early eighteenth century. The hermitage has local significance as part of the lands of the Rochfort Demesne and is therefore deemed to be of Low Importance.

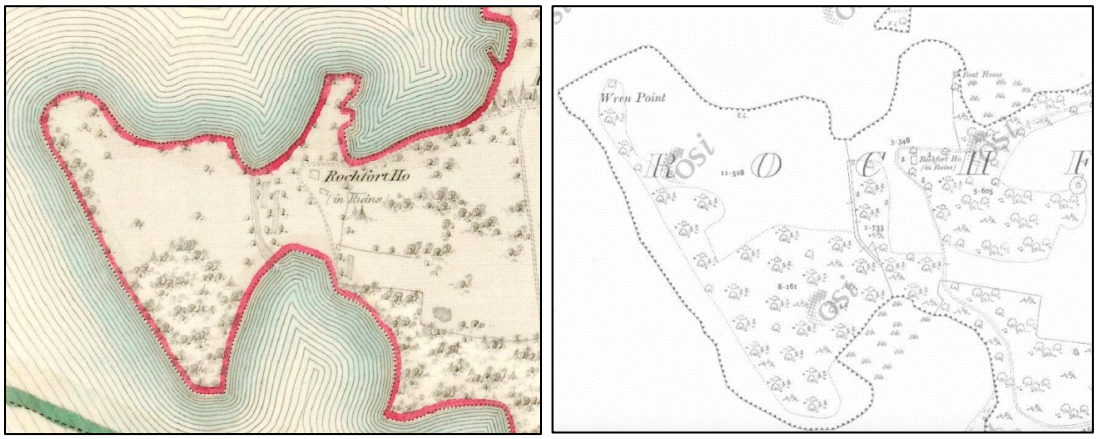


Figure 8.12: Extracts from 6-inch OS map, surveyed 1836 (left), and 25-inch OS map, surveyed 1911 (right), showing details of Rochfort House in ruins (CHR 267)

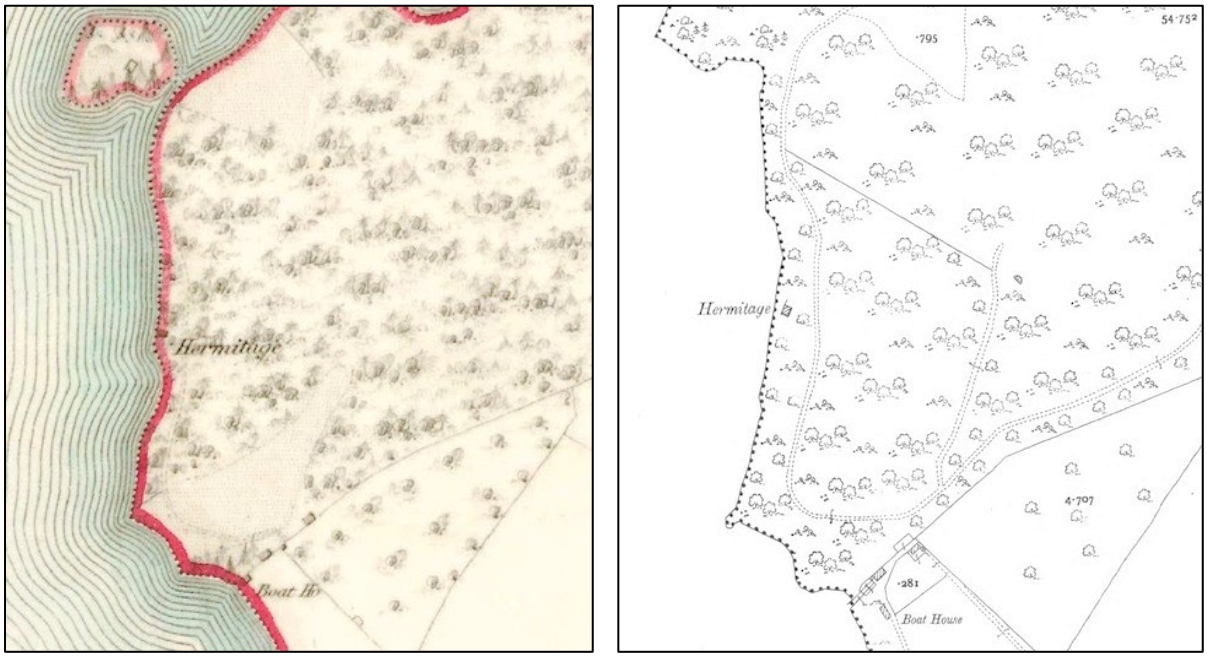


Figure 8.13: Extract from 6-inch OS map, surveyed 1836 (left), and 25-inch OS map, surveyed 1911 (right), showing hermitage (CHR 268) and boathouse (CHR 115)

To the north of this, there are additional landscaped grounds around Bloomfield House (CHR 265), which was originally part of the Rochfort Estate and developed into a hotel around 1979, and La Mancha House (CHR 266), which was reportedly built by the Henley family in the mid-eighteenth century (Figure 8.14). Both houses, in the townland of Lynn, have associated gate lodges and entrance features, with that at La Mancha comprising cast-iron railings and gates (CHR 136). Both houses are also depicted on the first and third edition mapping, with Bloomfield House including a formal garden, possibly walled, to the southwest of the house, with a boat house illustrated to the west (Figure 8.15 and Figure 8.16). Notably, both houses are not included in the NIAH (although La Mancha is assigned Reg. No. 15402608 in the associated record for the entrance gates (see CHR 136), but there is no corresponding entry). Both CHRs still have upstanding remains and are deemed to be of Medium Importance.

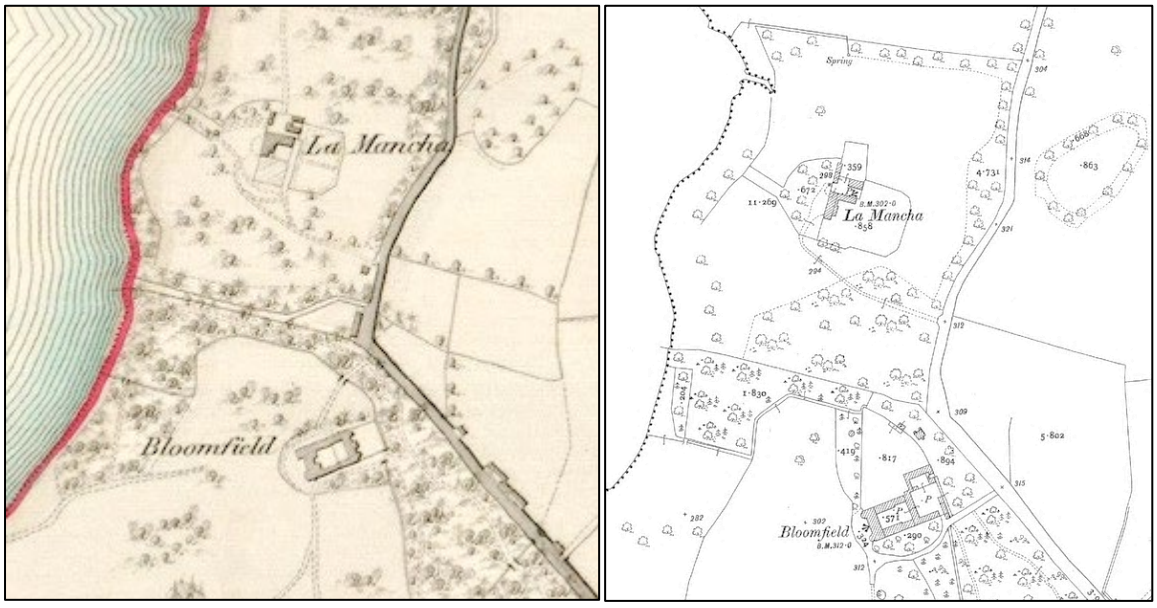


Figure 8.14: Extracts from 6-inch OS map, surveyed 1836 (left), and 25-inch OS map, surveyed 1911 (right), showing details of Bloomfield House (CHR 265) and La Mancha House (CHR 266)



Figure 8.15: Plan of Bloomfield Demesne dated 1885 when under the ownership of Charles Brinsley Marlay and referred to as Belvidere Lodge Demesne (© Westmeath County Library)

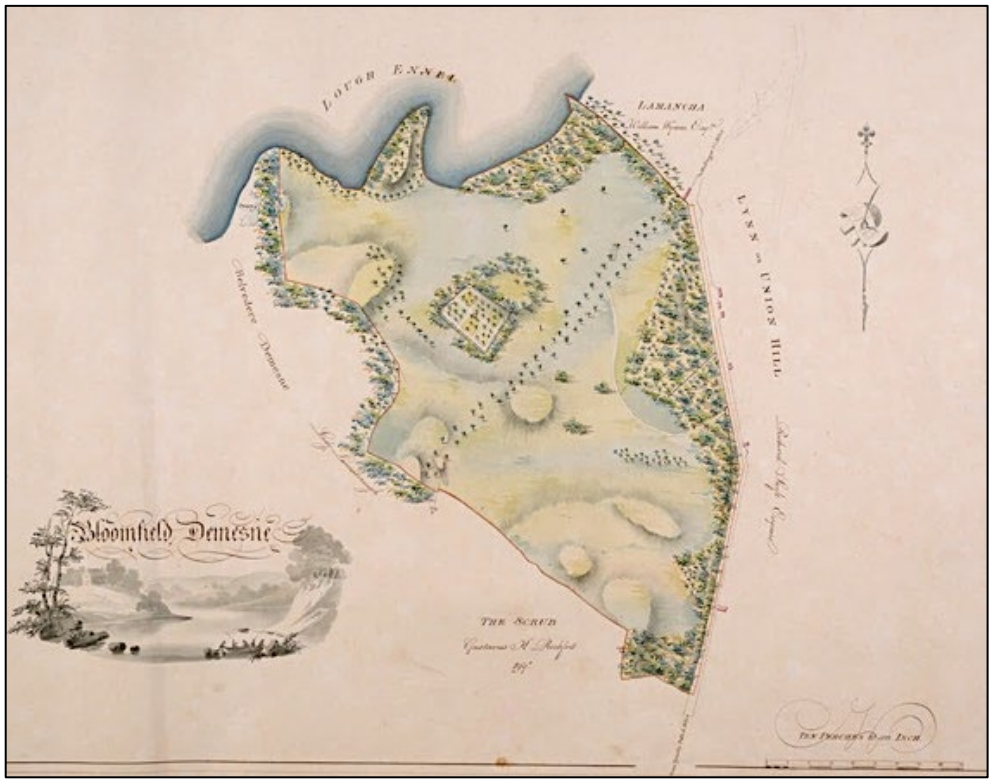


Figure 8.16: Undated plan of Bloomfield Demesne (© Westmeath County Library)

Further north again, part of the demesne lands associated with Lynnbury House (NIAH 15402603) are also within the route corridor, including a stone-built boundary wall (CHR 138) and a gate lodge (CHR 139). West of this, on the opposite side of the same road, part of the lands associated with Lynn House (in the area where Lynn Castle (WM026-002----) is recorded), are also within the route corridor. This includes the entrance archway (CHR 140) with an associated stone-built boundary wall and an altered gate lodge to the south.

In addition to the demesne lands and country houses, other cultural heritage sites were also identified on this mapping. In the townland of Coola, where RO1 and RO2 overlap, just south of Coola Mill (CHR 12), Coola Cottage (CHR 261) and its associated grounds are depicted on both the 6-inch map surveyed in 1836 and the 25-inch map surveyed in 1912, albeit appearing to be somewhat altered by the time of the latter map (Figure 8.17). This was likely the property of Gustavus Lambert Esq., leased to J. Connolly, Esq., as recorded by Lewis in 1837. It was later demolished and some of the associated lands were subsequently incorporated into the Kilbeggan pitch and putt course. On the opposite side

of the road, Millrace Cottages (CHR 262) are also depicted on both maps, albeit not named until the 1912 survey. Coola Cottage does not have any upstanding remains, but the ground remains undeveloped, while part of Millrace Cottages may remain in situ although the site has been largely built over; both are therefore deemed to be of Medium Importance due to their direct association with Coola Mill, which is a Protected Structure.

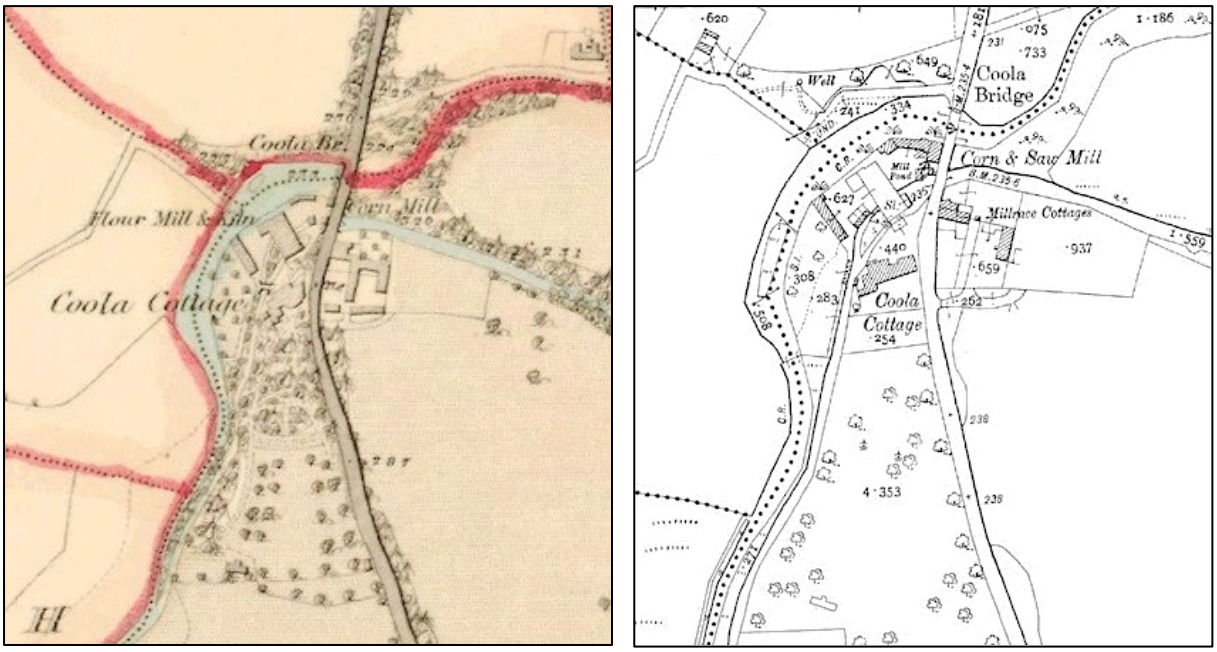


Figure 8.17: Extracts from 6-inch OS map, surveyed 1836 (left), and 25-inch OS map, surveyed 1912 (right), showing details of Coola Cottage (CHR 261) and Millrace Cottages (CHR 262)

Within RO1 there are also landscaped features depicted around Lilliput House (CHR 27) on the first edition OS map and by the time of the 25-inch map, surveyed in 1911, the recorded features include a boathouse (CHR 263) and a well (CHR 264), both positioned on the lake shore (Figure 8.18). Both features have local significance as part of the Lilliput estate and are therefore deemed to be of Low Importance.

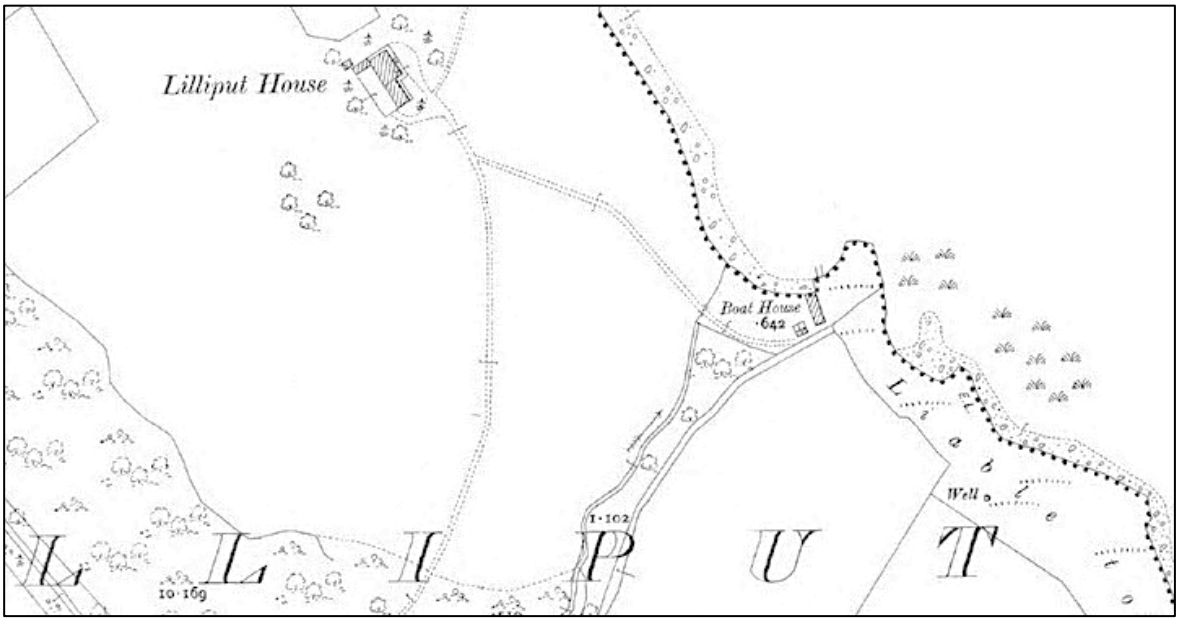


Figure 8.18: Extract from 25-inch OS map, surveyed 1911, showing boathouse (CHR 263) and well (CHR 264)

8.3.7 Aerial Photography Review

Potential archaeological sites can be visible on aerial photography as cropmarks, soil marks and low earthworks, while aerial imagery can also be used to assess the extent of the above ground remains of monuments and changes overtime to those remains. Accordingly, a review of available aerial photographs was also conducted, comprising those dating to between 1995 and 2018 from the Ordnance Survey of Ireland (now Taillte Éireann) and those from Google Earth imagery dating between 2005 and 2022. Particular care was taken to examine the areas around known archaeological sites to help determine the extents of these monuments and the potential for any outlying features. Aerial imagery dating to the summer months of 2013 and 2018 were particularly useful as there was long periods of dry weather meaning that cropmarks were often more visible.

Within RO1, a possible parch or cropmark (CHR 269) was identified in the townland of Ladestown on an October 2018 Google Earth image (Table 8.12; Figure 8.19). This was in a harvested field, approximately 30m east of an irregular-shaped earthwork (CHR 66) that was previously identified on a 2005 aerial image. It is equally possible, however, that this reflects a geological feature. Due to the uncertain nature of this CHR, it is deemed to be of Low Importance. The line of an outer enclosure at the ecclesiastical complex at Kilpatrick (CHR 72) was also visible on a 2018 Google Earth image (Figure 8.20).

Table 8.12*:* Cultural heritage site identified on aerial imagery within Route Option 1

CHR No.	Type	Townland	Source	Importance	Figure
Option 1d					
269	Cropmark	Ladestown	October 2018 Google Earth aerial image	Low	8-23



Figure 8.19: Possible cropmark (CHR 269) at the top of a harvested field in Ladestown on 2018



Figure 8.20: Outer earthwork of ecclesiastical enclosure (CHR 72) at Kilpatrick on 2018 Google Earth Image.

The remains of levelled sites can also be determined through aerial imagery, such as a moated site (CHR 61) and two ringforts (CHRs 62 and 63) in the townland of Dysart, within the demesne lands associated with Dysart House (Figure 8.21 and Figure 8.22). When compared to the OS 6-inch map, surveyed in 1836, landscape features related to Dysart House can also be detected through aerial imagery, such as the tree-ring to the northeast of one of the ringforts (CHR 63).

Within RO2, a possible cropmark (CHR 270) was identified in the townland of Guigginstown, on a June 2018 Google Earth aerial image (Table 8.13; Figure 8.23). This was in a harvested field, directly southeast of a large enclosure with a diameter of c. 90m (CHR 77) that could also be identified on the same 2018 Google Earth series and lies just on the west edge of RO2. It consists of a small circular area measuring approximately 15m in diameter, suggesting it could be a roundhouse or barrow

monument, although the possibility that it reflects underlying geology or modern clearance of a tree-ring or similar, cannot be discounted. Accordingly, this CHR is deemed to be of Low Importance.



Figure 8.21: Levelled/partially levelled moated site (CHR 61) and two ringforts (CHRs 62 and 63) in the townland of Dysart visible in ploughsoil on 2013 Google Earth image. Note also a tree-ring to northeast of CHR 63, representing a demesne feature as depicted on 6-inch OS map below (Figure 12-41)



Figure 8.22: Extract from first edition OS 6-inch map, surveyed 1836, showing the then upstanding remains of moated site (CHR 61) and two ringforts (CHRs 62 and 63), as well as landscaping features within the Dysart House demesne lands



Figure 8.23: Possible cropmark (CHR 270) in a harvested field, directly southeast of a large enclosure (CHR 77) in the townland of Guigginstown, visible on 2018 Google Earth image

Table 8.13: Cultural heritage site identified on aerial imagery within Route Option 2

CHR No.	Type	Townland	Source	Importance	Figure
Option 2a					
270	Cropmark	Guigginstown	June 2018 Google Earth aerial image	Low	8-15

Various linear ditches or field drains in the vicinity of Ballynagore House (CHR 86) were also identifiable on a 2018 Google Earth image, with those around Carrick House (CHR 105) visible on a 2013 image, including hints of a field system (CHR 106). These may relate to landscaping and field boundaries around these houses that are not depicted on any of the historic mapping (Figure 8.24 and Figure 8.25).



Figure 8.24: Possible landscaping around Ballynagore House (CHR 86) on 2018 Google Earth image.



Figure 8.25 Possible landscaping around Carrick House (CHR 105) on 2013 Google Earth Image.

8.3.7.1 Field Inspection

Some site visits were also conducted for this Phase 2 assessment, to largely assess upstanding remains with the potential to offer high amenity value (see Section 8.5.2). While conducting this field work, an ice house (CHR 271) was recorded within Belvedere House, Gardens and Park (**Table** 8.14; Figure 8.26), northeast of the Gothic Arch Folly (CHR 135). This is not depicted on any of the historic mapping, but it may relate to a feature labelled 'Tank' on the 1911 25-inch map. Due to its location with the Rochfort Demesne it is deemed to be of High Importance.

Table 8.14: Cultural heritage site identified during site visit within Route Option 2

CHR No.	Type	Townland	Source	Importance	Figure
Option 2d					
271	Ice house	Rochfort Demesne	Site visit	High	8-23



Figure 8.26: Ice house in Belvedere House, Gardens and Park

8.3.8 Previous Archaeological Investigations

The Database of Irish Excavation Reports, also known as the Excavations Database, is an annual gazetteer account of all investigations carried out under an excavation licence and includes excavations undertaken from 1970 to the present (www.excavations.ie). This database was consulted as part of the desktop research, to establish the nearest previous archaeological investigations undertaken in the environs of the RCO's, which can further demonstrate the overall archaeological potential of the areas and their surrounding townlands (Table 8.15 and Table 8.16). The following information was taken from the *Summary Accounts of Archaeological Excavations in Ireland* (www.excavations.ie) and all related reports accessible through the National Monuments Service Virtual Reading Room.

Table 8.15: Previous archaeological investigations within Route Option 1

Excavation.ie reference	Licence No.	Site-Type	Investigation Type
2007:1913 – Kilpatrick, Westmeath	07E1049	No archaeology found	Test excavation
2006:2040 – Dysart, Westmeath	06E0851	No archaeology found	Test excavation
2005:1521 - Balrath, Balrath Castle, Westmeath	05E0296	No archaeology found	Test excavation
2000:1011 – Balrath, Ballinagore, Westmeath	00E0651	No archaeology found	Test excavation

Table 8.16: Previous archaeological investigations within Route Option 2

Excavation.ie reference	Licence No.	Site-Type	Investigation Type
2004:1751 – Lynn: Lynn House, Westmeath	04E0898	No archaeology found	Test excavation
2006:2082 – Rochfort Demesne, Westmeath	A006/003, E3314	Early medieval (seventh–tenth-century AD) settlement enclosure; eighteenth-century demesne folly	Excavation
2005:1597 - Rochfort Demesne, Westmeath	A006/005	Late Bronze Age (1100–800 BC) burnt mound	Excavation
2010:666 – Carrick, Walterstown, Higginstown, Dalystown, Calverstown and Clonfad, Westmeath	10E0371	Undated features including a possible habitation site, a possible cairn, two burnt spreads, a pit and three areas of burning	Test excavation
2011:605 – Carrick 1 and 2, Westmeath	11E0112	Chalcolithic (2500–2200 BC) pit/hearth; undated features including two areas of burning and three pits	Excavation
2011:606 – Carrick 3, 4 and 5, Westmeath	11E0113	Modern field clearance cairn and two undated shallow pits/hearths	Excavation

Excavation.ie reference	Licence No.	Site-Type	Investigation Type
2011:608 – Dalystown 1 and 2, Westmeath	11E0114	Early Bronze Age (2200–1600 BC) burnt mound; Chalcolithic (2500–2200 BC) burnt mound	Excavation
2004:1719 – Carrick, Westmeath	04E0084	No archaeology found	Monitoring
1999:859 – Carrick, Westmeath	99E0370	No archaeology found	Test excavation
2002:1854 – Dalystown (BGE 1B/68/1), Westmeath	02E0679	Late Bronze Age (1100–800 BC) ring-barrow and pits containing cremated bone	Excavation
2002:1855 – Dalystown (BGE 1B/68/2), Westmeath	02E0919	Undated pit containing bone fragment	Excavation
2002:1856 – Dalystown (BGE 1B/68/3), Westmeath	02E0774	Middle Bronze Age (1600–1100 BC) burnt mound	Excavation
2002:1857 – Dalystown (BGE 1B/68/4), Westmeath	02E0920	Undated burnt stone deposits	Excavation
2011:610 – Higginstown (Fartullagh By) and Walterstown, Westmeath	11E0063	No archaeology found	Test excavation

Four archaeological investigations are recorded as previously undertaken within RO1, none of which have yielded archaeological remains, while 14 are recorded within RO2 and these represent several new discoveries. The latter were largely discovered and excavated in advance of two phases of improvements to the N52 road, one in 2004–2006 and the other in 2010–2011, as well as in relation to a Bord Gáis Pipeline to the West in the early 2000s. This includes prehistoric activity in the form of several burnt mounds (A006/005, E3316; 11E0114; 02E0774; 02E0920), a cluster of pits (11E0112) and a ring-barrow and pits associated with cremated bone (02E0679).

A burnt stone spread and small pit dated to the Chalcolithic period (2458–2154 cal BC) were uncovered at Dalystown 2, while the nearby site of Dalystown 1 comprised an Early Bronze Age (2196–1944 and 2139–1954 cal BC) burnt mound with three troughs/pits (11E0114; Hardy and Mulcahy 2012). Also discovered in the townland of Dalystown was a burnt mound overlying two rectangular troughs with an associated Middle Bronze Age date of 1300–1000 cal BC and nearby pits/shallow deposits of heat-affected stone (02E0774 and 02E0920; Grogan et al. 2007, 339). The burnt mound in Rochfort Demesne (A006/005, E3316) was found to be overlying a rectangular trough with 16 stake-holes in the base, suggesting it was probably originally lined with wood, with associated charcoal returning a Late Bronze Age date of 1122–895 cal BC (Duffy 2008).

Chalcolithic occupation was also identified at Carrick 1 and 2 (11E0112) where several shallow pits and individual localised episodes of burning were recorded, one of which produced a date of 2575–2469 cal BC (Hardy and Mulcahy 2011). Late Bronze Age burial practices were also uncovered in the townland of Dalystown, where a barrow monument and a cluster of pits suggested several phases of activity, including the use of a pyre and the deposition of cremated human bone (02E0679 and 02E0919; Grogan et al. 2007, 337–9). Charcoal from the upper fill of the ring-barrow ditch returned a date of 930–800 cal BC.

Further excavation (A006/003; E3315) at ringfort WM026-051---- (CHR 126) within Rochfort Demesne resulted in the discovery of multi-period occupation that comprised three concentric subcircular ditches with the remains of two banks, suggesting two succeeding early medieval enclosures that were later converted into a decorative demesne landscape feature (Channing 2007; 2009; 2012). Artefacts included an Iron Age ring-headed pin, a tenth-century Dublin type ringed pin and a decorated bone comb. The excavator suggested that the site may have functioned as a lower order royal site or in support of a nearby royal site, perhaps associated with a

crannóg (WM026-109----) on Goose Island, and may have been linked to local Fir Tullach power, which was ultimately ceded to the Clan Cholmáin (Channing 2009, 82).

8.3.9 Archaeological Artefacts

The topographical files of the National Museum of Ireland (NMI) contain information pertaining to chance archaeological finds (mainly artefactual) and associated investigations, along with artefacts from older excavations. These are catalogued by townland and form a record of all items that have been reported to the museum since the 1920s. While many of these find spots are not Recorded Monuments, they can provide an indication of past activity in a townland and consequently add to our understanding of the archaeological potential of an area in the absence of other physical remains or documentary references. The NMI Topographical Files were therefore examined to further assess the area's archaeological potential.

A large number of artefacts are recorded for the townland of Dysart and in association with Lough Ennell generally, with additional items assigned to the townlands of Ballybrennan; Ballykilroe; Balrath; Barrettstown; Belvidere; Camagh; Carrick; Clonyhague; Clonsingle; Coola; Gaddaghanstown; Keoltown; Kilbeggan; Kilpatrick; Ladestown; Lilliput or Nure; Lynn; Rathnamuddagh; Robinstown and Tullaghan. The details of these artefacts are listed in Appendix 1 at the end of this report.

These objects include prehistoric stone axeheads, including from Lough Ennell, Lilliput Bog and Monaghanstown Bog, Early Bronze Age pottery vessels and human remains from burials excavated in the townlands of Ballybrennan, Ballykilroe and Keoltown and a Late Bronze Age Class 4 sword recovered from Lough Ennell and assigned to the townland of Ladestown. A large assemblage of medieval medieval and medieval artefacts have also been recorded from across the area, including copper-alloy pins from the River Brosna, silver ingots from the shore of Lough Ennell as well as Rushy Island, Rocky Island, Big Island and Dysart Island (see Section 8.4.4), wooden vessels from Dysart Bog, an iron spearhead, iron knife, copper-alloy buttons, buckles and coins, and other objects from Lough Ennell, an iron arrowhead from Balrath Castle (WM032-103001-/CHR 18) and various artefacts of copper-alloy, silver, lead and stone from the vicinity of Dysart monastery (WM025-110003-/CHR 56).

8.3.10 Placename Evidence

The Irish Townlands Database (https://www.townlands.ie/) and the Irish Placename Database (https://www.logainm.ie/en/) were also consulted for the associated administrative divisions (baronies, civil parishes and townlands) and the meaning of the placenames within the Options Routes. Townlands are the smallest unit of land division in the Irish landscape, and many may preserve early Gaelic territorial boundaries that pre-date the Anglo-Norman conquest. The layout and nomenclature of the Irish townlands was recorded and standardised by the work of the Ordnance Survey in the nineteenth century. The Irish translations of townland names often refer to natural topographical features, but name elements may also give an indication of the presence of past human activity within the area. Many of the townlands in this area of Westmeath are deemed to have no Irish origin, however, those that have are outlined in Table 8.17, which also includes available translations of the Irish origins where known.

Four of these placenames indicate an association with archaeological sites. Kilpatrick (*Cill Phádraig*) likely references a former ecclesiastical site (WM025-028----; -028001-; -028002-), while Dysart (*An Díseart*) refers to the early Christian monastery or hermitage (WM025-110003-) founded here in the late eighth or early ninth century AD by Maol Tuile, who died before the year 830, and Kilbeggan (*Cill Bheagáin*) similarly references a monastery (WM038-017001-) found by St Beagán in the sixth or seventh century AD. Rathnamuddagh (*Ráth na* mBodach) or 'Bogeyman's Fort', references a ringfort / enclosure, of which there are three recorded within the townland. Notably, folklore associated with an unspecified site in this townland called 'The Black Fort' is also recorded and this links the site to the fairies and the tricks they often play on people (Section 8.4.12).

Table 8.17: Townland names with Irish origins within Route Options 1 and 2 (www.logainm.ie) with additions)

Townland	Irish	Translation
Balnamona or Charlestown	*Baile na Móna*	Baile - townland, town, homestead
Kilpatrick (Moyashel& Magherademon By)	*Cill Phádraig*	Cill – church Phádraig - Patrick
Lynn	*Lainn*	-
Keoltown	*Baile Mhic Eoil*	Baile - townland, town, homestead
Dysart	*An Díseart*	Díseart - hermitage
Rathnamuddagh	*Ráth na mBodach*	Ráth - ring-fort Bodach = bogeyman, old trickster
Nure or Lilliput	*An tIúr*	Iúr - yew-tree
Cloonagh	*Cluanach*	Cluanach - meadow land
Ballynagore	*Béal Átha na nGabhar*	Átha - ford Béal – opening, approach, mouth Gabhar - goat
Coola	*Cúil Átha*	Átha - ford Cúil – corner, nook
Kilbeggan	*Cill Bheagáin*	Cill – church Bheagáin – St Beagán
Clonmore (Moyashel and Magheradernon By)	*Cluain Mór*	great lawn or meadow
Carrick (Fartullagh By)	*An Charraig*	Carraig - rock
Dalystown (Fartullagh By)	*Baile Uí Dhálaigh*	Baile - townland, town, homestead Uí Dhálaigh – O'Daly

8.3.11 Folklore Evidence

Folklore from an area can record traditions and oral histories, that are important to a locality and to the people that live there today or that lived there in the past. Accordingly, The School's Collection, which is a collection of folklore compiled by school children in Ireland in the 1930s, was consulted and the related lore is summarised below.

On the west side of Lough Ennell, Lug Dub is recorded as the name of a field containing a 'fort', located 'at the cross-roads that leads into Dysart graveyard'. This 'fort' was recorded as the place where a man by the name of Lac Lia 'saw a great many fairies kicking ball, and having great sport', but when he kicked the ball back to them they beat him and when he awoke the next morning there was no sign of the fairies, but he never went near the fort again (by Patrick Molloy, aged 56, The Schools' Collection, Volume 0737, 464). The same man recorded a similar story in relation to an encounter with fairies in 'Rathnamoddagh' (Rathnamuddagh), where there was a field called Baelnawilla that contained 'Black Fort' (ibid., 476–7). Here, the fairies invited a man with a hump on his back to join them for music and dancing and they kicked him around the site, but because he did not complain they cut off his hump and hung it up before he left; a second man with a hump heard the story and went to the fort, but he shouted and roared so much that the fairies gave him a second hump. This association between ringforts and fairies, or the mythical Tuatha Dé Danann and Fir Bolg, has long lived in oral histories across Ireland and has afforded many of these archaeological monuments a level of protection, for example for fear of experiencing danger, or becoming lost (Ní Cheallaigh 2006). Although the exact ringforts that these stories relate to cannot yet be identified, it is notable that there are several ringforts (including CHRs 46 and 50) and an enclosure (CHR 48) in the area around the 'cross-road' that leads to Dysart graveyard.

At Monaghanstown, it was recorded that long ago, when a Priest was saying mass at a Mass rock in a field on the road that leads from Castletown village to the lake, a cannon ball came across the lake from Belvedere and split the rock into pieces (by Joseph Kelly, aged c. 65, The Schools' Collection, Volume 0737, 439). Mass-rocks were commonly used from at least the seventeenth century when they were seen as a response to the Penal Laws (1695–1829), but can also be earlier, appearing to come into use after the suppression of the monasteries in 1540 (O'Sullivan and Downey 2014). There is currently no mass-rock recorded by the National Monuments Service in this townland, though this folklore suggests that such a site once existed. Additional stories are recorded about how Newells Bridge (CHR 88) got its name from a miser named Newell who was found dead on the road near the bridge, with the local people then finding his money and using it to build the bridge (ibid., 455–6).

On the east side of Lough Ennell, there is a tale recorded in The School's Collection (Volume 0796, 245–57) about Belvedere House and Tudenham Park, formerly Rochfort Demesne. This seems to be an amalgamation of stories about Robert Rochfort (1st Earl of Belvedere) and his jealousy towards both his brother George, who lived at Rochfort House, and his brother Arthur, who lived at nearby Belfield House. The story teller, however, mixes Robert up with Charles Brinsley Marlay, a later owner of Belvedere House. The story records that a man name Marlay, who occupied Belvedere House, had a very beautiful wife, formerly a Rochfort, and that they shared a son that she called 'Bobby Bawn' due to his fair curly hair. During a visit to Rochfort House she became acquainted with a great friend of her brothers, and her husband became very jealous and forbade her to leave the grounds of Belvedere Demesne. He also invited a noted European Architect to design and build a structure that would cut off all view from one house to the other, which became known as the Jealous Wall (CHR 131). To summarise, the tale goes on to explain how Marlay sent his son to school in England and locked his wife away at the top of the house with no windows for twenty years. When she was finally discovered by her son she died instantly and 'Bobby Bawn' took revenge by torturing and killing his father. It is said that Marlay haunts Belvedere House and avenue since. This story echoes the different folklore that surrounds Belvedere house and gardens, including the local belief that it is haunted.

Lough Ennell is also the subject of various folktales and O'Donovan's Ordnance Survey Letters (1837–38, 15–16) trace the beginnings of the name Lough Ennell (Loch Ainninn) and Lough Owel to two brothers, Ainninn and Uair, who lived at the lakes. The brothers were reportedly the sons of the kings of the Fir Bolg, who fled from the tyranny of the Greeks to Ireland, and it was at their respective lakes that Ainninn and Uair died giving the lakes their names. One lake lay north (Uair) and the other south (Ainninn). Over the years the name became anglicised to Lough Inill and during the inquisitions the lake became Lough Enyn or Lough Enyll.

8.4 Assessment

8.4.1 Protected Structures and built heritage sites

There are 18 Protected Structures within Route Option 1 (CHRs 1–9, 12, 13, 16, 27, 32, 68, 69, 71, 259) and 35 within Route Option 2 (CHRs 1–9, 12, 13, 79, 80, 84, 78, 81–83, 85–89, 99, 105, 115, 125, 131–133, 135, 136, 138–140), with 11 of these sites (CHRs 1–9, 12, 13) overlapping between the two routes near Kilbeggan. In addition, a further two structures (CHRs 120 and 121) in RO2 are listed in the National Inventory of Architectural Heritage (NIAH) but are not yet included in the RPS.

Of these built heritage sites, 40 are deemed by the NIAH to be of regional significance, with the remaining 4 of national significance, all of which are located in Route Option 2 (Tudenham Park's Country House CHR 125, Belvedere House 'The Jealous Wall' Folly CHR 131, Belvedere House hunting/fishing lodge CHR 132 and Belvedere House 'The Gothic Arch' Folly CHR 135).

The legal protection afforded to Protected Structures are set out in Part IV of the Planning and Development Act 2000, and this protection extends to the land and outbuildings in the curtilage of such a site, as well as all fixtures and features forming part of the structure or any structure on the grounds attached to it. Accordingly, some of the features identified as industrial heritage sites, such as sluice gates, mill races, mill ponds and kilns related to the various mills identified across these lands, are also afforded protection under their associated structures, specifically those linked to Marshall's Corn Mill (CHR 9), Coola Mill (CHR 12) and Knockycosker Mill (CHR 80).

8.4.2 Recorded archaeological monuments

There are 62 *Sites and Monuments Record* (SMR) sites within Route Option 1 (CHRs 9–11, 14–20, 21–26, 28–31, 33–68, 70, 72–75, 258) and 45 within Route Option 2 (CHRs 9–11, 76, 77, 90–98, 100–104, 106–114,

116–119, 122–124, 126–130, 134, 137, 141–145), with three of these sites (CHR 9–11) overlapping between the two routes near Kilbeggan. Three SMRs (CHR 9, 16 and CHR 68), or parts thereof, are also recorded in the NIAH and are Protected Structures. Most of these SMRs are also recorded in the *Record of Monuments and Places* (RMP), which was last published for County Westmeath in 1996, or are scheduled for inclusion in the next revision of the RMP. The county SMR forms the basis for the statutory RMP (established under Section 12 of the National Monuments (Amendment) Act 1994). Accordingly, all sites included in the RMP are protected under the National Monuments Acts (1930–2004).

8.4.3 Industrial heritage sites

There are 52 industrial heritage sites recorded within Route Option 1 (CHRs 146–197) and 68 within Route Option 2 (CHRs 146–153, 198–257), of which eight overlap between the two study areas near Kilbeggan (CHRs 146–153). These are primarily identified from either the first edition Ordnance Survey (OS) 6-inch mapping of the 1830s or the third edition OS 25-inch mapping of the 1910s. This Survey of Industrial Heritage, which was undertaken in 2019, represents part of Objective 2 in the Westmeath Strategic heritage Plan 2024–2030 and, as mentioned above, those within the curtilage of Protected Structures are also afforded some legal protection.

The identified sites are predominantly nineteenth and twentieth -century lime kilns (CHRs 157–160, 162–174, 177–186, 188, 198, 208, 209, 211, 213, 216, 217, 220, 222, 225, 227, 229–233, 235, 237–239, 241, 243–246, 248, 249, 251), water/wind pumps (CHRs 148, 149, 156, 176, 192–196, 204, 210, 212, 214, 218, 219, 221, 224, 226, 228, 236, 242, 247, 253–256) and gravel/sand/quarry pits (CHRs 154, 155, 161, 190, 191, 203, 215, 223, 234). The remaining sites identified vary from features associated with the canal in Kilbeggan (CHRs 146, 147) to the mills at Coola (CHRs 150–153), Knockycosker/Ballynagore (CHRs 201, 202, 205–207) and Carrick (CHRs 250, 252). Also identified in the townland of Ballykilroe was the location of a smithy (CHR 175), an eel weir (CHR 199) and a previously unrecorded corn mill (CHR 200), with a ‘corn kiln’ (CHR 189) related to a flour mill noted in the townland of Nure or Lilliput, and the location of a windmill (CHR 240) noted in the townland of Robinstown and associated with Robinstown Country House (CHR 99). A level crossing (CHR 197) and two bridges, Nure Bridge (CHR 187) and Butler’s Bridge (CHR 257), not listed in the NIAH records, were also included in this category.

8.4.4 Demesne lands and associated features

In addition to the industrial heritage sites, further potential cultural heritage sites were identifiable through the 6-inch and 25-inch OS mapping and an examination of aerial photography. This includes several eighteenth and nineteenth-century demesne landscapes positioned around Lough Ennell.

In the southern area near Kilbeggan, where the two route options overlap, Coola Cottage (CHR 261) and its associated demesne lands are depicted on the 6-inch map surveyed in 1836, some of which was later incorporated into the Kilbeggan pitch and putt course. Along the west side of the lake (Route Option 1) there are also demesne lands and associated landscaped features depicted on the first edition OS map around Lilliput House (CHR 27) and by the time of the 25-inch map, surveyed in 1911, includes a boathouse (CHR 263) and well (CHR 264) on the lake shore. The tree-lined avenue and landscaped gardens associated with Dysart House (CHR 59) are also depicted on the first edition OS map, albeit the house is already marked as ‘in ruins’, while the extensive demesne lands associated with Ladestown House (CHR 68) are also illustrated on the 1836 map. Landscaped tree planting around Kilpatrick House (CHR 71) is also evident on the first edition OS map.

Along the east side of the lake (Route Option 2) there are also some landscaped gardens depicted on the 1836 map around Glen Brosna House (CHR 84) in Ballynagore, Knock House (CHR 87), Robinstown House (CHR 99) and Carrick House (CHR 105). The first edition OS map also illustrates the extensive Rochfort Demesne lands around Rochfort House/Tudenham Park (CHR 125) and ‘Belvidere’ (CHR 132). These lands include an earlier Rochfort House in ruins (CHR 267), a deer park, a hermitage (CHR 268) on the lake shore (retreat where people could take a rest on their walks), elaborate landscaped gardens, and various follies, as well as several archaeological sites (ringforts CHR 119, 122, 123, 126, 127 and 130). Directly north of this are further landscaped estate lands around Bloomfield House (CHR 265), which was developed into a hotel, and La Mancha (CHR 266), both of which have associated gate lodges and elaborated entrance features, which includes cast-iron railings and gates at La Mancha (CHR 136). Part of the demesne lands associated with Lynnbury House (NIAH 15402603) are also within the route corridor, including the stone-built boundary wall (CHR 138) and the gate lodge (CHR 139), while on the west side of the same road there are part of the lands

associated with Lynn House, including the entrance archway (CHR 140) with associated stone-built boundary wall and an altered gate lodge to the south.

8.5 Options Appraisal

8.5.1 Constraints

This area of County Westmeath, particularly in the lands surrounding Lough Ennell, is archaeologically sensitive due to the large number of early medieval crannógs and ringforts or settlement enclosures, alongside the early ecclesiastical sites of Dysart (RO1) and Lynn (RO2). The area is also included in the twelfth-century saint's life, Betha Colmáin maic Lúachain or Life of Colmán, with the royal residences and fortified bases of the Clann Cholmáin dynasty of the Southern Uí Néill specifically referenced to Lough Ennell. This includes a crannóg (WM025-150----) and a nearby ringfort or raised rath (CHR 31) at the southern end of the lake (RO1), which have been interpreted as the royal seat of the Ua Maelsechlainn kings of the Clann Cholmáin dynasty. While the Recorded Monuments detailed above (62 within RO1 and 47 within RO2) can be largely avoided, the surrounding land within both route options has high potential to contain previously unknown archaeological remains associated with this rich early medieval landscape. This may include features such as field systems, cereal-drying kilns and metalworking sites, which are commonly encountered in the environs of settlement enclosures and ecclesiastical sites, and are generally preserved sub-surface with no above-ground expression. Furthermore, in RO2, the early ecclesiastical enclosure of Lynn (CHR 142), with an associated graveyard (CHR 143) and church (CHR 145) (**Annex A Figures**), is positioned centrally within the route corridor, with a second graveyard (CHR 141) nearby to the southwest. This area has high potential to contain previously unrecorded burials and other features associated with this ecclesiastical site.

There are also significant numbers of Protected Structures/NIAH built heritage sites recorded in this area (18 in RO1 and 37 in RO2), many of which relate to the rich eighteenth- and nineteenth-century demesne landscapes. There are significantly more sites recorded within RO2, however, and this relates to the extensive Rochfort Demesne, as well as the estates of Glen Brosna House (CHR 84), Knock House (CHR 87), Robinstown House (CHR 99), Carrick House (CHR 105), Bloomfield House (CHR 265), La Mancha House (CHR 266), Lynnbury House and Lynn House. Four post-medieval/early modern mills are also recorded, including two (CHRs 9 and 12) in the southern area where RO1 and RO2 overlap and a further two (CHRs 80 and 120) within RO2. Additional industrial heritage sites across this landscape (52 in RO1 and 69 in RO2) are largely represented by smaller features such as lime kilns, water pumps and gravel pits, but also includes some larger sites with no above ground remains surviving, such as a smithy (CHR 175) and a corn kiln (CHR 189) in RO1 and a corn mill (CHR 200) and windmill (CHR 240) in RO2.

Once the preferred route option is established a more in-depth assessment can be completed, including examination of LiDAR imagery and other techniques where required, such as geophysical survey (where possible based on ground conditions) and targeted test trenching. This will help establish what, if any, archaeological or cultural heritage remains will be impacted by the greenway, albeit with sensitive design and routing such sites can also become opportunities, particularly if they are intervisible with the route and can be signed; this is detailed further in Section 8.5.2. Where cultural heritage sites are directly affected by the routing and construction of the greenway, it will be recommended that such impacts are mitigated through preservation in situ where possible or preservation by record (excavation) where necessary.

8.5.2 Opportunities

'Enhanced Amenity and Heritage' is one of ten national strategic outcomes highlighted by The National Development Plan 2018–2027 (Department of Public Expenditure and Reform 2017), which includes enhancing the connection between Ireland's natural and built heritage and sustainable transport networks, tourism, and recreation. By assessing the existing and potential amenity value of the CHRs, including their group value, it was possible to suggest 18 high amenity value sites (Table 8.18; **Annex A Figures 8-36 to 8-41**) where the proposed greenway could have a positive effect by enhancing access to and awareness of cultural heritage assets.

Table 8.18: High amenity value sites on Route Option 1 and 2

Amenity value	Name/Location	Route Option	CHRs	Features of interest
1	Grand canal heritage	RO1; RO2	1, 2, 3, 147	Kilbeggan Branch of the Grand Canal, with associated canal store/warehouse, dock and Harbour Master's House
2	Industrial mill heritage	RO1; RO2	9, 150	Marshall's Corn Mill and associated sluice
3	Industrial mill heritage	RO1; RO2	12, 13, 151, 152	Coola Bridge and Coola Mill with associated mill race, sluice and aqueduct
4	Balrath church and graveyard	RO1	16, 17	Balrath church and graveyard, with example of North Leinster vernacular tradition of rubble stone gate piers on circular plan
5	Lilliput House and Jonathan Swift Park	RO1	27, 263, 264	Lilliput House, now an adventure centre, in the grounds of Jonathan Swift Park
6	Royal sites of the kings of Meath	RO1	30, 31	Ringfort (Dún na Sciath) with nearby crannógs (including WM025-150---- and WM025-147---- on Lough Ennell), with that on Cormorant Island known as Cró-Inis, all representing the residences of past kings of Meath/high kings of Ireland.
7	Early medieval landscape	RO1	43, 44, 46	Three well-preserved early medieval ringforts in a linear arrangement, spaced over c. 450 m distance on either side of R391 road.
8	Dysart early church site	RO1	47, 53, 54, 55	Dysart graveyard containing ruins of medieval parish church, post-1700 grave markers and a high cross, with nearby holly well of St Maol Tuile.
9	Ladestown House	RO1	67, 68, 69	Ladestown House (former home of horticulturist John Charles Lyons) is demolished but associated stable block, outbuildings and walled garden survive, along with a gate lodge and icehouse, now a riding school offering horse and pony trekking for all ages.
10	Crannóg	RO1	n/a	Lady Island crannóg (WM032-119----) visible on Lough Ennell.
11	Crannóg	RO1	n/a	School Boy Island crannóg (WM026-102----) visible on Lough Ennell.
12	18th–19th-century Ballynagore village and industrial mill heritage	RO2	79, 80, 81, 82, 83, 84, 85, 86, 201, 202, 205, 206, 207	Picturesque Ballynagore village with rich milling history, including 18th-century stone bridge, 19th-century water pump and houses of two prominent milling families (Perry and Mulock families), alongside Knockycosker Mill with associated mill race, weir and miller's house.
13	18th-century house, church and graveyard	RO2	105, 107, 108	Carrick graveyard that includes ruins of parish church and the burial place of Fr Thady Shanley and other priests from the locality, with Carrick House (linked to Fetherston-Haugh Family) nearby.
14	Early medieval landscape	RO2	109, 110, 111, 112, 113, 114	Two well-preserved early medieval ringforts, on west side of N52 road, one with internal earth and stone banks representing houses.
15	Industrial mill heritage	RO2	120, 121	Rochfort Mill and miller's house.
16	Belvedere House and Gardens	RO2	130, 131, 132, 133, 134, 135,	Belvedere House and Gardens (paid visitor attraction) with associated demesne features that include a ringfort, icehouse and follies, with crannóg visible on Lough Ennell.
17	Lynn early church site	RO2	142, 143, 145	Lynn graveyard that represents site of early ecclesiastical enclosure and includes ruins of medieval parish church and 18th–19th-century grave markers.

18	Crannóg	RO2	n/a	Goose Island crannóg (WM026-109----) visible on Lough Ennell.

These have also been assessed for public access and divided into four categories (Table 8.19): (1) those open to the public as paid visitor attractions (e.g. Belvedere House and Gardens, Lilliput Adventure Centre, Ladestown Riding Stables); (2) those open for free and accessible/partially accessible; (3) those accessible from existing infrastructure but not currently open to the public; (4) those on private land and/or other currently inaccessible/visible from existing public infrastructure. These are also detailed below under sites with existing amenity value (categories 1 and 2) and potential amenity value (categories 3 and 4).

Table 8.19: Current accessibility of high amenity value sites on Route Option 1 and 2

		Route Option 1	Route Option 2
Existing Amenity Value	1. Open to public as paid visitor attraction	Amenity 5	Amenity 16
		Amenity 9	
	2. Open to public for free and accessible/partially accessible	Amenity 1	Amenity 1
		Amenity 4	Amenity 12
		Amenity 8	Amenity 13
		-	Amenity 17
Potential Amenity Value	3. Accessible from existing infrastructure but closed to public	Amenity 2	Amenity 2
		Amenity 3	Amenity 3
		-	Amenity 15
	4. On private land and/or not accessible/visible from existing public infrastructure	Amenity 6	Amenity 14
		Amenity 7	Amenity 18
		Amenity 10	-
		Amenity 11	-
Total Amenity Sites		**11**	**10**

8.5.2.1 Existing Amenity Value

Nine of these sites have an existing amenity value, meaning they are already in public use and are visited sites. One is located in the overlapping area between the two route option corridors, near Kilbeggan and comprises the surviving remains of the Kilbeggan Branch of the Grand Canal (CHRs 1–3 and 147; Amenity 1). The canal basin and line with its intact stone bridges provides a popular walkway and the harbour warehouse, which has been successfully restored, is both open as a public amenity and rented out to local businesses. Four are within RO1 (Amenity 4, 5, 8 and 9) and a further four are within RO2 (Amenity 12, 13, 16 and 17).

Within RO1 there is Lilliput House and grounds (CHRs 27, 263 and 264), representing an Adventure Centre in parkland on the lake edge with a link to Jonathan Swift (Amenity 5; Figure 8.27). Similarly, there is the farmyard complex of Ladestown House, with its associated gate lodge and icehouse (CHRs 67–69), that is used today as Riding Stables that offer horse and pony trekking to the public (Amenity 9). There are also the remains of Dysart ecclesiastical site, which includes St Maol Tuile (St Multilly's) holy well (CHR 47), a high cross (CHR 55), church and graveyard (CHRs 53 and 54; Figure 8.28), which although overgrown are still visited today, particularly the holy well (Amenity 8). There is also the church and graveyard at Balrath (CHRs 16 and 17; Amenity 4), which has extensive views in all directions, including east to the remains of Balrath Castle (CHR 18). The graveyard also has an appealing set of early nineteenth-century rubble limestone gate piers and wrought-iron gates that allow access to several nineteenth- and twentieth-century grave markers.



Figure 8.27: Amenity 5 – Lilliput House and Jonathan Swift Park



Figure 8.28: Amenity 8 – Dysart graveyard

Within RO2 there is Belvedere House, Gardens and Park (CHRs 131–133, 135 and 271), which is open to the public all-year-round (Amenity 16; Figure 8.29 and Figure 8.30). Nearby, there is also Bloomfield House Hotel (CHR 265).



Figure 8.29: Amenity 16 – Belvedere House Gothic Octagon Folly (CHR 133)



Figure 8.30: Amenity 16 – Belvedere House Gothic Arch Folly (CHR 135)

RO2 also includes Carrick church and graveyard (CHRs 107 and 108; Figure 8.31), which is the burial place of Fr Timothy Shanley, famous in Westmeath for being the last hunted priest and reportedly curing many sick people during his lifetime (Amenity 13). His grave is still visited today, and people leave offerings such as candles, religious statues flowers and other personal items (e.g. face masks relating to COVID-19 and an inhaler), much like one might find at a holy well (Figure 8.32). Also within RO2 is the ecclesiastical site of Lynn (CHR 142), which incorporates a medieval parish church and graveyard (CHRs 143 and 145; Figure 8.33 - Figure 8.34) that includes eighteenth- and nineteenth-century grave markers (Amenity 17). While this has been highlighted in Section 8.5.1 as a possible negative constraint it also has the potential to be a positive enhancement opportunity.



Figure 8.31: Amenity 13 – Carrick graveyard



Figure 8.32: Amenity 13 – Grave of Fr Timothy Shanley in Carrick graveyard



Figure 8.33: Amenity 17 – Lynn Parish Church (CHR 145)



Figure 8.34: Amenity 17 – Ogee-headed single light window in south wall of chancel of Lynn Parish Church (CHR 145)

The final site in RO2 is the eighteenth–nineteenth-century remains of the village of Ballynagore (**Amenity 12**). This ranges from the bridge (CHR 85; Figure 8.35) and water pump (CHR 83; Figure 8.36) to Glen Brosna House (CHR 84) and Ballynagore House, with its cut boundary stone wall and elaborate entrance (CHRs 81, 82 and 86; Figure 8.37 and Figure 8.38), all representing a potentially attractive stopping point along the greenway. Also located in this area is Knockycosker Mill and its associated features, including the miller's house, mill race and weir (CHRs 79, 80, 201 and 202), as well as a potentially earlier mill and its associated buildings and weir (CHRs 205–207).



Figure 8.35: Amenity 12 – Ballynagore Bridge (CHR 85)

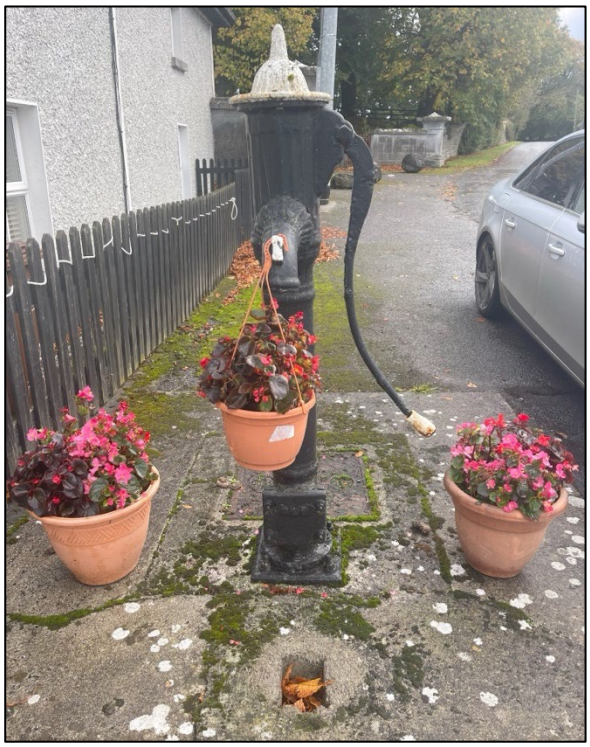


Figure 8.36: Amenity 12 – Knockycosker water pump (CHR 83) in Ballynagore village



Figure 8.37: Amenity 12 – Ballynagore House entrance gateway (CHR 82)



Figure 8.38: Amenity 12 – Ballynagore House boundary wall (CHR 81)

8.5.2.2 Potential Amenity Value

The remaining nine sites can be considered as having potential amenity value, such as those that have good upstanding remains and/or are enhanced by their group value but are not accessible to the public. These include built heritage sites but also archaeological sites with good preservation levels.

Two such sites are located in the overlapping area between the two route option corridors and represent former mills that are examples of the strong industrial heritage of Kilbeggan. One is Marshall's Corn Mill and its associated sluice gate (CHRs 9 and 150; Amenity 2) and the other is Coola Bridge and Coola Mill with its associated features such as a mill race, mill pond, sluice gate and other buildings (CHRs 12, 13, 151–153, 261 and 262; Amenity 3; Figure 8.39 and 8.41). While several mills are located within both route options, there are notable concentrations along the River Brosna. Although many of these late eighteenth–early twentieth-century mills are now derelict and inaccessible, views of the mills could provide an opportunity to highlight the rich industrial heritage that once thrived in this part of Westmeath.



Figure 8.39: Amenity 3 – Coola Bridge (CHR 13)



Figure 8.40: Amenity 3 – Coola Mill (CHR 12)



Figure 8.41: Amenity 3 – Coola Mill (CHR 12)

An additional four potential high-value amenity sites are located within Route Option 1 and these represent upstanding archaeological remains that reflect the rich early medieval landscape of the area, some of which fall within the route corridor but others have the potential to be visible from the greenway. These comprise crannógs on Lough Ennell and ringforts or raths on dryland. One cluster of three crannógs, including Cró-inis and Cormorant Island (CHR 30, WM025-147---- and WM025-150----) and the royal ringfort of Dún na Sgiath (CHR 31) in the townland of Dysart, represent the royal sites of the kings of Mide, the Southern Uí Néill dynasty of Clann Cholmáin (Amenity 6). This included Máel-Sechnaill or Malachy Mór, who became king of Mide in AD 974 and high king of Ireland in AD 980, and reportedly died on his home crannóg of Cró-inis aged 73, on Sunday 2 September AD 1022 (Dictionary of Irish Biography). Approximately 1.8 km to the north-west, also in Dysart townland, there is a cluster of three ringforts (CHRs 43, 44 and 46) in a linear arrangement on high ground with well-preserved remains (Amenity 7). The remaining two sites are crannógs on Lough Ennell that

are visible from the shore, one at the southern end of the lough called Lady Island (WM032-119----; Amenity 10) and the other, Schoolboy Island (WM026-102----; Amenity 11) at the northern end of the lough. Local folklore suggests that the latter island was used by Owen Roe O'Neill's troops in the seventeenth century (SMR file).

A further three potential high-value amenity sites are located within Route Option 2. One of which represents part of the milling heritage of the area and comprises Rochfort Mill and associated miller's house (CHRs 120 and 121; Amenity 15), which were originally within the Rochfort Demesne lands. Similar to those on RO1, the remaining two sites on RO2 represent upstanding archaeological remains that reflect the early medieval landscape of the area. One comprises two ringforts (CHRs 109 and 110) set side-by-side in the townland of Carrick, on the west side of the N52 road (Amenity 14; Figure 8.42) and another is an additional crannóg on Lough Ennell called Goose Island (WM026-109----), which is potentially visible from Belvedere House, Gardens and Park (Amenity 18). This crannóg may have been linked to the local Fir Tullach (or Thulach) dynasty.



Figure 8.42: Amenity 14 – Aerial view of ringforts - raths CHR 109 and CHR 110 (RO2) in the townland of Carrick, with N52 road to east

In addition to these sites with potentially high amenity value, there are also others dotted throughout both route option corridors that have the possibility to offer points of interest along the greenway. For instance, there are the many crannógs on Lough Ennell, including some examples along the shore that are now above the modern waterline, and also various other ringforts that still have visible upstanding remains (e.g. CHRs 14, 20 and 62 in RO1 and CHRs 90, 95, 101, 116, 119 and 127 in RO2; Figure 8.43), some of which occur in clusters. Once the preferred route option is established the intervisibility with upstanding archaeological monuments can be more fully assessed.



Figure 8.43: Oblique aerial view of ringfort - rath CHR 116 (RO2) in the townland of Carrick, looking north, with N52 road to east

8.5.3 Corridor Segment Breakdown

8.5.3.1 RCO1a

In this RCO, there are 3 SMRs (building, water mill, enclosure) and 11 NIAHs (including the gateway and boundary wall of St James's Catholic Church, Saint James's Hall, Saint Mary's Convent of Mercy and associated graveyard, Coola Bridge, Coola Mill, Kilbeggan Grand Canal Harbour and associated Harbour Master's House and store/warehouse). All 11 NIAHs are also Protected Structures. One NIAH (Marshall's Corn Mill) is also an SMR, with the upstanding remains likely to have had earlier origins. It is also likely that additional mills were originally positioned along the River Brosna in Kilbeggan town. There are also no above ground remains of the remaining two SMRs, with the building identified as ruin on Larkin's 1808 map and the enclosure identified on 2018 aerial imagery. There are also an additional 11 sites in this route corridor as identified in the Westmeath Industrial Heritage Survey and these range from lime kilns to pumps, sluices, an aquaduct and a gravel extraction pit. The indicator score is determined to be "Slight Positive".

8.5.3.2 Route Option RCO1b

In this route corridor segment, there are 7 SMRs (church, graveyard, castle, enclosure, 3 ringforts) and 1 NIAH (gateway and boundary wall of Balrath Graveyard), which is also a Protected Structure. The three ringforts have upstanding but overgrown remains comprising earth and stone banks and associated fosses. There are also an additional 14 sites identified in the Westmeath Industrial Heritage Survey. These largely comprise lime kilns but also a pump and a smithy. The indicator score is determined to be "Slight Positive".

8.5.3.3 RCO1c

There is 1 SMR (enclosure) and 0 NIAHs in this RCO. The enclosure may represent a natural or geological feature that was quarried for a nearby lime kiln, however, there are hut sites nearby but outside the corridor. There are also an additional 10 sites identified in the Westmeath Industrial Heritage Survey. These largely represent lime kilns depicted on the first edition Ordnance Survey 6-inch map (surveyed 1836). The indicator score is determined to be "Neutral".

8.5.3.4 RCO1d

In this RCO there are 44 SMRs (moated sites, ringforts, castles, bawns, mills, field systems, enclosures, houses sites, ecclesiastical enclosures, church, graveyard, holy well, fish pond, souterrain, high cross, barrow, cist, mound, icehouse, fortified house, rabbit warren) and 6 NIAHs (bridge, gate lodge, stables/farmyard complex, 3 houses), all of which are also Protected Structures. This is an area of the landscape that is particularly rich in early medieval remains. There are also an additional 11 sites identified in the Westmeath Industrial Heritage Survey. These comprise lime kilns, 'Corn Kilns', pumps, a railway bridge, a railway level crossing, Nure Bridge and quarry pits. The indicator score is determined to be "Positive".

8.5.3.5 RCO2a

In this RCO, there are 3 SMRs (building, water mill, enclosure), with a further two SMRs (barrow, large enclosure) just on the edge of the corridor. There are also 11 NIAHs (including the gateway and boundary wall of St James's Catholic Church, Saint James's Hall, Saint Mary's Convent of Mercy and associated graveyard, Coola Bridge, Coola Mill, Kilbeggan Grand Canal Harbour and associated Harbour Master's House and store/warehouse). All 11 NIAHs are also Protected Structures. One NIAH (Marshall's Corn Mill) is also an SMR, with the upstanding remains likely to have had earlier origins. It is also likely that additional mills were originally positioned along the River Brosna in Kilbeggan town. There are also no above ground remains of the remaining four SMRs, with the building identified as a ruin on Larkin's 1808 map, the two enclosures identified on 2018 aerial imagery and the barrow depicted on the OS 25-inch map (1910). There are also an additional 11 sites in this route corridor as identified in the Westmeath Industrial Heritage Survey and these range from lime kilns to pumps, sluices and an aqueduct. The indicator score is determined to be "Slight Positive".

8.5.3.6 RCO2b

In this RCO there are 0 SMRs and 4 NIAHs (mill, miller's house, Ballynagore Bridge, Glen Brosna House), all of which are also Protected Structures. The mill is in ruins but the other three structures remain in good condition. There are also an additional 3 sites identified in the Westmeath Industrial Heritage Survey. These comprise a weir that is part of the mill complex and depicted on the 25-inch OS map (1912), and an eel weir and a 'Corn Mill in Ruins', both depicted on the 6-inch OS map (1836). The indicator score is determined to be “Slight Positive”.

8.5.3.7 RCO2c

In this RCO there are 0 SMRs and 7 NIAHs (Knock House, Ballynagore House and associated gates/railings/walls, Newells Bridge, 2 water pumps), all of which are also Protected Structures and in good upstanding condition. There are also an additional 4 sites identified in the Westmeath Industrial Heritage Survey. These represent two lime kilns, a gravel extraction pit and a weir associated with the nearby Ballynagore Mill (in RCO2b). The indicator score is determined to be “Slight Positive”.

8.5.3.8 RCO2d

In this RCO there are 38 SMRs (ringforts, enclosures, houses, a standing stone, ecclesiastical enclosures, church, burial grounds, font, water mill, field system, castle), with a further 4 SMRs (castle, crannog, settlement platforms) just on the edge of the corridor. There are also 15 NIAHs (including various features associated with La Mancha House, Lynn House, Lynnbury House, Tudenham Park and Belvedere House, as well as Dalystown House, Robinstown House, Carrick House and boathouse, Rochfort Mill and Miller's House). Of these, 13 are also Protected Structures, with the latter two structures currently not included in the RPS. There are also over 40 sites identified in the Westmeath Industrial Heritage Survey. These largely comprise lime kilns and pumps, but also include a spring, a gravel extraction pit and Butler's Bridge. The indicator score is determined to be “Positive”.

8.5.4 Overall Preferred Route

In total, 134 CHRs are plotted within Route Option 1, while 160 CHRs are within Route Option 2, of which 23 overlap between both areas (**Annex A Figures 8-11 to 8-24**). These can be categorised into those that are designated, including sites with statutory protection (Protected Structures and RMP sites) and those listed in the NIAH, SMR and Westmeath Industrial Heritage Survey, and those that are non-designated, including sites identified on historic mapping, aerial imagery and from field inspections (Table 8.20).

As per the methodology outlined in Section 8.3.2, these were assessed in terms of their importance (Table 8.21), which records a larger number of sites of High Importance within RO2 (64:75), as well as slightly more sites of Medium Importance (18:20). There are also a greater number of sites of Low Importance (42:53) within RO2, and these are largely comprised of sites identified in the industrial heritage survey, as well as on historic mapping and aerial imagery. Although the presence of archaeological remains at these sites has not yet been confirmed, they have the potential to represent locally important cultural heritage assets. The remaining sites are rated as being of Negligible Importance, with 10 identified in RO1 and 12 in RO2 (one of which overlaps between both areas). These represent known archaeological sites that have already been excavated (CHRs 28, 64, 126) or have been levelled and built over (CHRs 48, 117, 118, 146, 205, 206), although this does not negate the fact that additional archaeological remains may survive in their environs. Others are sites that are only known from historical references (CHRs 70, 104) or are no longer present, such as several sand and gravel extraction pits (CHRs 154, 155, 161, 190, 191, 203, 215, 223, 234) and the font (CHR 144) that was originally associated with Lynn church and graveyard but was moved into a nearby church.

Table 8.20: Types of CHRs per Route Option segment

	Route Option 1				Total	Route Option 2				Total
Type of CHR	**1a**	**1b**	**1c**	**1d**		**2a**	**2b**	**2c**	**2d**	
Protected	10	-	-	5	**15**	10	3	8	13	**34**

	Route Option 1				Total	Route Option 2				Total
Structure										
NIAH site	-	-	-	-	**0**	-	-	2	-	**2**
RMP	1	6	6	35	**48**	2	-	-	38	**40**
Protected Structure and RMP	1	1	-	1	**3**	1				**1**
SMR	1	-	-	10	**11**	2	-	-	4	**6**
Industrial heritage site	17	14	11	10	**52**	9	4	8	48	**69**
Identified from historic mapping	2	-	-	2	**4**	2	-	-	4	**6**
Identified from aerial imagery	-	-	-	1	**1**	1	-	-	-	**1**
Identified from fieldwork	-	-	-	-	**0**	-	-	-	1	**1**
Total					**134**					**160**

Table 8.21: Importance of CHRs per Route Option segment

	Route Option 1				Total	Route Option 2				Total
Importance of CHR	**1a**	**1b**	**1c**	**1d**		**2a**	**2b**	**2c**	**2d**	
Very High	-	-	-	-	**0**	-	-	-	-	**0**
High	15	4	6	39	**64**	16	5	8	46	**75**

	Route Option 1				Total	Route Option 2				Total
Medium	5	3	-	10	**18**	6	-	-	14	**20**
Low	8	14	11	9	**42**	4	2	5	42	**53**
Negligible	4	-	-	6	**10**	1	-	3	8	**12**
Total					**134**					**160**

When areas of existing and potentially high amenity value are also considered, 11 can be plotted within or in the vicinity of Route Option 1 (Amenity 1–11), while 10 can be plotted within or in the vicinity of Route Option 2 (Amenity 1–3 and 12–18), of which 3 overlap between both areas (Table 8.22; **Annex A Figures 8-11 to 8-24**). Of these, Belvedere House with its Gardens and Park (Amenity 16) within RO2 represents a particularly notable attraction, comprising an impressive 160-acre lakeside estate that offers extensive walks, elaborate gardens and several points of interest in the form of follies and archaeological sites. Ballynagore village (Amenity 12) is also within RO2 and this has several surviving eighteenth–nineteenth-century features that offer points of interest and could serve as an attractive stop along the greenway. Also within RO2, a quiet local road (replaced by the N52) extends along the east side of Lynn church and graveyard (Amenity 17) and provides a pleasant existing routeway to access the site. The graveyard, which is defined by a striking stone wall, is accessible via a stile and contains the remains of a parish church with some attractive architectural features and grave markers, all of which could also make this an appealing stopping point.

Route Option 1, however, does incorporate some existing infrastructure in the form of the Westmeath Way, which could also be reused. This route has several cultural heritage receptors with upstanding remains in its vicinity, ranging from mills (Amenity 2, 3 and 12) and country houses (Amenity 5, 9 and 12) to ecclesiastical-related sites (Amenity 4 and 8). It also passes close to several archaeological features that may be intervisible, such as a moated site in Rathnamuddagh (CHR 29) and ringforts in Dysart (Amenity 7).

Given that the size of the route option corridors varies in width between 250 m and 2.7 km, as well as the absence of a centreline, it is currently not possible to fully determine any direct impact, positive or negative, that the greenway will have on specific CHRs. However, as greenways are designed using low impact construction methods and to maximise positive environmental impacts, such as access to cultural heritage assets, the overall rating of the route options based on potential positive effects is presented in Table 8.23.

Table 8.22: Appraisal Matrix for Cultural Heritage of Route Options. Note: A=Amenity (after TII 2024b, 14)

Significance of effect	Route Option 1	Route Option 2
Major Positive	Canal A1 (CHRs 1–3, 147)	Canal A1 (CHRs 1–3, 147)
	Lilliput A5 (CHRs 27, 263, 264)	Ballynagore Village A12 (CHRs 79–86, 201, 202, 205–207)
		Belvedere House, Gardens and Park A16 (CHRs 130–135, 271)
		Lynn church/graveyard A17(CHRs 142, 143, 145)
Moderate Positive	Mill A2 (CHRs 9, 150)	Mills A2 (CHRs 9, 150)
	Mill A3 (CHRs 12, 13, 151, 152)	Mill A3 (CHRs 12, 13, 151, 152)
	Church/graveyard A4 (CHRs 16, 17)	Mill A15 (CHRs 120, 121)
	Church/graveyard A8 (CHRs 47, 53, 54, 55)	Church/graveyard A13 (CHRs 107, 108)
	Country House A9 (CHRs 67–69)	

Significance of effect	Route Option 1	Route Option 2
Minor Positive	Royal sites of ringfort and crannógs A6 (CHRs 30, 31)	Ringforts A14 (CHRs 109, 110)
	Ringforts A7 (CHRs 43, 44, 46)	Crannóg A18
	Crannóg A10	
	Crannóg A11	
Overall Impact rating	**Major Positive 2**	**Major Positive 4**
Preference Level	**2nd**	**1st (preferred)**

Route Option 2 has therefore emerged as the preferred route from a cultural heritage perspective, largely based on the following factors:

Access to the highest existing amenity value site in the area, Belvedere House, Gardens and Park (Amenity 16).

Opportunity to highlight additional areas with the potential to have high amenity value, including but not limited to Ballynagore village (Amenity 12) and Lynn church and graveyard (Amenity 17).

Although there are slightly more CHRs within RO2, including a larger number of High Importance sites, the size of the route option corridor can facilitate a preferred route to avoid directly impacting any of the recorded CHRs but also to maximise the visibility of these CHRs as points of interest in the passing landscape. An example would be routing the greenway along an existing road adjacent to Amenity 17, Lynn church (CHR 145), graveyard (CHR 143) and ecclesiastical site (CHR 142).

Once the preferred route is established, the impact on CHRs and the intervisibility with upstanding archaeological and cultural heritage monuments can be more fully assessed. Accordingly, this report will be updated with a full impact assessment and field survey once a preferred route option with a centreline is established.

In total, 134 CHRs are plotted within Route Option 1, while 159 CHRs are within Route Option 2, of which 23 overlap between both areas. As per the methodology outlined in Section 8.3.2, these were assessed in terms of their importance, which records a larger number of sites of High Importance within RO2 (66:83), as well as sites of Medium Importance (13:14) and Low Importance (50:59). Four CHRs within RO1 are categorised as of Unknown Importance, with two such sites within RO2. This is due to either the lack of a specific location, where a site is only known from historical references (CHR 45, 70, 104 and 258), or where they are possible sites detected on aerial imagery as part of this assessment (CHR 269 and 270). The remaining two sites, one from each route corridor, are of Negligible Importance because they have already been excavated, although this does not negate the fact that additional archaeological remains may survive in their environs. An overview of the importance of the Cultural Heritage Receptors is show below in Table 8.23.

Table 8.23: Assessment of importance of Cultural Heritage Receptors

	Route Option 1				Total	Route Option 2				Total
Importance of CHR	**1a**	**1b**	**1c**	**1d**		**2a**	**2b**	**2c**	**2d**	
Very High	-	-	-	-	**0**	-	-	-	-	**0**
High	13	7	6	40	**66**	14	5	8	56	**83**

	Route Option 1				Total	Route Option 2				Total
Medium	4	-	-	9	**13**	5	-	-	9	**14**
Low	15	14	11	10	**50**	7	2	8	42	**59**
Negligible	-	-	-	1	**1**	-	-	-	1	**1**
Unknown	-	-	-	4	**4**	1	-	-	1	**2**

Given the size of the route option corridors in places, which varies in width between 250 m and 2.7 km, as well as the absence of a centreline, it is currently not possible to determine the impact, positive or negative, that the greenway will have on these CHRs. That said, Route Option 1 is emerging as the preferred route from a cultural heritage perspective. This is largely based on three factors:

- There are more CHRs within RO2, but more significantly, there is also a larger number of High Importance sites.
- The possibility that RO1 can re-use the infrastructure already in place for the Westmeath Way offers the potential that this route would have a lower impact on the cultural heritage constraints.
- Within a narrow section of corridor of RO2 is the ecclesiastical site of Lynn (CHR), which is a site of High Importance and any ground works in this area would have a high potential of impacting associated archaeological remains.

Notably, the existing route of the Westmeath Way has several significant cultural heritage receptors with upstanding remains in its vicinity, ranging from mills (CHR 9, 12, 79, 80) and country houses (CHR 27, 68, 69, 81, 82, 84, 86) to ecclesiastical-related sites (CHR 16, 47, 53, 54, 56), as well as bridges at Coola (CHR 13), Ballynagore (CHR 85) and Bellmount (CHR 259). It also passes close to several archaeological features that may be intervisible, such as a moated site in Rathnamuddagh (CHR 29) and ringforts in Dysart (CHRs 44, 45, 46). As mentioned above, however, once the preferred route is established the intervisibility with upstanding archaeological and cultural heritage monuments can be more fully assessed. Accordingly, this report will be updated with a full impact assessment and field survey once a preferred route option with a centreline is established.

8.6 References

Cahill, M. and Sikora, M. (eds) (2011) *Breaking Ground, Finding Graves—reports on the excavations of burials by the National Museum of Ireland, 1927–2006*, 2 vols. Wordwell Ltd in association with the National Museum of Ireland, Dublin.

Channing, J. (2007) Politics, wealth and expansion: the archaeology of a multiperiod enclosure at Rochfort Demesne, Co. Westmeath. In J. O'Sullivan and M. Stanley (eds) *New Routes to the Past: Proceedings of a public seminar on archaeological discoveries on national road schemes, August 2006*, 111–21. National Roads Authority, Dublin.

Channing, J. (2009) N52 Mullingar Belvedere Road Improvement Scheme: Archaeological Resolution. Final Report Ministerial Direction A006/003, NMS Registration E3315, Rochfort Demesne Townland, Co Westmeath. Unpublished report prepared by Valerie J Keeley Ltd. (DOI: 10.7486/DRI.mg754596j, accessed September 2024).

Channing, J. (2012) Rochfort Demesne enclosure—power and expansion, family farmstead? In P. Stevens and J Channing, *Settlement and Community in the Fir Tulach Kingdom: Archaeological excavation on the M6 & N52 road schemes*, 57–80. National Roads Authority with Westmeath County Council, Dublin.

Connon, A. (2012) History of the early medieval kingdom of Fir Tulach. In P. Stevens and J Channing, *Settlement and Community in the Fir Tulach Kingdom: Archaeological excavation on the M6 & N52 road schemes*, 25–48. National Roads Authority with Westmeath County Council, Dublin.

Delany, V.T.H. and Delany, D.R. (1966) *The Canals of the South of Ireland.* David & Charles, Devon.

Duffy, C. (2008) N52 Mullingar Belvedere Road Improvement Scheme: Archaeological Resolution. Final Report E3316 Ministerial Directive A006 Excavation No. A006/005, Rochfort Demesne 1, Co Westmeath. Unpublished report prepared by Valerie J Keeley Ltd. (DOI: 10.7486/DRI.mp495z64v, accessed September 2024).

Farrell, R. (1990) The Crannog Survey Project: the lakes of the west midlands. *Archaeology Ireland* 4(1), 27–29.

Farrell, R.T., Kelly, E.P. and Gowen, M. (1989) The Crannóg Archaeological Project (CAP), Republic of Ireland I: A pre-preliminary report. *The International Journal of Nautical Archaeology and Underwater Exploration* 18(2), 123–36.

Giacometti, A. and Ní Cheallaigh, M. (2019) *Westmeath Industrial Heritage Survey*. Report prepared for Westmeath County Council. (https://westmeathculture.ie/wp-content/uploads/2022/01/WestmeathIndustrialHeritageSurvey.pdf, accessed September 2024).

Grogan, E., O'Donnell, L. and Johnston, P. (2007) *The Bronze Age Landscapes of the Pipeline to the West*. Wordwell Ltd, Bray.

Hardy, C. and Mulcahy, A. (2011) N52 Carrickbridge Clonfad Road Improvement Scheme, Co. Westmeath Archaeological Resolution Project 11E0112, Carrick 1-2, Co. Westmeath Stage (iv) Final Archaeological Excavation Report. Unpublished report prepared by TVAS Ireland Ltd for Westmeath County Council. (DOI: 10.7486/DRI.js95m168q, accessed September 2024).

Hardy, C. and Mulcahy, A. (2012) N52 Carrickbridge Clonfad Road Improvement Scheme, Co. Westmeath Archaeological Resolution Project 11E0114, Dalystown 1-2, Co. Westmeath Stage (iv) Final Archaeological Excavation Report. Unpublished report prepared by TVAS Ireland Ltd for Westmeath County Council. (DOI: 10.7486/DRI.jm21j800j, accessed September 2024).

Institute of Archaeologists of Ireland. (2006). *IAI Code of Professional Conduct*. Dublin: IAI.

Karkov, C. and Ruffing, J. (1991) The crannógs of Lough Ennell: a computer survey. *Ríocht na Midhe* 8(3) (1990/1991), 105–13.

Karkov, C. and Ruffing, J. (1993) The settlement systems of Lough Ennell: the 1992 survey. *Ríocht na Midhe* 8(4) (1992/1993), 53–61.

Karkov, C.E. and Ruffing, J. (1997) The Southern Uí Néill and the political landscape of Lough Ennell. *Peritia* 11, 336–58.

Kelly, E.P. (1982–3) cist burial at Keoltown, Co. Westmeath. *Ríocht na Midhe* 7(2), 86–89.

Lewis, S. (1837) *A Topographical Dictionary of Ireland*. S. Lewis & Co., London. (https://www.libraryireland.com/topog/, accessed September 2024).

Lucas, A.T. (1973) National Museum of Ireland Archaeological Acquisitions in the Year 1970. *Journal of the Royal Society of Antiquaries of Ireland* 103, 177–213.

Meehan, R., Hennessy, R., Parkes, M. and Power, S. (2019) *The Geological Heritage of County Westmeath: An audit of County Geological Sites in County Westmeath*. The County Westmeath Geological Heritage Project. (chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://gsi.geodata.gov.ie/downloads/Geoheritage/Reports/Westmeath_Audit.pdf, accessed September 2024).

Murphy, M. (2012) The later medieval period. In P. Stevens and J Channing, *Settlement and Community in the Fir Tulach Kingdom: Archaeological excavation on the M6 & N52 road schemes*, 49–56. National Roads Authority with Westmeath County Council, Dublin.

Ní Cheallaigh, M. (2006) Going astray in the fort field: 'traditional' attitudes towards ringforts in nineteenth-century Ireland. *The Journal of Irish Archaeology* XV, 105–115.

O'Donovan, J. (1837–38) *Ordnance Survey Letters: Westmeath, Vol. 1*. The Royal Irish Academy, Dublin.

Ó Riain, P. (2011) *A Dictionary of Irish Saints*. Four Courts Press, Dublin.

O'Sullivan, A. (2004) The Social and Ideological Role of Crannogs in Early Medieval Ireland (2 vols). Unpublished PhD thesis, Department of Modern History, NUI Maynooth.

O'Sullivan, A. (2012) The archaeology of early medieval settlement and landscape in Westmeath. In P. Stevens and J Channing, *Settlement and Community in the Fir Tulach Kingdom: Archaeological excavation on the M6 & N52 road schemes*, 13–24. National Roads Authority with Westmeath County Council, Dublin.

O'Sullivan, A., Sands, R. and Kelly, E.P. (2007) *Coolure Demesne Crannog, Lough Derravaragh: an introduction to its archaeology and landscapes*. Wordwell Ltd, Wicklow.

O'Sullivan, M. and Downey, L. (2014) Mass rocks and related sites. *Archaeology Ireland* 28(1), 26–29.

RPS. (2023) Kilbeggan to Mullingar Greenway Feasibility Study. Unpublished report for Westmeath County Council.

Ryan, M., Ó Floinn, R., Lowick, N., Kenny, M. and Cazalet, P. (1984) Six silver finds of the Viking period from the vicinity of Lough Ennell, Co. Westmeath. *Peritia* 3, 334–81.

Schot, R. (2006) *Uisneach Midi a medón Érenn*: a prehistoric 'cult' centre and 'royal site' in Co. Westmeath. *The Journal of Irish Archaeology* XV, 39–71.

9 SOILS AND GEOLOGY

9.1 Introduction

This section of the report aims to address the potential constraints located within the study area in regard to soil, geology, and hydrogeology. Potential impacts possible through processes including:

- The removal/changing of soil cover, leading to increased erosion and infiltration;
- Spills and leaks of construction materials (fuels/oils/etc.), which can impact soil/groundwater quality;
- The mobilisation of existing sources of contamination, which can impact the quality of soils and groundwater; and
- Conversely, the soils and geology can also have impacts on the design of developments, as geotechnical properties of soils and bedrock can provide constraints to structural design.

9.2 Methodology

A desk-based study of publicly available sources was undertaken to understand the environment:.

Sources accessed include:

- Geological Survey of Ireland (GSI) website, for information on subsoil and bedrock geology, karst features, Geological Heritage Sites, groundwater vulnerability, quarries, aquifer classification and structural geology.
- The Ordnance Survey of Ireland's (OSI's) Geohive website, for information on historical land uses.
- EPA website for information regarding land use and soil cover.

9.2.1 Legislation and Policy

The relevant legislation guidance and policy requirements with potential to influence the Kilbeggan to Mullingar greenway are detailed below in Table 9.1.

Table 9.1: Legislation, Planning and Policy Requirements

Legislation/Plan/Policy	Constraints/Requirements of the Kilbeggan to Mullingar Greenway
EU Level	
European Union Water Framework Directive (WFD) (2000/60/EC).	All works will need to satisfy the requirements of the WFD.
National Level	
European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. No. 9 of 2010), as amended	Requitement to prevent pollution of groundwater throughout project.
Regional and Local Level	

Legislation/Plan/Policy	Constraints/Requirements of the Kilbeggan to Mullingar Greenway
Westmeath County Development Plan 2021-2027	Luvisols and peat soils are the two most dominant soil types across the Plan area. Other soil types identified include: 5. Alluvial soils (in the flood plains of the rivers and streams); 6. Groundwater and Surface Water Gleys (in depressions in the upper reaches of river valleys in both uplands and lowlands); and 7. Brown earths (in the south, southwest and north of the Plan area). Peatlands are a very characteristic habitat in County Westmeath, with groundwater and rain fed peat soils being a prominent and typical feature in the landscape. They presently account for about 9% of the total area of the County and they are significant sinks of carbon. In addition to being significant net sinks of carbon, peatlands have the potential to be net sources of carbon if these soils are drained or extracted as part of land management activities. Esker systems within the county provide for high habitat diversity and their thin, alkaline soils support rare plants species. The bedrock underlying County Westmeath is composed almost entirely of carboniferous limestone. Rain-fed (ombrotrophic) and groundwater-fed (minerotrophic) peat soils occurring in the Plan area are subject to ecological designations. Legislative objectives governing soil were not identified as being conflicted with.

9.2.2 Relevant Guidance

A detailed desktop assessment was undertaken to identify areas of constraint in relation to land, soils, geology and hydrogeology within the study area. The European Commission, in February 2012 published the Soil Thematic Strategy which was a proposal for European Law for the protection of soil. In May 2014, the Commission withdrew the proposal for a Soil Framework Directive. Thus, other than geological heritage sites (which include proposed Geological Natural Heritage Areas and County Geological Sites and are identified in County Development Plans and County Heritage Plans), geological features (soils and bedrock) in Ireland are not afforded legal protection.

There is a statutory requirement placed on local authorities to have due regard for conservation of geological heritage features such as under the following legislation:

- Planning and Development Act 2000, as amended;
- Planning and Development Regulations 2001, as amended; and
- Wildlife (Amendment) Act 2000 [enabling Natural Heritage Areas].

Since 2000, water management in the EU has been directed by the Water Framework Directive 2000/60/EC (WFD). It requires that all member states implement the necessary measures to prevent a deterioration of the status of all waters, these being surface, ground, estuarine and coastal, and to protect, enhance and restore all waters with the aim of achieving *'good status'* by 2015. River Basin Management Plans are required to be produced under the WFD. The first cycle RBMP covered the period 2009–2015. Due to delays in developing a second cycle, this second cycle covers the period 2018–2021. The third cycle plan for 2022 to 27 found that overall, 38%of water bodies are currently at *'good or better'* status with the proposal to maintain 70% of all water bodies at *'good or better'* status by 2027.

In terms of hydrogeology WFD objectives were set for the effective management of Groundwater Bodies (GWB'S), which are the management units for groundwater under the WFD. The main Irish and EU protection for groundwater is established under the following legislation:

- European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. No. 9 of 2010) and

- Groundwater Directive (2006/1118/EC)

The following publicly available data sources were reviewed to obtain information on the land, soils, geology, and hydrogeology of the study area:

- Geological Survey of Ireland Spatial Viewer (https://dcenr.maps.arcgis.com);
- Groundwater Flooding Data Viewer (https://dcenr.maps.arcgis.com);
- Environmental Protection Agency (EPA) (http://gis.epa.ie/Envision);
- EPA Catchments (https://www.catchments.ie/);
- National Parks & Wildlife Service (http://www.npws.ie/);
- Teagasc – (http://gis.teagasc.ie/soils/); and
- Census of Agriculture 2010 (https://www.cso.ie/en/statistics/agriculture/censusofagriculture2010/)

The following guidance is of relevance to soils, geology and hydrogeology:

- Environmental Protection Agency (EPA) draft 'Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, 2017' (EPA, 2017).
- 'Guidelines for Preparation of Soils, Geology, Hydrogeology Chapters of Environmental Impact Statements' (Institute of Geologists Ireland (IGI), 2013).
- 'Road Drainage and the Water Environment, DN-DNG-03065' (TII, 2015).
- Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes (NRA, 2009).

9.3 Constraints

9.3.1 Land use - Corine 2018

The Corine Land Cover database for Ireland has been updated for the reference year 2018. The CORINE 2018 25ha landcover dataset is one of three deliverables of the CORINE 2018 project. The main objective of the project was the detection, identification, and mapping of all land cover status above 25 ha. Satellite image from April 2017 – March 2018 served as the basis for image interpretation. The Irish CORINE 2018 project follows on from the semi-automated production methodology which was designed during the CORINE 2012 project. This approach uses national in-situ geo-spatial information on agriculture, forestry and water bodies from the Department of Agriculture, Food, and the Marine (DAFM), the Forest Service, Coillte and the EPA. These data sources were used alongside remote sensing-based interpretation of satellite imagery (Sentinel 2, Landsat, SPOT and IRS) to identify landcover status and landcover change.

The constraints study area is shown in Figure 1-3 within Annex A (Study area & options map).

9.3.2 Soils

9.3.2.1 Quaternary Soils

The Quaternary geology of Ireland – Sediments Map is a representation of the surficial geology of Ireland at a scale of 1 to 50,000. The map shows the sediments mapped within 1 metre of the surface which were laid down during the Quaternary, bedrock at or close to the surface water bodies or made ground. Quaternary sediments are categorised according to their genesis. The main types of sediment recognised are tills, (glacio)fluvio/lacustrine deposits, alluvium, lacustrine sediments and peat. Bedrock and karstified bedrock at or close to the surface are also mapped out as separate units.

The main soil within the constraints study area is Till, more specifically limestone till (Carboniferous). Till sediment is deposited by or from glacier ice and is sometimes referred to as boulder clay. This is due to its composition of clay, boulders of intermediate sizes or a mixture of these. The rock fragments are usually angular and sharp rather than rounded because they are deposited from the ice and have undergone little water transport. Cutover peat (Cut) is heavily featured within the study area with large bogs on the northern

peripheries. Smaller pockets of cutover peat spreads across the east, mid and northern sections of the study area.

Figure 9-2 within Annex A (Quaternary sediments map) illustrates the soils within the RCOs.

9.3.2.2 National Soils

The maritime climate of Ireland drives wet soil conditions, such that excess soil moisture in combination with heavy textured soils is considered a key constraint in relation to achieving productivity and environmental targets. Both soil moisture content and the rate at which water drains from the soil are critical indicators of soil physical quality and the overall functional capacity of soil. The Irish Soil Information System (Irish SIS) project was established in 2008, following a comprehensive inventory of Irish soil data, which highlighted that the soil data coverage of Ireland was incomplete in both detail and extent. The SIS project is funded under the Environmental Protection Agency Research Programme 2014–2020 and is co-funded by Teagasc – Agriculture and Food Development Authority. It was led by Teagasc with the participation of researchers from Cranfield University (UK) and University College Dublin. The overall objective of the SIS project was to conduct a programme of structured research into the national distribution of soil types and to construct a soil map, at 1:250,000 scale, that identifies and describes the soils according to a harmonised national legend. This map is now available in digital format and it forms the basis of a new soil information system for Ireland (http://gis.teagasc.ie/soils/). This final soil association map of Ireland consists of 58 associations (excluding urban areas and areas of alluvium, peat, rock or marsh) that are made up from 213 soil series.

Figure 9-3 within Annex A (National Soils) shows the National Soil Series map classifications for the RCO's. Table 9.2 below details the soil types present.

Table 9.2 National Soil Series Classifications within RCOs

Soil Series	Description
Elton (1000ET)	Fine loamy drift with limestones
Baggotstown	Coarse loamy over calcareous gravels
Howardstown	Clayey drift with limestones
Lake	Lake alluvium
Peat	Peat
River	Silty river alluvium
Urban	Urban
Waterbody	Waterbody

9.3.3 Geology

9.3.3.1 Geology Bedrock

Bedrock is a deposit of solid rock that is typically buried beneath soil and other broken or unconsolidated material (regolith). Bedrock is made up of igneous, sedimentary, or metamorphic rock, and it often serves as the parent material (the source of rock and mineral fragments) for regolith and soil.

There are two main types of bed rock present within the RCOs - visean limestone & calcareous shale and tournaisian limestone as shown in Figure 9-4 within Annex A (Bedrock Map). Both types are from the paleozoic, carboniferous, Mississippian geological age.

9.3.3.2 Geological Heritage

County Westmeath is not widely known for its geological heritage, although for many people the county's landscape, with prolific eskers and picturesque Lakelands, is widely appreciated. Although bedrock is not generally well exposed, Westmeath still has an extensive and diverse range of geological heritage sites.

The GSI and the Irish Geological Heritage programme (IGH) are in partnership with the NPWS of the Department of Tourism, Culture, Arts, Gaeltacht, Sport, and Media to identify and select important geological and geomorphological sites throughout the country for designation as NHAs (Natural Heritage Areas). The Geological Survey of Ireland (GSI) has identified some of these areas as County Geological Sites (CGS-surveyed and audited sites of national or local geological importance) as part of their Irish Geological Heritage Programme and this data is available to view on the GSI's online spatial resources viewer. CGS, though not protected under statutory conditions, are noted as the most significant sites which will be recommended for designation as NHAs in the future.

Within the Study Area there are six CGS identified, the location of these CGS areas is illustrated in Figure 9-5 within Annex A (CGS Map).

The six identified include;

Streamstown Esker: The Streamstown Esker comprises a long, linear series of esker sand and gravel segments deposited under the ice sheet as the ice withdrew northwards across north Westmeath at the end of the last Ice Age.

Horseleap Esker: Horseleap esker comprises a 4km long esker system exhibiting classic esker ridge morphology. The esker comprises about nine individual segments. A quarry at Ardnurcher exposes the esker sands, gravels, and boulders. The glaciofluvial sediments were deposited in tunnels at the base or margin of the ice sheet that covered this region during the end of the glaciation.

Lough Lom: The bedrock under the site is pure bedded, Lower Carboniferous limestone, but the turlough feature itself is post-glacial, formed in the last 11,000 years. The feature reflects the interaction of the groundwater table with the land surface and is a seasonal lake. There are many erratic's of pure limestone around the base of the turlough, many of which are moss covered up to a certain elevation. Such moss provides a watermark which allows an approximation of the high-water level when the turlough is in flood to be gleaned.

Kilbeggan Racecourse Esker: The Kilbeggan Racecourse Esker is formed within an area dominated by bedrock of Lower Carboniferous limestone. Glaciofluvial processes deposited this high but relatively short ridge of sands and gravels during deglaciation at the end of the last Ice Age. Meltwater flow in tunnels beneath the ice sheet covering the Midlands was of high energy and carried large loads of sediments accumulated in the ice from its erosive work as it moved. Changes in the dynamics of the meltwater channels would lead to rapid accumulation of gravels in sinuous ridges, often with beads.

Kilbeggan Esker: The Kilbeggan Esker is a single segment ridge of subglacial tunnel fill sediments and is completely surrounded by deglacial sands and gravels of ice marginal genesis. Approximately 1.5km in length, covering around 9 hectares, the feature is orientated WNWESE, stretching from Kilbeggan town almost as far as the M6 motorway.

Split Hill and Long Hill Esker Complex: A prominent and scenic feature on the landscape, the esker ridge is host to fine exposures of glaciofluvial deposits, semi-natural woodland, pastureland, and a large sand and gravel pit. This is a fine example of a long, straight, single crested esker that includes two esker systems (Split Hills and Long Hill) and is herein considered as one esker for the purposes of geological heritage conservation.

9.3.4 Geohazards

Geohazards are natural earth processes that pose a risk to human life. They can range from geological hazards such as landslides, bog-bursts, coastal erosion, and subsidence to hydrometeorological hazards like floods and high tides. Soft ground areas are also considered to be geo-hazards. Such hazards are identified as part of this constraints assessment and will be considered throughout each stage of the scheme development.

9.3.4.1 Landslides

The Geological Survey Ireland has been compiling national data on landslides in the past decade, although there were no events recorded in Westmeath. Within the project study area the landslide susceptibility is predominantly marked as low and low (inferred). A map detailing the landslide susceptibility over the study area is detailed in Annex A, Figure 9-6.

9.3.4.2 Flooding

There are two types of flooding which need consideration. River flooding occurs inland when the rainfall exceeds the capacity of the ground to absorb moisture, and the river channels cannot adequately discharge it to the sea. Karstic flooding can occur when underground passages are unable to absorb high rainfall events. The Carboniferous limestone bedrock in County Westmeath is Karstified but hydrogeological regimes are heavily modified by glacial tills and sand and gravel deposits.

9.3.4.3 Groundwater Pollution

The pollution of groundwater supplies carries a serious risk to human health. Westmeath is a county quite dependent on groundwater supplies, and therefore the risk is more serious than for most other counties. As the groundwater is often contained within limestone, it should be noted that karstic springs are especially vulnerable to pollution since the flow is mainly within fissure conduits allowing rapid transmission of pollution from source to water supply. The opportunity for microbial attenuation of pollutants is far less in limestone fissures (as there are no natural barriers to stop pollutants) than it would be in granular deposits, which act as natural filters. Groundwater vulnerability within and around the Study Area is shown in Figure 9-7 within Annex A (Groundwater Vulnerability).

9.4 Route Corridor Options

9.4.1 Route Option RCO1A

Corine land use

RCO1A is predominately *pasture* covering 77.2% of the segments total area followed by *land principally occupied by agriculture, with significant areas of natural vegetation* covering 20.4% of the total area. *Discontinuous urban fabric* covers 2.4% of the total area.

Soils Quaternary Sediments

RCO1A is predominantly *till derived from limestones* covering 55.3% of the segments total area followed by *gravels derived from limestones* 17.5%of the total area. Other significant soils include *eskers comprised of gravels of basic reaction* which covers 10% and *alluvium* which covers 8.3%.

Soils National

RCO1A is predominately *Elton (fine loamy drift)* covering 81% of the segments total area. *River alluvium* covers 12.1% and *peat* covers 6%.

Geology bedrock

RCO1A is made up of Visean Limestone and Tournaisian Limestone bedrock.

Geological Heritage

Kilbeggan Racecourse Esker CGS and Spilt Hill and Long Hill Esker CGS are located within RCO1A.

53% of lands in the corridor is at a gradient of less than 3% and 16% has a gradient of greater than 8%. This could have an impact on the amount of cut and fill required for greenway construction. The gradient below 3% is less than RCO2a and greater for gradients above 8% therefore RCO1a is rated as “Slight Negative”.

9.4.2 Route Option RCO1B

Corine land use

RCO1B is predominately *pasture* covering 99.3% of the segments total area. *Land principally occupied by agriculture, with significant areas of natural vegetation* covers 0.7% of the total area.

Soils Quaternary Sediments

RCO1B is predominantly *till derived from limestones* covering 75% of the segments total area followed by *bedrock outcrop or subcrop* covering 14.9%. *Gravels derived from limestones* covers 4.8% of the total area. Other significant soils include *eskers comprised of gravels of basic reaction* which covers 3.7% and *Lacustrine sediments* which covers 1.5%.

Soils National

RCO1B is predominately *Elton (fine loamy drift)* covering 86.2% of the segments total area with *River alluvium* covering 13.9% of the area.

Geology bedrock

RCO1B is made up of Visean Limestone bedrock.

Geological Heritage

Spilt Hill and Long Hill Esker CGS is located within RCO1B.

RCO1b has ribbon development along the R389 near Balrath, that combined with the low 43% of land with a gradient of less than 3% would have a negative impact on the buildability of the greenway in comparison to Option RCO2b, therefore RCO1b is rated as “Slight Negative”.

9.4.3 Route Option RCO1C

Corine land use

RCO1C is predominately *pasture* covering 67.3% of the segments total area followed by *mixed forest* covering 30.1% of the total area. *Transitional woodland-shrub* covers 2.4% of the total area.

Soils Quaternary Sediments

RCO1C is predominantly *till derived from limestones* covering 58.4% of the segments total area followed by *cut over raised peat* covering 31.5%of the total area. Other significant soils include *Lacustrine sediments* which covers 5.8% and *alluvium* which covers 0.3%.

Soils National

RCO1C is predominately *Elton (fine loamy drift)* covering 51.7% of the segments total area followed by *peat* covering 48.1% of the area.

Geology bedrock

RCO1C is made up of Visean Limestone & Calcareous Shale bedrock.

Geological Heritage

There are no CGSs within RCO1C.

RCO1c has a slightly higher percentage of land with a gradient of less than 3% and slightly less with a gradient of greater than 8% when compared to RCO2c however this is not sufficient enough to differentiate between the RCO's. Transitional Woodland in RCO2c is the differentiating factor between these two RCO's, therefore RCO1c is rated as “Neutral”

9.4.4 Route Option RCO1D

Corine land use

RCO1D is predominately *pasture* covering 76.3% of the segments total area followed by *Transitional woodland-shrub* covering 6.9% of the total area. *Complex cultivation patterns* covers 3.1% of the total area.

Soils Quaternary Sediments

RCO1D is predominantly *till derived from limestones* covering 49.6% of the segments total area followed by *lacustrine sediments covering* 16.6% of the total area. Other significant soils include *gravels derived from limestones* which covers 11.7% and *fen peat* which covers 10.9%.

Soils National

RCO1D is predominately *Elton (fine loamy drift)* covering 59.3% of the segments total area. *River alluvium* covers 2.6% and *peat* covers 23.7%.

Geology bedrock

RCO1D is predominately made up of Visean Limestone & Calcareous Shale bedrock.

Geological Heritage

There are no CGSs within RCO1D.

RCO1d has many challenging areas environmentally as does RCO2d. RCO1d however has significantly higher percentage of land with a gradient of less than 3% when compared to RCO2d and only 2% of land with a gradient higher than 8% therefore RCO1d is rated as “Slight Positive”.

9.4.5 Route Option RCO2A

Corine land use

RCO2A is predominately *pasture* covering 95.2% of the segments total area. *Land principally occupied by agriculture, with significant areas of natural vegetation* covers 1.6% of the total area. Discontinuous urban fabric covers 3.2% of the total area.

Soils Quaternary Sediments

RCO2A is predominantly *till derived from limestones* covering 41.2% of the segments total area followed by *gravels derived from limestones* 28% of the total area. Other significant soils include *eskers comprised of gravels of basic reaction* which covers 6.3% and *alluvium* which covers 20.8%.

Soils National

RCO2A is predominately *Elton (fine loamy drift)* covering 59.9% of the segments total area with *River alluvium* covering 38% of the area.

Geology bedrock

RCO2A is made up of Visean Limestone & Calcareous Shale bedrock.

Geological Heritage

Spilt Hill and Long Hill Esker CGS is located within RCO2A.

59% of lands in the corridor is at a gradient of less than 3% and 14% has a gradient of greater than 8%. This could have an impact on the amount of cut and fill required for greenway construction, therefore RCO2a is rated as “Slight Positive”.

9.4.6 Route Option RCO2b

Corine land use

RCO2B is covered by 100% *pasture.*

Soils Quaternary Sediments

RCO2B is predominantly *till derived from limestones* covering 52.4% of the segments total area followed by *alluvium* covering 36.8% of the total area.

Soils National

RCO2B is predominately *River Alluvium* which covers 72.5% followed by *Elton (fine loamy drift)* covering 27.4% of the segments total area.

Geology bedrock

RCO2B is made up of Visean Limestone & Calcareous Shale bedrock.

Geological Heritage

There are no CGSs within located within RCO2B.

RCO2b has a slightly higher percentage of land with a gradient of less than 3% compared to RCO1a and has no ribbon development, therefore RCO2b is rated as “Slight Positive”.

9.4.7 Route Option RCO2C

Corine land use

RCO2C is predominately *pasture* covering 77% of the segments total area followed by *land principally occupied by agriculture, with significant areas of natural vegetation* covering 12% of the total area. *Traditional woodland – shrub* covers 11% of the total area.

Soils Quaternary Sediments

RCO2C is predominantly *till derived from limestones* covering 37.7% of the segments total area followed by *alluvium* 33.4%of the total area. Other significant soils include *gravels derived from limestones* which covers 17.8% and *cut over raised peat* which covers 6.8%.

Soils National

RCO2C is predominately *Peat* covering 37% of the segments total area. *River alluvium* covers 33.8% and *Elton (fine loamy drift)* covers 29.1%.

Geology bedrock

RCO2C is made up of Visean Limestone & Calcareous Shale bedrock.

Geological Heritage

There are no CGSs within located within RCO2C.

RCO2c has a slightly lower percentage of land with a gradient of less than 3% and slightly higher percentage of gradient greater than 8% compared to RCO1c. The Transitional woodland-scrub would be a higher impact environmentally than the commercial forest in RCO1c and therefore RCO2c is rated as “Slight Negative”.

9.4.8 Route Option RCO2D

Corine land use

RCO2D is predominately *pasture* covering 72.4% of the segments total area followed by *land principally occupied by agriculture, with significant areas of natural vegetation* covering 7.7% of the total area. Transitional woodland shrub covers 7.3% of the total area.

Soils Quaternary Sediments

RCO2D is predominantly *till derived from limestones* covering 74.5% of the segments total area followed by *cut over raised peat* covering 14.4%of the total area. *Fen peat* which covers 5.7%.

Soils National

RCO2D is predominately *Elton (fine loamy drift)* covering 71.6% of the segments total area. *Peat* covers 24.3% and *Urban* covers 3.9%.

Geology bedrock

RCO2D is made up of Tournaisian Limestone and Visean Limestone & Calcareous Shale bedrock.

Geological Heritage

There are no CGSs within located within RCO2D.

As per RCO1d, this corridor has many areas of environmentally sensitive lands. Also RCO2d has a much lower percentage of gradient less than 3% and much higher percentage of gradient greater than 8% when compared to RCO1d and therefore RCO2d is rated as “Slight Negative”.

9.5 Summary of Key Constraints

The CORINE 2018 landcover indicates the dominant land use type is Pasture with a significant area of raised peat bogs (CORINE 2018 Code 412). The remainder of landcover for the study area consists of sparse mosaics of land principally occupied by agriculture, inland marshes, coniferous forest, transitional woodland shrub, mixed-leaved forest, discontinuous urban, Land principally occupied by agriculture, with significant areas of natural vegetation, and non-irrigated arable land CORINE 2018 Code 211),

Within the Constraints Study Area there are 6 CGS identified. These CGS sites include Streamstown Esker, Horseleap Esker, Lough Lom, Kilbeggan Racecourse Esker, Kilbeggan Esker and Split Hill and Long Hill Esker Complex.

Construction associated with soft and made ground soil types will require adherences to best practice and construction standards to avoid any potential negative impacts. Interaction with potential (unknown) contaminated ground must also be considered as part of the scheme.

The vast majority of the constraints study area is dominated by Regionally Important Aquifer, Locally Important Aquifer, Locally Important Aquifer, and Sand and Gravel.

Cognisance must be given to the constraints posed by the presence of the varied groundwater vulnerability areas, Karstified nature of the landscape and poorly drained mineral soils, which will require further assessments. Due consideration is to be given to any design and option selection process to avoid any negative adverse impacts to these receptors.

10 WASTE

10.1 Introduction

This section assesses the waste management[8] aspect of the two route corridor options. It discusses the potential waste streams that will be generated during the construction and operational phases. The potential effects from the forecast waste generation are assessed in the context of the effects on waste management infrastructure and legislation, policy and strategy targets. The impacts for each of the options are identified so that those with unacceptably high levels of impact can be avoided to the extent feasible as part of the overall route corridor options assessment process.

10.2 Methodology

A desktop study was carried out in order to identify potential waste constraints and to identify any additional waste related material assets (i.e. toilet and public bin facilities) located within the Constraints Study Area. This involved identifying up-to-date information on the location and type of waste facilities that are situated within the defined Constraints Study Area and identifying clusters of towns and villages within the Constraints Study Area.

10.2.1 Legislation and Policy

Relevant legislation guidance and Policy is presented in Table 10.1.

Table 10.1: Legislation, Planning and Policy Requirements with Potential to Influence the Kilbeggan to Mullingar Greenway

Legislation/Plan/Policy	Constraints/Requirements of the Kilbeggan to Mullingar Greenway
EU Level	
EIA Directive 2014	Directive 2014/52/EU of the European Parliament and of the Council of 15 May 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment and strengthens the quality of the environmental impact assessment procedure.
The European Union Waste Framework Directive (2018/851)	The Waste Framework Directive sets the basic concepts and definitions related to waste management, including definitions of waste, recycling and recovery. The Directive lays down basic waste management principles and requires that waste be managed without endangering human health and harming the environment, without risk to water, air, soil, plants or animals, without causing a nuisance through noise or odours, and without adversely affecting the countryside or places of special interest.
The European Commission's 'Circular Economy Action Plan' (EC, 2020)	The new action plan promotes circular economy processes, encourages sustainable consumption, and aims to ensure that waste is prevented and the resources used are kept in the EU economy for as long as possible.
National Level	
Waste Management Act 1996 (as amended) (Act No. 10/1996)	The Act makes provisions in relation to the prevention, management and control of waste.

[8] For completeness, this section also details wastewater as a consideration.

Legislation/Plan/Policy	Constraints/Requirements of the Kilbeggan to Mullingar Greenway
National Waste Management Plan for a circular economy 2024-2030	The Regional Waste Management Planning Offices (RWMPO), on behalf of the Local Government Sector (LGS) and under the auspices of the County and City Management Association (CCMA) National Oversight Group, has prepared the National Waste Management Plan for a Circular Economy 2024 – 2030. This Plan sets out a framework for the prevention and management of waste in Ireland for the period 2024 to 2030 and sets out the targets, policies, and deliverables to be pursued over the next six years and beyond to achieve 0% waste growth per person over the life of the Plan.
Regional and Local Level	
Westmeath County Development Plan 2021-2027	The Council seeks to ensure the provision of the highest standards of waste management and environmental services to prevent and control water, air and noise pollution. Prevention, Reduction, Reuse and Recycling is the preferred options in managing household waste to reduce the amount of waste being produced. This Plan supports the move to a more circular economy as this will save resources, increase resource efficiency, and help to reduce carbon emissions. The successful implementation of circular economy principles will help to reduce the volume of waste that the County produces.
Westmeath County Council Waste Presentation Bye Laws 2019	Westmeath County Council has adopted Bye-laws for the segregation, storage and presentation of household and commercial waste within the County at its January monthly meeting held on 28th January 2019. The commencement date for these Bye-laws was Friday 1st March 2019. These Bye-Laws make provision for the imposition of a fixed payment in respect of a contravention of a Bye-Law as an alternative to a prosecution, as provided for in Section 206 of the Local Government Act 2001.

10.2.1.1 Relevant Guidance

The guidance considered in this section included:

- EPA's 'Guidelines on the Information to be Contained in Environmental Impact Assessment Reports' (EPA, 2022);
- EPA's Guidance on Soil and Stone By-Products in the context of article 27 of the European Communities (Waste Directive) Regulations 2011, version 3, June 2019;
- TII The Management of Waste from National Road Construction Projects, GE-ENV-01101, December 2017;
- TII Guide to the Implementation of Sustainability for TII Projects, GE-GEN-01101, July 2023;
- TII Circular Economy in Greenways and Rural Cycleways;

10.3 Constraints

Waste is defined in the Waste Framework Directive 2008 (as amended), as "*any substance or object which the holder discards or intends or is required to discard*." Development schemes have the potential to produce waste such as where a cut/fill balance cannot be achieved and excess soil and stones must be disposed of (discarded) off-site. With a shift toward circular economy it is increasingly important to promote circular economy processes, encourage sustainable consumption, and look to prevent waste as much as practicably possible.

10.3.1 National Waste Management Plan for a Circular Economy 2024-2030

The National Waste Management Plan for a Circular Economy 2024-2030 seeks to influence sustainable consumption and prevent the generation of waste, improve the capture of materials to optimise circularity and enable compliance with policy and legislation. The Plan identifies key deliverables which will unlock the potential of all stakeholders to contribute to the transition to more sustainable practices. Responsibility for key deliverables has been allocated to the key partners for the delivery of waste policy namely the Local Authority Sector, the Department of the Environment, Climate and Communications and the Environmental Protection Agency.

This plan summarises that the output of the construction sector drives the generation of construction and demolition waste (C&D waste). These drivers are predicted to continue to grow during the lifetime of this Plan and they have been used to project future waste generation levels in the absence of any further interventions. In 2021, Ireland generated 9 million tonnes of C&D waste continuing the significant growth in this waste stream observed since 2013. Generation rates decreased to 8.2 million tonnes in 2020 as a result of Covid 19 restrictions on the building industry but have returned to 2019 levels in 2021 despite additional Covid-19 restrictions. Soil and stone accounts for the largest fraction of this waste stream (typically 70-80% of the total stream) and increasing to 85% in 2019 to 2021.

Prevention and improved recycling of C&D waste could be achieved by employing best practice circular construction activities, such as designing out waste, enhanced segregation of C&D materials into individual material streams and by maximising the use of resources. The EPA published a revised 'Best Practice Guidelines for the Preparation of Resource Management Plans for Construction & Demolition Projects'[9] in November 2021 to guide the industry on this revised approach with a focus on prevention and circular thinking.

10.3.2 Construction and Demolition Waste Arising

In relation to construction and demolition waste arisings associated with the development of both RCO1A-D and RCO2A-D, The project team aims to adopt a circular economy approach to standards, operations, and TII delivered and funded projects and programmes. The circular economy is defined as an industrial system that is restorative or regenerative by intention and design. It replaces the end-of-life concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse and return to the biosphere, and aims for the elimination of waste through the superior design of materials, products, systems and business models. Ensuring success will require technological innovation and investment.

The EC (Waste Directive) Regulations 2011, sets a 70% target for the reuse, recycling and recovery of C&D waste (excluding naturally occurring material) in Ireland by 2020. The EPA reported that Ireland has achieved this target, with a recovery rate of 97% being reported. Backfilling activities account for a significant portion of the recovery rate, with recycling of C&D wastes not as prevalent. The quantification of the different treatment options for C&D wastes is important to show if higher recovery activities, i.e. preparing for reuse and recycling, are growing.

The works associated with the two route corridor options could involve the excavation through agricultural lands, road crossings and along footpaths and verges. The excavated materials would be removed from site and disposed of at appropriately licenced waste facilities. Additionally, works through agricultural lands could also require excavation of topsoils.

Where demolition and construction material, such as excavated material, cannot be reused on site it shall be transported for recovery/disposal at an appropriately licenced facility as outlined in the Construction Environmental Management Plan. However, it is important to note that the horizontal alignment of greenways can be moved to avoid demolition and therefore it is not anticipated that either Route Corridor Option (RCO) will generate significant quantities of demolition wastes.

The Transport Infrastructure Ireland Circular Economy Strategy 2023 – 2025 also highlights the importance of prevention through considering alternatives in detail and maximising the use of existing infrastructure e.g. reduce the need for construction through reuse of existing roads and local access interventions. The circular economy is restorative in nature, and it aims to maintain the utility of products, components and materials for as long as possible while also retaining their value. It thus minimises the need for new inputs of raw materials

[9] https://www.epa.ie/publications/circular-economy/resources/best-practice-guidelines-for-the-preparation-of-resource--waste-management-plans-for-construction--demolition-projects.php

and energy, while reducing environmental pressures linked to resource extraction, emissions and waste management.

Cut and fill balances as well as the potential for any contaminated land/ hazardous material within each of the route corridor options will be considered and reuse/recycling of material implemented where practicable. Geo-environmental sampling and associated laboratory testing can identify the waste classification on the excavated material within both options in order to determine if they are suitable for disposal at an inert landfill facility. Additional Soil Classification can be carried out as part of the Construction Phases and waste would be delivered by the Contractor to licensed Waste facilities which are authorised under the Waste Management Act 1996, as amended, and which hold the appropriate certificate of registration, Waste facility permit or EPA licence.

10.3.3 Operational and Maintenance Waste Arisings

For users to dispose of waste appropriately when using the greenway is largely dependent upon the existence of supporting infrastructure that is of high quality and has sufficient capacity. Westmeath County Council has an established programme of works, which reflects the entire county, to manage litter through litter-picking, provision of street bins and a street sweeping schedule.

Rest areas should only include litter bins where there are resources and a management plan in place to maintain these. Where these resources are not available Leave no Trace principles should apply. Westmeath County Council supports Ireland's "Leave No Trace Principles" throughout the entire county. Leave No Trace Principle 6 discusses proper disposal of waste which includes that everyone who uses the land for recreation has a responsibility to clean up before they leave. Overlooked rubbish can be unclean and unsightly.

On any major greenway it is important to have appropriate toilet facilities on route typically at the start/end points, often in towns or villages, and at other significant entry points.

Existing toilets on or close to the Route, should be indicated on map boards and signed from the trail. Where possible the introduction of these route corridors can provide trail-heads an opportunity to utilise their existing services such as car parks and tourism premises. They will require occasional maintenance especially in high use areas of the Route, and this must be borne in mind.

10.4 Constraints Corridor Segment Breakdown

10.4.1 Route Corridor Option (RCO) 1A

There are no historical waste facilities located within RCO1A. Within this route corridor segment, there is one existing waste extractive industry located north of Kilbeggan Racecourse known as John Gannon Concrete & Gannon Minerals & Powders, as shown in Figure 10-1 within Annex A. This extractive industry holds two Extractive Industries Registration Numbers QS0081 and QS0082. In 2009, Gannon Eco was formed to provide sustainable solution providers for industrial waste streams. Gannon Concrete supplies an extensive range of:

- Eco concrete products
- Bagged aggregates
- Octoblocks
- Road barriers

Within RCO1A there is one EPA licensed Urban Waste Water Treatment Agglomeration called Kilbeggan Agglomeration (Ref. D0103). Kilbeggan Agglomeration (Ref. D0103) is located within the southern portion of RCO1A. The Kilbeggan WWTP plant is located to the south of Kilbeggan, outside of RCO1A. The plant is currently operating for a design loading from a population equivalent of approximately 2,250 PE. Uisce Éireann (formerly Irish Water) created a robust investment planning framework that prioritises investments based on national water services policy and plans for the future. Uisce Éireann publish a Capacity register for their WWTP to indicate if there's enough wastewater treatment to support property development. Kilbeggan Agglomeration has a capacity rating of “Green” which indicates that there is spare capacity available.

RCO1A is situated in close proximity the town and village Kilbeggan. This town would have a higher density of public bins and represents the start point of the route corridor option. Available facilities within this area of RCO1A include Applegreen Kilbeggan located on Dublin Road, Kilbeggan. Kilbeggan town can serve as a

level 1 Trail head facility which is required at a maximum distance of 40km between this level of facilities. Providing a level one facility is a “High Positive” for the greenway.

53% of lands in the corridor is at a gradient of less than 3% and 16% has a gradient of greater than 8%. This could have an impact on the amount of cut and fill required for greenway construction.

10.4.2 Route Corridor Option (RCO) 1B

There are no existing or historical waste facilities located within RCO1B. RCO1B is situated in close proximity to the town and village Ballynagore, which can provide access to public bathrooms and public bins. Ballynagore village is adjacent to the corridor and can serve as a level two facility which should be provided at max 15km intervals. Ballynagore is circa 5km from Kilbeggan town. Providing a level two facility is a “Positive” for the greenway and could allow for business opportunities within Ballynagore to cater for visitors to the greenway.

43% of lands in the corridor is at a gradient of less than 3% and 13% has a gradient of greater than 8%. This could have an impact on the amount of cut and fill required for greenway construction

10.4.3 Route Corridor Option (RCO) 1C

There are no existing or historical waste facilities located within RCO1C. The beginning of RCO1C is situated in close proximity of town and village Ballynagore, which can provide access to public bathrooms and public bins. After this there are no towns or villages the RCO segment enters, with the nearest being Castletown Geoghegan approximately 2.3km northwest. Ballynagore village is adjacent to the corridor and can serve as a level two facility which should be provided at max 15km intervals. Ballynagore is circa 5km from Keegan town. Providing a level two facility is a “Positive” for the greenway.

58% of lands in the corridor is at a gradient of less than 3% and 10% has a gradient of greater than 8%. This could have an impact on the amount of cut and fill required for greenway construction.

10.4.4 Route Corridor Option (RCO) 1D

There are no existing or historical waste facilities located within RCO1D. Within this route corridor segment there is one EPA licensed Urban Waste Water Treatment Agglomeration, which is Mullingar (Ref. D0008) Agglomeration. Mullingar (Ref. D0008) overlaps with the northern portion of RCO1D and is currently operating for a design loading from a population equivalent of approximately 55000 PE. Uisce Éireann (formerly Irish Water) created a robust investment planning framework that prioritises investments based on national water services policy and plans for the future. Uisce Éireann publish a Capacity register for their WWTP to indicate if there's enough wastewater treatment to support property development. Mullingar Agglomeration has a capacity rating of “Green” which indicates that there is spare capacity available.

Mullingar town can serve as a level 1 Trail head facility which is required at a maximum distance of 40km between this level of facilities. Mullingar is Circa 25km from Kilbeggan town. Providing a level one facility is a “High Positive” for the greenway. Ballynagore is circa 18km from Mullingar via the west side of Lough Ennell. This means another level two trailhead facility would be required between Ballynagore and Mullingar. This facility could be provided at either Lilliput adventure centre or at Dysart village located adjacent to the corridor. Lilliput is approximately 13km from Mullingar and 5km from Ballynagore. Dysart is approximately 10km from Mullingar and 9km from Ballynagore. The provision of both a level one and two trailhead facilities is rated as a “High Positive”. The nearest toilet facilities to the exit point of RCO1D is located in O'Briens Service Station (Centra) located on Lynn Road, Ballinderry, Mullingar approximately 2.5km north east.

71% of lands in the corridor is at a gradient of less than 3% and 2% has a gradient of greater than 8%. This could have an impact on the amount of cut and fill required for greenway construction.

10.4.5 Route Corridor Option (RCO) 2A

There are no existing or historical waste facilities located within RCO2A. Within RCO2A there is one EPA licensed Urban Waste Water Treatment Agglomeration called Kilbeggan Agglomeration (Ref. D0103). Kilbeggan Agglomeration (Ref. D0103) is located within the southern portion of RCO1A. The Kilbeggan WWTP plant is located to the south of Kilbeggan, outside of RCO2A. The plant is currently operating for a design loading from a population equivalent of approximately 2,250 PE. Uisce Éireann (formerly Irish Water) created a robust investment planning framework that prioritises investments based on national water services policy

and plans for the future. Uisce Éireann publish a Capacity register for their WWTP to indicate if there's enough wastewater treatment to support property development. Kilbeggan Agglomeration has a capacity rating of “Green” which indicates that there is spare capacity available.

RCO2A is situated within the town of Kilbeggan. This town would have a higher density of public bins and represents the start point for the route corridor option. Available facilities within this area of RCO2A include Applegreen Kilbeggan located on Dublin Road, Kilbeggan. Kilbeggan town can serve as a level 1 Trail head facility which is required at a maximum distance of 40km between this level of facilities. Providing a level one facility is a “High Positive” for the greenway.

59% of lands in the corridor is at a gradient of less than 3% and 14% has a gradient of greater than 8%. This could have an impact on the amount of cut and fill required for greenway construction.

10.4.6 Route Corridor Option (RCO) 2B

There are no existing or historical waste facilities located within RCO2B. RCO2B is situated in close proximity to the town and village Ballynagore, which can provide access to public bathrooms and public bins. Ballynagore village is within the corridor and can serve as a level two facility which should be provided at max 15km intervals. Ballynagore is circa 5km from Kilbeggan town. Providing a level two facility is a “Positive” for the greenway and could allow for business opportunities within Ballynagore to cater for visitors to the greenway.

51% of lands in the corridor is at a gradient of less than 3% and 17% has a gradient of greater than 8%. This could have an impact on the amount of cut and fill required for greenway construction.

10.4.7 Route Corridor Option (RCO) 2C

There are no existing or historical waste facilities located within RCO2C. The beginning of RCO2C is situated within town and village Ballynagore, which can provide access to public bathrooms and public bins. After this there are no towns or villages the RCO segment enters, with the nearest being Tyrrellspass approximately 3km south east. Ballynagore village is within the corridor and can serve as a level two facility which should be provided at max 15km intervals. Ballynagore is circa 5km from Kilbeggan town. Providing a level two facility is a “Positive” for the greenway.

57% of lands in the corridor is at a gradient of less than 3% and 15% has a gradient of greater than 8%. This could have an impact on the amount of cut and fill required for greenway construction.

10.4.8 Route Corridor Option (RCO) 2D

There are no existing or historical waste facilities located within RCO2D. Within this route corridor segment there is one EPA licensed Urban Waste Water Treatment Agglomeration, which is Mullingar (Ref. D0008) Agglomeration. Mullingar (Ref. D0008) overlaps with the northern portion of RCO1D and is currently operating for a design loading from a population equivalent of approximately 55000 PE. Uisce Éireann (formerly Irish Water) created a robust investment planning framework that prioritises investments based on national water services policy and plans for the future. Uisce Éireann publish a Capacity register for their WWTP to indicate if there's enough wastewater treatment to support property development. Mullingar Agglomeration has a capacity rating of “Green” which indicates that there is spare capacity available.

Mullingar town can serve as a level 1 Trail head facility which is required at a maximum distance of 40km between this level of facilities. Mullingar is Circa 25km from Kilbeggan town. Ballynagore is circa 19km from Mullingar via the East side of Lough Ennell. This means another level two trailhead facility would be required between Ballynagore and Mullingar. This facility could be provided at Belvedere House Gardens & Park which is within the corridor. Belvedere is approximately 8km from Mullingar and 13km from Ballynagore. The provision of both a level one and two trailhead facilities is rated as a “High Positive”.

Public amenity areas have been developed at numerous locations along the lake shores, including toilets facilities. RCO2D benefits from the existing public toilet facilities at Tudenham Park. Belvedere House Gardens & Park is located along RCO2D which does include public amenities such as toilet facilities within the visitor centre. The exit point of RCO2D is located north in close proximity to the town Mullingar. The nearest toilet facilities to the exit point of RCO2D is located in O'Briens Service Station (Centra) located on Lynn Road, Ballinderry, Mullingar approximately 2km north east.

46% of lands in the corridor is at a gradient of less than 3% and 14% has a gradient of greater than 8%. This could have an impact on the amount of cut and fill required for greenway construction.

10.5 Summary of Key Constraints

Cut and fill balances as well as the potential for any construction and operational waste material within the Constraints Study will need to be considered throughout the route corridor options.

There will be a requirement to handle, store, remove and dispose of waste material in accordance with the relevant waste management legislation. Wastes resulting from general construction on-site; i.e., waste fuels, oils from machinery, cement and concrete from required masonry works and wastewater from sanitary facilities.

The nature of the waste generated from site clearance and earthworks will generally be vegetation and topsoil. Where this material is to be stored on-site and reused it is important that it is not stored close to any watercourses or lakes. Any excavated material which is deemed unacceptable for re-use in the works will have to be removed off-site for disposal or for processing and as such may be required to be removed or disposed of under a waste permit or certificate of registration from the local authority.

For users to dispose of waste appropriately when using the greenway is largely dependent upon the existence of supporting infrastructure that is of high quality and has sufficient capacity. Rest areas should only include litter bins where there are resources and a management plan in place to maintain these. Where these resources are not available Leave no Trace principles should apply. Westmeath County Council supports Ireland's "Leave No Trace Principles". On any major greenway it is important to have appropriate toilet facilities on route typically at the start/end points, often in towns or villages, and at other significant entry points. Existing toilets on or close to the Route, should be indicated on map boards and signed from the trail. Where necessary additional toilet facilities may need to be constructed as part of the Route construction process, or as user numbers grow.

11 MATERIAL ASSETS – NON-AGRICULTURAL

11.1 Introduction

This chapter presents the constraints that will be assessed in regard to the RCOs which include existing utilities, existing transport infrastructure and the prioritisation for the use of state owned lands in which to minimise the impacts on private landowners.. The findings presented in this chapter can provide consideration of how the route corridor options can integrate or avoid the existing material assets in the area that are deemed essential and those which will require engagement with service providers to ensure that utilities can be avoided and/ or modified to mitigate impacts. Regard must also be had to future changes that are likely to take place in the study area e.g., through the Water Services Investment Programme, investment by Transport Infrastructure Ireland, Irish Rail, EirGrid etc. Material assets can be defined as economic assets of natural and human origin, or cultural assets of a physical and social type.

11.2 Methodology

A desktop study was carried out in order to identify potential utility constraints and to identify any additional material assets located within the route corridors for Option 1 and Option 2. This involved contacting a number of utility providers to obtain up-to-date information on the location and type of services that are situated within the wider study area.

11.2.1 Legislation and Policy

Legislation/Plan/Policy	Constraints/Requirements of the Kilbeggan to Mullingar Greenway
EU Level	
EIA Directive 2014	Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment and strengthens the quality of the environmental impact assessment procedure.
The European Union Waste Framework Directive (2018/851)	The Waste Framework Directive sets the basic concepts and definitions related to waste management, including definitions of waste, recycling and recovery. The Directive lays down basic waste management principles and requires that waste be managed without endangering human health and harming the environment, without risk to water, air, soil, plants or animals, without causing a nuisance through noise or odours, and without adversely affecting the countryside or places of special interest.
The European Commission's 'Circular Economy Action Plan' (EC, 2020)	The new action plan promotes circular economy processes, encourages sustainable consumption, and aims to ensure that waste is prevented and the resources used are kept in the EU economy for as long as possible.
National Level	
Waste Management Act 1996 (as amended) (Act No. 10/1996)	The Act makes provisions in relation to the prevention, management and control of waste.
A Waste Action Plan for a Circular Economy Ireland's National Waste Policy 2020-2025	This waste action plan is a roadmap for waste planning and management and moves focus from waste disposal to the creation of a circular economy. The plan sets out a range of aims and targets and the measures by which these will be achieved.
Connacht - Ulster Region Waste Management Plan (CURWP) 2015-2021	The Connacht - Ulster Region Waste Management Plan is a framework for the prevention and management of waste in a sustainable and safe way. The plan provides policy direction and must ensure that European and national mandatory targets are achieved.
Regional and Local Level	

Legislation/Plan/Policy	Constraints/Requirements of the Kilbeggan to Mullingar Greenway
Westmeath County Development Plan 2021-2027	Chapter 10: Transport, Infrastructure and Energy of the Westmeath County Development Plan 2021-2027 outlines strategic aims such as the below: - To achieve a sustainable, integrated and low carbon transport system with excellent connectivity within and to Westmeath by enhancing existing strategic transportation infrastructure in the County. - To provide, improve and extend water, wastewater, surface water and flood alleviation services throughout the county and to prioritise the provision of water services infrastructure, to achieve improved environmental protection and to protect public health.

11.2.2 Relevant Guidance

- EPA's 'Guidelines on the Information to be Contained in Environmental Impact Assessment Reports' (EPA, 2017a);
- Highways England DMRB 'LA110-Materal Assets and Waste', a Department of Transport publication.

11.3 Constraints

This section identifies the constraints aspects of the proposed study in relation to material assets with particular reference to transport infrastructure and utilities. It identifies the existing material assets and aims to ascertain any key proposals for future development of material assets within the study area, i.e., new roads, water mains etc. that may pose a constraint to works associated with the Kilbeggan to Mullingar Greenway in the future.

11.3.1 Land Ownership

The preferred model for future Greenways is to use lands already available in the undisputed ownership or control of the State, either through Government Agencies, Government Departments or Local Authorities. The public lands within the Study Area were identified using landownership data obtained from the Property Registration Authority (PRAI). This data was interrogated and the main state bodies in the area include Coilte, Iarnród Eireann, Transport Infrastructure Ireland and the ESB. A large proportion of the lands are privately owned.

11.3.2 Utilities Infrastructure

Utilities in the study area include water supply networks, telecommunications, storm and foul sewers, electricity supply and gas pipelines. The potential for conflict with such utilities will be investigated during assessment of viable options and study design.

The desktop study found that the following companies have identified apparatus within the RCOs:

- Aurora Telecom
- Gas Network Ireland
- Eirgrid
- Irish Water

Information provided from the following companies suggests that they do not have apparatus within the route corridors for Option 1 and Option 2:

- Virgin Media
- Enet
- BT Ireland

- BAI
- Imagine Networks Services
- JS Whizzy Internet Limited
- RTÉ/Saorview

Utility request information has not yet been received from the following companies:

- 2RN
- Cellnex
- Dense air
- Electricity Supply Board
- EOBO Ltd
- FastCom Broadband Limited
- Hibernian towers
- Irish Rail
- Lackabeha Services Ltd T/A Airwaves Internet
- JFK Communications Ltd
- Ivertec Ltd
- Meteor Mobile Communications Limited
- NBI Infrastructure DAC
- TETRA Ireland
- The Irish Aviation Authority
- Three Ireland (Hutchison) Ltd
- Towercom
- Viatel Ireland Ltd
- Vodafone Ireland Ltd
- Western Broadband Network

Further work to identify any apparatus will be undertaken as the project progresses.

11.3.2.1 Telecommunications

The telecommunications policy for the county is based on the Guidelines for Planning Authorities with regard to Telecommunications Antennae and Support Structures and any revisions. A review of the outdoor mobile phone coverage for one of Ireland's leading service providers shows good coverage for the majority of the Study Area. Some areas of poor phone coverage were noted around La Mancha, Prebawn, Ballinagore, and Castletown. It is essential for Greenway users to have phone coverage in the event of an emergency when using the route. Data from the Commission of Communications Regulation for outdoor phone service is shown in Figure 11.1 below.

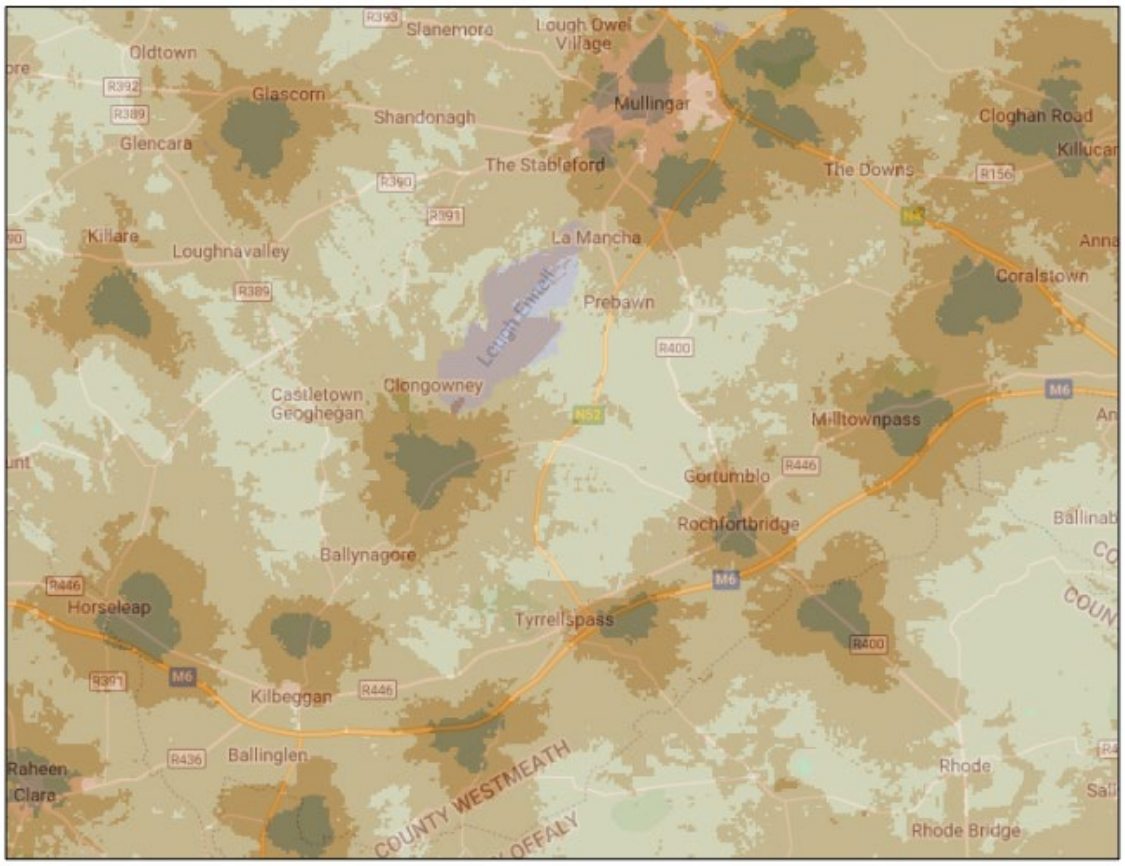


Figure 11.1 Average Mobile Network Coverage

11.3.2.2 Public Transport

In terms of integration for the scheme, it is important for users to have the option to access the Greenway through improved connectivity to other local, regional and national cycling facilities and public transport. Option 1 and Option 2 route corridors are both accessible from the towns of Mullingar and Kilbeggan which are both served well by public transport. Mullingar is accessible by rail and are positioned on the Dublin/Sligo rail line. Trains operate several times daily. Currently there is no rail service to Kilbeggan. The nearest railway station is at Tullamore, about 8 miles from Kilbeggan. The full breakdown of public transport systems for County Westmeath is illustrated in **Figure 11.2**. In the longer-term, electrification of key routes including the Dublin to Galway line is promoted. It is also envisaged that capacity will be increased through double tracking the line from Portarlington to Athlone and from Mullingar to Maynooth to cater for hourly services between Galway and Connolly Station (alternative to Heuston). This would serve to further strengthen public transport interconnectivity by connecting the Galway/Mayo rail line with the Sligo rail line and potentially provide an additional line option for the Galway Dublin service. The Dublin/Sligo line is a dominant feature in the study area. Bus Eireann operate regional and local bus services, as well as the School Bus Service, which travel on the N52 through the study area and serve both Mullingar and Kilbeggan.

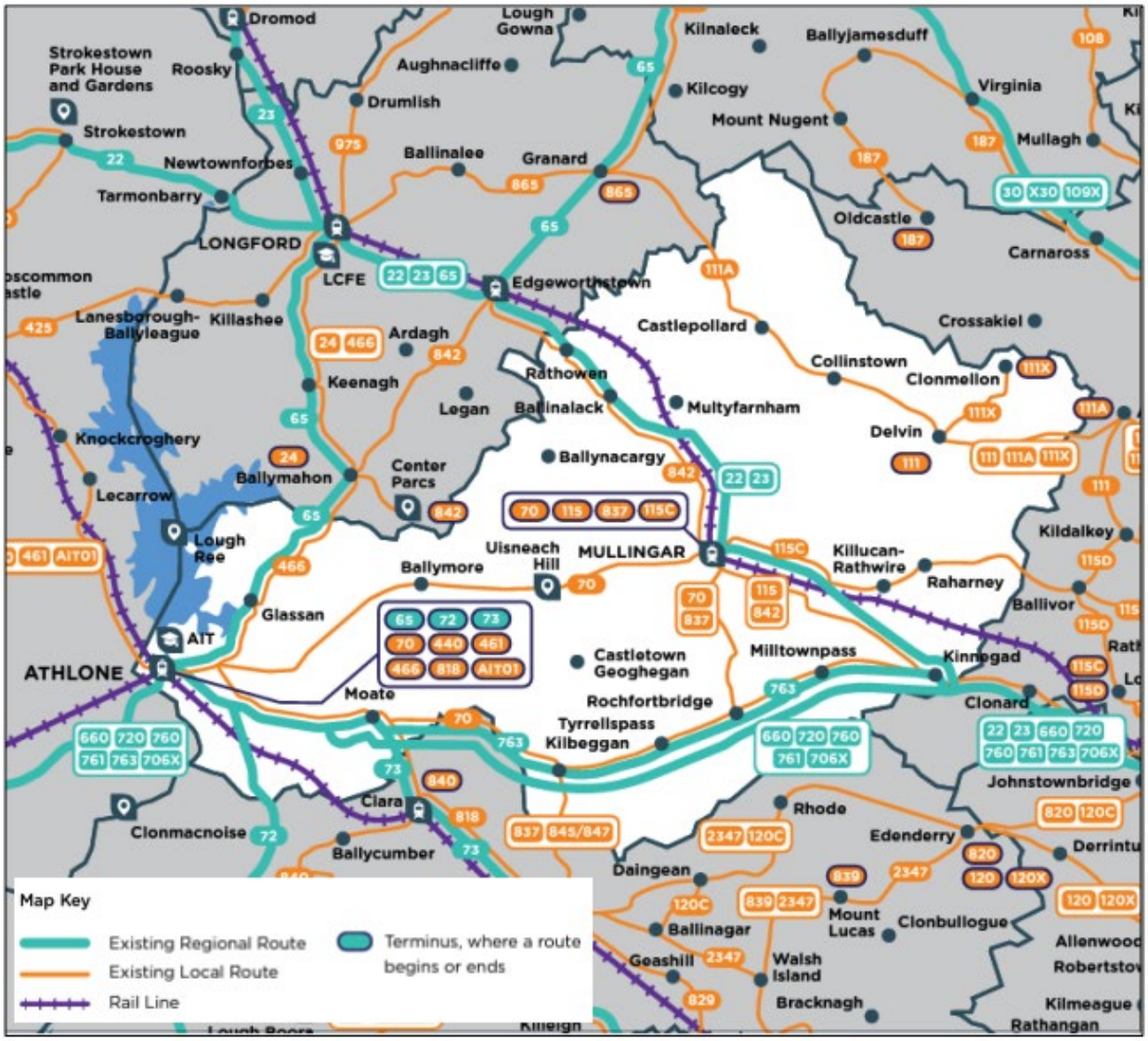


Figure 11.2 Westmeath Public Transport Network

11.3.3 Public Rights of Way

Existing public rights of way constitute an important amenity and they enable the enjoyment of high-quality landscapes, providing a valuable link to natural assets and places of natural beauty such as the lakes, bogs and forests to those that live and visit the County. There are a number of public accesses to the lakes within the county. Westmeath County recognises the importance of protecting the rights of way in order to encourage the greater use of frequently associated amenity areas.

There are several walking routes throughout the County through publicly owned lands including the Royal Canal Way and Coillte forests such as Mullaghmeen and Slí Na Sláinte. There are other pedestrian rights of way within the County such as mass paths, which have existed for centuries but not all of which are readily identifiable. There are 3 public rights of way in or close to the study area. These are detailed in the Figure 11-4 of Annex A. There are no Public Rights of Way within any of the RCOs.

11.4 Route Corridor Options

11.4.1 Route Option RCO1a

Land Ownership

ROC1a is made up of 87% private land, 0.7% public land and 10.7% common land. Due to the number of potentially impacted landowners, reaction from landowner engagement and lack of large public lands plots, RCO1a is rated as “Negative”. A High Negative score was not applied as there is opportunity to reduce potential severance impacts on landowners.

Utilities Infrastructure – Gas Network

Information from Gas Network Ireland confirms there are no gas mains within RCO1a.

Utilities Infrastructure – Water Supply

Information from Irish Water confirms two sections of water main are located within RCO1a.

Utilities Infrastructure – Telecommunications

Incoming information from Virgin Media, Enet, Aurora telecom and BT Ireland suggests none of these providers have apparatus within RCO1a.

Transport Connectivity

RCO1a will link to the existing Kilbeggan terminus of the Grand Canal Greenway. RC01a can also avail of the existing active travel infrastructure along the R446. Public transport with national and regional routes is accessible in Kilbeggan and RCO1a connects to the Westmeath Way walking trail network. Connecting to these existing facilities is rated as a “High Positive” for connectivity.

11.4.2 Route Option RCO1b

Land Ownership

ROC1b is made up of 97.7% private land, 2% public land and 0.3% common land. Due to the number of potentially impacted landowners, feedback from landowners and the lack of overly beneficial public lands plots to utilise, RCO1b is rated as “Negative”. A High Negative score was not applied as there is opportunity to reduce potential severance impacts on landowners.

Utilities Infrastructure – Gas Network

Information from Gas Network Ireland confirms there are no gas mains within RCO1b.

Utilities Infrastructure – Water Supply

Information from Irish Water confirms three sections of water main are located within RCO1b.

Utilities Infrastructure – Telecommunications

Incoming information from Virgin Media, Enet, Aurora telecom and BT Ireland suggests none of these providers have apparatus within RCO2d.

Transport Connectivity

No connection to other cycle facilities within RCO1b. Corridor connects to the Westmeath Way walking trail network. No public transport available in or adjacent to this corridor. Connecting to this existing facility is considered a “Slight Positive”.

11.4.3 Route Option RCO1c

Land Ownership

ROC1c is made up of 87.3% private land, 5.5% public land and 0% common land. Due to the public land available within RCO1c being considered usable but the lands linking to it being currently unobtainable through voluntary acquisition, the rating is “Neutral”.

Utilities Infrastructure – Gas Network

Information from Gas Network Ireland confirms there is a section of 85 bar high pressure gas distribution main that traverses across fields within RCO1c.

Utilities Infrastructure – Water Supply

Information from Irish Water confirms one section of water main are located within RCO1c.

Utilities Infrastructure – Telecommunications

Incoming information from Virgin Media, Enet and BT Ireland suggests none of these providers have apparatus within RCO1c. Aurora telecom has a section of fibre optic cable traversing across fields within RCO1c.

Transport Connectivity

No connection to other cycle facilities within RCO1c. Corridor connects to the Westmeath Way walking trail network. No public transport available in or adjacent to this corridor. Connecting to this existing facility is considered a “Slight Positive”.

11.4.4 Route Option RCO1d

Land Ownership

ROC1d is made up of 87.5% private land, 5.7% public land and 0% common land. Due to the number of potentially impacted landowners and area of public land within the corridor compared to RCO2d, RCO1d is rated as “Slight Negative” due to feedback from landowners during consultations.

Utilities Infrastructure – Gas Network

Information from Gas Network Ireland confirms there are no gas mains within RCO1d.

Utilities Infrastructure – Water Supply

Information from Irish Water confirms the are several sections of water mains and Liliput Adventure Centre Waste Water Treatment Plant (WWTP) located within RCO1d.

Utilities Infrastructure – Telecommunications

Incoming information from Virgin Media, Enet, Aurora telecom and BT Ireland suggests none of these providers have apparatus within RCO1d.

Transport Connectivity

RCO1d will link to the existing Rail Trail and Royal Canal Greenways at Mullingar. Corridor connects to the Westmeath Way walking trail network. Public transport is available in Dysart and Mullingar Town via Old Rail Trail and Royal Canal Greenway. Connecting to this existing facility is considered a “High Positive”.

11.4.5 Route Option RCO2a

Land Ownership

ROC2a is made up of 89.3% private land, 0.2% public land and 0% common land. RCO2a is rated as “Slight Negative” as there is a lack of large public lands plots and reaction from landowner engagement. As this RCO provides potential to reduce some potential farming impacts it is rated higher than RCO1a comparatively.

Utilities Infrastructure – Gas Network

Information from Gas Network Ireland confirms there are no gas mains within RCO2a.

Utilities Infrastructure – Water Supply

Irish Water confirms they have no water supply infrastructure within RCO2a.

Utilities Infrastructure – Telecommunications

Incoming information from Virgin Media, Enet, Aurora telecom and BT Ireland suggests none of these providers have apparatus within RCO2a.

Transport Connectivity

RCO2a will link to the existing Kilbeggan terminus of the Grand Canal Greenway. RC02a can also avail of the existing active travel infrastructure along the R446. Public transport with national and regional routes is accessible in Kilbeggan. This offers opportunity to interchange facilities to continuation of journeys. Corridor connects to the Westmeath Way walking trail network. Connecting to these existing facilities is rated as a “High Positive”.

11.4.6 Route Option RCO2b

Land Ownership

ROC2b is made up of 99.1% private land, 0% public land and 0% common land. Due to the number of potentially impacted landowners within the corridor compared to RCO1b, RCO2b is rated as “Slight Negative”.

Utilities Infrastructure – Gas Network

Information from Gas Network Ireland confirms there are no gas mains within RCO2b.

Utilities Infrastructure – Water Supply

Irish Water confirms they have no water supply infrastructure within RCO2b.

Utilities Infrastructure – Telecommunications

Incoming information from Virgin Media, Enet, Aurora telecom and BT Ireland suggests none of these providers have apparatus within RCO2b.

Transport Connectivity

No connection to other cycle facilities within RCO2b. Corridor connects to the Westmeath Way walking trail network. No public transport available in or adjacent to this corridor. Connecting to this existing facility is considered a “Slight Positive”.

11.4.7 Route Option RCO2c

Land Ownership

ROC2b is made up of 90.8% private land, 6.2% public land and 0% common land. Due to the area of public lands available in RCO2c compared to RCO1c and feedback received at public consultation meaning a complete route cannot currently be achieved through voluntary acquisition the rating for RCO2c is “Negative”. A High Negative score was not applied as there is opportunity to reduce potential severance impacts on landowners.

Utilities Infrastructure – Gas Network

Information from Gas Network Ireland confirms there is a section of 85 bar high pressure gas distribution main that traverses across fields within RCO2c.

Utilities Infrastructure – Water Supply

Irish Water confirms they have no water supply infrastructure within RCO2c.

Utilities Infrastructure – Telecommunications

Incoming information from Virgin Media, Enet and BT Ireland suggests none of these providers have apparatus within RCO2c. Aurora telecom has a section of fibre optic cable traversing across fields within RCO2c.

Transport Connectivity

No connection to other cycle facilities within RCO2c. Corridor connects to the Westmeath Way walking trail network. No public transport available in or adjacent to this corridor. Connecting to this existing facility is considered a “Slight Positive”.

11.4.8 Route Option RCO2d

Land Ownership

ROC2b is made up of 81.9% private land, 10.1% public land and 1.7% common land. Due to the number of potentially impacted landowners compared to RCO1d, feedback from landowners during the consultation and area of public land within the corridor compared to RCO1d, RCO2d is rated as “Negative”. A High Negative score was not applied as there is opportunity to reduce potential severance impacts on landowners.

Utilities Infrastructure – Gas Network

Information from Gas Network Ireland confirms there is a section of 85 bar high pressure gas distribution main that traverses across fields within RCO2d.

Utilities Infrastructure – Water Supply

Information from Irish Water confirms the are several sections of water mains and Belvedere WWTP located within RCO1d. Belvedere WWTP is located in close proximity to Belvedere House Gardens and Park, east of Lough Ennell.

Utilities Infrastructure – Telecommunications

Incoming information from Virgin Media, Enet and BT Ireland suggests none of these providers have apparatus within RCO2d. Aurora telecom has a section of fibre optic cable traversing across fields within RCO2d.

Transport Connectivity

RCO2d will link to the existing Rail Trail and Royal Canal Greenways at Mullingar. Corridor connects walking trails at Belvedere. Public transport is available in Belvedere and Mullingar Town via Old Rail Trail and Royal Canal Greenway. Connecting to this existing facility is considered a “High Positive”.

12 MATERIAL ASSETS – AGRICULTURAL

12.1 Introduction

This report considers the material asset constraints with respect to agriculture for the Kilbeggan to Mullingar Greenway Options Report. The current greenway strategy outlines utilising state-owned lands where possible. It must be noted that there is less availability of state-owned lands in the study area compared to private lands, with one of the aims for this development being to improve connectively through this pockets of land. Therefore, the majority of each option will be required to be routed through privately-owned lands. Where this land is used for agricultural purposes, it will have an impact on landholdings. The degree of impact will depend on the length of land to be repurposed to the greenway.

12.2 Methodology

This constraints study has comprised of a desktop collation and interpretation of published census data of the route corridors for Option 1 and Option 2 that was undertaken in July 2024. The purpose of this constraints study was to identify features which reflect the agricultural potential and agricultural sensitivity of the lands with respect to the RCO1a – 2d.

The following information was considered during the assessment of agricultural constraints in the study area;

- Census of Agriculture, 2010;
- Census of Agriculture 2020 - Detailed Results;
- CORINE (Co-Ordinated Information on the Environment) Landcover 2018 and
- Westmeath County Development Plan 2021 – 2027.

The CORINE (Co-Ordinated Information on the Environment) land cover mapping was generated and is maintained by the European Community (EC). The impetus for this mapping was to provide a comparable and standardised data source of geo-spatial information across the European environment, with the most recent iteration of the land use and habitat classification data series made available in 2018 (referred to in this report as CORINE 2018). These areas correlated well with the aerial photography and with the available soil mapping.

12.2.1 Legislation and Policy

Relevant legislation guidance and policy is presented in Table 12.1.

Table 12.1: Relevant legislation and policy guidance

Legislation/Plan/Policy	Constraints/Requirements of the Kilbeggan to Mullingar Greenway
EU Level	
European Union (2018) (Planning and Development) (Environmental Impact Assessment) Regulations. (SI 296 of 2018)	These regulations specify the assessment of Material Assets and this Constraints Report presents a description of Material Assets – Agriculture within the study area.
Environmental Protection Agency (EPA) (August 2017) Guidelines on the Information to be contained in Environmental Impact Assessment Reports4 ;	These guidelines set out how to assess the significance of impacts. This requires an assessment of the sensitivity of the baseline environment. This Constraints Report describes and categorises the sensitivity of the baseline agricultural environment in line with these guidelines.
National Level	
Transport Infrastructure Ireland (2016) Project Appraisal Guidelines for National Roads Unit 7.0 - Multi Criteria Analysis	This document recommends the assessment of multi-criteria such as farm size, farm type, land-take, impacts on farm-yards / facilities, severance with mitigation and viability when evaluating alternatives and options for new road projects at route selection stage. These guidelines will be adapted for the assessment of alternatives and options for this greenway EIA and the Constraints data provides information on farm size, farm types, location of farm yards and information relating to agricultural viability within the study area.

Legislation/Plan/Policy	Constraints/Requirements of the Kilbeggan to Mullingar Greenway
Code of Best Practice, National and Regional Greenways, December 2021.	This code of practice recommends the input of an agronomist in EIA for ne greenway developments.

12.2.2 Relevant Guidance

There is no formal guidance for agronomy/agricultural assessment. The Code of Practice for National and Regional Greenways (Dec 2021) specifies that an agronomist should be part of the project team evaluating impacts from greenways. Transport Infrastructure Ireland have produced project appraisal guidelines for assessment of route alternatives and options. Section 3.7.3 of the EPA draft guidelines (EPA 2017) contains guidelines for describing significance of impacts and these guidelines are adopted for agronomy. The information gathered in this Options Report will form the basis for impact assessments of alternatives and options in accordance with these guidelines.

12.3 Constraints

12.3.1 Study Area

Agricultural practices within the study area are typical of the Border, Midlands and Western (BMW) region as a whole.

The Census of Agriculture (2010) figures recorded 3,459 farms within County Westmeath. The total area of farmed land excluding commonage was approximately 128,371 hectares, with an average farm size of approximately 37.1 hectares.

Consideration was also given to the soils by reviewing the Teagasc EPA Soil & Subsoil Mapping included in Section 9 Soils, Geology & Hydrogeology. The dominant soil type is the Elton Series which is a fine loamy drift with limestones. These soils have good moisture-holding capacity, are very productive and have a wide use range including grazing and tillage. This correlates with the predominant land use being pasture. Peat is also present which are poor quality soils and suited mainly for forestry and non-agricultural uses.

A 'Coloured Flag' system has been developed by the EPA to support targeting agricultural measures to get the right measure in the right place. The 2023 outputs for all Subbasins incorporate key national datasets and assign flags to indicate the potential water quality issues to focus on due to agricultural runoff, with Figure 12-1 contained within Annex A of this document showing that the constraints study area is predominantly marked as “The White Flag”. This indicates Subbasins where agriculture is not identified as a significant pressure and measures to 'Protect' water quality are appropriate. Further detail regarding water quality is summarised in Section 6.

12.3.2 Route Corridor Option 1

Figures presented in Table 12.2 and Table 12.3 below have been extracted from the Census of Agriculture (2020) data. The Route Corridor falls within the following 5 different Electoral Division (ED) EDs (although it does not make up the entirety of all 5 EDs);

- Hopestown
- Dysart
- Middleton
- Ballynagore
- Kilbeggan

Table 12.2: Land Utilisation Agricultural Statistics for Relevant EDs

Electoral Division	Area farmed (AAU) by electoral division (ha)	Percentage Farmed	AreaTotal Grassland (ha)	Percentage Grassland
Hopestown	1031	54	970	94
Dysart	1429	96	1398	98
Middleton	1374	72	1298	95
Ballynagore	1501	83	1405	94
Kilbeggan	1266	71	1209	96
Total	6601	N/A	6280	N/A

In total, grassland for pastural grazing and silage/hay are the dominant land uses of the total farmed area. The Agricultural Area Utilised (AAU) is the combined area under crops, silage, hay, pasture and rough grazing land in use (including fallow land). Areas under roads, tracks, water, bog, marsh, rocks, unused rough grazing land, buildings etc. are excluded. The total area under grassland across the ED's that make up the Route Corridor for Option 1 is 6280 ha, which accounts for 95% of the AAU.

The results from the CORINE data are largely reflective of the Census data with respect to land under pasture. According to the CORINE data 77.1% of the total route corridor is under pasture. Results from the Census data suggests an average of 75.2% is under pasture.

Table 12.3: Agricultural Holding and Livestock Data for relevant EDs

Electoral Division	Number of holdings	Average Size of Holding (ha)	Livestock Units	Total Cattle	Total Sheep
Hopestown	22	46.9	1,888	2,381	-
Dysart	29	49.3	1,726	2,281	1,607
Middleton	36	38.2	1,843	2,294	1,537
Ballynagore	41	36.6	2,694	3,463	1,052
Kilbeggan	31	40.8	1,812	2,361	1,123
Total	159	N/A	9,963	12,780	5,319

The principal land use (pasture) would primarily support the high number of cattle and sheep within the route corridor as both rely heavily on pastural grazing. Equine stock would also rely on pastural grazing, but given the nature of the equestrian industry, horses and ponies are largely kept in equestrian centres, stables, stud farms and other specialist farm types, where their diets would be supplemented with other food sources.

The average farm size in the route corridor is likely to be approximately 42 hectares based on the 2020 Census data for the relevant electoral divisions (EDs) as shown in **Table 12.3**. This is larger than the national average of approximately 32.7 hectares and the average for County Westmeath (37 ha) based on the 2010 Census data.

12.3.3 Route Corridor Option 2

Figures presented in Table 12.4 and Table 12.5 below have been extracted from the Census of Agriculture (2020) data. The Route Corridor falls within the following 8 different Electoral Division (EDs), although it does not make up the entirety of all 8 EDs;

- Hopestown
- Mullingar Rural
- Belvidere
- Carrick
- Clonfad
- Ballynagore

- Kilbeggan
- Middleton

Table 12.4: Land Utilisation Agricultural Statistics for relevant EDs

Electoral Division	Area farmed (AAU) by electoral division (ha)	Percentage Farmed	Area Total (ha)	Grassland	Percentage Grassland
Hopestown	1031	70	970		94
Mullingar Rural	783	45	748		95
Belvidere	1336	64	1286		92
Carrick	1343	64	1318		98
Clonfad	1344	72	1262		94
Ballynagore	1501	79	1405		94
Kilbeggan	1266	72	1209		96
Middleton	1374	76	1298		94
Total	9978	N/A	9469		N/A

In total, grassland for pastural grazing and silage/hay are the dominant land uses of the total farmed area. The total area under grassland across the ED's that make up the Route Corridor for Option 2 is 9469 ha, which accounts for 95% of the AAU.

Table 12.5: Agricultural Holding and Livestock Data for relevant EDs

Electoral Division	Number of holdings	Average Size of Holding	Livestock Units	Total Cattle	Total Sheep
Hopestown	22	46.9	1,888	2,381	-
Mullingar Rural	23	34	1,087	991	-
Belvidere	32	41.7	1,472	2,051	582
Carrick	26	51.7	1,634	2,195	1,116
Clonfad	40	33.6	1,841	2,401	2,055
Ballynagore	41	36.6	2,694	3,463	1,052
Kilbeggan	31	40.8	1,812	2,361	1,123
Middleton	36	38.2	1,843	2,294	1,537
Total	251	N/A	14,541	18,137	7,465

The principal land use (pasture) would primarily support the number of high number of cattle and sheep within the route corridor as both rely heavily on pastural grazing. Equine stock would also rely on pastural grazing, but given the nature of the equestrian industry, horses and ponies are largely kept in equestrian centres, stables, stud farms and other specialist farm types, where their diets would be supplemented with other food sources.

The average farm size in the route corridor is likely to be approximately 40.43 hectares based on the 2020 Census data for the relevant electoral divisions (EDs) as shown in **Table 12.5**. This is larger than the national average of approximately 32.7 hectares and the average for County Westmeath (37 ha) based on the 2010 Census data.

12.4 Route Corridor Options

12.4.1 Route Option RCO1A

Corine land use

RCO1A is predominately *pasture* covering 77.2% of the segments total area followed by *land principally occupied by agriculture, with significant areas of natural vegetation* covering 20.4% of the total area. *Discontinuous urban fabric* covers 2.4% of the total area.

Soils National

RCO1A is predominately *Elton (fine loamy drift)* covering 81% of the segments total area. *River alluvium* covers 12.1% and *peat* covers 6%. The *Elton* series is a fine loamy drift with limestones. These soils have good moisture-holding capacity, are very productive and have a wide use range including grazing and tillage. This correlates with the predominant land use being pasture.

Type of Enterprise

Land use in RC01a is predominantly agricultural. There is an Urban area in the south of the corridor at Kilbeggan and an area of Agro-forestry along the Split Hills Esker. There is an area of commonage and bog land to the northwest. There is also an active quarry including a waste facility permit WFP-WH-2021-0011-02 to the north of RCO1a. RCO1a is rated as “Slight Negative”.

12.4.2 Route Option RCO1B

Corine land use

RCO1B is predominately *pasture* covering 99.3% of the segments total area. *Land principally occupied by agriculture, with significant areas of natural vegetation* covers 0.7% of the total area.

Soils National

RCO1B is predominately *Elton (fine loamy drift)* covering 86.2% of the segments total area with *River alluvium* covering 13.9% of the area. The *Elton* series is a fine loamy drift with limestones. These soils have good moisture-holding capacity, are very productive and have a wide use range including grazing and tillage. This correlates with the predominant land use being pasture.

Type of Enterprise

Land use in RC01b is predominantly Agricultural. RCO1b has ribbon development along the R389 near Balrath, that combined with the low 43% of land with a gradient of less than 3% would have a negative impact on the buildability of the greenway in comparison to Option RCO2b, therefore RCO1b is rated as “Slight Negative”.

12.4.3 Route Option RCO1C

Corine land use

RCO1C is predominately *pasture* covering 67.3% of the segments total area followed by *mixed forest* covering 30.1% of the total area. *Transitional woodland-shrub* covers 2.6% of the total area.

Soils National

RCO1C is predominately *Elton (fine loamy drift)* covering 51.7% of the segments total area followed by *peat* covering 48.1% of the area. The *Elton* series is a fine loamy drift with limestones. These soils have good moisture-holding capacity, are very productive and have a wide use range including grazing and tillage. This correlates with the predominant land use being pasture.

Type of Enterprise

Land use in RC01c is predominantly Agriculture, there is a large portion of land in the north of the corridor that is mixed forest. Transitional Woodland in RCO2c is the differentiating factor between these two RCO's and holds a rating of “Neutral”.

12.4.4 Route Option RCO1D

Corine land use

RCO1D is predominately *pasture* covering 76.3% of the segments total area followed by *Transitional woodland-shrub* covering 6.9% of the total area. *Complex cultivation patterns* covers 3.1% of the total area.

Soils National

RCO1D is predominately *Elton (fine loamy drift)* covering 59.3% of the segments total area. *River alluvium* covers 2.3% and *peat* covers 23.7%. The *Elton* series is a fine loamy drift with limestones. These soils have

good moisture-holding capacity, are very productive and have a wide use range including grazing and tillage. This correlates with the predominant land use being pasture.

Type of Enterprise

Land use in RC01d is predominantly agricultural. There is a large portion of land in the south west of the corridor that is peat bog. The majority of land adjacent to the west side of Lough Ennell is described as Inland marshes. There are two areas described as traditional woodland scrub one in the middle and one in the north of the north of RCO1d. There are two small areas of land centrally located in the corridor described as complex cultivation patterns and non-irrigated arable land. There is also a large area to the north described as coniferous forest, therefore for RCO1d is rated as “Slight Positive”.

12.4.5 Route Option RCO2A

Corine land use

RCO2A is predominately *pasture* covering 95.2% of the segments total area. *Land principally occupied by agriculture, with significant areas of natural vegetation* covers 1.6% of the total area. Discontinuous urban fabric covers 3.2% of the total area.

Soils National

RCO2A is predominately *Elton (fine loamy drift)* covering 59.9% of the segments total area with *River alluvium* covering 38% of the area. The *Elton* series is a fine loamy drift with limestones. These soils have good moisture-holding capacity, are very productive and have a wide use range including grazing and tillage. This correlates with the predominant land use being pasture.

Type of Enterprise

Land use in RC02a is predominantly Agricultural, there is an Urban area in the south of the corridor at Kilbeggan and an area of Agro-forestry along the Split Hills Esker. Part of this corridor along the Brosna has a flood embankment and lands that is already used to accommodate the Westmeath Way, if these lands can be acquired through voluntary agreement it may be less intrusive to agricultural practice than elsewhere in the corridors RCO1a and RCO2a. Considering this RCO2a is rated as “Slight Positive”.

12.4.6 Route Option RCO2b

Corine land use

RCO2B is covered by 100% *pasture.*

Soils National

RCO2B is predominately *River Alluvium* which covers 72.5% followed by *Elton (fine loamy drift)* covering 27.4% of the segments total area.

Type of Enterprise

Land use in RC02b is predominantly Agricultural and is rated as “Slight Positive”.

12.4.7 Route Option RCO2C

Corine land use

RCO2C is predominately *pasture* covering 77% of the segments total area followed by *land principally occupied by agriculture, with significant areas of natural vegetation* covering 12% of the total area. *Traditional woodland – shrub* covers 11% of the total area.

Soils National

RCO2C is predominately *Peat* covering 37% of the segments total area. *River alluvium* covers 33.8% and *Elton (fine loamy drift)* covers 29.1%.

Type of Enterprise

Land use in RC02c is predominantly Agricultural. There is a portion of land in the north of the corridor that is highlighted as Transitional woodland-scrub as well as a small area of conifer plantation. There is a built up

area at Ballynagore village at the south of RCO2c. The Transitional woodland-scrub would be a higher impact environmentally than the commercial forest in RCO1c and therefore RCO2c is rated as “Slight Negative”.

12.4.8 Route Option RCO2D

Corine land use

RCO2D is predominately *pasture* covering 72.4% of the segments total area followed by *land principally occupied by agriculture, with significant areas of natural vegetation* covering 7.7% of the total area. Transitional woodland shrub covers 7.3% of the total area.

Soils National

RCO2D is predominately *Elton (fine loamy drift)* covering 71.6% of the segments total area. *Peat* covers 24.3% and *Urban* covers 6%. The *Elton* series is a fine loamy drift with limestones. These soils have good moisture-holding capacity, are very productive and have a wide use range including grazing and tillage. This correlates with the predominant land use being pasture.

Type of Enterprise

Land use in RC02d is predominantly Agricultural to the south between Cloonagh and Carrickwood. There is a small area of land in the south of the corridor that is described as Transitional woodland-scrub in addition to an area of coniferous forestry. There is a small area in the south west of the corridor described as Complex cultivation patterns. The central area of RCO2d is described as Land principally occupied by agriculture, with significant areas of natural vegetation. In Carrickwood and Tudenham the predominant land-type is mixed forest. The lands at Belvedere House & Gardens (paid entry) are state-owned and include walking paths through forestry. To the north of Belvedere the RCO2d passes through agricultural land to Bloomfield House Hotel before transitioning to a large area of coniferous forestry plantation from Lynn's Cross. There is a narrow strip of land between Lough Ennell, Bloomfield House Hotel and Lynn's Cross with houses, protected structures and features which will be a significant constraint on buildability and is rated as “Slight Negative”.

12.5 Summary of Key Constraints

The CORINE 2018 landcover indicates the dominant land use type is Pasture with a significant area of raised peat bogs (CORINE 2018 Code 412). The remainder of landcover for the study area consists of sparse mosaics of land principally occupied by agriculture, inland marshes, coniferous forest, transitional woodland shrub, mixed-leaved forest, discontinuous urban, Land principally occupied by agriculture, with significant areas of natural vegetation, and non-irrigated arable land CORINE 2018 Code 211),

Within the Constraints Study Area there are 6 CGS identified. These CGS sites include Streamstown Esker, Horseleap Esker, Lough Lom, Kilbeggan Racecourse Esker, Kilbeggan Esker and Split Hill and Long Hill Esker Complex.

Construction associated with soft and made ground soil types will require adherences to best practice and construction standards to avoid any potential negative impacts. Interaction with potential (unknown) contaminated ground must also be considered as part of the scheme.

The vast majority of the constraints study area is dominated by Regionally Important Aquifer, Locally Important Aquifer, Locally Important Aquifer, and Sand and Gravel.

Cognisance must be given to the constraints posed by the presence of the varied groundwater vulnerability areas, Karstified nature of the landscape and poorly drained mineral soils, which will require further assessments. Due consideration is to be given to any design and option selection process to avoid any negative adverse impacts to these receptors.

Annexes

Annex A Environmental Figures

Annex B Westmeath County Development Plan 2021-2027: Policies Relevant To Biodiversity

Annex C NI2749 K2M Overwintering Bird Survey Report 2023-24

Annex D European Sites Risk Assessment

Annex E Cultural Heritage Inventory

A

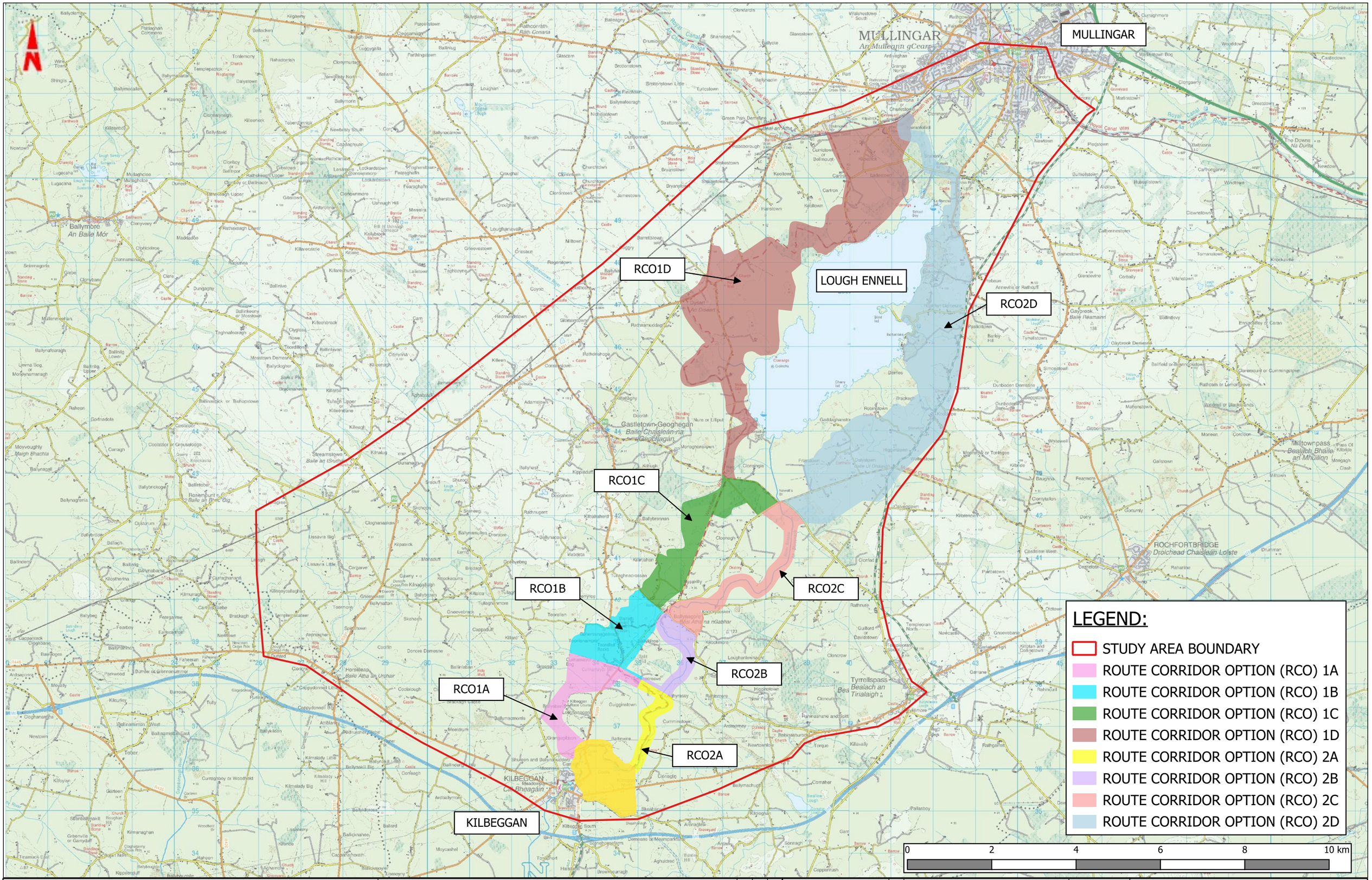
Annex A Environmental Figures

Annex A Environmental Figures

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Reference	Title
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Reference	Title
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Figure 9-3	National Soils
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Client: Bonneagar Iompair Eireann Transport Infrastructure Ireland; Westmeath County Council

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Rev	Date	Amendment / Issue
-	-	For Consultation

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Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

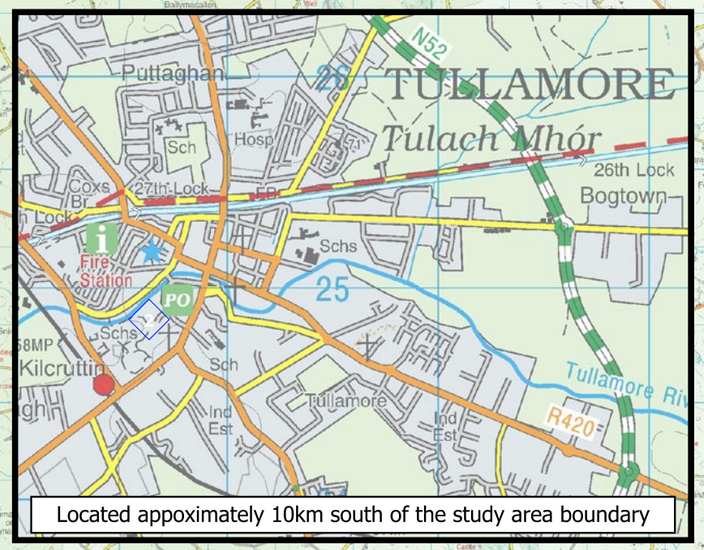
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: ROUTE CORRIDOR OPTION SEGMENTS WITHIN PROJECT STUDY AREA

File Identifier: FIGURE 1-3

Status: A3

Revision: D01



Located appoximately 10km south of the study area boundary

MULLINGAR

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO1B

RCO2C

RCO2B

RCO1A

RCO2A

KILBEGGAN

ROCHFORTBRIDGE
Droichead Chaislean Loiste

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- AIR QUALITY MONITORING STATION
  1. MULLINGAR
  2. TULLAMORE

0 2 4 6 8 10 km

Client: Bonneagar Iompair Eireann Transport Infrastructure Ireland; Westmeath County Council Comhairle Chontae na hIarmhi

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Rev	Date	Amendment / Issue
-	-	For Consultation

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Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: AIR QUALITY MONITORING STATION

File Identifier: FIGURE 3-1

Status: A3

Revision: D01

MULLINGAR

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO1B

RCO2C

RCO2B

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- RCO1 SENSITIVE RECEPTORS

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Eireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhi

General Notes

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(v) All Levels refer to Ordnance Survey Datum, Malin Head.

Rev	Date	Amendment / Issue
-	-	For Consultation

A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

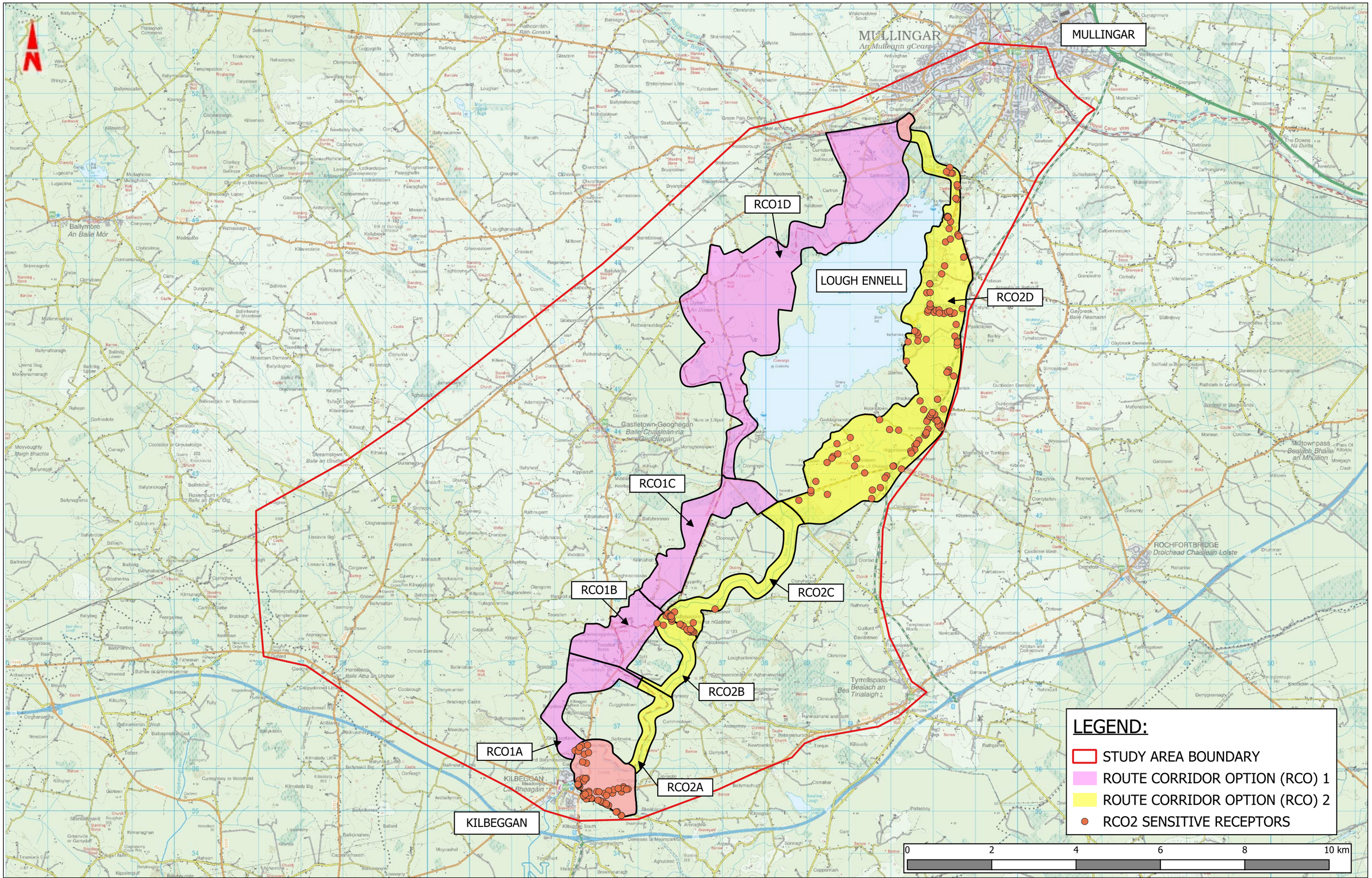
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: ROUTE CORRIDOR OPTION 1 SENSITIVE RECEPTORS

File Identifier: FIGURE 3-2

Status: A3

Revision: D01



Client:

Bonneagar Iompair Eireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhi

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Rev	Date	Amendment / Issue
-	-	For Consultation

A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: ROUTE CORRIDOR OPTION 2 SENSITIVE RECEPTORS

File Identifier: FIGURE 3-3

Status: A3

Revision: D01

MULLINGAR

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO1B

RCO2C

RCO2B

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- M6 ROAD
- N52 ROAD
- M6 500M BUFFER
- M6 1KM BUFFER
- M6 1.5KM BUFFER
- M6 2KM BUFFER
- N52 500M BUFFER
- N52 1KM BUFFER
- N52 1.5KM BUFFER
- N52 2KM BUFFER

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Eireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhi

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Rev	Date	Amendment / Issue
-	-	For Consultation

RPS
A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3
Created On: DECEMBER 2024
Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: M6 AND N52 ROAD 500M - 2KM BUFFER

File Identifier: FIGURE4-2
Status: A3
Revision: C01

RCO1A

RCO1B

RCO1C

RCO1D

KILBEGGAN

MULLINGAR

LOUGH ENNELL

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- RCO1A 300M BUFFER SENSITIVE RECEPTORS
- RCO1B 300M BUFFER SENSITIVE RECEPTORS
- RCO1C 300M BUFFER SENSITIVE RECEPTORS
- RCO1D 300M BUFFER SENSITIVE RECEPTORS

0 2 4 6 km

Client: Bonneagar Iompair Éireann Transport Infrastructure Ireland; Westmeath County Council

General Notes

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-	-	For Consultation

RPS A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: RCOUTE CORRIDOR OPTION 1A - 1D 300M BUFFER SENSITIVE RECEPTORS

File Identifier: FIGURE 4-3

Status: A3

Revision: C01

RCO2A

RCO2B

RCO2C

RCO2D

KILBEGGAN

MULLINGAR

LOUGH ENNELL

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 2
- RCO2A 300M BUFFER SENSITIVE RECEPTORS
- RCO2B 300M BUFFER SENSITIVE RECEPTORS
- RCO2C 300M BUFFER SENSITIVE RECEPTORS
- RCO2D 300M BUFFER SENSITIVE RECEPTORS

0 2 4 6 km

Client: Bonneagar Iompair Eireann Transport Infrastructure Ireland; Westmeath County Council

General Notes

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Rev	Date	Amendment / Issue
-	-	For Consultation

RPS A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

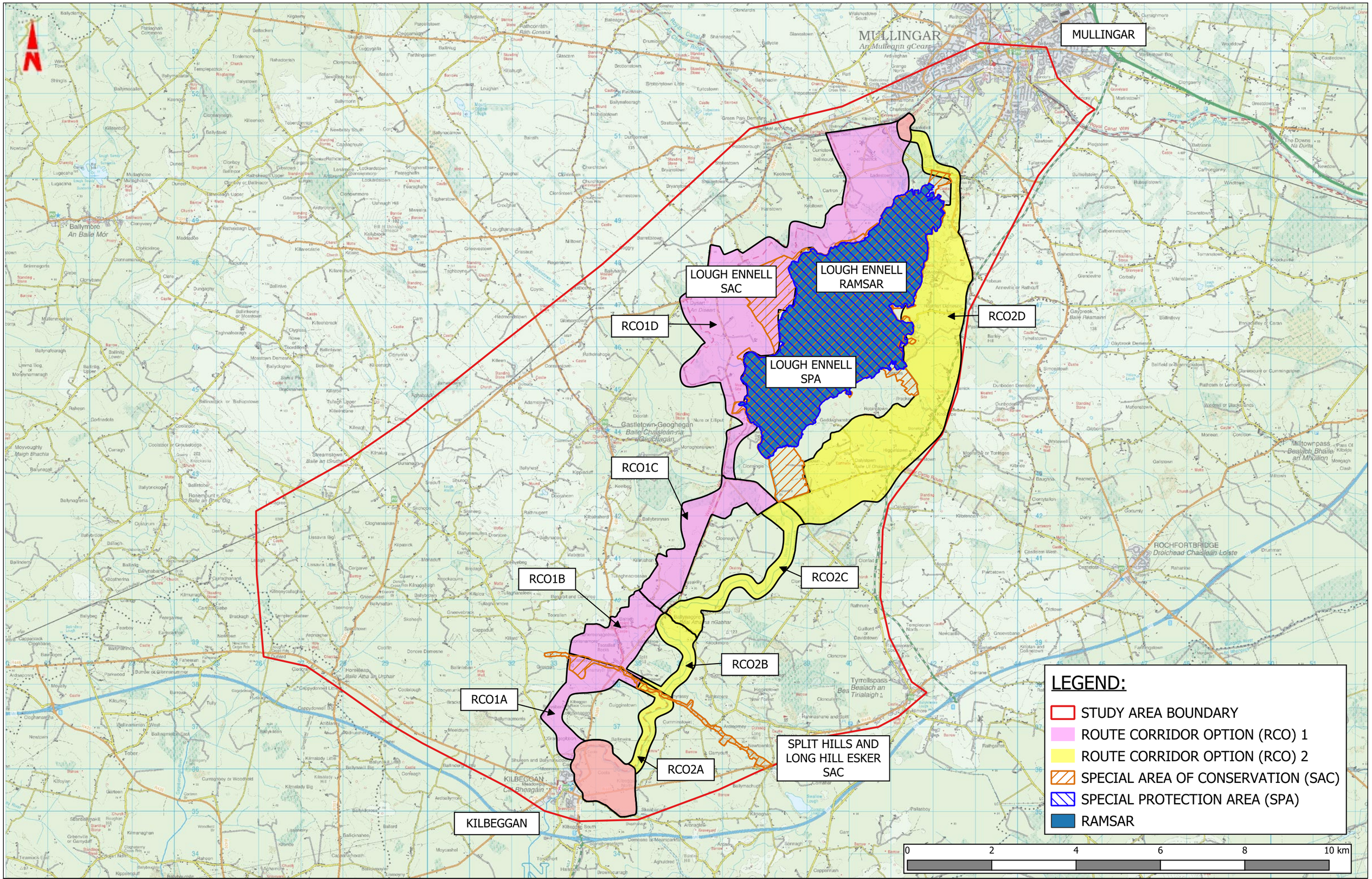
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: ROUTE CORRIDOR OPTION 2A - 2D 300M BUFFER SENSITIVE RECEPTORS

File Identifier: FIGURE 4-4

Status: A3

Revision: C01



Client:

Bonneagar Iompair Eireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhi

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-	-	For Consultation

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Model File Identifier: -

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Created On: DECEMBER 2024

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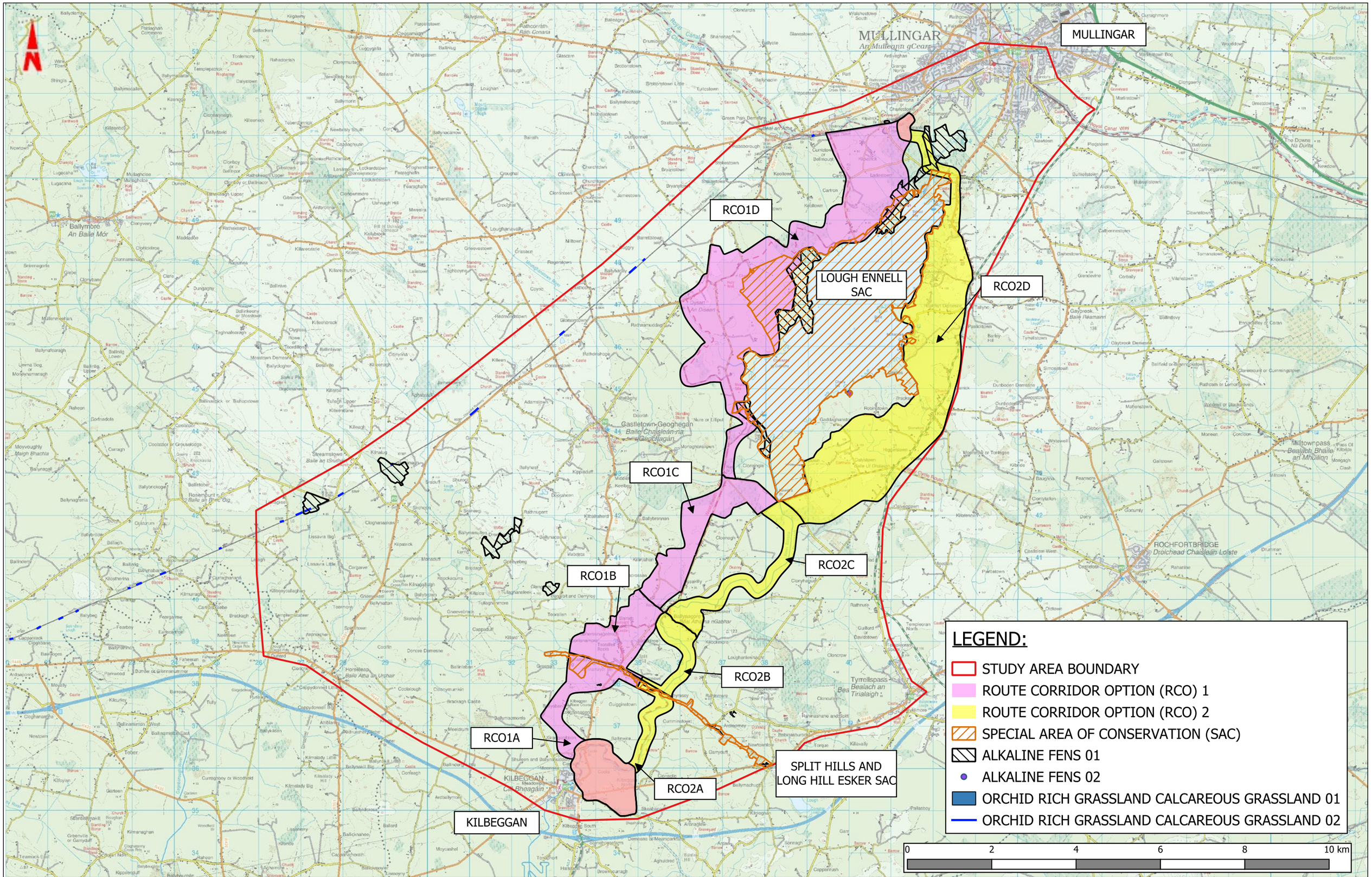
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: NATURA 2000 SITES WITHIN THE PROJECT STUDY AREA

File Identifier: FIGURE 5-1

Status: A3

Revision: D01



Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

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Rev	Date	Amendment / Issue
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Model File Identifier: -

Scale: 1:80,000 @A3
Created On: DECEMBER 2024
Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: ANNEX I QUALIFYING HABITATS

File Identifier: FIGURE 5-2
Status: A3
Revision: D01

MULLINGAR

ROYAL CANAL pNHA

RCO1D

LOUGH ENNELL pNHA

RCO2D

NURE BOG NHA

RCO1C

RCO2C

RCO1B

SPLIT HILLS AND LONG HILL ESKER pNHA

CLONCROW BOG (NEW FOREST) NHA

RCO2B

RCO1A

RCO2A

KILBEGGAN

GRAND CANAL pNHA

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- NATURAL HERITAGE AREAS (NHA)
- PROPOSED NATURAL HERITAGE AREAS (PNHA)

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

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Rev	Date	Amendment / Issue
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RPS
A TETRA TECH COMPANY

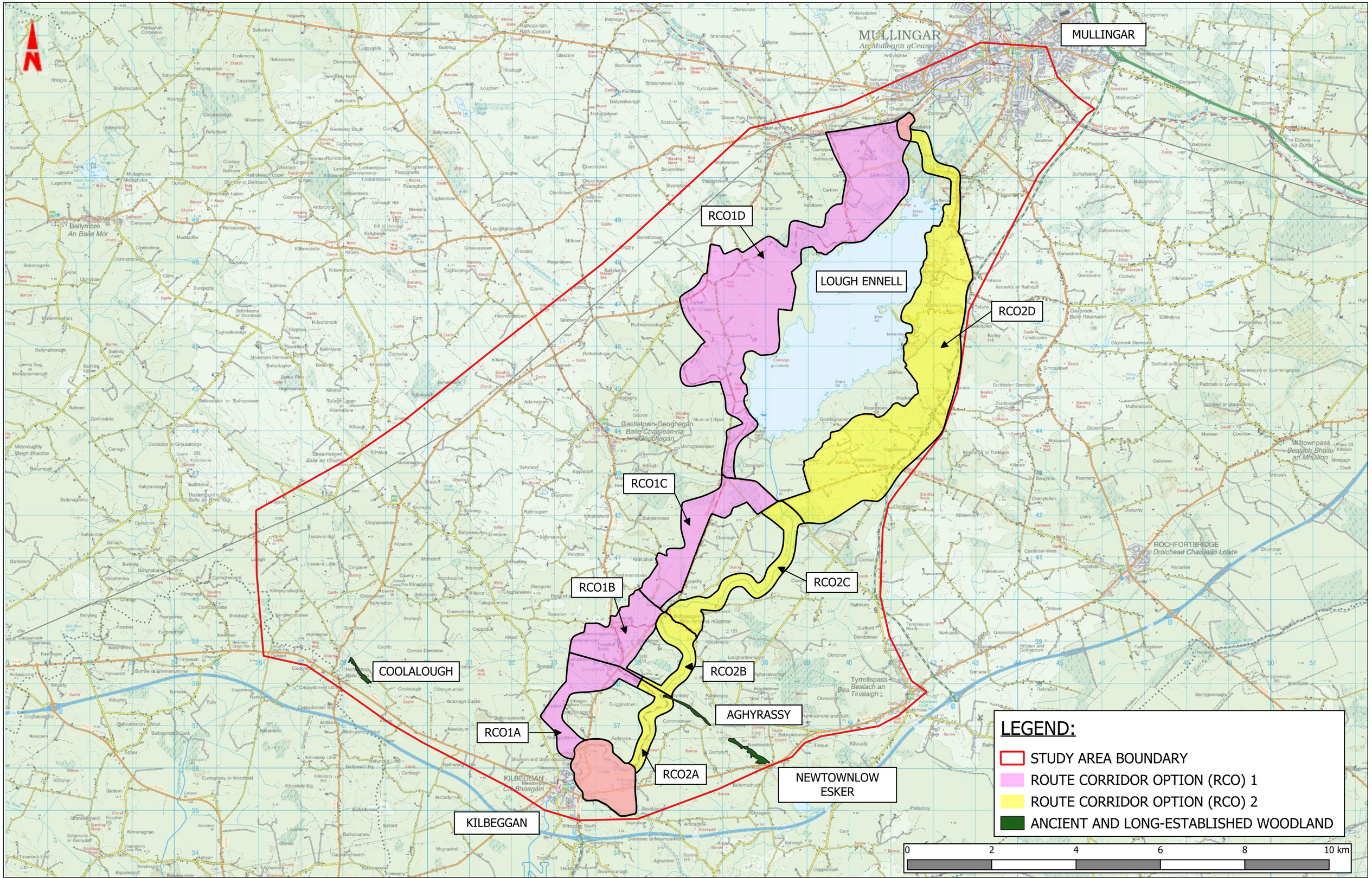
Model File Identifier: -

Scale: 1:80,000 @A3
Created On: DECEMBER 2024
Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: NATIONALLY DESIGNATED SITES OF NATURE CONSERVATION IMPORTANCE WITHIN PROJECT STUDY AREA

File Identifier: FIGURE 5-3
Status: A3
Revision: D01



Client:

Bonneagar Iompair Eireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

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-	-	For Consultation

A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: ANCIENT AND LONG-ESTABLISHED WOODLAND WITHIN THE PRODUCT STUDY AREA

File Identifier: FIGURE 5-4

Status: A3

Revision: D01

MULLINGAR

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO1B

RCO2C

RCO2B

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- CALDIUM FENS
- RASIED BOGS
- LOWLAND HAY MEADOWS
- MOLINIA MEADOWS

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Eireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

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-	-	For Consultation

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Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: ANNEX I NON-QUALIFYING HABITATS

File Identifier: FIGURE 5-5

Status: A3

Revision: D01

MULLINGAR

RCO1D

RCO2D

LOUGH ENNELL

RCO1C

RCO1B

RCO2C

RCO2B

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- RIVER ROUTES
- LAKE
- SURFACE WATER
- GROUNDWATER WELLS & SPRINGS – BOREHOLE

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

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Rev	Date	Amendment / Issue
-	-	For Consultation

RPS
A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: KEY HYDROLOGICAL CONSTRAINTS (WATERBODIES - LAKES, RIVER ETC)

File Identifier: FIGURE 6-1

Status: A3

Revision: D01

MULLINGAR

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO2C

RCO1B

RCO2B

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- RIVER ROUTES
- PRESENT DAY - HIGH PROBABILITY
- PAST FLOOD EVENTS

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

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-	-	For Consultation

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Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: NATIONAL INDICATIVE FLUVIAL MAPPING (PRESENT DAY) WITH PAST FLOOD EVENTS

File Identifier: FIGURE 6-2

Status: A3

Revision: D01

MULLINGAR

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO1B

RCO2C

RCO2B

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- RIVER ROUTES

WFD WATERBODY STATUS - RIVER

- AT RISK
- NOT AT RISK
- REVIEW

WFD WATERBODY STATUS - LAKE

- REVIEW

WFD WATERBODY STATUS - GROUNDWATER

- AT RISK
- NOT AT RISK

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhi

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Rev	Date	Amendment / Issue
-	-	For Consultation

rps
A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

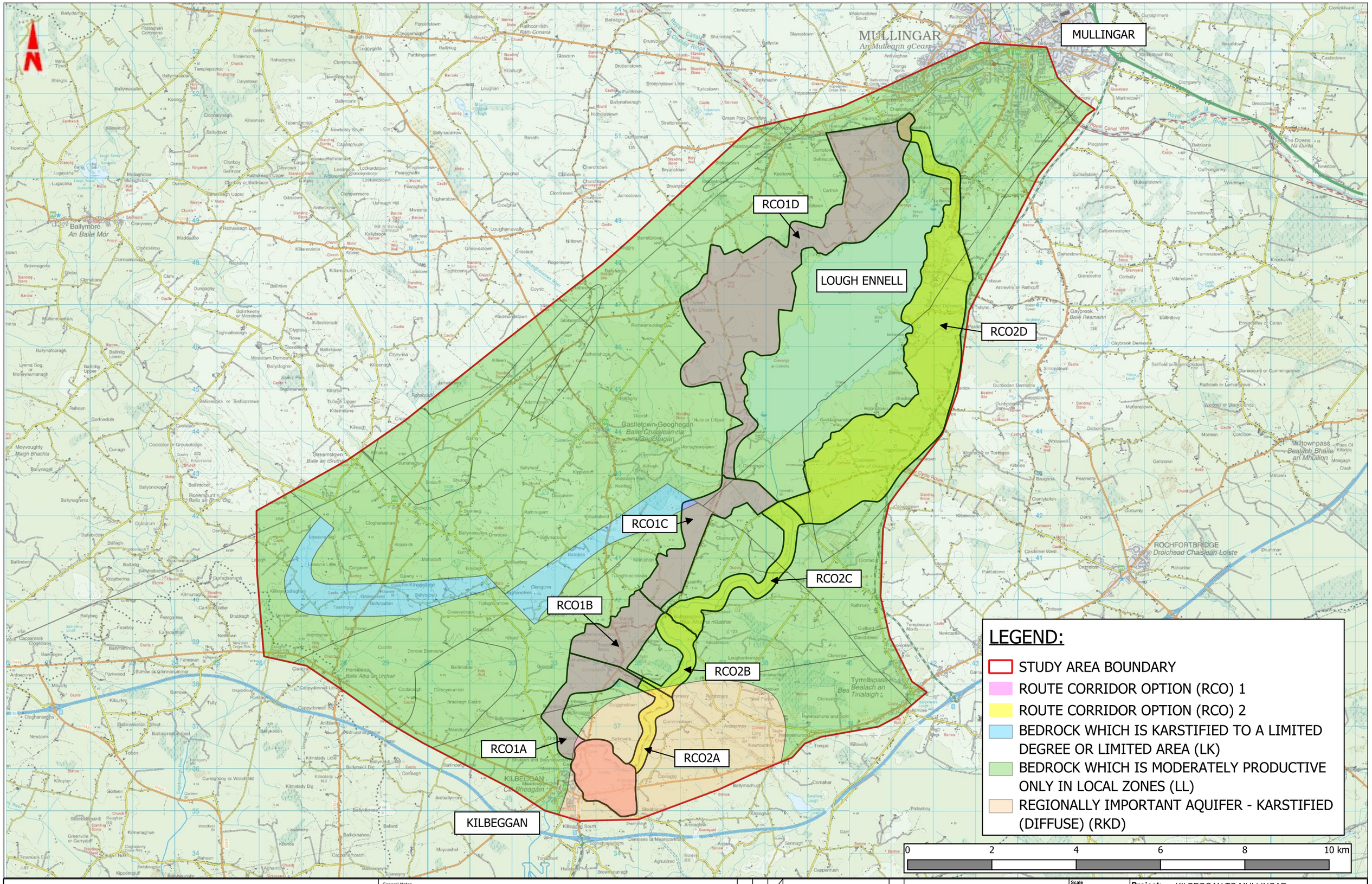
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: WATER FRAMEWORK DIRECTIVE (WFD) WATERBODIES RISK CYCLE 3 (2021-2027)

File Identifier: FIGURE 6-3

Status: A3

Revision: D01



Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

General Notes

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Rev	Date	Amendment / Issue
-	-	For Consultation

RPS
A TETRA TECH COMPANY

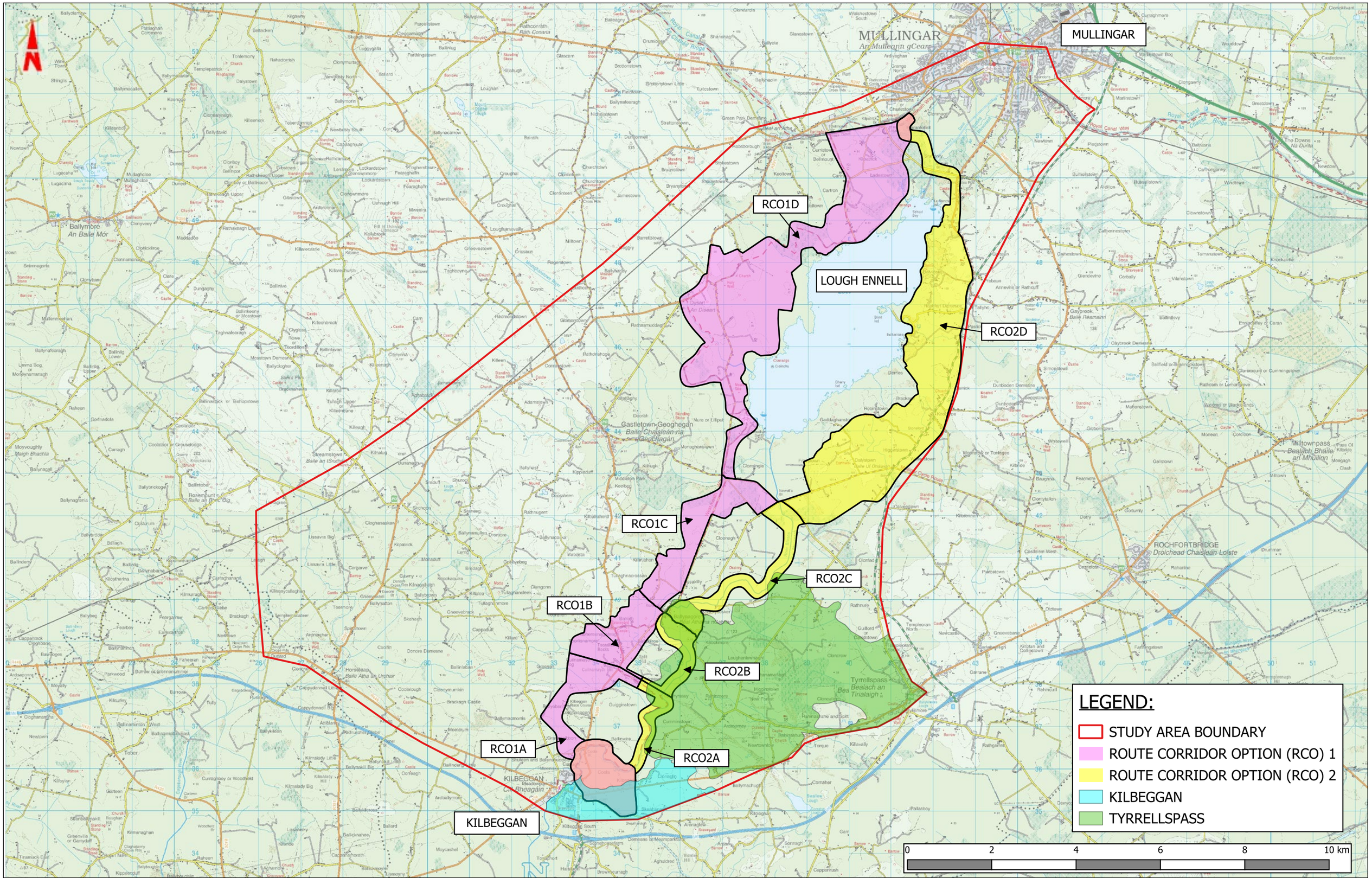
Model File Identifier: -

Scale: 1:80,000 @A3
Created On: DECEMBER 2024
Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: BEDROCK AQUIFER

File Identifier: FIGURE 6-4
Status: A3
Revision: D01



Client:

Bonneagar Iompair Eireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhi

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Rev	Date	Amendment / Issue
-	-	For Consultation

A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: SAND AND GRAVEL AQUIFER

File Identifier: FIGURE 6-5

Status: A3

Revision: D01

MULLINGAR

RCO1D

RCO1C

RCO1B

RCO1A

RCO2D

RCO2C

RCO2B

RCO2A

LOUGH ENNELL

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2

LANDSCAPE CHARACTER AREAS

- CENTRAL HILLS & LAKES
- INNY RIVER LOWLANDS
- LOUGH ENNELL & SOUTH EASTERN CORRIDOR
- LOUGH REE & SHANNON CORRIDOR
- NORTHERN HILLS & LAKES
- RIVER DEEL LOWLANDS
- ROYAL CANAL CORRIDOR
- SOUTH CENTRAL HILLS
- SOUTH WESTMEATH ESKERS
- UISNEACH
- WESTERN LOWLANDS
- HIGH AMENITY AREAS
- BELVEDERE HOUSE HISTORIC PARKS & GARDENS
- PROTECTED VIEWS
- OLD RAIL TRAIL GREENWAY
- ROYAL CANAL BLUEWAY
- ROYAL CANAL GREENWAY
- NATIONAL TRAILS
- SCENIC ROUTES

9	PANORAMIC VIEWS FROM KNOCKASTIA HILL, COOLATOOR
10	VIEW OF THE SOUTH-EAST FACE OF KILBEGGAN DISTILLERY
11	VIEW OF OLD MILL OUTSIDE KILBEGGAN
12	VIEW OF LONG HILL ESKER FROM SOUTH OF THE R-446 REGIONAL ROAD
13	PANORAMIC VIEWS FROM GARRANE HILL ON THE REGIONAL ROAD R-446
15	VIEW OF LOUGH ENNELL FROM LILLIPUT PITCH AND PUT
16	VIEWS OF LOUGH ENNELL ALONG COAST BESIDE LOUGH ENNELL CARAVAN PARK
17	VIEW OF LOUGH ENNELL FROM BELVEDERE HOUSE GARDENS
18	VIEW OF LOUGH ENNELL FROM CARPARK
19	SCENIC ROUTE THROUGH FOREST AND WOODLANDS FROM BUTLER'S BRIDGE/KILPATRICK BRIDGE, LOCAL ROAD L-1137

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

General Notes

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(v) All Levels refer to Ordnance Survey Datum, Malin Head.

Rev	Date	Amendment / Issue
-	-	For Consultation

A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: COMPLETE LANDSCAPE FOR BOTH ROUTE CORRIDOR OPTIONS

File Identifier: FIGURE 7-1

Status: A3

Revision: D01

MULLINGAR

RCO1D

RCO1C

RCO1B

RCO1A

LOUGH ENNELL

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1

LANDSCAPE CHARACTER AREAS

- CENTRAL HILLS & LAKES
- INNY RIVER LOWLANDS
- LOUGH ENNELL & SOUTH EASTERN CORRIDOR
- LOUGH REE & SHANNON CORRIDOR
- NORTHERN HILLS & LAKES
- RIVER DEEL LOWLANDS
- ROYAL CANAL CORRIDOR
- SOUTH CENTRAL HILLS
- SOUTH WESTMEATH ESKERS
- UISNEACH
- WESTERN LOWLANDS
- HIGH AMENITY AREAS
- BELVEDERE HOUSE HISTORIC PARKS & GARDENS
- PROTECTED VIEWS
- OLD RAIL TRAIL GREENWAY
- ROYAL CANAL BLUEWAY
- ROYAL CANAL GREENWAY
- NATIONAL TRAILS
- SCENIC ROUTES

9	PANORAMIC VIEWS FROM KNOCKASTIA HILL, COOLATOOR
10	VIEW OF THE SOUTH-EAST FACE OF KILBEGGAN DISTILLERY
11	VIEW OF OLD MILL OUTSIDE KILBEGGAN
12	VIEW OF LONG HILL ESKER FROM SOUTH OF THE R-446 REGIONAL ROAD
13	PANORAMIC VIEWS FROM GARRANE HILL ON THE REGIONAL ROAD R-446
15	VIEW OF LOUGH ENNELL FROM LILLIPUT PITCH AND PUT
16	VIEWS OF LOUGH ENNELL ALONG COAST BESIDE LOUGH ENNELL CARAVAN PARK
17	VIEW OF LOUGH ENNELL FROM BELVEDERE HOUSE GARDENS
18	VIEW OF LOUGH ENNELL FROM CARPARK
19	SCENIC ROUTE THROUGH FOREST AND WOODLANDS FROM BUTLER'S BRIDGE/KILPATRICK BRIDGE, LOCAL ROAD L-1137

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

General Notes

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Rev	Date	Amendment / Issue
-	-	For Consultation

RPS
A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: COMPLETE LANDSCAPE FOR ROUTE CORRIDOR OPTION 1

File Identifier: FIGURE 7-2

Status: A3

Revision: D01

MULLINGAR

LOUGH ENNELL

KILBEGGAN

RCO2A

RCO2B

RCO2C

RCO2D

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 2

LANDSCAPE CHARACTER AREAS

- CENTRAL HILLS & LAKES
- INNY RIVER LOWLANDS
- LOUGH ENNELL & SOUTH EASTERN CORRIDOR
- LOUGH REE & SHANNON CORRIDOR
- NORTHERN HILLS & LAKES
- RIVER DEEL LOWLANDS
- ROYAL CANAL CORRIDOR
- SOUTH CENTRAL HILLS
- SOUTH WESTMEATH ESKERS
- UISNEACH
- WESTERN LOWLANDS
- HIGH AMENITY AREAS
- BELVEDERE HOUSE HISTORIC PARKS & GARDENS
- PROTECTED VIEWS
- OLD RAIL TRAIL GREENWAY
- ROYAL CANAL BLUEWAY
- ROYAL CANAL GREENWAY
- NATIONAL TRAILS
- SCENIC ROUTES

9	PANORAMIC VIEWS FROM KNOCKASTIA HILL, COOLATOOR
10	VIEW OF THE SOUTH-EAST FACE OF KILBEGGAN DISTILLERY
11	VIEW OF OLD MILL OUTSIDE KILBEGGAN
12	VIEW OF LONG HILL ESKER FROM SOUTH OF THE R-446 REGIONAL ROAD
13	PANORAMIC VIEWS FROM GARRANE HILL ON THE REGIONAL ROAD R-446
15	VIEW OF LOUGH ENNELL FROM LILLIPUT PITCH AND PUT
16	VIEWS OF LOUGH ENNELL ALONG COAST BESIDE LOUGH ENNELL CARAVAN PARK
17	VIEW OF LOUGH ENNELL FROM BELVEDERE HOUSE GARDENS
18	VIEW OF LOUGH ENNELL FROM CARPARK
19	SCENIC ROUTE THROUGH FOREST AND WOODLANDS FROM BUTLER'S BRIDGE/KILPATRICK BRIDGE, LOCAL ROAD L-1137

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

General Notes

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(v) All Levels refer to Ordnance Survey Datum, Malin Head.

Rev	Date	Amendment / Issue
-	-	For Consultation

RPS
A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: COMPLETE LANDSCAPE FOR ROUTE CORRIDOR OPTION 2

File Identifier: FIGURE 7-3

Status: A3

Revision: D01

Site Type	CHR Number
Barrow	76
Bridge	13
Building	10
Church	7
Community Centre	8
Convent of Mercy	6
Cottage	261, 262
Cropmark	270
Enclosure	11, 77
Grand Canal	147
Gravel Pit	154, 155
Graveyard	5
Harbour	2
Kiln	153
Masters House	3
Mill / Mill Race	12, 9, 151, 152
Road House	4
Shed	146
Sluice	150
Store/warehouse	1
Water Pump	148, 149

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- RECORD OF PROTECTED STRUCTURES (RPS) AND NATIONAL INVENTORY OF ARCHITECTURAL HERITAGE (NIAH)
- SITES AND MONUMENTS RECORD (SMR)
- RECORD OF MONUMENTS AND PLACES (RMP)
- INDUSTRIAL HERITAGE SITES (IHS)
- OTHER SITES

0 0.3 0.6 0.9 1.2 1.5 km

Client:

Bonneagar Iompair Eireann Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL Comhairle Chontae na hIarmhi

General Notes

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Rev	Date	Amendment / Issue
-	-	For Consultation

RPS A TETRA TECH COMPANY

Model File Identifier -

Scale 1:10,000 @A3

Created On DECEMBER 2024

Sheets 01 of 11

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CULTURAL HERITAGE RECEPTORS SHEET 01

File Identifier FIGURE 8-14

Status A3

Revision C01

Site Type	CHR Number
Barrow	76
Castle	18
Church	17
Cropmark	270
Eel Weir	199
Enclosure	19, 177
Gravel Pit	161, 203
Graveyard	16
House	79
House - gates/railings/walls	81, 82
Lime Kiln	157 - 160, 162 - 174, 198
Mill / Mill Race	200, 201, 80
Ringfort	14, 15, 20

RCO1B
RCO1A
RCO2A
RCO2B

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- RECORD OF PROTECTED STRUCTURES (RPS) AND NATIONAL INVENTORY OF ARCHITECTURAL HERITAGE (NIAH)
- SITES AND MONUMENTS RECORD (SMR)
- RECORD OF MONUMENTS AND PLACES (RMP)
- INDUSTRIAL HERITAGE SITES (IHS)
- OTHER SITES

0 0.3 0.6 0.9 1.2 1.5 km

Client:

Bonneagar Iompair Éireann Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL Comhairle Chontae na hIarmhí

General Notes

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Rev	Date	Amendment / Issue
-	-	For Consultation

RPS A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:10,000 @A3

Created On: DECEMBER 2024

Sheets: 02 of 11

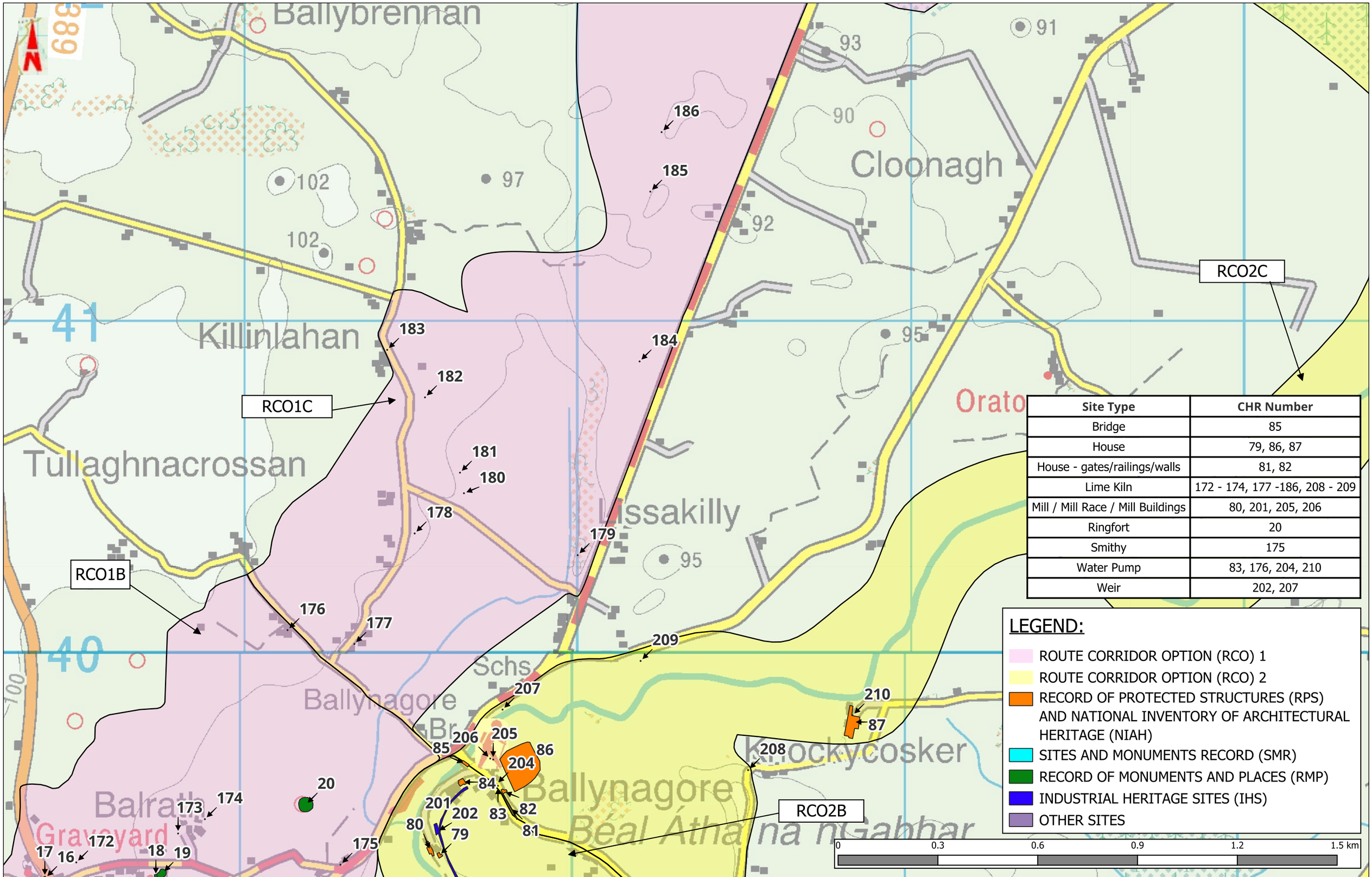
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CULTURAL HERITAGE RECEPTORS SHEET 02

File Identifier: FIGURE 8-15

Status: A3

Revision: C01



Site Type	CHR Number
Bridge	85
House	79, 86, 87
House - gates/railings/walls	81, 82
Lime Kiln	172 - 174, 177 -186, 208 - 209
Mill / Mill Race / Mill Buildings	80, 201, 205, 206
Ringfort	20
Smithy	175
Water Pump	83, 176, 204, 210
Weir	202, 207

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- RECORD OF PROTECTED STRUCTURES (RPS) AND NATIONAL INVENTORY OF ARCHITECTURAL HERITAGE (NIAH)
- SITES AND MONUMENTS RECORD (SMR)
- RECORD OF MONUMENTS AND PLACES (RMP)
- INDUSTRIAL HERITAGE SITES (IHS)
- OTHER SITES

0 0.3 0.6 0.9 1.2 1.5 km

Client: Bonneagar Iompair Éireann Transport Infrastructure Ireland; Westmeath County Council

General Notes

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Rev	Date	Amendment / Issue
-	-	For Consultation

RPS A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:10,000 @A3

Created On: DECEMBER 2024

Sheets: 03 of 11

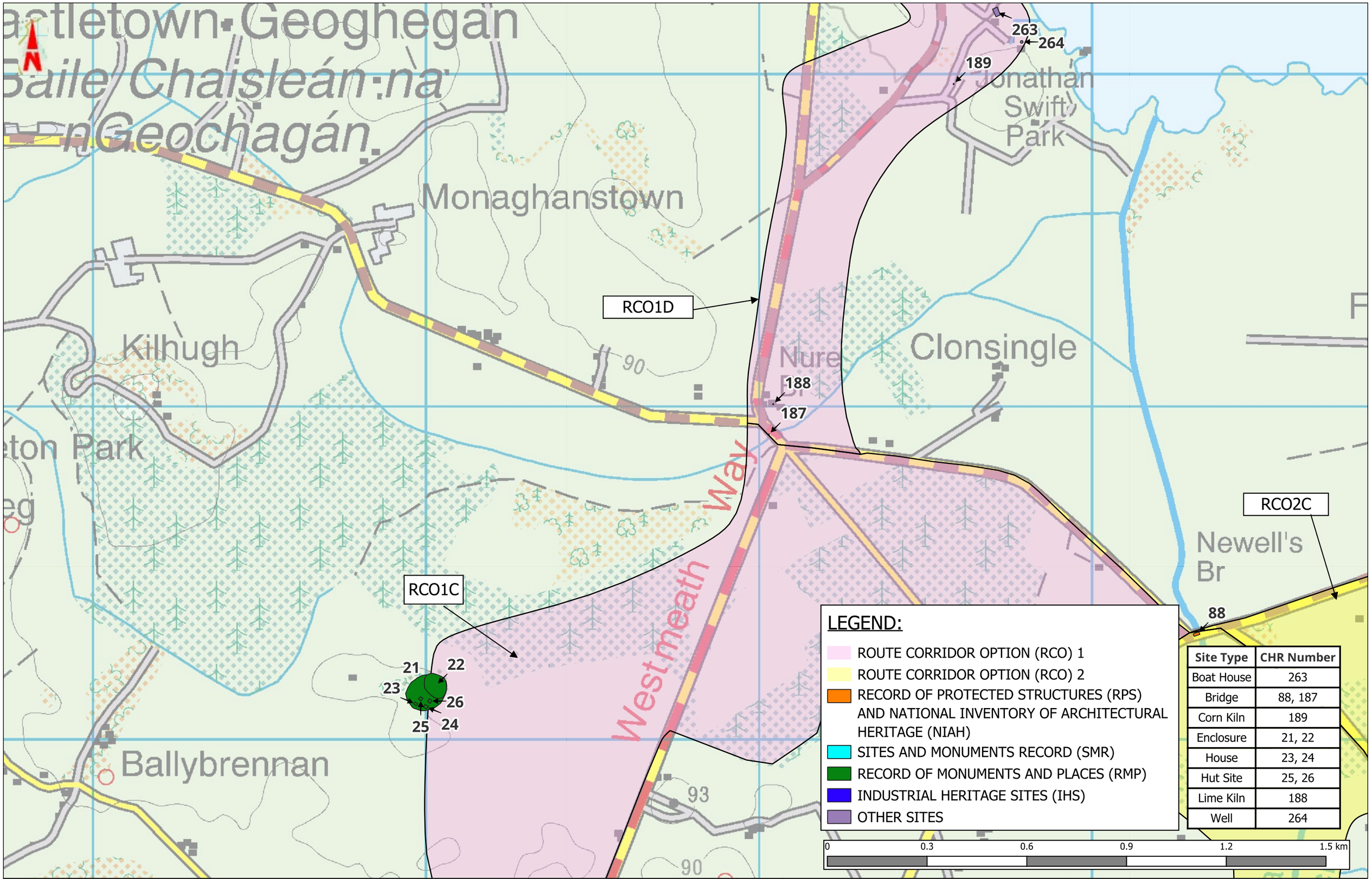
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CULTURAL HERITAGE RECEPTORS SHEET 03

File Identifier: FIGURE 8-16

Status: A3

Revision: C01



Site Type	CHR Number
Boat House	263
Bridge	88, 187
Corn Kiln	189
Enclosure	21, 22
House	23, 24
Hut Site	25, 26
Lime Kiln	188
Well	264

Client: Bonneagar Iompair Eireann Transport Infrastructure Ireland; Westmeath County Council

General Notes

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Rev	Date	Amendment / Issue
-	-	For Consultation

RPS A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:10,000 @A3

Created On: DECEMBER 2024

Sheets: 04 of 11

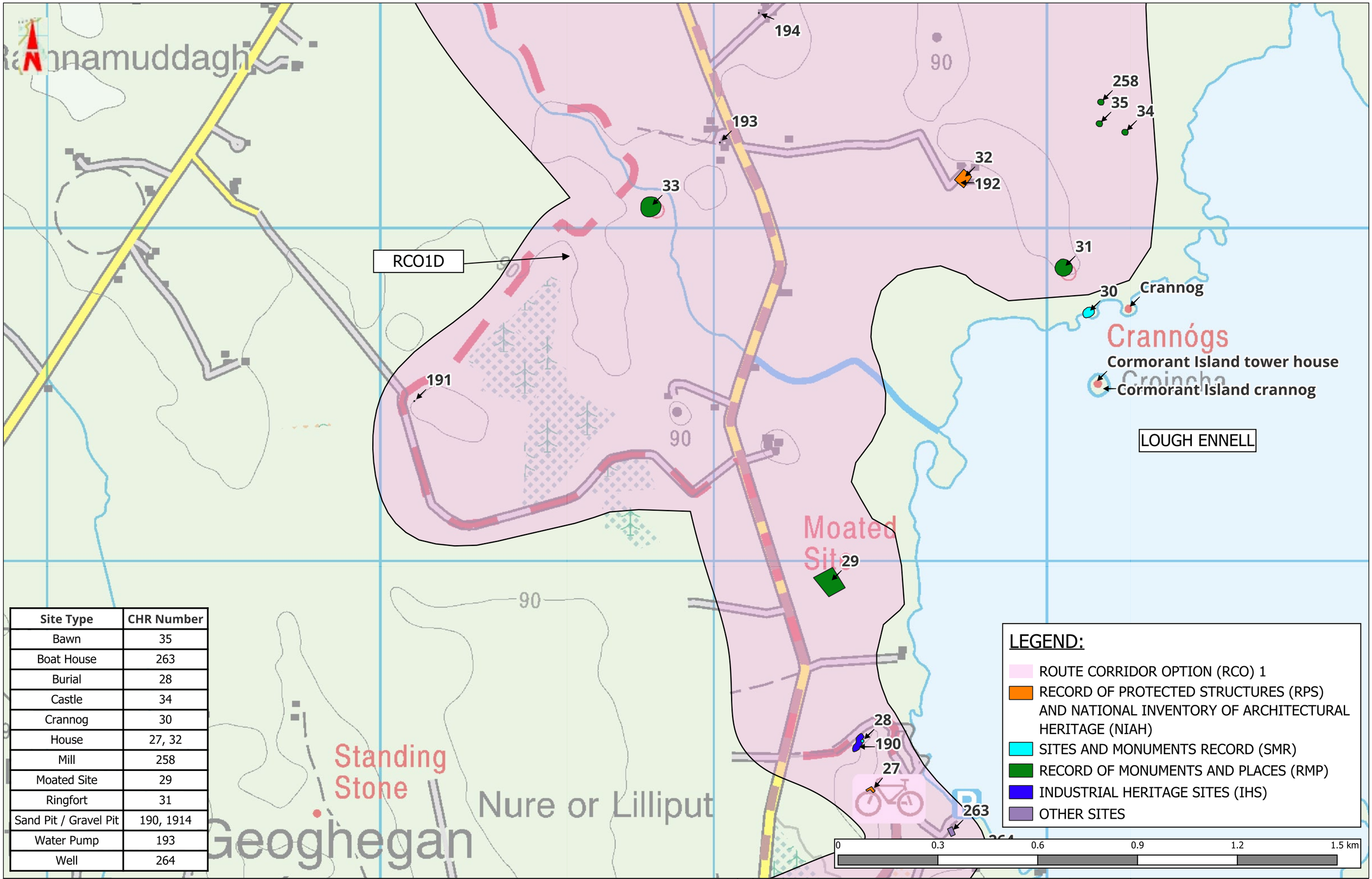
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CULTURAL HERITAGE RECEPTORS SHEET 04

File Identifier: FIGURE 8-17

Status: A3

Revision: C01



Site Type	CHR Number
Bawn	35
Boat House	263
Burial	28
Castle	34
Crannog	30
House	27, 32
Mill	258
Moated Site	29
Ringfort	31
Sand Pit / Gravel Pit	190, 1914
Water Pump	193
Well	264

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- RECORD OF PROTECTED STRUCTURES (RPS) AND NATIONAL INVENTORY OF ARCHITECTURAL HERITAGE (NIAH)
- SITES AND MONUMENTS RECORD (SMR)
- RECORD OF MONUMENTS AND PLACES (RMP)
- INDUSTRIAL HERITAGE SITES (IHS)
- OTHER SITES

Client: Bonneagar Iompair Éireann Transport Infrastructure Ireland; WESTMEATH COUNTY COUNCIL Comhairle Chontae na hIarmhí

General Notes

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-	-	For Consultation

RPS A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:10,000 @A3

Created On: DECEMBER 2024

Sheets: 05 of 11

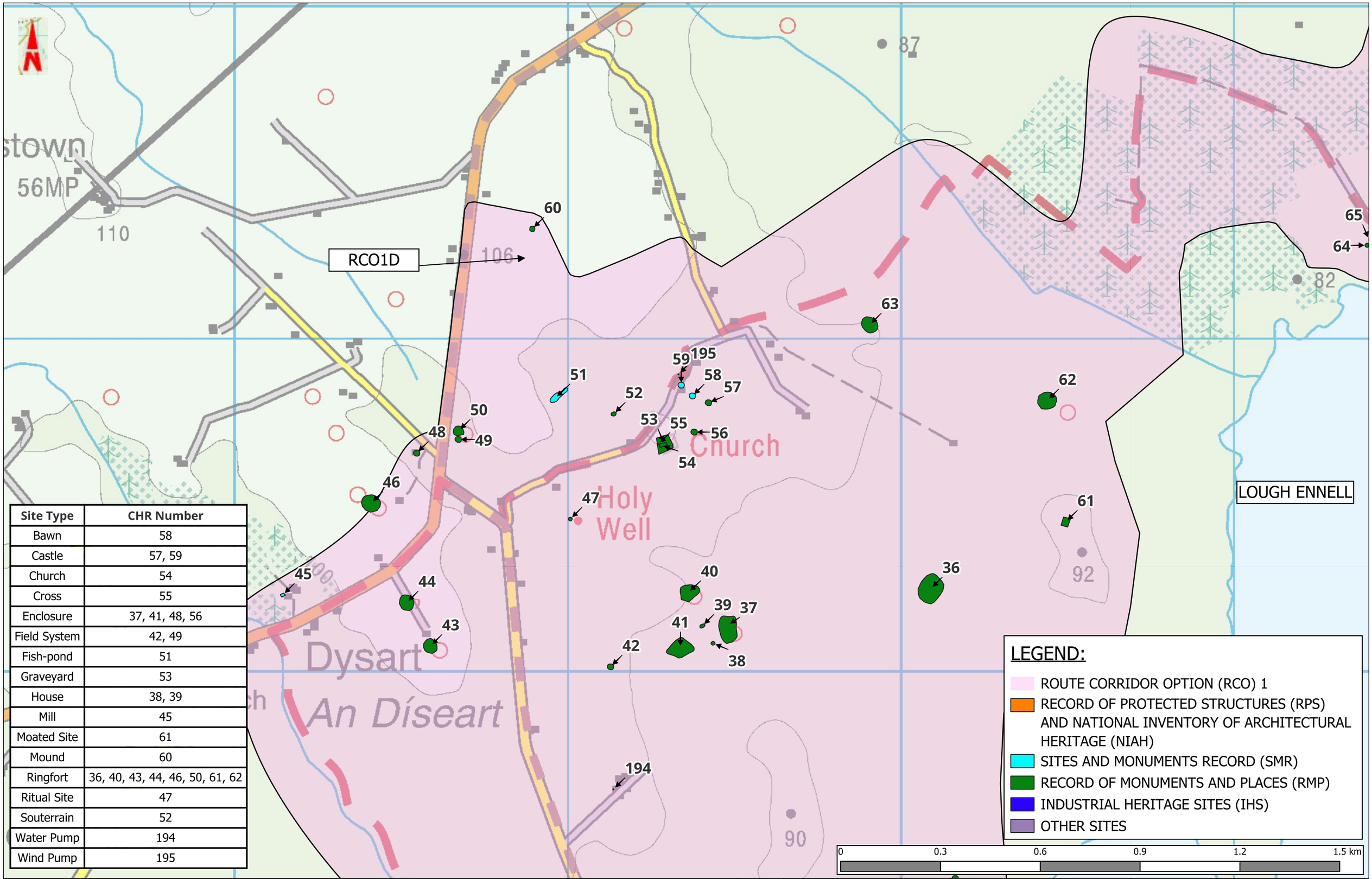
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CULTURAL HERITAGE RECEPTORS SHEET 05

File Identifier: FIGURE 8-18

Status: A3

Revision: C01



Site Type	CHR Number
Bawn	58
Castle	57, 59
Church	54
Cross	55
Enclosure	37, 41, 48, 56
Field System	42, 49
Fish-pond	51
Graveyard	53
House	38, 39
Mill	45
Moated Site	61
Mound	60
Ringfort	36, 40, 43, 44, 46, 50, 61, 62
Ritual Site	47
Souterrain	52
Water Pump	194
Wind Pump	195

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- RECORD OF PROTECTED STRUCTURES (RPS) AND NATIONAL INVENTORY OF ARCHITECTURAL HERITAGE (NIAH)
- SITES AND MONUMENTS RECORD (SMR)
- RECORD OF MONUMENTS AND PLACES (RMP)
- INDUSTRIAL HERITAGE SITES (IHS)
- OTHER SITES

0 0.3 0.6 0.9 1.2 1.5 km

Client:

Bonneagar Iompair Éireann Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL Comhairle Chontae na hIarmhí

General Notes

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Rev	Date	Amendment / Issue
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RPS A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:10,000 @A3

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Sheets: 06 of 11

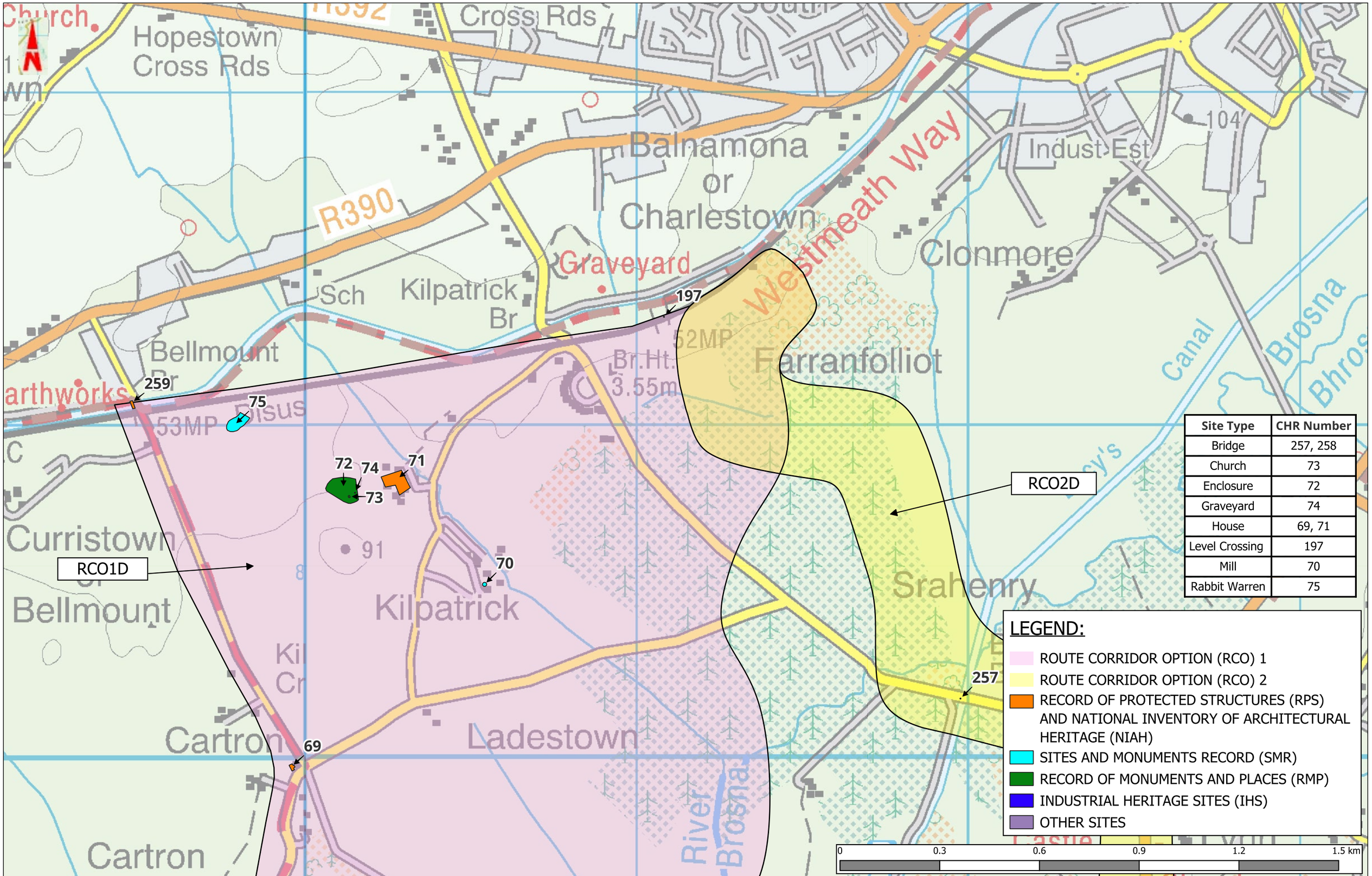
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CULTURAL HERITAGE RECEPTORS SHEET 06

File Identifier: FIGURE 8-19

Status: A3

Revision: C01



Site Type	CHR Number
Bridge	257, 258
Church	73
Enclosure	72
Graveyard	74
House	69, 71
Level Crossing	197
Mill	70
Rabbit Warren	75

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- RECORD OF PROTECTED STRUCTURES (RPS) AND NATIONAL INVENTORY OF ARCHITECTURAL HERITAGE (NIAH)
- SITES AND MONUMENTS RECORD (SMR)
- RECORD OF MONUMENTS AND PLACES (RMP)
- INDUSTRIAL HERITAGE SITES (IHS)
- OTHER SITES

0 0.3 0.6 0.9 1.2 1.5 km

Client: Bonneagar Iompair Éireann Transport Infrastructure Ireland; WESTMEATH COUNTY COUNCIL Comhairle Chontae na hIarmhi

General Notes

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Rev	Date	Amendment / Issue
-	-	For Consultation

RPS A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:10,000 @A3

Created On: DECEMBER 2024

Sheets: 07 of 11

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CULTURAL HERITAGE RECEPTORS SHEET 07

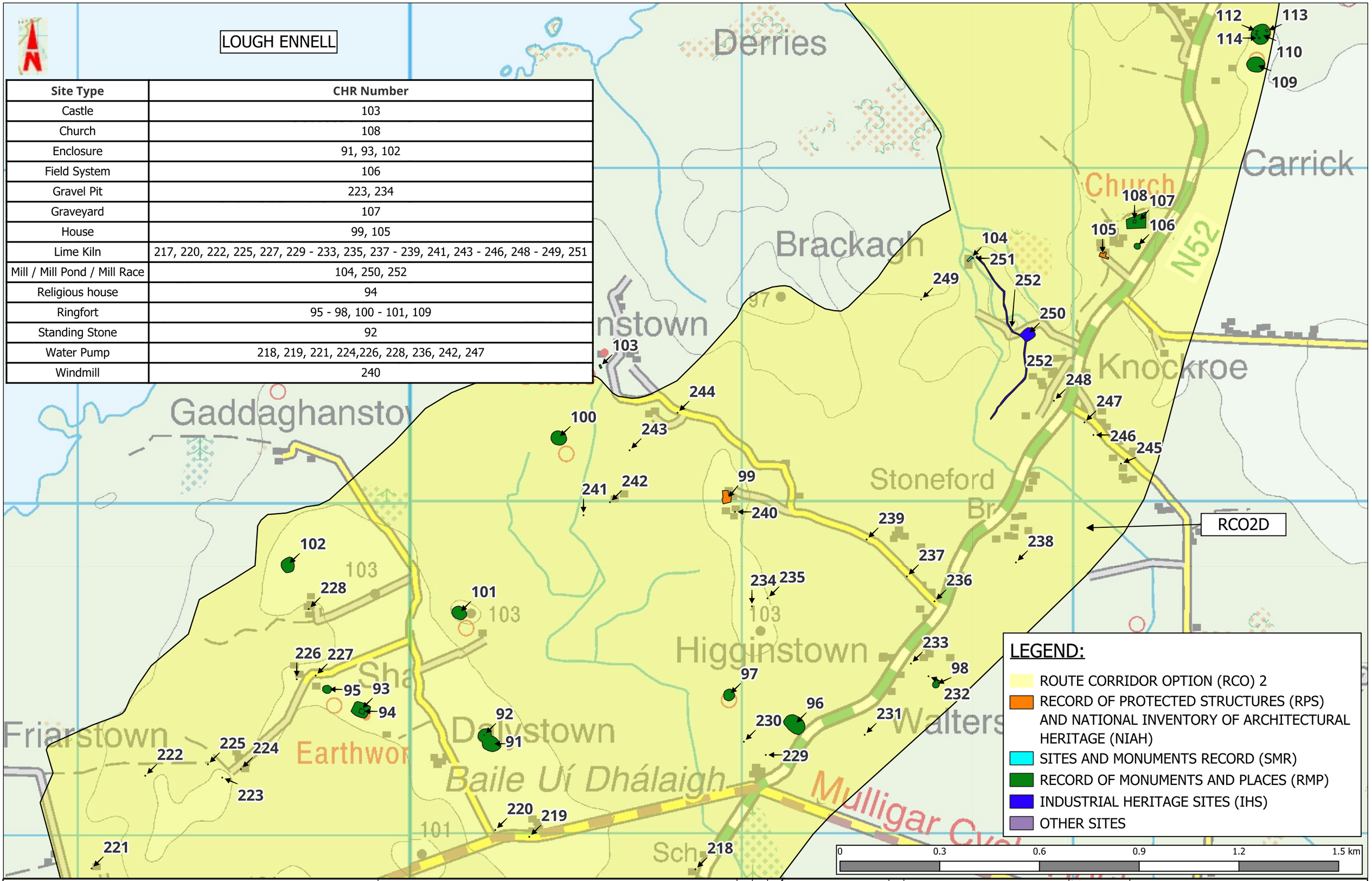
File Identifier: FIGURE 8-20

Status: A3

Revision: C01

LOUGH ENNELL

Site Type	CHR Number
Castle	103
Church	108
Enclosure	91, 93, 102
Field System	106
Gravel Pit	223, 234
Graveyard	107
House	99, 105
Lime Kiln	217, 220, 222, 225, 227, 229 - 233, 235, 237 - 239, 241, 243 - 246, 248 - 249, 251
Mill / Mill Pond / Mill Race	104, 250, 252
Religious house	94
Ringfort	95 - 98, 100 - 101, 109
Standing Stone	92
Water Pump	218, 219, 221, 224,226, 228, 236, 242, 247
Windmill	240



LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 2
- RECORD OF PROTECTED STRUCTURES (RPS) AND NATIONAL INVENTORY OF ARCHITECTURAL HERITAGE (NIAH)
- SITES AND MONUMENTS RECORD (SMR)
- RECORD OF MONUMENTS AND PLACES (RMP)
- INDUSTRIAL HERITAGE SITES (IHS)
- OTHER SITES

0 0.3 0.6 0.9 1.2 1.5 km

Client: Bonneagar Iompair Éireann Transport Infrastructure Ireland; Westmeath County Council

General Notes

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Sheets: 08 of 11

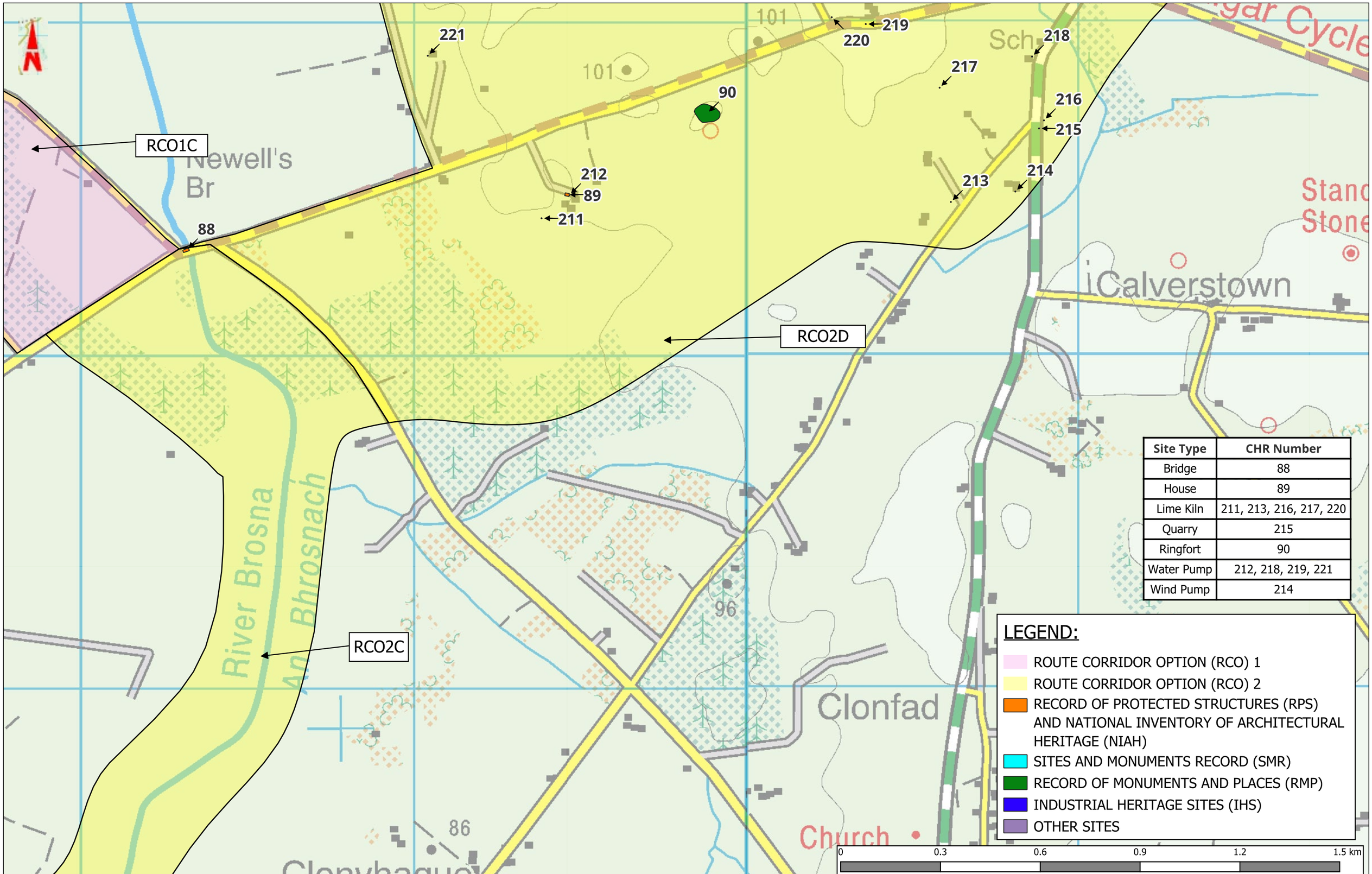
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CULTURAL HERITAGE RECEPTORS SHEET 08

File Identifier: FIGURE 8-21

Status: A3

Revision: C01



Site Type	CHR Number
Bridge	88
House	89
Lime Kiln	211, 213, 216, 217, 220
Quarry	215
Ringfort	90
Water Pump	212, 218, 219, 221
Wind Pump	214

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- RECORD OF PROTECTED STRUCTURES (RPS) AND NATIONAL INVENTORY OF ARCHITECTURAL HERITAGE (NIAH)
- SITES AND MONUMENTS RECORD (SMR)
- RECORD OF MONUMENTS AND PLACES (RMP)
- INDUSTRIAL HERITAGE SITES (IHS)
- OTHER SITES

Client: Bonneagar Iompair Éireann Transport Infrastructure Ireland; WESTMEATH COUNTY COUNCIL Comhairle Chontae na hIarmhí

General Notes

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Rev	Date	Amendment / Issue
-	-	For Consultation

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Model File Identifier: -

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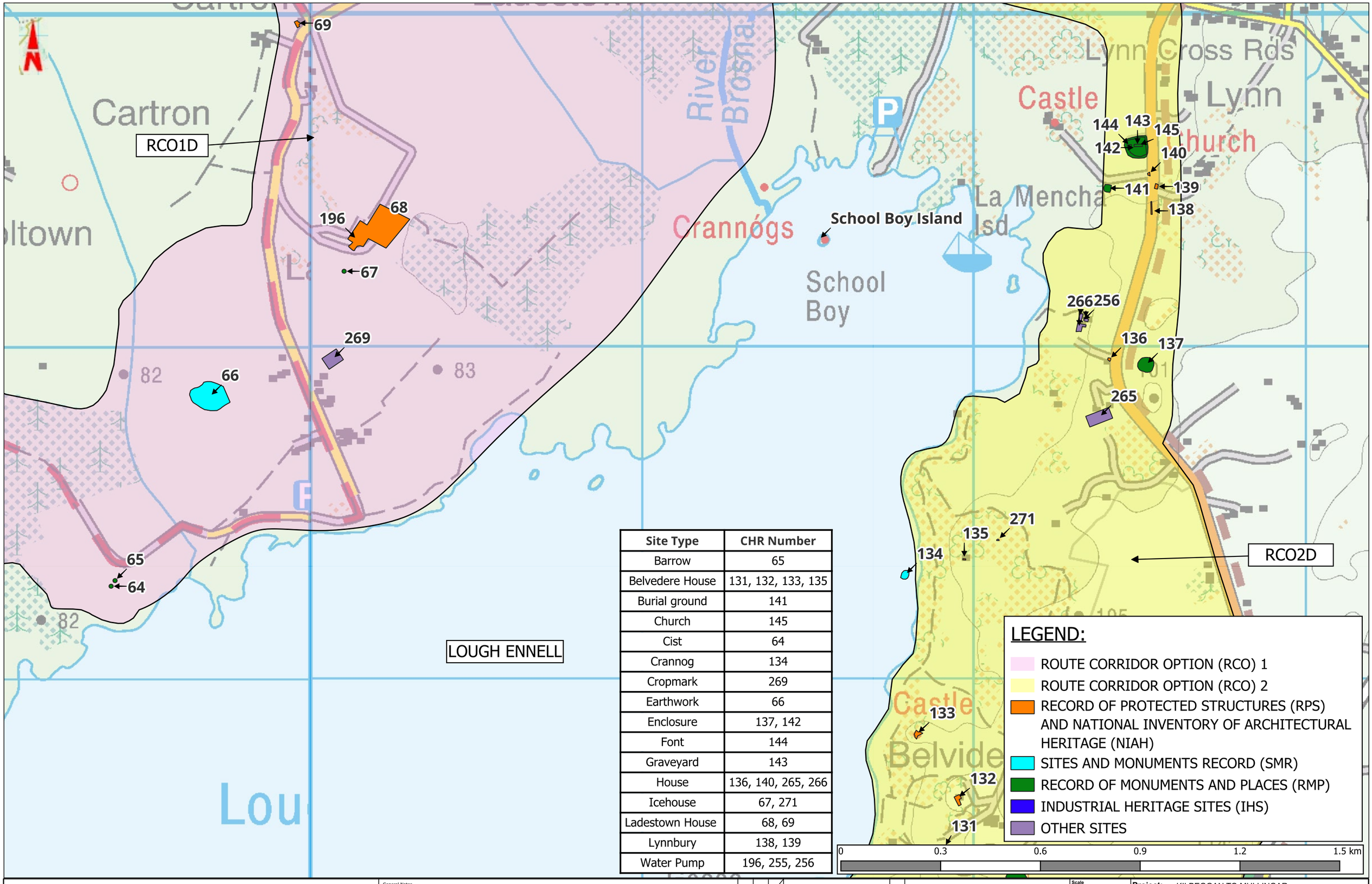
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CULTURAL HERITAGE RECEPTORS SHEET 09

File Identifier: FIGURE 8-22

Status: A3

Revision: C01



Site Type	CHR Number
Barrow	65
Belvedere House	131, 132, 133, 135
Burial ground	141
Church	145
Cist	64
Crannog	134
Cropmark	269
Earthwork	66
Enclosure	137, 142
Font	144
Graveyard	143
House	136, 140, 265, 266
Icehouse	67, 271
Ladestown House	68, 69
Lynnbury	138, 139
Water Pump	196, 255, 256

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- RECORD OF PROTECTED STRUCTURES (RPS) AND NATIONAL INVENTORY OF ARCHITECTURAL HERITAGE (NIAH)
- SITES AND MONUMENTS RECORD (SMR)
- RECORD OF MONUMENTS AND PLACES (RMP)
- INDUSTRIAL HERITAGE SITES (IHS)
- OTHER SITES

Client: Bonneagar Iompair Eireann Transport Infrastructure Ireland; Westmeath County Council, Comhairle Chontae na hIarmhi

General Notes

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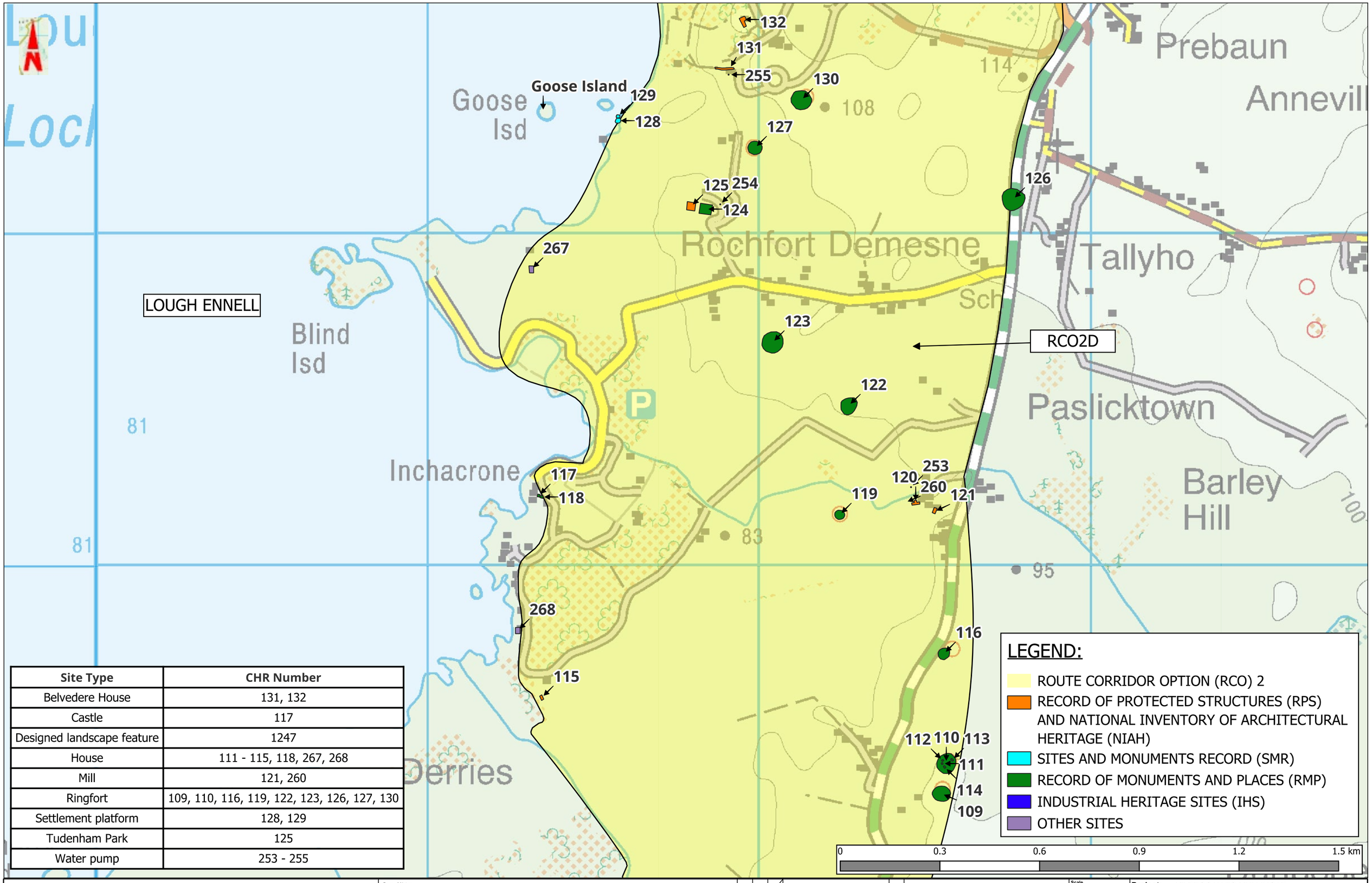
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CULTURAL HERITAGE RECEPTORS SHEET 10

File Identifier: FIGURE 8-23

Status: A3

Revision: C01



Site Type	CHR Number
Belvedere House	131, 132
Castle	117
Designed landscape feature	1247
House	111 - 115, 118, 267, 268
Mill	121, 260
Ringfort	109, 110, 116, 119, 122, 123, 126, 127, 130
Settlement platform	128, 129
Tudenham Park	125
Water pump	253 - 255

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 2
- RECORD OF PROTECTED STRUCTURES (RPS) AND NATIONAL INVENTORY OF ARCHITECTURAL HERITAGE (NIAH)
- SITES AND MONUMENTS RECORD (SMR)
- RECORD OF MONUMENTS AND PLACES (RMP)
- INDUSTRIAL HERITAGE SITES (IHS)
- OTHER SITES

Client: Bonneagar Iompair Éireann Transport Infrastructure Ireland; Westmeath County Council Comhairle Chontae na hIarmhí

General Notes

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Model File Identifier: -

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Sheets: 11 of 11

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CULTURAL HERITAGE RECEPTORS SHEET 11

File Identifier: FIGURE 8-24

Status: A3

Revision: C01

RCO1A

RCO2A

Site Type	CHR Number
Barrow	76
Bridge	13
Building	10
Church	7
Community Centre	8
Convent of Mercy	6
Cottage	261, 262
Cropmark	270
Enclosure	11, 77
Grand Canal	147
Gravel Pit	154, 155
Graveyard	5
Harbour	2
Kiln	153
Masters House	3
Mill / Mill Race	12, 9, 151, 152
Road House	4
Shed	146
Sluice	150
Store/warehouse	1
Water Pump	148, 149

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- HIGH
- MEDIUM
- LOW
- NEGLIGIBLE

0 0.3 0.6 0.9 1.2 1.5 km

Client: Bonneagar Iompair Éireann Transport Infrastructure Ireland; Westmeath County Council

General Notes

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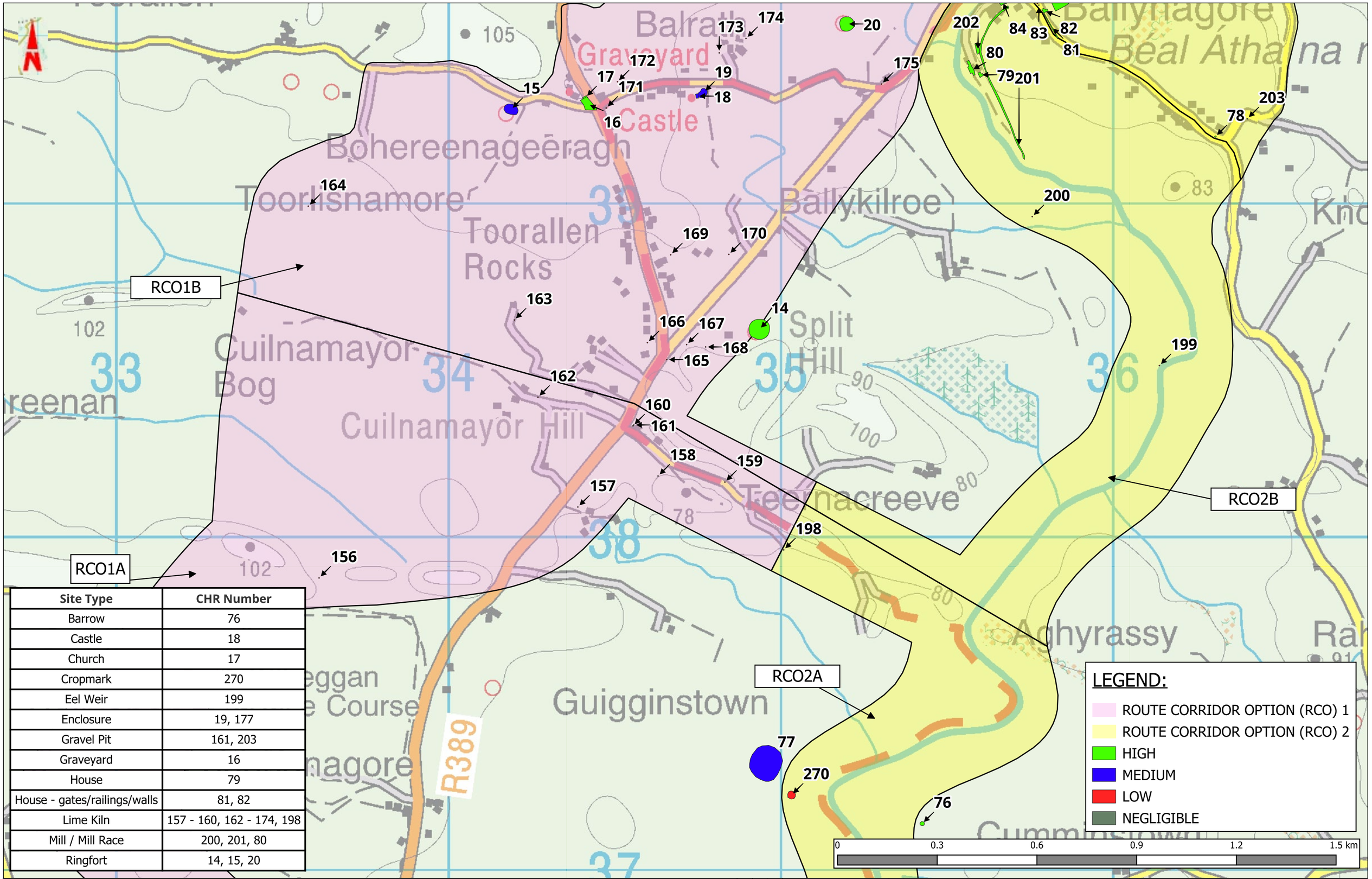
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: LEVEL OF IMPORTANCE SHEET 01

File Identifier: FIGURE 8-25

Status: A3

Revision: C01



Site Type	CHR Number
Barrow	76
Castle	18
Church	17
Cropmark	270
Eel Weir	199
Enclosure	19, 177
Gravel Pit	161, 203
Graveyard	16
House	79
House - gates/railings/walls	81, 82
Lime Kiln	157 - 160, 162 - 174, 198
Mill / Mill Race	200, 201, 80
Ringfort	14, 15, 20

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- HIGH
- MEDIUM
- LOW
- NEGLIGIBLE

Client: Bonneagar Iompair Éireann Transport Infrastructure Ireland; WESTMEATH COUNTY COUNCIL

General Notes

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Model File Identifier: -

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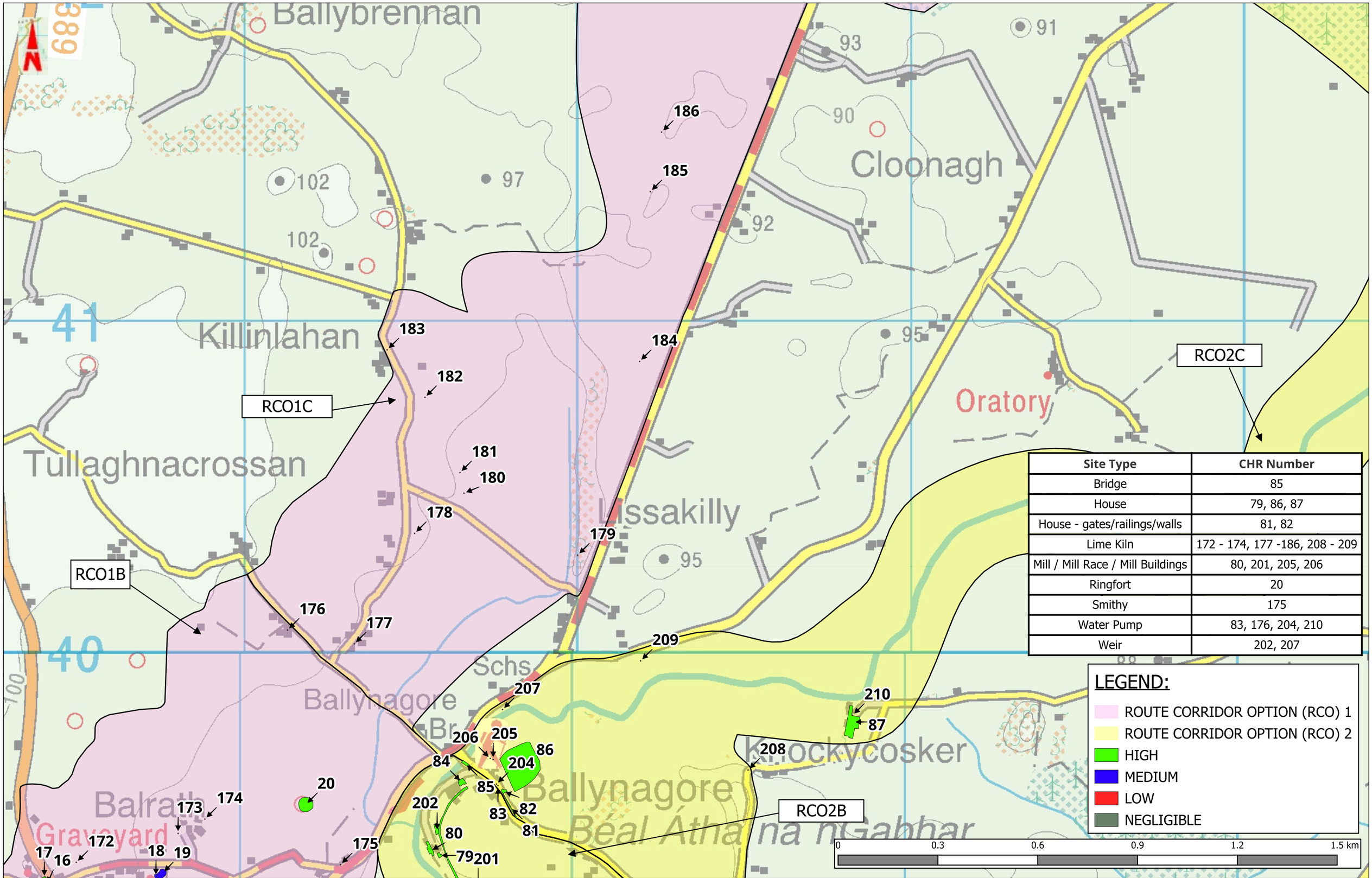
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: LEVEL OF IMPORTANCE SHEET 02

File Identifier: FIGURE 8-26

Status: A3

Revision: C01



Site Type	CHR Number
Bridge	85
House	79, 86, 87
House - gates/railings/walls	81, 82
Lime Kiln	172 - 174, 177 -186, 208 - 209
Mill / Mill Race / Mill Buildings	80, 201, 205, 206
Ringfort	20
Smithy	175
Water Pump	83, 176, 204, 210
Weir	202, 207

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- HIGH
- MEDIUM
- LOW
- NEGLIGIBLE

0 0.3 0.6 0.9 1.2 1.5 km

Client: Bonneagar Iompair Eireann Transport Infrastructure Ireland; WESTMEATH COUNTY COUNCIL Comhairle Chontae na hIarmhi

General Notes

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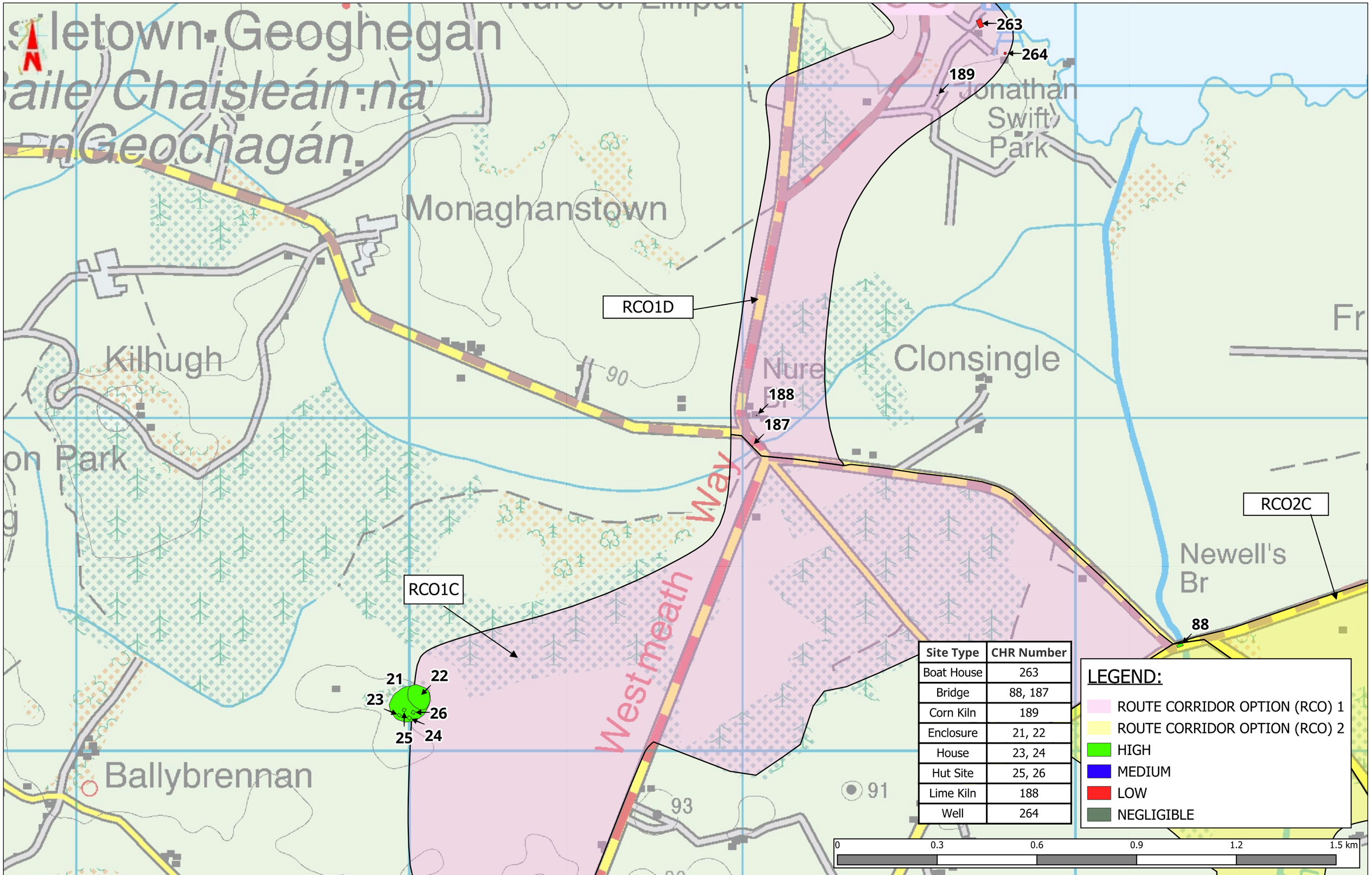
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: LEVEL OF IMPORTANCE SHEET 03

File Identifier: FIGURE 8-27

Status: A3

Revision: C01



Site Type	CHR Number
Boat House	263
Bridge	88, 187
Corn Kiln	189
Enclosure	21, 22
House	23, 24
Hut Site	25, 26
Lime Kiln	188
Well	264

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- HIGH
- MEDIUM
- LOW
- NEGLIGIBLE

Client: Bonneagar Iompair Éireann Transport Infrastructure Ireland; Westmeath County Council Comhairle Chontae na hIarmhí

General Notes

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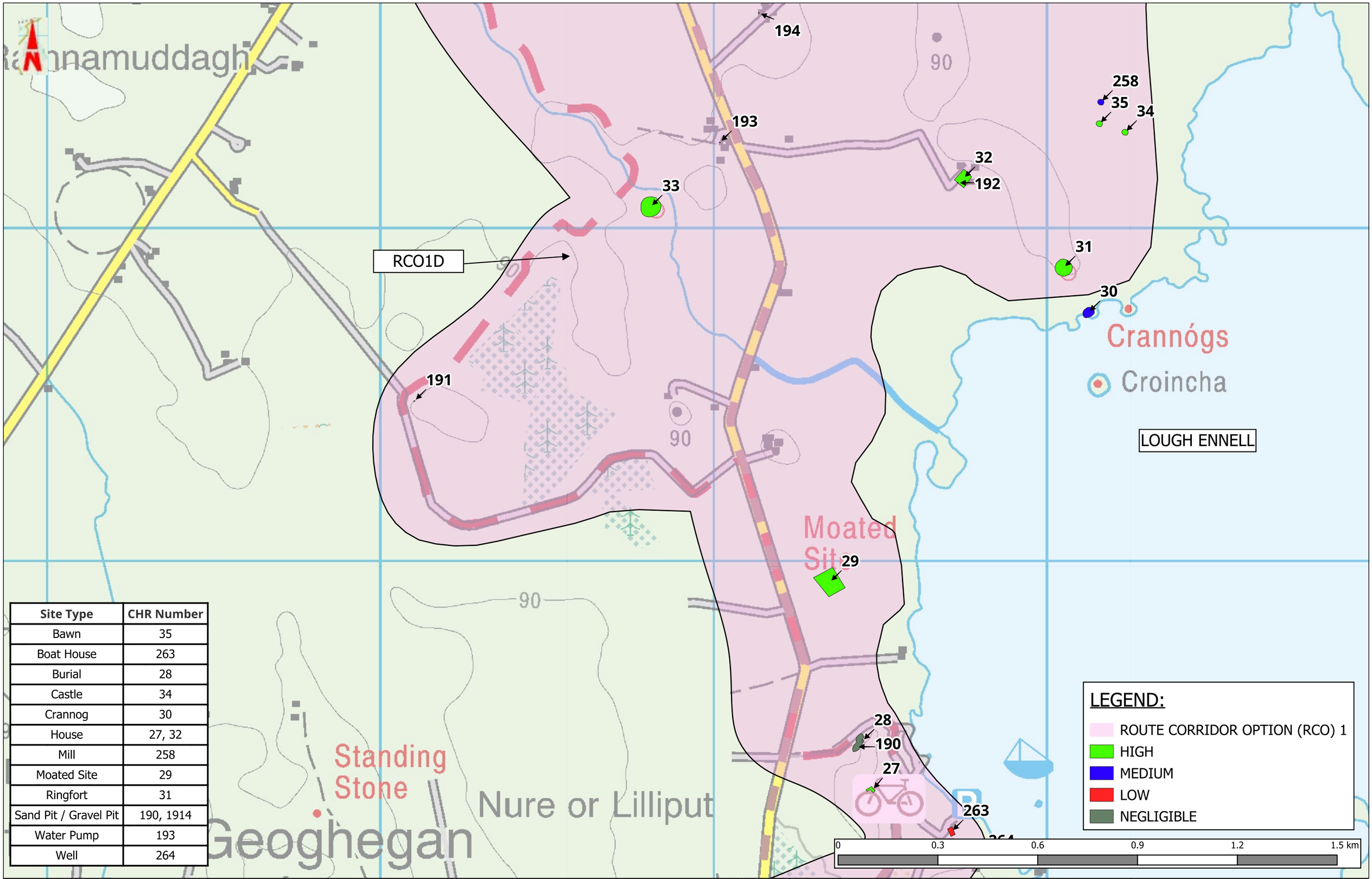
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: LEVEL OF IMPORTANCE SHEET 04

File Identifier: FIGURE 8-28

Status: A3

Revision: C01



Site Type	CHR Number
Bawn	35
Boat House	263
Burial	28
Castle	34
Crannog	30
House	27, 32
Mill	258
Moated Site	29
Ringfort	31
Sand Pit / Gravel Pit	190, 1914
Water Pump	193
Well	264

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- HIGH
- MEDIUM
- LOW
- NEGLIGIBLE

Client: Bonneagar Iompair Éireann Transport Infrastructure Ireland; WESTMEATH COUNTY COUNCIL Comhairle Chontae na hIarmhí

General Notes

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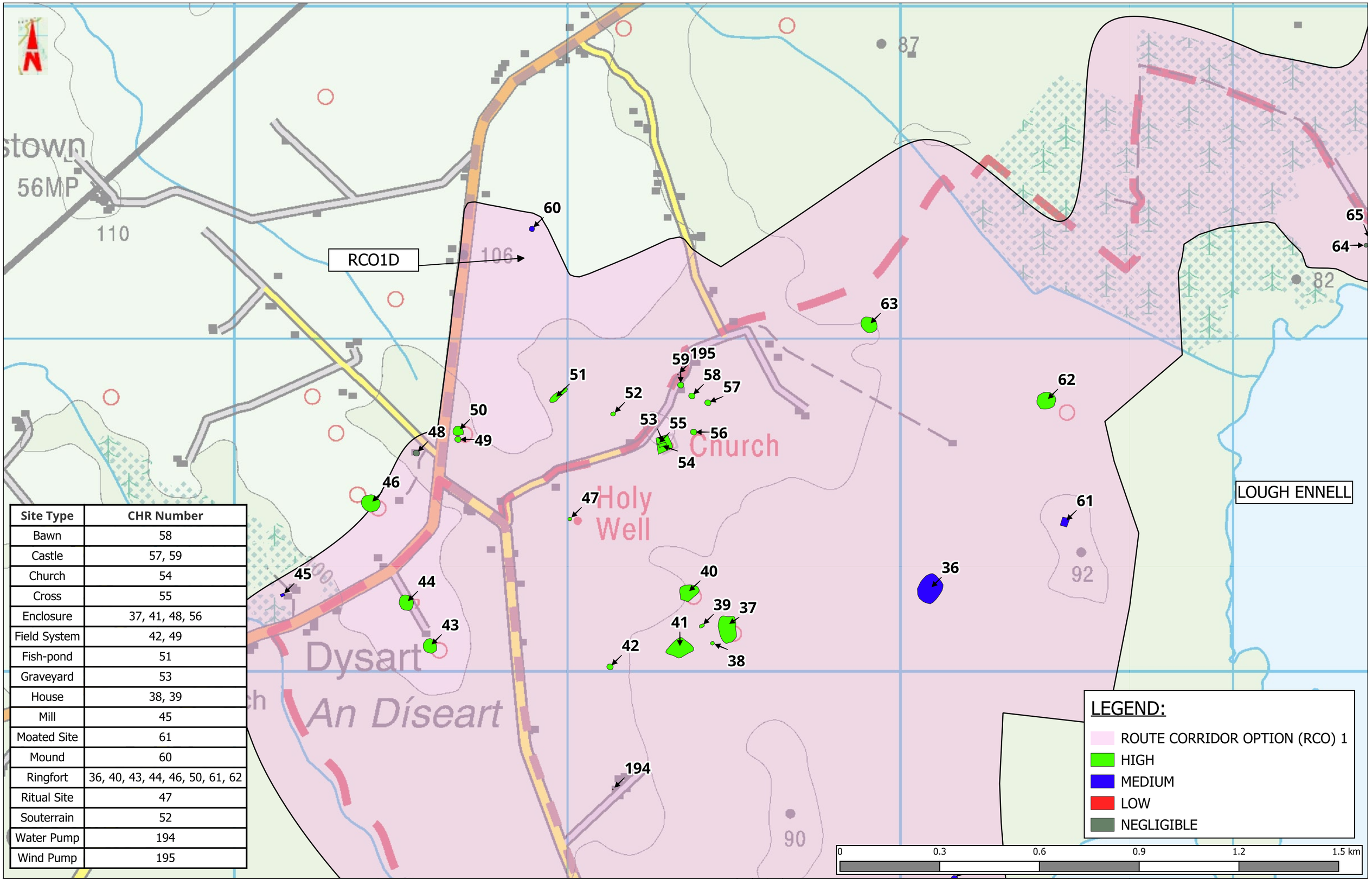
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: LEVEL OF IMPORTANCE SHEET 05

File Identifier: FIGURE 8-29

Status: A3

Revision: C01



Site Type	CHR Number
Bawn	58
Castle	57, 59
Church	54
Cross	55
Enclosure	37, 41, 48, 56
Field System	42, 49
Fish-pond	51
Graveyard	53
House	38, 39
Mill	45
Moated Site	61
Mound	60
Ringfort	36, 40, 43, 44, 46, 50, 61, 62
Ritual Site	47
Souterrain	52
Water Pump	194
Wind Pump	195

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- HIGH
- MEDIUM
- LOW
- NEGLIGIBLE

0 0.3 0.6 0.9 1.2 1.5 km

Client: Bonneagar Iompair Éireann Transport Infrastructure Ireland; WESTMEATH COUNTY COUNCIL Comhairle Chontae na hIarmhí

General Notes

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RPS A TETRA TECH COMPANY

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Created On: DECEMBER 2024

Sheets: 06 of 11

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: LEVEL OF IMPORTANCE SHEET 06

File Identifier: FIGURE 8-30

Status: A3

Revision: C01

Site Type	CHR Number
Bridge	257, 258
Church	73
Enclosure	72
Graveyard	74
House	69, 71
Level Crossing	197
Mill	70
Rabbit Warren	75

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- HIGH
- MEDIUM
- LOW
- NEGLIGIBLE

0 0.3 0.6 0.9 1.2 1.5 km

Client: Bonneagar Iompair Éireann Transport Infrastructure Ireland; Westmeath County Council Comhairle Chontae na hIarmhí

General Notes

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Rev	Date	Amendment / Issue
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RPS A TETRA TECH COMPANY

Model File Identifier: -

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Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: LEVEL OF IMPORTANCE SHEET 07

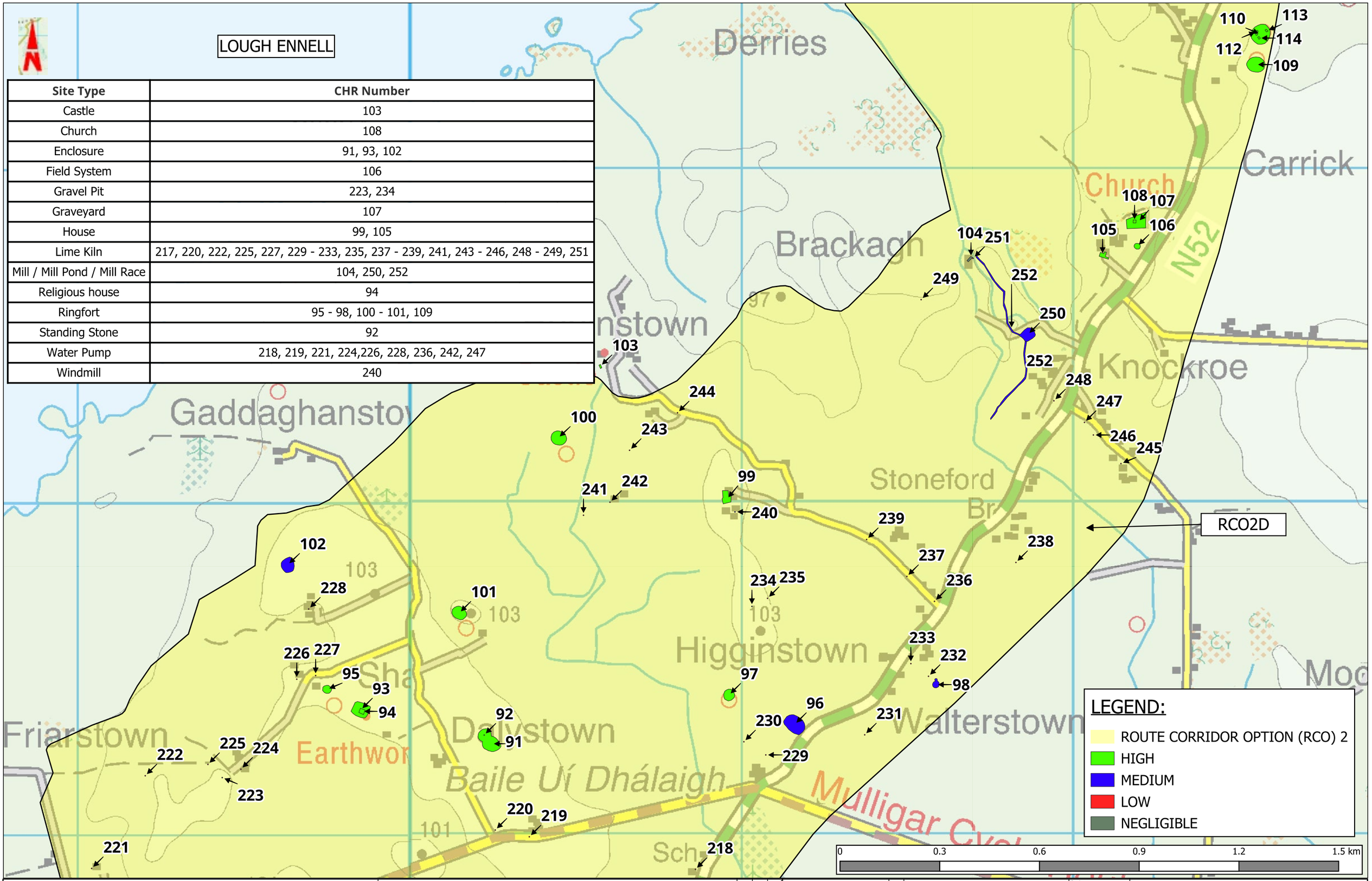
File Identifier: FIGURE 8-31

Status: A3

Revision: C01

LOUGH ENNELL

Site Type	CHR Number
Castle	103
Church	108
Enclosure	91, 93, 102
Field System	106
Gravel Pit	223, 234
Graveyard	107
House	99, 105
Lime Kiln	217, 220, 222, 225, 227, 229 - 233, 235, 237 - 239, 241, 243 - 246, 248 - 249, 251
Mill / Mill Pond / Mill Race	104, 250, 252
Religious house	94
Ringfort	95 - 98, 100 - 101, 109
Standing Stone	92
Water Pump	218, 219, 221, 224,226, 228, 236, 242, 247
Windmill	240



Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

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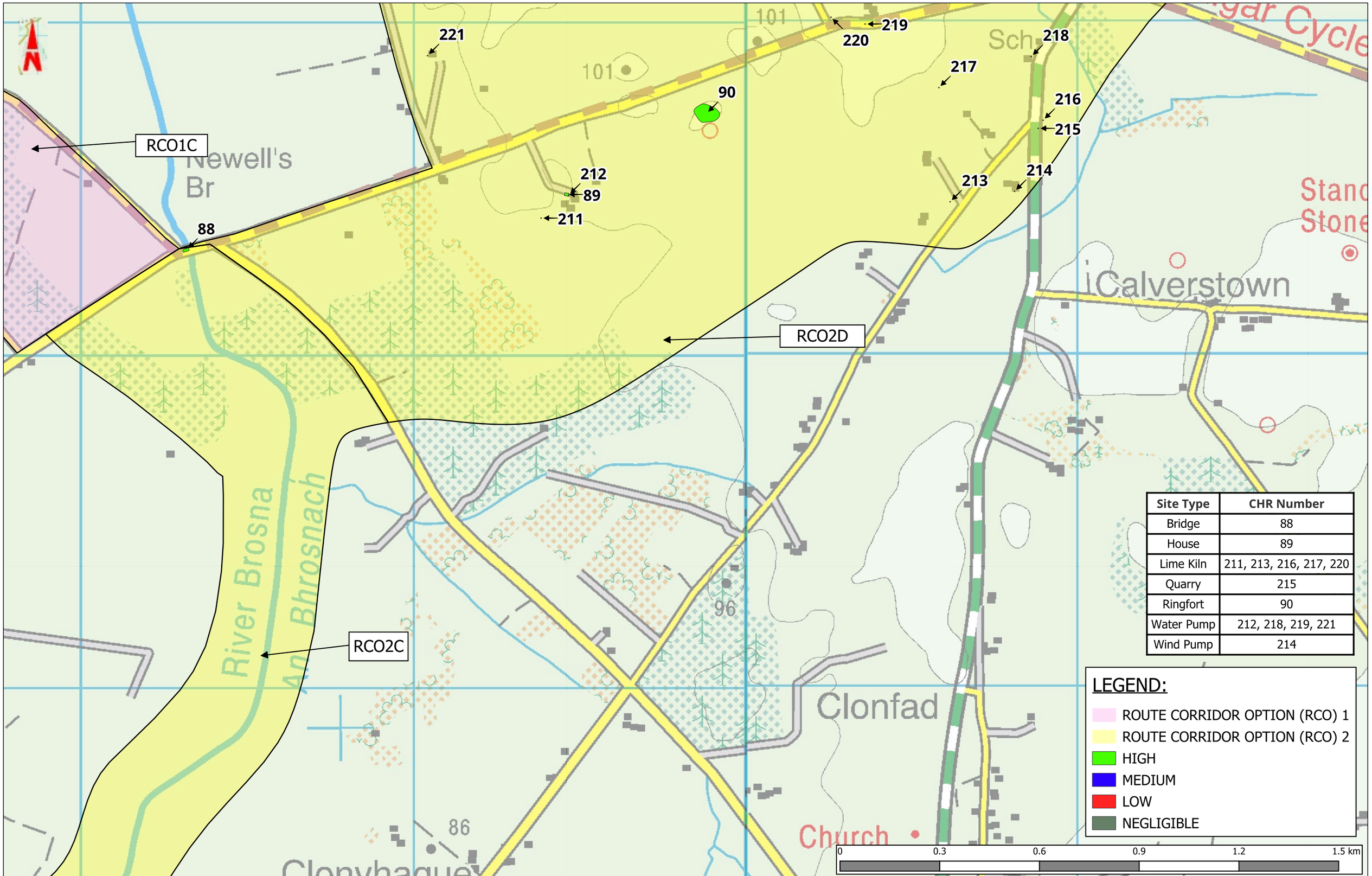
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Scale: 1:10,000 @A3
Created On: DECEMBER 2024
Sheets: 08 of 11

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: LEVEL OF IMPORTANCE SHEET 08

File Identifier: FIGURE 8-32
Status: A3
Revision: C01



Site Type	CHR Number
Bridge	88
House	89
Lime Kiln	211, 213, 216, 217, 220
Quarry	215
Ringfort	90
Water Pump	212, 218, 219, 221
Wind Pump	214

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- HIGH
- MEDIUM
- LOW
- NEGLIGIBLE

Client: Bonneagar Iompair Éireann Transport Infrastructure Ireland; WESTMEATH COUNTY COUNCIL Comhairle Chontae na hIarmhí

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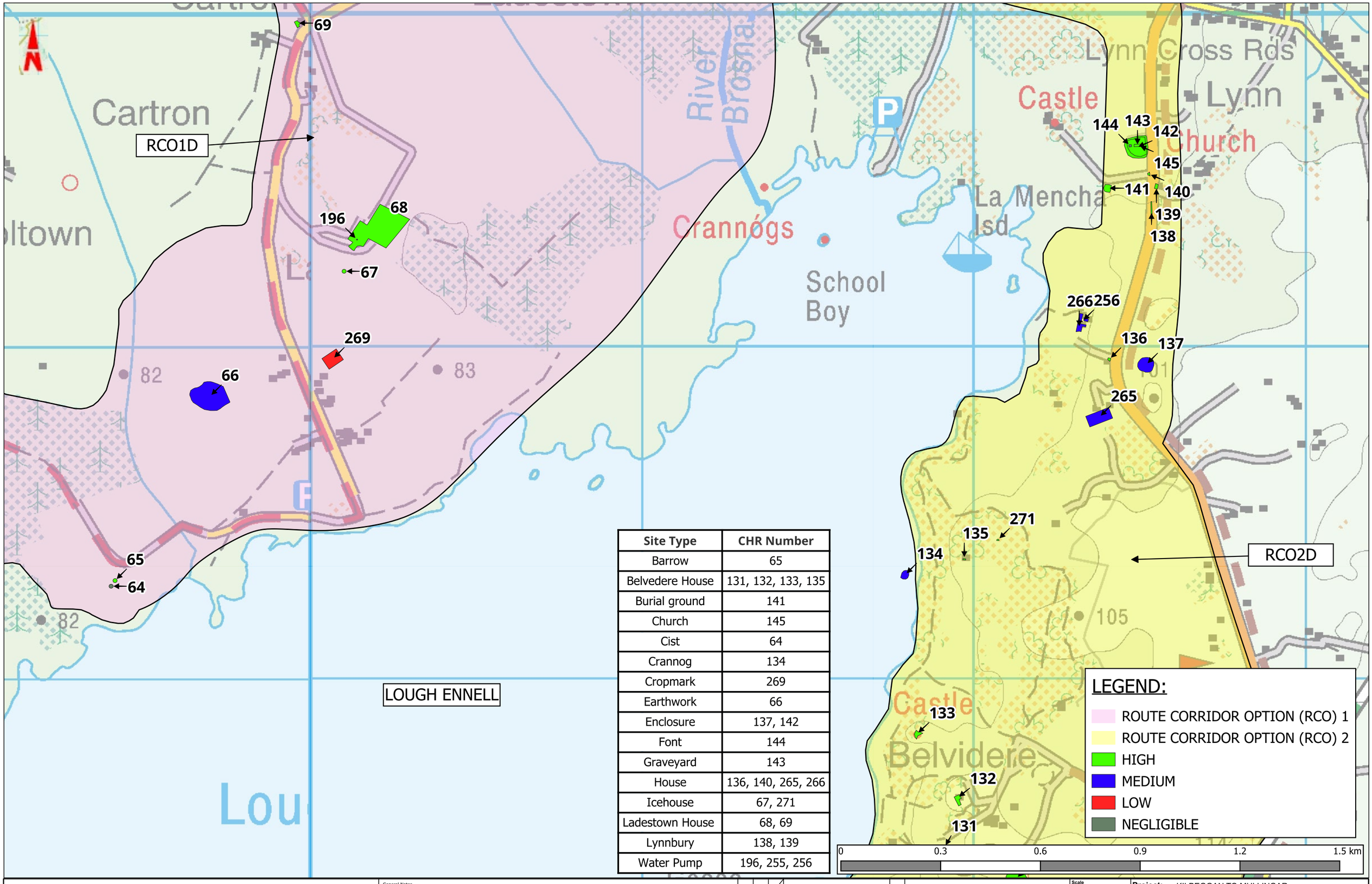
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: LEVEL OF IMPORTANCE SHEET 09

File Identifier: FIGURE 8-33

Status: A3

Revision: C01



Site Type	CHR Number
Barrow	65
Belvedere House	131, 132, 133, 135
Burial ground	141
Church	145
Cist	64
Crannog	134
Cropmark	269
Earthwork	66
Enclosure	137, 142
Font	144
Graveyard	143
House	136, 140, 265, 266
Icehouse	67, 271
Ladestown House	68, 69
Lynnbury	138, 139
Water Pump	196, 255, 256

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- HIGH
- MEDIUM
- LOW
- NEGLIGIBLE

0 0.3 0.6 0.9 1.2 1.5 km

Client: Bonneagar Iompair Eireann Transport Infrastructure Ireland; WESTMEATH COUNTY COUNCIL Comhairle Chontae na hIarmhi

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Model File Identifier -

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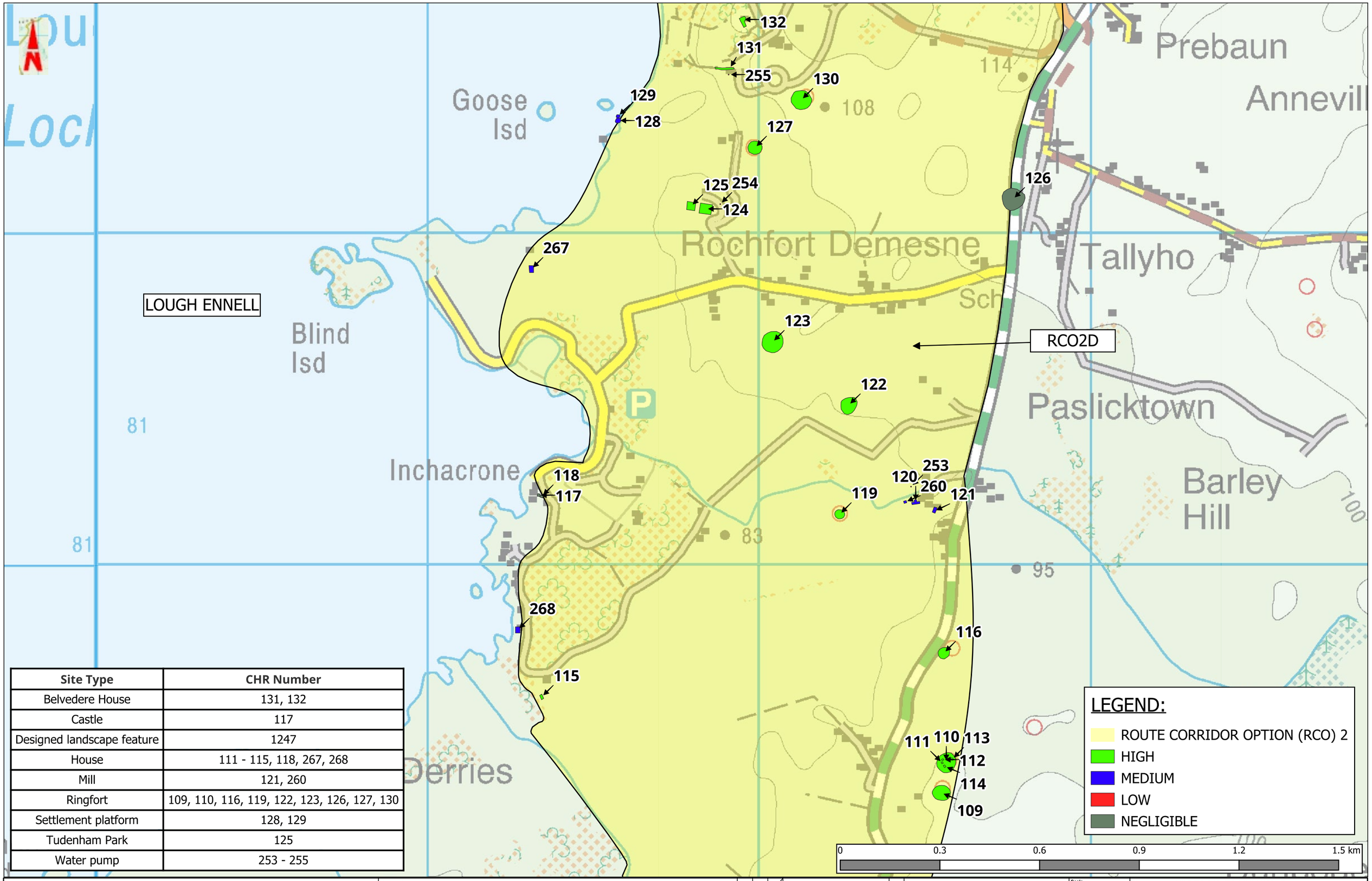
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: LEVEL OF IMPORTANCE SHEET 10

File Identifier FIGURE 8-34

Status A3

Revision C01



Site Type	CHR Number
Belvedere House	131, 132
Castle	117
Designed landscape feature	1247
House	111 - 115, 118, 267, 268
Mill	121, 260
Ringfort	109, 110, 116, 119, 122, 123, 126, 127, 130
Settlement platform	128, 129
Tudenham Park	125
Water pump	253 - 255

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 2
- HIGH
- MEDIUM
- LOW
- NEGLIGIBLE

Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

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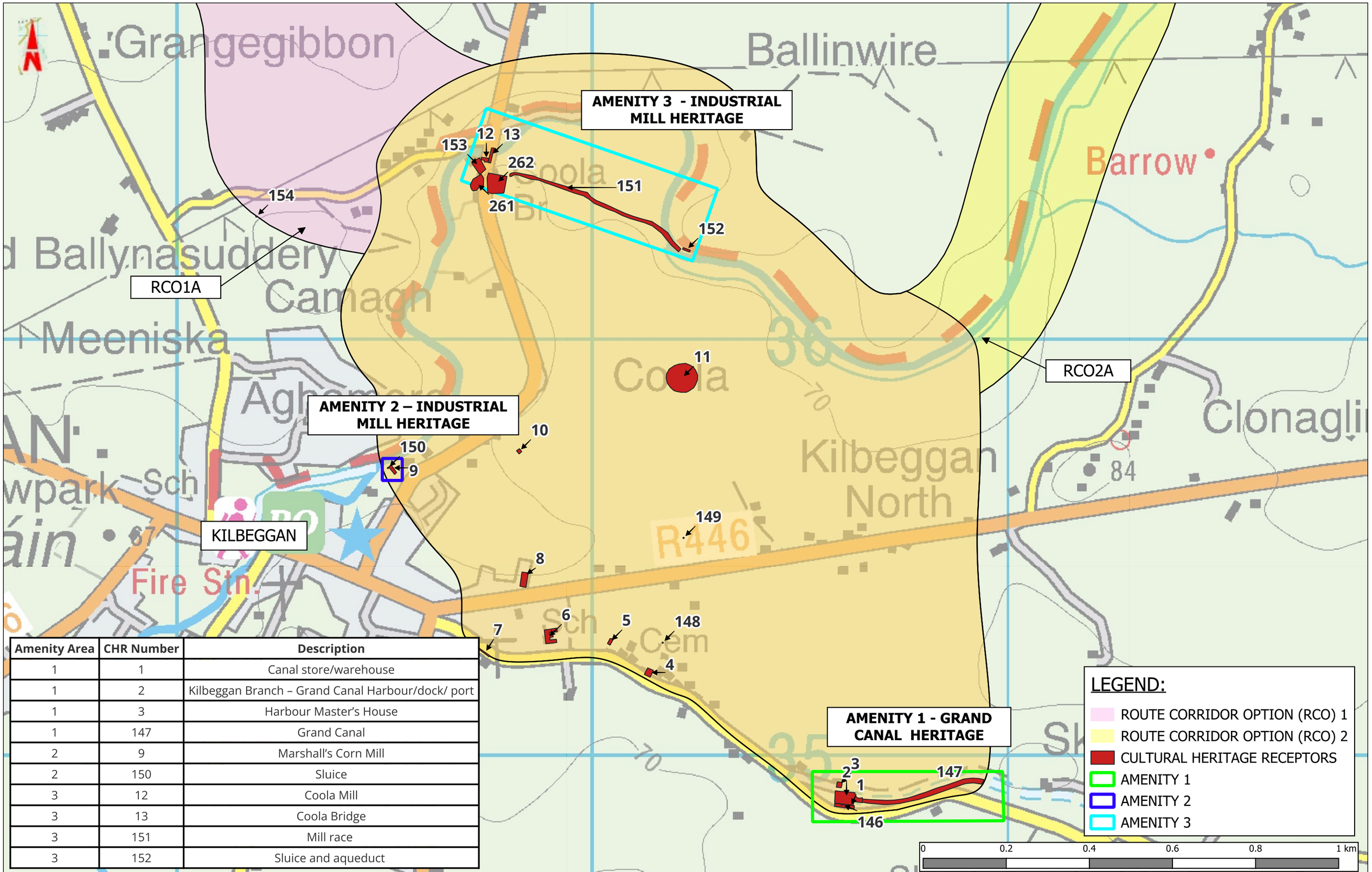
Model File Identifier: -

Scale: 1:10,000 @A3
Created On: DECEMBER 2024
Sheets: 11 of 11

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: LEVEL OF IMPORTANCE SHEET 11

File Identifier: FIGURE 8-35
Status: A3
Revision: C01



Amenity Area	CHR Number	Description
1	1	Canal store/warehouse
1	2	Kilbeggan Branch – Grand Canal Harbour/dock/ port
1	3	Harbour Master's House
1	147	Grand Canal
2	9	Marshall's Corn Mill
2	150	Sluice
3	12	Coola Mill
3	13	Coola Bridge
3	151	Mill race
3	152	Sluice and aqueduct

Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

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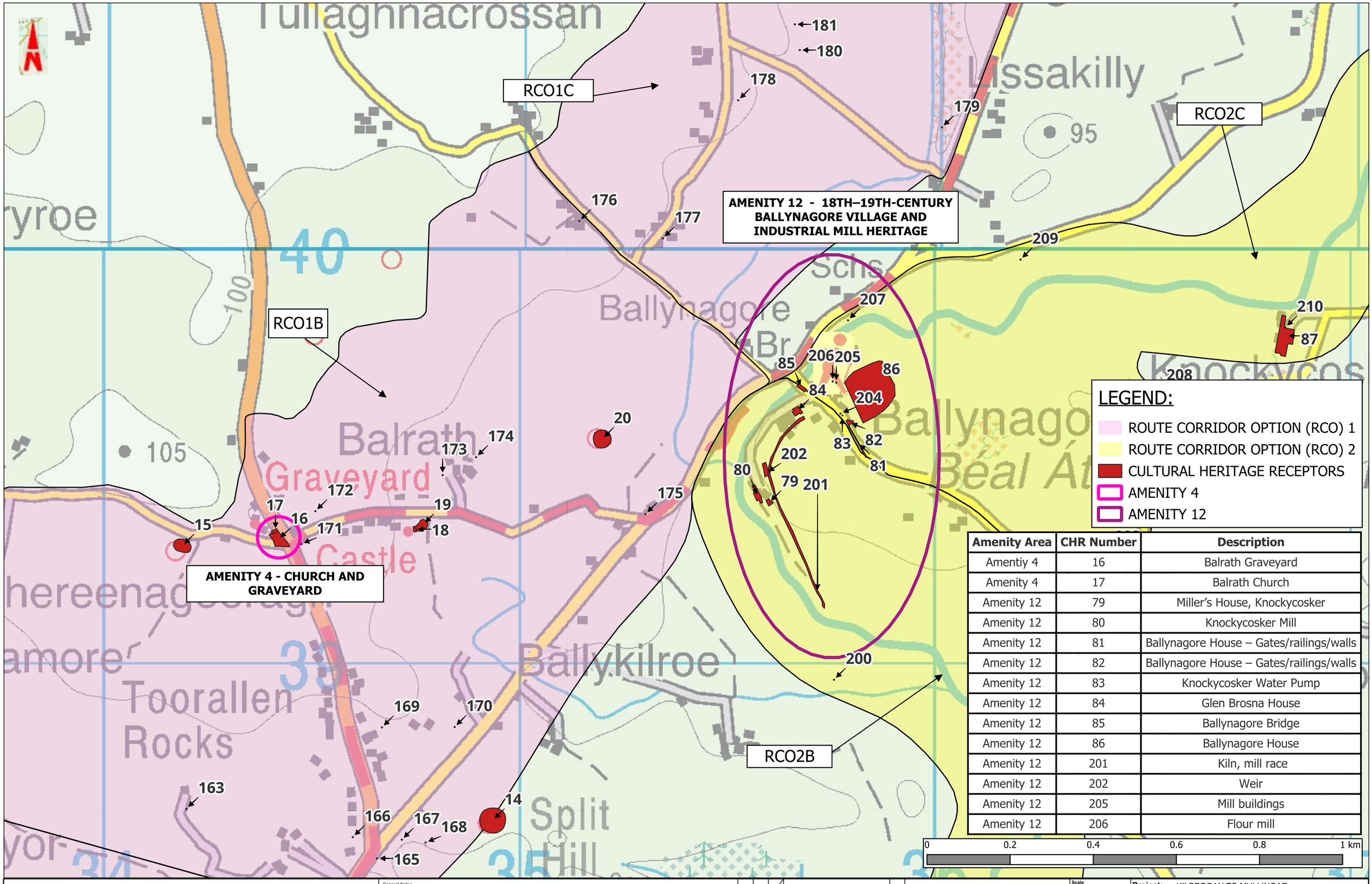
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Scale: 1:10,000 @A3
Created On: DECEMBER 2024
Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CULTURAL HERITAGE AMENITY AREAS 01

File Identifier: FIGURE 8-36
Status: A3
Revision: C01



Amenity Area	CHR Number	Description
Amentiy 4	16	Balrath Graveyard
Amenity 4	17	Balrath Church
Amenity 12	79	Miller's House, Knockycosker
Amenity 12	80	Knockycosker Mill
Amenity 12	81	Ballynagore House – Gates/railings/walls
Amenity 12	82	Ballynagore House – Gates/railings/walls
Amenity 12	83	Knockycosker Water Pump
Amenity 12	84	Glen Brosna House
Amenity 12	85	Ballynagore Bridge
Amenity 12	86	Ballynagore House
Amenity 12	201	Kiln, mill race
Amenity 12	202	Weir
Amenity 12	205	Mill buildings
Amenity 12	206	Flour mill

Client:

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Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

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Model File Identifier -

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Sheets -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CULTURAL HERITAGE AMENITY AREAS 02

File Identifier FIGURE 8-37

Status A3

Revision C01

AMENITY 6 - ROYAL SITES OF THE KINGS OF MEATH

31

30

Crannog

Crannógs

Cormorant Island tower house

Cormorant Island crannog

LOUGH ENNELL

RCO1D

Moated Site

29

AMENITY 5 - LILLIPUT HOUSE AND JONATHAN SWIFT PARK

28

190

27

263

264

189

AMENITY 10 - CRANNÓG

Lady Island

Nure or Lilliput

Jonathan

90

90

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- CULTURAL HERITAGE RECEPTORS
- AMENITY 5
- AMENITY 6
- AMENITY 10

Amenity Area	CHR Number	Description
5	27	Lilliput House
5	263	Boathouse
5	264	Well
6	30	Crannog
6	31	Ringfort - rath
6		Cormorant Island crannog WM025-150----
6		Cormorant Island tower house WM025-150001-
6		Crannog WM025-147----
10		Lady Island WM032-119----

0 0.2 0.4 0.6 0.8 1 km

Client: Bonneagar Iompair Éireann Transport Infrastructure Ireland; WESTMEATH COUNTY COUNCIL Comhairle Chontae na hIarmhí

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Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CULTURAL HERITAGE AMENITY AREAS 03

File Identifier: FIGURE 8-38

Status: A3

Revision: C01

AMENITY 7 - EARLY MEDIEVAL LANDSCAPE

AMENITY 8 - DYSART EARLY CHURCH SITE

RCO1D

Church

Holy Well

Dysart

An Díseart

namuddagh

Amenity Area	CHR Number	Description
7	43	Ringfort - rath
7	44	Ringfort - rath
7	46	Ringfort - rath
8	47	Ritual site – holy well
8	53	Graveyard
8	54	Church
8	55	High Cross

LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 1
- CULTURAL HERITAGE RECEPTORS
- AMENITY 7
- AMENITY 8

0 0.2 0.4 0.6 0.8 1 km

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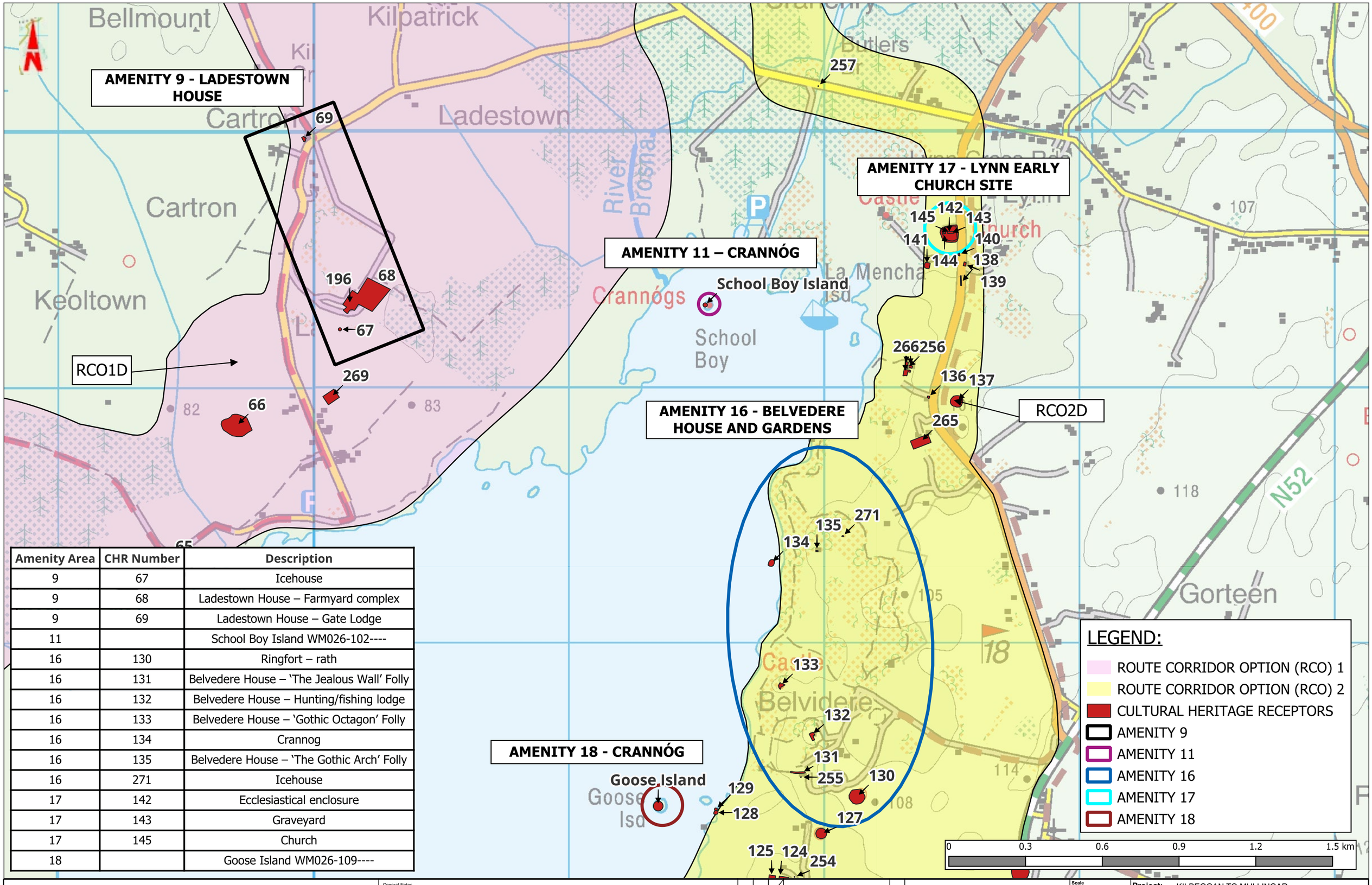
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CULTURAL HERITAGE AMENITY AREAS 04

File Identifier: FIGURE 8-39

Status: A3

Revision: C01



Amenity Area	CHR Number	Description
9	67	Icehouse
9	68	Ladestown House – Farmyard complex
9	69	Ladestown House – Gate Lodge
11		School Boy Island WM026-102----
16	130	Ringfort – rath
16	131	Belvedere House – 'The Jealous Wall' Folly
16	132	Belvedere House – Hunting/fishing lodge
16	133	Belvedere House – 'Gothic Octagon' Folly
16	134	Crannog
16	135	Belvedere House – 'The Gothic Arch' Folly
16	271	Icehouse
17	142	Ecclesiastical enclosure
17	143	Graveyard
17	145	Church
18		Goose Island WM026-109----

Client: Bonneagar Iompair Éireann Transport Infrastructure Ireland; Westmeath County Council Comhairle Chontae na hIarmhí

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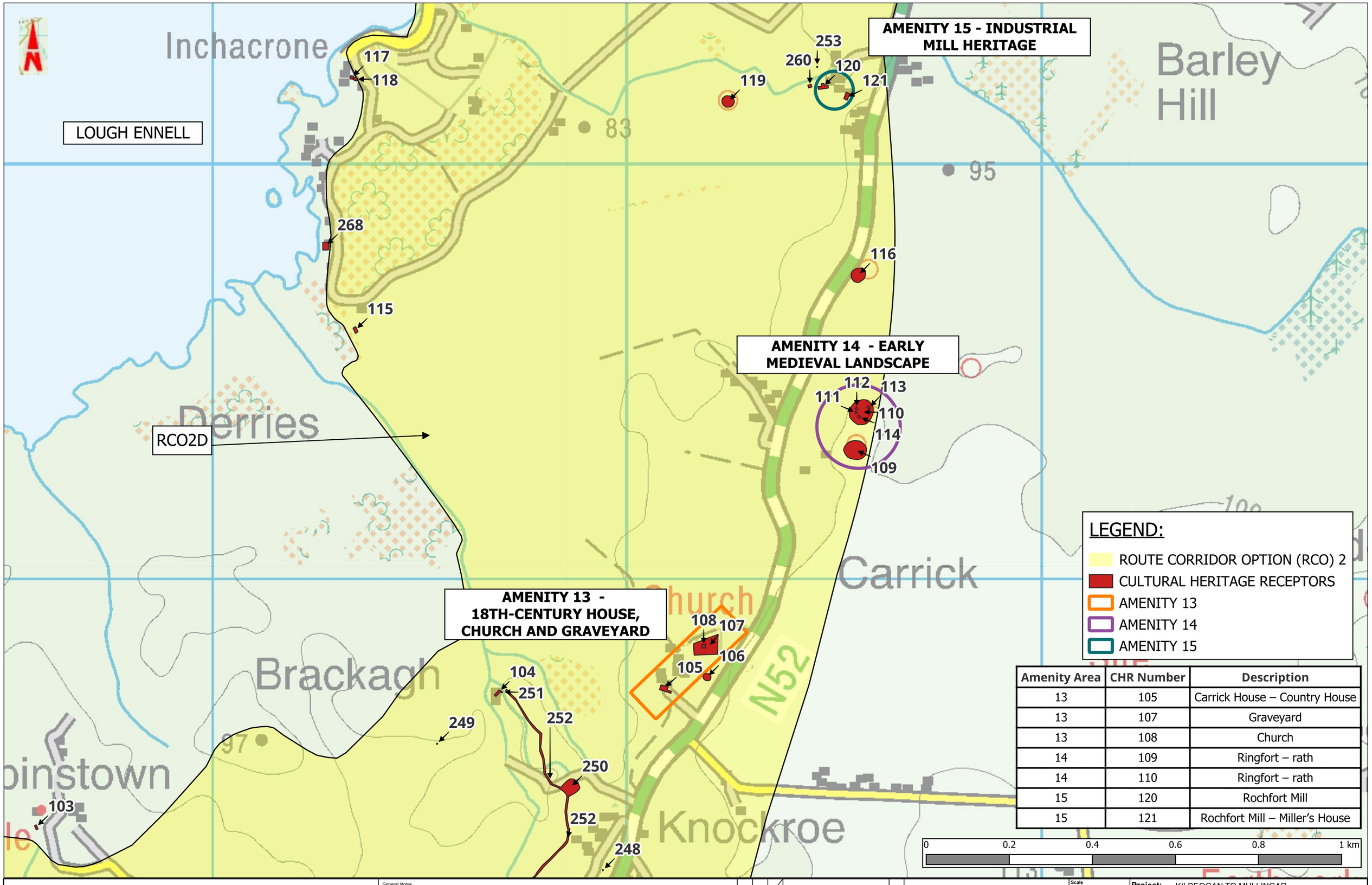
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CULTURAL HERITAGE AMENITY AREAS 05

File Identifier: FIGURE 8-40

Status: A3

Revision: C01



LEGEND:

- ROUTE CORRIDOR OPTION (RCO) 2
- CULTURAL HERITAGE RECEPTORS
- AMENITY 13
- AMENITY 14
- AMENITY 15

Amenity Area	CHR Number	Description
13	105	Carrick House – Country House
13	107	Graveyard
13	108	Church
14	109	Ringfort – rath
14	110	Ringfort – rath
15	120	Rochfort Mill
15	121	Rochfort Mill – Miller's House

0 0.2 0.4 0.6 0.8 1 km

Client: Bonneagar Iompair Éireann Transport Infrastructure Ireland; Westmeath County Council Comhairle Chontae na hIarmhí

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Model File Identifier: -

Scale: 1:10,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CULTURAL HERITAGE AMENITY AREAS 06

File Identifier: FIGURE 8-41

Status: A3

Revision: C01

MULLINGAR

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO2C

RCO1B

RCO2B

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- BROAD-LEAVED FOREST
- COMPLEX CULTIVATION PATTERNS
- CONIFEROUS FOREST
- CONTINUOUS URBAN FABRIC
- DISCONTINUOUS URBAN FABRIC
- INDUSTRIAL OR COMMERCIAL UNITS
- INLAND MARSHES
- LAND PRINCIPALLY OCCUPIED BY AGRICULTURE, WITH SIGNIFICANT AREAS OF NATURAL VEGETATION
- MIXED FOREST
- NON-IRRIGATED ARABLE LAND
- PASTURES
- PEAT BOGS
- TRANSITIONAL WOODLAND-SHRUB
- WATER BODIES

0 2 4 6 8 10 km

Client:

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Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
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-	-	For Consultation

RPS
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Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: CORINE 2018 LAND COVER

File Identifier: FIGURE 9-1

Status: A3

Revision: D01

MULLINGAR

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO2C

RCO1B

RCO2B

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- ALLUVIUM
- BEDROCK OUTCROP OR SUBCROP
- CUT OVER RAISED PEAT
- ESKERS COMPRISED OF GRAVELS OF BASIC REACTION
- FEN PEAT
- GRAVELS DERIVED FROM LIMESTONES
- LACUSTRINE SEDIMENTS
- TILL DERIVED FROM LIMESTONES
- URBAN
- WATER

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

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-	-	For Consultation

RPS
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Model File Identifier -

Scale 1:80,000 @A3

Created On DECEMBER 2024

Sheets -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: QUATERNARY SEDIMENTS

File Identifier FIGURE 9-2

Status A3

Revision D01

MULLINGAR

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO2C

RCO1B

RCO2B

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- BAGGOTSTOWN
- ELTON
- HOWARDSTOWN
- LAKE
- PEAT
- RIVER
- URBAN
- WATER BODY

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

General Notes

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Rev	Date	Amendment / Issue
-	-	For Consultation

RPS
A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: NATIONAL SOILS

File Identifier: FIGURE 9-3

Status: A3

Revision: D01

MULLINGAR

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO2C

RCO1B

RCO2B

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- LAKE
- TOURNAISIAN LIMESTONE
- VISEAN LIMESTONE & CALCAREOUS SHALE

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

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Rev	Date	Amendment / Issue
-	-	For Consultation

RPS
A TETRA TECH COMPANY

Model File Identifier -

Scale 1:80,000 @A3

Created On DECEMBER 2024

Sheets -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: BEDROCK GEOLOGY

File Identifier FIGURE 9-4

Status A3

Revision D01

MULLINGAR

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO2C

RCO1B

RCO2B

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- HORSELEAP ESKER
- KILBEGGAN ESKER
- KILBEGGAN RACECOURSE ESKER
- LOUGH LOM
- SPLIT HILL AND LONG HILL ESKER COMPLEX
- STREAMSTOWN ESKER

0 2 4 6 8 10 km

Client: Bonneagar Iompair Eireann Transport Infrastructure Ireland; Westmeath County Council

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-	-	For Consultation

RPS A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

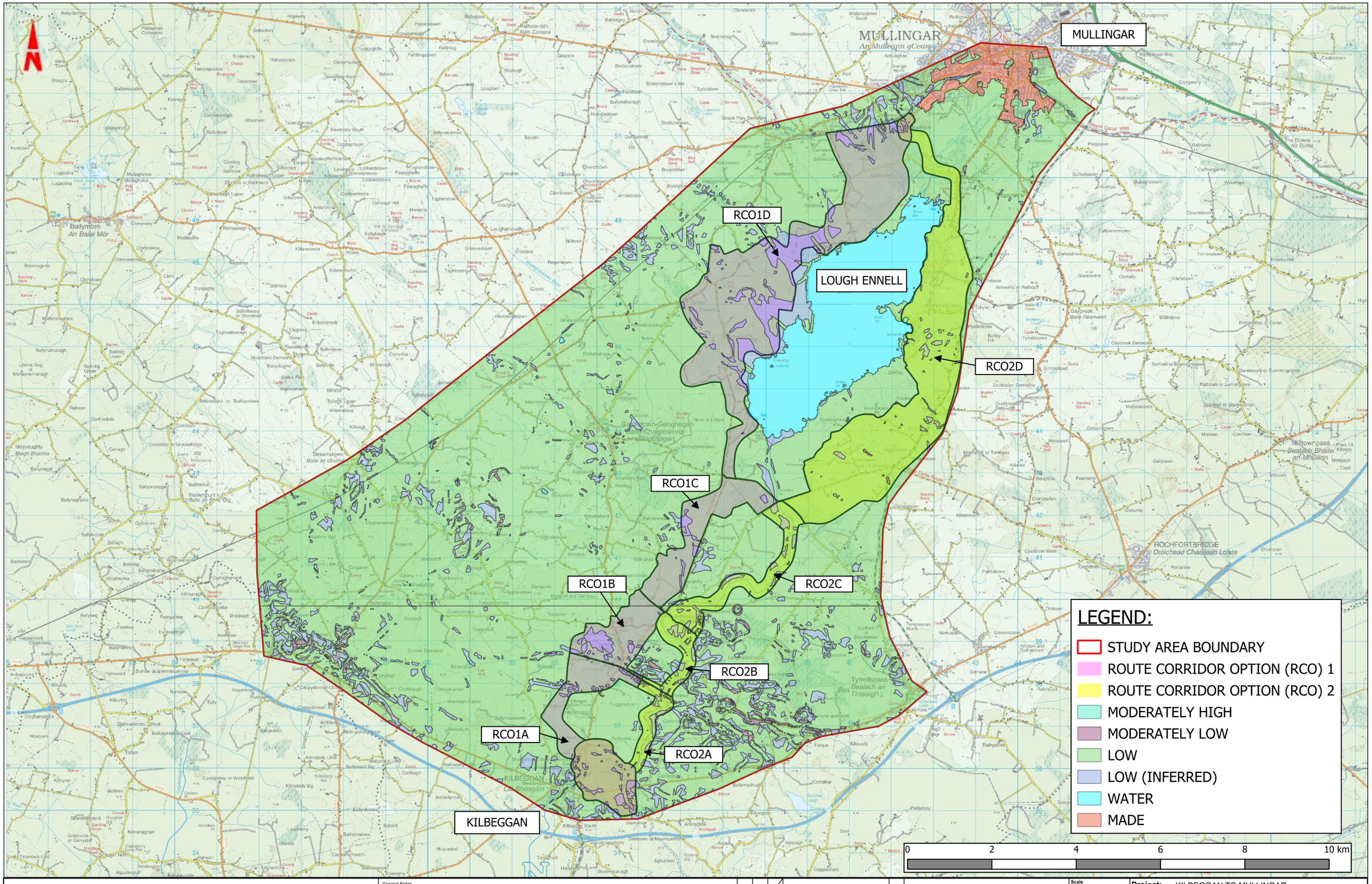
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: COUNTY GEOLOGICAL SITES (CGS)

File Identifier: FIGURE 9-5

Status: A3

Revision: D01



Client:

Bonneagar Iompair Eireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhi

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Rev	Date	Amendment / Issue
-	-	For Consultation

RPS
A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: LANDSLIDE SUSCEPTIBILITY

File Identifier: FIGURE 9-6

Status: A3

Revision: D01

MULLINGAR

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO1B

RCO2C

RCO2B

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- EXTREME
- HIGH
- MODERATE
- LOW
- WATER
- ROCK AT OR NEAR SURFACE OR KARST

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

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Rev	Date	Amendment / Issue
-	-	For Consultation

RPS
A TETRA TECH COMPANY

Model File Identifier -

Scale 1:80,000 @A3

Created On DECEMBER 2024

Sheets -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: GROUNDWATER VULNERABILITY

File Identifier FIGURE 9-7

Status A3

Revision D01

MULLINGAR

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO1B

RCO2C

RCO2B

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- URBAN WASTE WATER TREATMENT (UWWT) AGGLOMERATIONS
- EXTRACTIVE INDUSTRIES
- INDUSTRIAL EMISSIONS (IE) LISCENSED FACILITIES
- INTEGRATED POLLUTION CONTROL (IPC) LISCENSED FACILITIES

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

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-	-	For Consultation

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Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

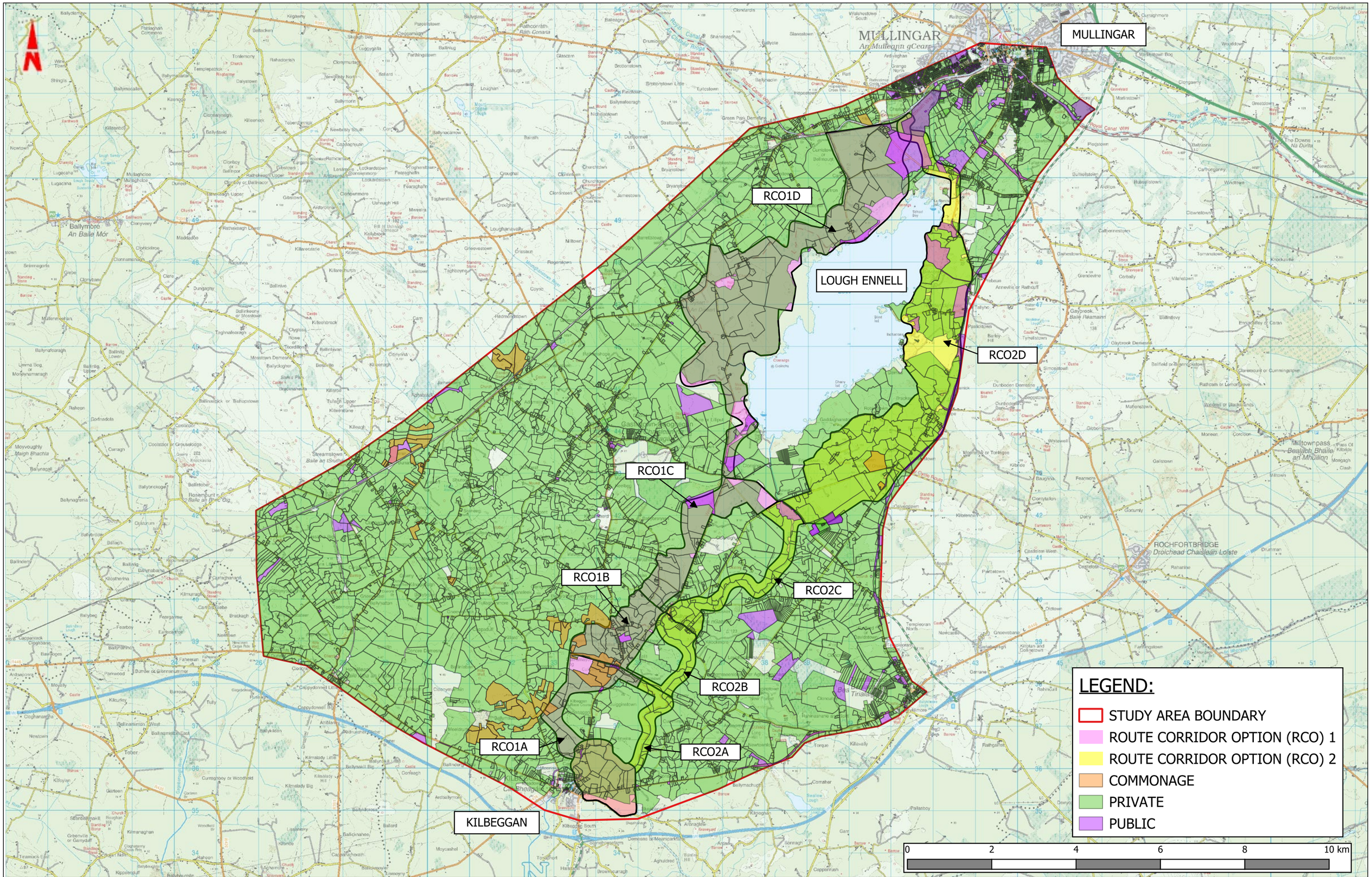
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: SURROUNDING WASTE CONTEXT

File Identifier: FIGURE 10-1

Status: A3

Revision: D01



Client:

Bonneagar Iompair Eireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhi

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Rev	Date	Amendment / Issue
-	-	For Consultation

A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: LANDOWNERSHIP

File Identifier: FIGURE 11-3

Status: A3

Revision: D01

MULLINGAR

13

1

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO1B

RCO2C

RCO2B

11

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- PUBLIC RIGHTS OF WAY
  - 1. ROYAL CANAL
  - 11. CLONCROW BOG
  - 13. MULLINGAR TOWN

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Eireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhi

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Rev	Date	Amendment / Issue
-	-	For Consultation

RPS
A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: PUBLIC RIGHTS OF WAY

File Identifier: FIGURE 11-4

Status: A3

Revision: D01

MULLINGAR

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO1B

RCO2C

RCO2B

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- EIRGRID 220kV MAYNOOTH-SHANNONBRIDGE

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Eireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

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Rev	Date	Amendment / Issue
-	-	For Consultation

A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: UTILITIES - ELECTRIC

File Identifier: FIGURE 11-5

Status: A3

Revision: D01

MULLINGAR

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO1B

RCO2C

RCO2B

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- GAS NETWORK IRELAND

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Eireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhi

General Notes

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Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

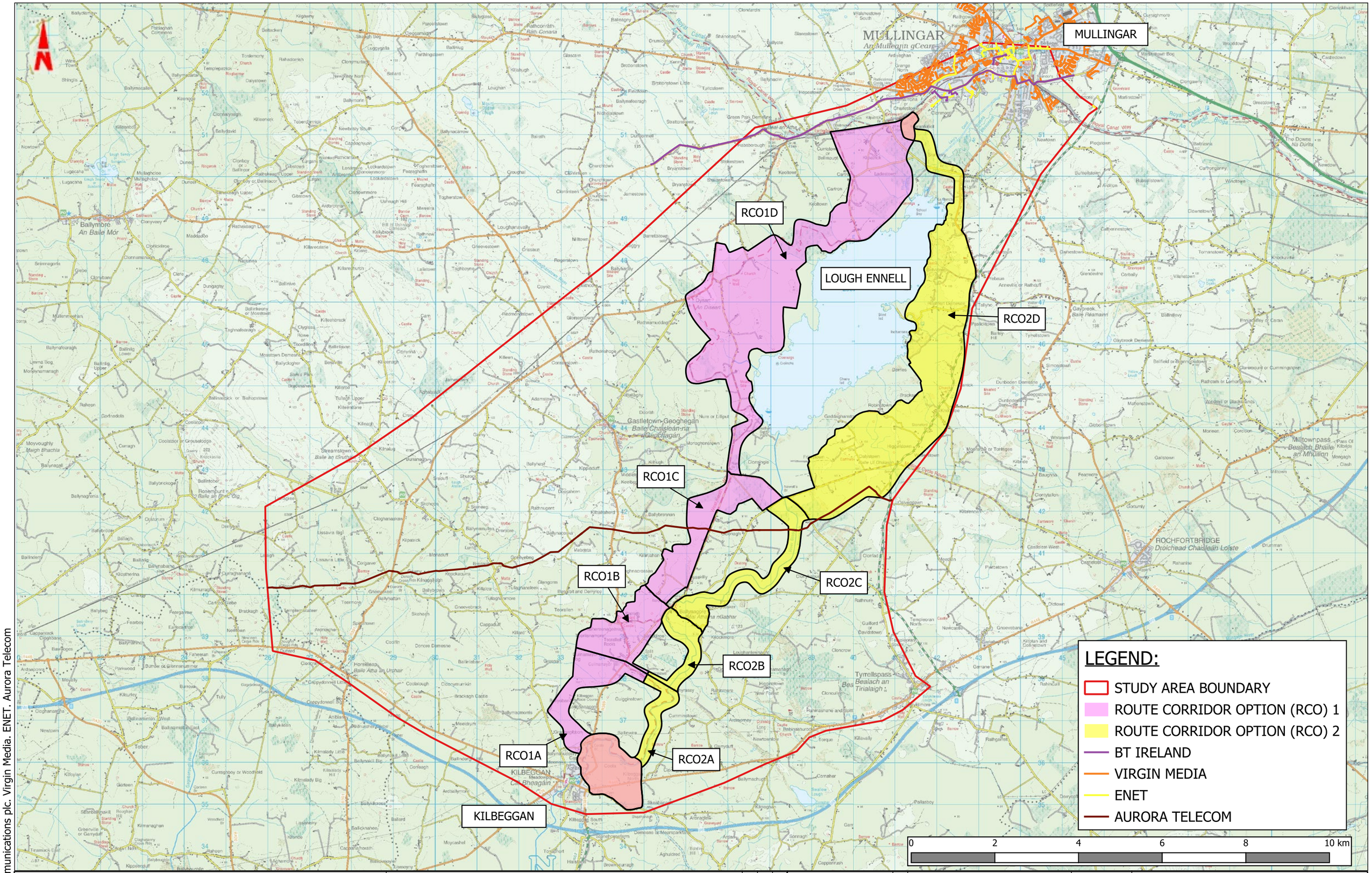
Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: UTILITIES - GAS NETWORK IRELAND

File Identifier: FIGURE 11-6

Status: A3

Revision: D01



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-	-	For Consultation

A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: UTILITIES - TELECOMMUNICATIONS

File Identifier: FIGURE 11-7

Status: A3

Revision: D01

MULLINGAR

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO2C

RCO1B

RCO2B

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- RESERVOIR
- PUMP STATION
- NETWORK STRUCTURE
- TREATMENT PLANT
- WASTE WATER PUMP STATION
- MAIN
- GRAVITY MAIN
- LATERAL LINE
- NON SERVICE LINE
- ABANDONED LINE
- CASING
- LATERAL LINE
- NON SERVICE LINE

0 2 4 6 8 10 km

"Irish Water gives this information as to the position of its underground network as a general guide only on the strict understanding that it is based on the best available information provided by each Local Authority in Ireland. It should not be relied upon in the event of excavations or other works being carried out in the vicinity of the network. The onus is on the parties carrying out the works to ensure the exact location of the network is identified prior to mechanical works being carried out. Service pipes are not generally shown but their presence should be anticipated. © Irish Water"

Client:

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

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RPS
A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3
Created On: DECEMBER 2024
Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: UTILITIES - UISCE ÉIREANN

File Identifier: FIGURE 11-8
Status: A3
Revision: D01

MULLINGAR

RCO1D

LOUGH ENNELL

RCO2D

RCO1C

RCO1B

RCO2C

RCO2B

RCO1A

RCO2A

KILBEGGAN

LEGEND:

- STUDY AREA BOUNDARY
- ROUTE CORRIDOR OPTION (RCO) 1
- ROUTE CORRIDOR OPTION (RCO) 2
- NAVY & RED FLAGS - POINT SOURCE AND PHOSPHORUS/SEDIMENT LOSSES
- NAVY FLAG - PHOSPHORUS/SEDIMENT LOSSES
- WHITE FLAG - PROTECT MEASURES

0 2 4 6 8 10 km

Client:

Bonneagar Iompair Eireann
Transport Infrastructure Ireland

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhí

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Rev	Date	Amendment / Issue
-	-	For Consultation

A TETRA TECH COMPANY

Model File Identifier: -

Scale: 1:80,000 @A3

Created On: DECEMBER 2024

Sheets: -

Project: KILBEGGAN TO MULLINGAR GREENWAY

Title: TARGETING AGRICULTURAL MEASURES

File Identifier: FIGURE 12-1

Status: A3

Revision: D01

Annex B Westmeath County Development Plan 2021-2027: Policies Relevant To Biodiversity

B

Annex B Westmeath County Development Plan 2021-2027: Policies Relevant to Biodiversity

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KILBEGGAN TO MULLINGAR GREENWAY

Annex B Westmeath County Development Plan 2021 – 2027: Polices Relevant to Biodiversity

IE000653-RPS-RP-XX-
R-Z-0008
S2 D01
December 2024

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
D01	External Review	JMcC	SMcA	SMcA	01.12.2024

Approval for issue

SMcA	01.12.2024

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Prepared by:

RPS

Prepared for:

Westmeath County Council

Dublin | Cork | Galway | Sligo | Kilkenny
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1.2 Westmeath Strategic Heritage Plan 2024-2030: Policies Relevant to Biodiversity 5

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Table 1.2: Westmeath Strategic Heritage Plan 2024 – 2030: Polices Relevant to Biodiversity 5

1 POLICES RELEVANT TO BIODIVERSITY

1.1 Westmeath County Development Plan 2021-2027: Policies Relevant to Biodiversity

Table 1.1: Westmeath County Development Plan 2021 – 2027: Polices Relevant to Biodiversity

WCDP Policy No.	Description
CPO 12.1	Contribute as appropriate towards the protection of designated sites in compliance with relevant EU Directives and applicable national legislation.
CPO 12.2	Support the implementation of any relevant recommendations contained in the National Biodiversity Plan, the All Ireland Pollinator Plan and the National Peatlands Strategy.
CPO 12.3	Support the implementation of the Westmeath Biodiversity Action Plan 2014-2020 and any revisions made thereto.
CPO 12.4	Protect and conserve Special Areas of Conservation, candidate Special Areas of Conservation, Special Protection Areas and candidate Special Protection Areas, designated under the EU Birds and Habitats Directives respectively.
CPO 12.5	Ensure that no plans, programmes, etc. or projects giving rise to significant cumulative, direct, indirect or secondary impacts on European Sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Plan (either individually or in combination with other plans, programmes, etc. or projects). Footnote: Except as provided for in Article 6(4) of the Habitats Directive, viz. There must be a) no alternative solution available, b) imperative reasons of overriding public interest for the project to proceed; and c) Adequate compensatory measures in place.
CPO 12.6	Ensure that any plan or project that could have a significant adverse impact (either by themselves or in combination with other plans and projects) upon the conservation objectives of any Natura 2000 Site or would result in the deterioration of any habitat or any species reliant on that habitat will not be permitted. Footnote: Except as provided for in Article 6(4) of the Habitats Directive, viz. There must be a) no alternative solution available, b) imperative reasons of overriding public interest for the project to proceed; and c) Adequate compensatory measures in place.
CPO 12.7	Assess any plan or project in accordance with Article 6 of the Habitats Directive to determine whether the plan or project is likely to have a significant effect on the site either individually or cumulatively upon the integrity, conservation objectives and qualifying interest of any Natura 2000 Site.
CPO 12.8	Require an ecological appraisal for development not directly connected with or necessary to the management of Natura Sites, or a proposed Natura Site and which are likely to have significant effects on that site either individually or cumulatively.
CPO 12.9	Identify and provide appropriate buffer zones between Designated Sites and local biodiversity features and areas zoned for development.
CPO 12.10	Prepare Strategic Habitat Management Plans for Natura 2000 Sites in Council ownership in consultation with the National Parks and Wildlife Service and relevant stakeholders.
CPO 12.11	Promote the maintenance and as appropriate, achievement of favourable conservation status of habitats and species and to improve the ecological coherence of the Natura 2000 network, by maintaining and where appropriate, developing features in the landscape which are of major importance for wild fauna and flora
CPO 12.12	Require that new development proposals affecting designated sites have regard to the sensitivities identified in the SEA Environmental Report prepared in respect of this plan
CPO 12.13	Protect, manage, and enhance the natural heritage, biodiversity, landscape and environment of County Westmeath, in recognition of its importance as both a non-renewable resource and a natural asset.
CPO 12.14	Require all new developments in the early pre-planning stage of the planning process to identify, protect and enhance ecological features by making provision for local biodiversity (e.g. through provision of swift boxes, bat roost sites, green roofs, etc.) and provide links to the wider Green Infrastructure network as an essential part of the design process.

CPO 12.15	Support the protection of all native woodlands listed in the National Survey of Native Woodlands 2003 to 2008.
CPO 12.16	Apply the precautionary principle in relation to development proposals in areas identified as being of national nature conservation interest, by requiring a Scientific/ Ecological Risk Assessment to ensure that the development will not impact on the integrity and habitat value of the site.
CPO 12.17	Support and cooperate with Statutory Authorities and other relevant bodies in support of measures taken to manage designated nature conservation sites, in order to achieve their conservation objectives. Specific regard shall be had to Conservation Management Plans and their conservation objectives/ management practices, where they exist.
CPO 12.18	Consult with the National Parks and Wildlife Service (NPWS) in regard to any developments (those requiring permission and those not requiring planning permission) which the Council proposes to carry out within pNHAs, NHAs, SACs, SPAs, and other important ecological sites.
CPO 12.19	Maintain the conservation value of Council owned land within NHAs and pNHAs and promote the conservation value of Council owned lands adjoining NHAs.
CPO 12.20	Protect and conserve NHAs and pNHAs including NHAs that become designated and notified to the Local Authority during the lifetime of the Plan and seek to develop linkages between designated sites, where feasible and as resources permit.
CPO 12.21	Lighting fixtures should provide only the amount of light necessary for personal safety and should be designed so as to avoid creating glare or emitting light above a horizontal plane. Lighting fixtures should have minimum environmental impact and Dark Sky lighting should be considered in the interest of reducing the impact of lighting on wildlife as part of any future planning application, thereby contributing towards the protection of amenity and the protection of light sensitive species such as bats. EUROBATS guidelines should be applied in informing proposed development(s), where relevant.
CPO 12.22	Require, in special circumstances where protected species/habitats are identified in association with a development proposal, that an 'Ecological Impact Assessment (EcIA)' prepared by a suitably qualified and indemnified person be undertaken for a proposed development which may potentially have a significant impact on rare and threatened species.
CPO 12.23	Seek to create and enhance ecological linkages and buffer zones from development.
CPO 12.24	Protect and where possible enhance biodiversity and ecological connectivity, including woodlands, trees, hedgerows, semi-natural grasslands, rivers, streams, natural springs, wetlands, geological and geo-morphological systems, other landscape features, natural lighting conditions, and associated wildlife where these form part of the ecological network and/or may be considered as ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive. Appropriate mitigation and/or compensation to conserve biodiversity, landscape character and green infrastructure networks will be required where habitats are at risk or lost as part of a development.
CPO 12.25	Recognise that nature conservation is not just confined to designated sites and acknowledge the need to protect non-designated habitats and landscapes and to conserve the biological diversity.
CPO 12.26	Investigate a protocol in relation to the application of an ecosystem services scoring approach to inform the assessment of planning applications.
CPO 12.27	Prevent the spread of invasive species within the plan area, including requiring landowners and developers to adhere to best practice guidance in relation to the control of invasive species
CPO 12.28	Ensure that proposals for development do not lead to the spread or introduction of invasive species. If developments are proposed on sites where invasive species are or were previously present, the applicant will be required to submit a control and management program for the particular invasive species as part of the planning process and to comply with the provisions of the European Communities Birds and Habitats Regulations 2011 (S.I. 477/2011).
CPO 12.29	Support, as appropriate, the National Parks and Wildlife Service's efforts to seek to control and manage the spread of non-native invasive species on land and water. Where the presence of non-native invasive species is identified at the site of any proposed development or where the proposed activity has an elevated risk of resulting in the presence of these species, details of how these species will be managed and controlled will be required.
CPO 12.37	Preserve and enhance the amenity and biodiversity value of the County, by promoting the protection of trees, groups of trees and ancient woodlands, of significant amenity value, especially native and broadleaf species.
CPO 12.38	Protect trees subject to Tree Preservation Orders and seek to designate additional Tree Preservation Orders, where appropriate.
CPO 12.39	Discourage the felling of mature trees and hedgerow, particularly species rich roadside and townland boundary hedgerows to facilitate development and seek Tree Management Plans to ensure that trees are adequately protected during development and incorporated into the design of new development.

CPO 12.40	Protect and preserve existing hedgerows in new developments, particularly species rich roadside and townland boundary hedgerows, and where their removal is necessary during the course of road works or other works seek their replacement with new hedgerows of native species indigenous to the area.
CPO 12.41	Support increases in tree cover (of suitable species) and native species hedgerows in all towns and villages across Westmeath due to air quality, shade, aesthetic and health benefits they provide.
CPO 12.42	Encourage the development of proposals for new woodlands and community woodlands in urban/urban fringe areas utilising funding available through schemes such as the NeighbourWood and Native Woodland Schemes.
CPO 12.43	Encourage the protection of the trees which are considered an important component of demesne landscapes.
CPO 12.44	Support the development of a plan for the protection and maintenance of public trees and public native hedgerows in urban areas.
CPO 12.45	Require, where necessary, a Tree Management Plan (with suitable native species) to be submitted as part of new development proposals. Ensure that, where possible, established trees are incorporated into the overall design of new developments and are fully protected during development works in accordance with BS standards.
CPO 12.46	Support the use of suitable marginal lands in Council ownership for community projects such as neighbourwood schemes and biodiversity projects.
CPO 12.47	Support the preparation of a Tree Planting Policy for the County which promotes biodiversity and indigenous tree planting.
CPO 12.48	Resist development that would destroy, fragment or degrade any wetland in the County.
CPO 12.49	Support the implementation of recommendations made in the County Westmeath Wetlands Survey 2019 and subsequent versions thereof.
CPO 12.50	Require an Ecological Impact Assessment where is it proposed to fill or reclaim a wetland area.
CPO 12.51	Protect floodplains, wetlands and watercourses, for their biodiversity and flood protection value.
CPO 12.52	Ensure that all proposed land zonings take cognisance of appropriate riparian setback distances that support the attainment of high ecological status for water bodies, the conservation of biodiversity and good ecosystem health, and buffer zones from flood plains.
CPO 12.53	Implement the relevant parts of the Planning and Development (Amendment) (No. 2) Regulations 2011 and the European Communities (Amendment to Planning and Development) Regulations 2011, which require planning permission to be applied for where the area impacted by works relating to the drainage or reclamation of a wetland exceeds 0.1 hectares or where such works may have a significant effect on the environment. Such applications for permission would need to be supported by an Appropriate Assessment where necessary.
CPO 12.54	Seek the continued improvement of water quality, bathing facilities and other recreational opportunities in waterways and to protect the ecology and wildlife thereof.
CPO 12.55	Provide for public access to waterways where feasible and appropriate, in partnership with the National Parks and Wildlife Service (NPWS), Waterways Ireland and other relevant stakeholders, whilst maintaining them free from inappropriate development, subject to Ecological Impact Assessment and Appropriate Assessment, as appropriate.
CPO 12.56	Protect the biodiversity of rivers, streams and other water courses and maintain them in an open state and discourage culverting and realignment.
CPO 12.57	Consult with Waterways Ireland and the National Parks and Wildlife Service, Government, Inland Waterways Association of Ireland and local communities on development proposals that may affect inland waterways, rivers, lakes, canals or water courses.
CPO 12.58	Ensure that the County's watercourses are retained for their biodiversity and flood protection values and to conserve and enhance where possible, the wildlife habitats of the County's rivers and riparian zones, lakes, canals and streams which occur outside of designated areas to provide a network of habitats and biodiversity corridors throughout the county.
CPO 12.59	Consult, as appropriate, with Inland Fisheries Ireland in relation to any development that could potentially impact on the aquatic ecosystems and associated riparian habitats
CPO 12.60	Ensure that run off from a proposed development does not result in a deterioration of downstream watercourses or habitats
CPO 12.61	Seek to manage any increase in visitor numbers in order to avoid significant effects including loss of habitat and disturbance, including ensuring that any new projects, such as greenways, are a suitable distance from ecological sensitivities, such as riparian zones.

CPO 12.62	Have regard to the Inland Fisheries guidelines “Planning for watercourses in the Urban Environment” in relation to nature based surface water management.
CPO 12.63	Protect waterbodies and watercourses from inappropriate development, including rivers, streams, associated undeveloped riparian strips, wetlands and natural floodplains. This will include the preservation habitat features/structure, such as treeline density, and protection buffers in riverine and wetland areas, as appropriate.
CPO 12.64	Protect the county’s designated peatland areas and landscapes, including any ancient walkways through bogs and to conserve their ecological, archaeological, cultural, and educational heritage.
CPO 12.65	Require the preparation of Hydrological Reports for significant developments within and in close proximity to peatlands, and to take account of same in the assessment of impacts on the integrity of peatland ecosystems.
CPO 12.66	Exercise control of peat extraction, both individually and cumulatively, which would have significant impacts on the environment, in accordance with legislative provisions, in the interest of protecting and enhancing biodiversity and addressing climate change.
CPO 12.67	Work in partnership with relevant stakeholders on suitable peatland site(s) to demonstrate best practice in sustainable peatland conservation, management and restoration techniques and to promote their heritage and educational value subject to Ecological Impact Assessment and Appropriate Assessment, where relevant.
CPO 12.68	Work with relevant agencies such as Eastern and Midland Regional Assembly, Bord na Mona, NPWS, Coillte and adjacent Local Authorities to prepare an afteruse framework plan for the peatlands and related infrastructure, to provide for the future sustainable and environmentally sensitive use of large industrial peatlands sites when peat harvesting finishes. Such plans should have regard to both National and Regional frameworks concerning the future use of peatlands, including cutaway bogs
CPO 12.69	Support collaboration between Local Authorities, the Bord na Mona Transition Team and relevant stakeholders in the development of partnership approaches to integrated peatland management for a just transition having regard to relevant policies and strategies such as the Bord na Móna Biodiversity Plan 2016-2021 and the national Climate Mitigation and Adaptation Plans. This shall include support for the rehabilitation and/or re-wetting of suitable peatland habitats.
CPO 12.70	Consider designating peatlands at Coolnagun, Corlanna, Lower Coole, Mayne, Ballinealoe and Clonsura as archaeological heritage areas, where it is considered ancient trackways or road may have been constructed.
CPO 12.71	Support the preparation of a Sustainable Holistic Management Plan for the future use of the Industrial Peatlands in the County, which recognises the role of peatlands in carbon sequestration.
CPO 12.72	Support the designation of a National Park for the peatlands area in the Midlands in conjunction with adjoining Local Authorities
CPO 12.73	Undertake a feasibility study to identify peatways, where appropriate and examine the tourist potential of same.
CPO 12.74	Support the implementation of the ‘National Raised Bog Special Areas of Conservation Management Plan 2017-2022’ within the County.

1.2 Westmeath Strategic Heritage Plan 2024-2030: Policies Relevant to Biodiversity

Table 1.2: Westmeath Strategic Heritage Plan 2024 – 2030: Polices Relevant to Biodiversity

Objective	Action Proposed	Performance Indicator
Objective 1 – Encourage and support a greater awareness and appreciation of our heritage.	Continue to implement the AII Ireland Pollinator Plan as part of our partnership agreement with the National Biodiversity Data Centre. Support and promote this and other key initiatives including the Creative Ireland Strategy, The Heritage Council's 'Heritage in Schools Programme' and other relevant plans and programmes that arise during the life of the Plan.	Westmeath County Council Pollinator Actions submitted annually to the National biodiversity Data Centre. Initiatives promoted and supported; Number of schools engaging in Heritage Council's 'Heritage in Schools Programme'.
Objective 3 – Protect and safeguard our County's Heritage	Work closely with the Biodiversity Officer, the Climate Action Officer, Architectural Conservation Officer and relevant external partners to ensure that Biodiversity and Climate adaptation are key considerations in all Heritage Projects and communications.	Biodiversity and Climate Adaptation considered and appropriate measures incorporated into Heritage Projects and communications.
	Collaborate on the implementation of Westmeath Biodiversity Plan and the Westmeath Climate Action Plan and support implementation of Built and Archaeological Heritage and Biodiversity Climate Change Sectoral Adaptation Plans.	Relevant actions of the (emerging) Westmeath Biodiversity Plan and Climate Action Plan identified and implemented.

Annex C NI2749 K2M Overwintering Bird Survey Report 2023-24

C

Annex C
NI2749 K2M Overwintering Bird Survey Report 2023-24

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ECOLOGICAL SURVEY FOR OVERWINTERING BIRDS 2023/24

Kilbeggan to Mullingar Greenway



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A01

rpsgroup.com

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Approval for issue

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Prepared by:

RPS

Prepared for:

Westmeath County Council

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1 INTRODUCTION

RPS was commissioned by Westmeath County Council (WCC) to undertake an Ecological Survey for Overwintering Birds at areas of land to the east and west of Lough Ennell, between Kilbeggan and Mullingar. WCCl propose to develop a greenway from Kilbeggan Harbour to Mullingar in County Westmeath.

1.1 Ecological Survey for Birds

The Ecological Survey Report has been written in accordance with the Chartered Institute of Ecological and Environmental Management (CIEEM) *Guidelines for Ecological Report Writing* (CIEEM 2017). The aim of the report is to provide a description of the bird survey methods used; to provide the detailed results of bird surveys; and to provide an interpretation of the results. The Ecological Survey for Overwintering Birds is used to inform the Route Options Scoping Report.

1.2 Legislation

The conservation status of bird species in Ireland can be assigned in relation to a species inclusion on various schedules or annexes of Irish or European legislation, or on relevant conservation lists.

Ireland is internationally important for its waterfowl and seabird populations. Swans, geese, ducks and waders occur in internationally important numbers in winter on coastal and freshwater wetlands. Breeding waders and wildfowl occur in globally significant numbers on wetlands and coastal areas and islands support breeding seabird colonies.

The EU Directive 2009/147/EC on the conservation of wild birds, often referred to as the 'Birds Directive', recognised that bird conservation needed to be addressed at an international scale. Member States are obliged to take special action for a range of rare or vulnerable species, which are listed on Annex 1 of the Directive, and for regularly occurring migratory species (Article 4.2). Article 3 requires Member States to preserve, maintain and re-establish sufficient diversity and area of habitats for all wild birds. This should primarily (but not exclusively) involve the creation of Special Protected Areas (SPAs) and recognising the historic losses of wildlife. Article 3 also calls for the appropriate management of habitats both inside and outside protected areas, the re-establishment of destroyed habitats, as well as the creation of new habitats (Williams *et al.,* 2005). The Birds directive also prohibits the pollution of and/ or destruction of habitats that birds depend on, as well as prohibiting disturbance to birds using those habitats.

All wild birds in Ireland are afforded protected status under the Wildlife Act, 1976, which states that:

Wild birds and their nests and eggs, other than wild birds of the species mentioned in the Third Schedule to this Act, shall be protected.

However, for the purposes of reporting and considering their conservation status, a species is considered to be of "conservation concern" if it is included on one or more of the following:

- Annex 1 of the EU Birds Directive;
- Part 1 of the Fourth Schedule of the Wildlife Act, 1976 (as amended);
- Birds of Conservation Concern in Ireland (BoCCI) red list (Gilbert *et al.,* 2021); and
- BoCCI amber list (Gilbert *et al.,* 2021).

1.3 Proposed Project

The proposed project would involve construction of a greenway for cycling and walking between Kilbeggan Harbour and Mullingar, County Westmeath. The selected route corridor will be either to the west or east of Lough Ennell. The greenway will typically be a 3m wide bituminous path with a corridor typically between 6m and 10m wide to allow for verges, drainage and side slopes. The project is supported by policy objectives of national, regional and local plans including the National Planning Framework, National Development Plan, National Cycle Network, Cycle Connects and Westmeath County Development Plan.

2 METHODOLOGY

2.1 Statement of Authority

Nick Veale, ornithological surveyor, carried out overwintering bird surveys. Nick is a self-employed environmental consultant and holds a BSc (Hons) in Environmental Science, a MSc in Environmental Management and has over 20 years' extensive experience in the field of ecology and environmental consultancy. Nick has extensive experience in upland bird surveys, breeding bird surveys, vantage point surveys, wetland bird surveys and wintering bird surveys. Nick is also trained and accredited by the FSC as an ESAS Surveyor and has eight years' professional experience on offshore energy projects.

Adam McClure, report author, is a Senior Ecologist with RPS and holds a BSc (Hons) in Palaeoecology and Archaeology with over 14 years' experience in the field of ornithology. Adam has extensive expertise in breeding bird surveys, vantage point surveys, wetland bird surveys and wintering bird surveys. Adam is the County Antrim Regional Representative for the British Trust for Ornithology (BTO) and is a Trustee of the Northern Ireland Raptor Study Group (NIRSG) and an active member of Copeland Bird Observatory (CBO). Adam is a Full member CIEEM (MCIEEM) and is currently a member of the CIEEM Irish Section Committee.

The report has been approved for issue by James McCrory, Technical Director of Ecology with RPS. James holds a BA (Hons) in Natural Sciences (Mod) Botany and a MSc in Habitat Creation and Management. James is a Chartered Environmentalist (CEnv), a Chartered Ecologist (CEcol), a Chartered Biologist (CBiol) and a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and the Royal Society of Biology (MRSB). James is a former member of the CIEEM Irish Section Committee and CIEEM Policy Review Group in Ireland and a member of the CIEEM technical working group updating the Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland. James currently sits on the CIEEM technical working group for EcIA accreditation across the Institutes practitioner network.

The information prepared and provided is true and accurate at the time of issue of this report and has been prepared and provided in accordance with the CIEEM Code of Professional Conduct (CIEEM 2019). We confirm that the professional judgement expressed herein is the true and bona fide opinion of our professional ecologists.

2.2 Desk Study

Consultation was undertaken with the *National Parks and Wildlife Service (NPWS) Protected Sites in Ireland* database to identify designated sites with ornithological Qualifying Interests which may be impacted by the proposed development.

2.3 Wintering Bird Survey

The methodology employed was a scaled down version of the British Trust for Ornithology's (BTO) Common Bird Census (CBC) methodology (Bibby *et al*., 2000 & Gilbert *et al*., 1998), which aims to capture overwintering bird activity within the survey area.

Three visits were made across the winter season: mid-November 2023, mid-January 2024 and early-March 2024.

The primary target species for the purposes of this survey were all waterbirds, and secondary species recorded included water-dependant passerines (i.e., grey wagtail and dipper), raptors and any other Annex 1 species.

The survey area consisted of two sections of Option 5 and three along Option 7 (part of the section immediately north of Killbeggan is included in both Option 5 and 7) as shown in Figure 1.0. These sections of the route were included for survey as they are adjacent to Lough Ennell (such as those at Lilliput, Carrick Woods and Ladestown) and included areas of improved farmland adjacent to the River Brosna (such as between Kilbeggan and Ballynagore).

The justification for excluding areas along the option routes included sections which pass through woodland, urban areas and intensively managed improved farmland which are not near waterbodies (i.e., areas that are not preferred by overwintering waterbirds).

Where access to the survey area was possible (i.e., along publicly accessible land), the site was slowly walked by the ornithologist to record overwintering waterbirds and secondary species as set out above. Areas within the survey area where access was not permitted (i.e., not publicly accessible) were surveyed from a vantage point which allowed the surveyor to oversee the survey area. Where vegetation and geomorphology did not allow a suitable vantage point, a drone was flown over the area to check for waterbirds roosting or feeding on fields.

Surveys were made in favourable weather, avoiding conditions such as prolonged heavy rain or strong winds which may negatively affect the results.

Visits were made during daylight hours (i.e., between sunrise to sunset).

All species observed during survey(s) were mapped and coded using standard BTO species codes (Appendix A).

3 RESULTS

3.1 Consultation

Consultation with the NPWS Protected Sites in Ireland database identified **one** designated site with ornithological Qualifying Interests which may be impacted by the proposed development, Lough Ennell Special Protection Area (SPA).

3.1.1 Lough Ennell SPA

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Pochard, Tufted Duck and Coot.

The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds. Lough Ennell is one of the most important Midland lakes for wintering waterfowl, with nationally important populations of Pochard (738), Tufted Duck (1,303) and Coot (433) - all figures are mean peaks for the 5 winters 1995/96-1999/2000.

The population of Tufted Duck represents over 3% of the all-Ireland population.

The site is also utilised by an internationally important population of non-migratory Mute Swan (340). Other species which occur include Golden Plover (1,000 in 1998/99), Lapwing (673), Mallard (93), Little Grebe (30), Great Crested Grebe (24) and Goldeneye (22).

Lough Ennell is of ornithological significance for wintering waterfowl, with three migratory species having populations of national importance. The occurrence of Golden Plover in the vicinity of the lake is of note as this species is listed on Annex I of the E.U. Birds Directive. Lough Ennell is a Ramsar Convention Site.

3.2 Wintering Bird Survey

Three visits were made to each survey area during the wintering season (Table 3.1) in order to monitor for overwintering birds; November 2023, January 2024 and March 2024.

Table 1 Wintering Bird Survey dates and weather conditions

Date	Start	End	Survey conditions				
			Cloud	Wind	Visibility	Precipitation	Temperature (°C)
22-Nov-23	10:15	15:15	2/8	W4	>5km	None	11
23-Nov-23	08:35	14:35	0/8 - 7/8	SW4	>5km - 3-5km	Light shower at end	10
16-Jan-24	08:25	13:05	3/8	W1	3-5km	Drizzle at start and end	6-7
17-Jan-24	08:25	14:25	2/8 - 4/8	NE2	>5km	Sleet mid-morning & ground frost first thing	-2 - 2
18-Jan-24	09:05	15:05	0/8 - 4/8	NW2	>5km	None	0 - 4
04-Mar-24	10:35	16:35	4/8 - 6/8	E3	>5km - 3-5km	Heavy showers at end	7
06-Mar-24	10:15	16:15	1/8 - 3/8	SE4	>5km	None	10
07-Mar-24	08:20	13:00	2/8	ESE4	>5km	None	10

A total of 22 primary species were recorded (Table 3.2), including three Qualifying Interests of Lough Ennell SPA, locations of which are listed in Figure 2.0-4.0:

- Coot *Fulica atra*
- Pochard *Aythya ferina*
- Tufted duck *Aythya fuligula*

In addition, four secondary species were recorded (Table 3.3), including three species of raptors which are listed on Part 1 of the Fourth Schedule of the Wildlife Act, 1976:

- Buzzard *Buto buto*
- Kestrel *Falco tinnunculus*
- Sparrowhawk *Accipiter nisus*

Table 2. Target Species of Vantage Point Surveys

Species	Visit 1	Visit 2	Visit 3	BoCCI
Black-headed gull	148	276	100	Amber (B/W)
Common gull	0	6	22	Amber (B/W)
Coot	129	374	45	Amber (B/W)
Cormorant	2	3	7	Amber (B/W)
Curlew	0	0	4	Red (B/W)
Golden plover	0	0	47	A1, Red (W)
Great-crested grebe	11	40	14	Amber (B/W)
Grey heron	7	9	15	
Herring gull	0	12	12	Amber (B/W)
Lapwing	48	28	0	Red (B/W)
Light-bellied brent goose	0	2	0	Amber (W)
Little grebe	10	29	25	
Mallard	39	35	27	Amber (B/W)
Mandarin duck	0	0	2	
Moorhen	5	5	8	
Mute swan	38	62	28	Amber (B/W)
Pochard	8	19	4	A1, Red (B/W)
Scaup	7	9	0	A1, Red (W)
Snipe	10	16	9	Red (B/W)
Teal	4	4	37	Amber (B/W)
Tufted duck	26	0	9	Amber (B/W)
Wigeon	5	4	0	Amber (B/W)

Key to Table

A1 – Annex I Birds Directive
B – BoCCI listed due to breeding population
WA – Part 1 of the Fourth Schedule of the Wildlife Act, 1976
W – BoCCI listed due to wintering population
Red – Red listed BoCCI species
Amber – Amber listed BoCCI species
Bold – Lough Ennell SPA Qualifying Interests

Table 3. Secondary species recorded during Vantage Point Survey

Species	Visit 1	Visit 2	Visit 3	BoCCI
Buzzard	2	8	4	WA
Grey Wagtail	2	3	2	Red (B)
Kestrel	0	1	4	WA, Red (B)
Sparrowhawk	0	1	0	A1, WA

Key to Table

A1 – Annex I Birds Directive
B – BoCCI listed due to breeding population
WA – Part 1 of the Fourth Schedule of the Wildlife Act, 1976
W – BoCCI listed due to wintering population
Red – Red listed BoCCI species
Amber – Amber listed BoCCI species
Bold – Lough Ennell SPA Qualifying Interests

4 DISCUSSION & ANALYSIS OF RESULTS

4.1 SPA Qualifying Species

Three SPA qualifying species; Coot, Pochard and Tufted duck were recorded during overwintering surveys, the locations of each are shown in Figures 2 – 4.

4.1.1 Coot

An amber-listed species of conservation concern in Ireland, Coot are resident at ponds and lakes throughout the island, augmented by winter visitors during September to April. They require large, shallow water bodies rich in nutrients with abundant bottom vegetation and emergent vegetation to breed successfully. They have an omnivorous diet, feeding predominantly on emergent and deep-water plants but will also forage on seeds, insects, algae and fish. In winter, they are found on lakes, coastal estuaries and river systems with a preference for large inland lakes.

Coot were recorded on all three visits along the survey area. A peak count of 374 coot were recorded during the January survey. This represents approximately 86% of the SPA population for Lough Ennell.

4.1.2 Pochard

A red listed species of conservation concern in Ireland, and an Annex 1 Bird Directive species, Pochard are a scarce summer visitor to Ireland but are widespread in winter. They are regularly found in large, shallow, eutrophic waters with well-vegetated marshes and swamps and can also be found on slow flowing rivers. Pochard feed on the vegetative parts and spores of aquatic plants.

Pochard were observed in all three visits with the peak count of 19 recorded in January 2024, which represents 2.5% of the Lough Ennell SPA population.

4.1.3 Tufted duck

An amber-listed species of conservation concern in Ireland, Tufted duck are a resident and winter visitor, breeding colonially on large open lakes in lowland areas and wintering on lowland freshwater lakes. They feed primarily on mussels, and will take crustaceans, caddis-fly larvae and bryozoans.

Tufted duck were recorded in low numbers during the early and late visits, with none observed during the mid-winter visit in January 2024. The peak count of 26 in November 2023 represents 2% of the Lough Ennell SPA population.

4.2 Non-SPA Qualifying Interest Species

In addition to the SPA Qualifying Interests discussed above, 19 species which are species of conservation concern Ireland were recorded during surveys:

4.2.1 Black-headed gull

An amber-listed species of conservation concern in Ireland, the winter population in Ireland is augmented by wintering birds from northern and eastern Europe. Colonies in Ireland are not widespread, and numbers breeding inland have declined dramatically. They nest on the ground in wetland areas, making them particularly vulnerable to predation by predators such as American mink. They feed on insects and will also exploit domestic and fisheries waste.

4.2.2 Common gull

An amber-listed species of conservation concern in Ireland, Common gull are a localised breeding species and a winter visitor to all Irish coasts. They nest on the ground in a wide variety of situations, making them vulnerable to mammalian predation. They feed on a variety of terrestrial and aquatic insects, invertebrates and fish. The winter population in Ireland is augmented by wintering birds from central and northern Scotland, Scandinavia and the Baltic.

4.2.3 Cormorant

An amber-listed species of conservation concern in Ireland, Cormorant rely on inshore and offshore areas for foraging for fish, and coastal areas for breeding. Distinctive from the similar looking Shag, lacking the crest. They breed in colonies around coastal cliffs, and inland, in trees. They are widespread at sea and inland across winter.

4.2.4 Curlew

A red-listed species of conservation concern in Ireland, Curlew are a widespread winter visitor across a wide range of coastal and inland wetland habitats. The winter population is augmented by Scottish and Scandinavian birds. They feed on invertebrates, mainly molluscs, crabs and ragworms and roost communally along salt marshes and sand banks. They are not a common breeder in Ireland but found in most parts of the country nesting on the ground in rough pastures, meadows and heather. As ground-nesting birds, they are vulnerable to predation. The number and range of resident breeding curlew in Ireland has declined dramatically due to increased afforestation and agricultural intensification.

4.2.5 Golden plover

A red-listed breeding bird of conservation concern in Ireland, and an Annex 1 Bird Directive species, Golden plover are a widespread winter visitor from Iceland and a scarce summer visitor. They feed on soil and surface invertebrates, and seeds, berries and grasses. In winter they are found in large, densely-packed flocks and in a variety of coastal and inland habitats.

4.2.6 Great crested grebe

An amber-listed species of conservation concern in Ireland, Great crested grebe are resident all year round along all Irish coasts. They feed mainly on fish and may supplement their diet with aquatic invertebrates. They breed from the age of 2 years, on large, shallow, eutrophic loughs, along canals, slow flowing rivers and wetlands with emergent vegetation close to open water. They are widespread in winter and return to their breeding areas in mid-February.

4.2.7 Herring gull

An amber-listed species of conservation concern in Ireland, the population is widespread on the coast and inland, commonly breeding in Donegal, Galway and Dublin and are resident through winter. Herring gull diet is both predatory and scavenging, feeding along the coast, following fishing boats and using landfill sites.

4.2.8 Lapwing

A red-listed species of conservation concern in Ireland, large flocks are regularly recorded in a variety of habitats including wetlands, pastures and boglands. They require open farmland nesting sites, which are not always available due to agricultural intensification. They feed on a variety of soil and surface-living invertebrates, particularly small arthropods and earthworms. They are opportunistic foragers, regularly exploiting temporary food sources such as ploughed fields and the edges of floodwaters. They have a widespread winter distribution, with large flocks found on most major wetlands, bogs and coastal pastures.

4.2.9 Light-bellied Brent Goose

An amber-listed species of conservation concern in Ireland, Light-bellied Brent Geese are a winter migrant from high-Arctic Canada and can be found in Ireland between October-April. The population of Light-bellied Brent Geese winters almost entirely on coastal estuaries and grasslands in Ireland. They feed on eel-grass and grasslands.

4.2.10 Mallard

An amber-listed species of conservation concern in Ireland, Mallard is resident and widespread across the island all year round, building hidden nests in vegetation and wintering across all wetland habitats. They are opportunistic foragers, with a diet predominantly made up of seeds but a range of animal material (molluscs and crustaceans), grains, stubble and food presented by humans are all taken.

4.2.11 Mute swan

An amber-listed species of conservation concern in Ireland, Mute swan are resident and widespread across the island all year round on lakes, ponds and rivers. They forage on aquatic vegetation, grazing on land and will occasionally take small amphibians, snails and insects. They build large nest mounds constructed from reed stems and other aquatic vegetation (such as seaweed at coastal locations) along the edge of rivers, lakes and ponds.

4.2.12 Snipe

A red-listed species of conservation concern in Ireland, Snipe are a summer visitor from Europe and Africa, and a winter visitor from Faeroe Islands, Iceland and Scotland. They nest on the ground in grassy tussocks on or near wet boggy terrain. They are highly dispersed in winter, foraging for vegetable matter, seeds, earthworms, tipulid larvae and other soil invertebrates across a variety of wetlands and lowland lakes.

4.2.13 Teal

An amber-listed species of conservation concern in Ireland, widespread across wetlands and reedbeds. Can be found in a wide variety of habitats such as coastal lagoons, estuaries, inland marshes, ponds, lakes and turloughs. Teal feed on small seeds, molluscs and *Enteropmorpha* sp, and will take chironomid larvae when available. They are widespread on coastal and inland habitats during winter, favouring habitats with good vegetation cover such as reedbeds.

4.2.14 Wigeon

An amber-listed species of conservation concern in Ireland, Wigeon are a common winter visitor to wetlands across the island from September to April. They occur on coastal marshes, freshwater and brackish

lagoons, estuaries, bays and inland wetlands, lakes, rivers and turloughs. They graze on coastal seagrass and algae, particularly on Zostera spp. and Enteromorpha spp., and feed on cereal and grassland crops.

4.3 Secondary Species

Four secondary species were also observed. Secondary species were water-dependant passerines (i.e., grey wagtail and dipper), raptors and any other Annex 1 species observed.

4.3.1 Buzzard

A Fourth Schedule of the Wildlife Act species, Buzzards are resident across the island, building large nest platforms in trees and are widespread through winter. They feed on a wide variety of prey items including small mammals, birds, rabbits, insects, earthworms and amphibians.

4.3.2 Grey wagtail

A red-listed species of conservation concern in Ireland for the breeding population, Grey wagtail is a widespread resident along fast flowing streams and rivers throughout Ireland. They breed mainly along streams and rivers, frequently building nests under bridges and feed on insects caught on the ground or in flight.

4.3.3 Kestrel

A red-listed species of conservation concern in Ireland and a Fourth Schedule of the Wildlife Act species, kestrels are one of only five species from the fourth schedule to be a red-listed species of conservation concern/ the population across Ireland is rapidly declining, with a reduction in suitable nesting sites (old buildings, cliffs and crags) a major factor. They feed on small mammals, insects and invertebrates and birds. In winter, they are largely resident within their breeding territory although some upland breeding birds will move towards the coast.

4.3.4 Sparrowhawk

A Fourth Schedule of the Wildlife Act species and an Annex 1 species, the Sparrowhawk is one of the most common raptors across Ireland and are resident all year round. They are widespread in woodland, farmland associated with woodland, larger parks and gardens, and use trees for building a nest. They feed on small birds which are taken when perched or in flight.

4.4 Other Avian Species

4.4.1 Starling

In addition to recording sightings of primary target species and secondary species, the observer also made note of large starling roosts at several locations in reedbeds around Lough Ennell.

Starling is an amber-listed species of conservation concern in Ireland. They are widespread and resident all year round, breeding in countryside, woodland, farmland and urban habitats. They nest in holes or crevices in buildings and trees and often in loose colonies. They are opportunistic foragers, feeding on scraps, refuse tips, plant and animal material including invertebrates, fruits, cereals and seeds. They form huge winter flocks and provide a spectacular winter spectacle with huge roosts murmurating at dusk before settling down for the night.

5 RECOMMENDATIONS

The site supports red- and amber-listed BoCCI (Gilbert *et al.* 2021), as identified during overwintering bird survey in 2023/2024.

The NPWS consultation response dated 14 June 2024 states the following:

> *Wintering birds should be considered within the project area and not just the SPA designation. Of note, a large flock of whooper swans forage over a wide area in Dysart on the west side of Lough Ennell outside of the SPA boundary. Breeding birds of conservation concern, particularly waders and ground nesting song birds breed in lands outside of the SAC and SPA boundaries and therefore comprehensive wintering and breeding bird surveys should be carried out over a minimum of 2 years but ideally a 3 year period.*

It is worth noting that no Whooper swans were observed during any of the visits across the 2023/24 winter season to conduct overwintering bird surveys.

Following the response from NPWS and the conclusion of the options scoping report, it is recommended the following bird surveys are conducted along the preferred route option:

- Breeding bird surveys – breeding season 2025 and 2026
- Overwintering bird survey – non-breeding season 2024/2025 and 2025/2026

REFERENCES

Balmer, D.E, Gillings, S., Caffery, B.J., Swann, R.L., Downie, I.S. & Fuller, R.J. (2013). *Bird Atlas 2007-2011: the breeding and wintering birds of Britain and Ireland*. BTO Books: Thetford.

Bibby, C.J., Burgess, N.D., Hill, D.A. & Mustoe, S.H. (2000). *Bird Census Techniques* (2nd Ed). Academic Press: London.

CIEEM (2017). *Guidelines for Ecological Report Writing*. Chartered Institute of Ecology and Environmental Management: Winchester.

CIEEM (2019). *Code of Professional Conduct*. Chartered Institute of Ecology and Environmental Management: Winchester.

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds. Available at: http://data.europa.eu/eli/dir/2009/147/2019-06-26

Gilbert, G., Gibbons, D.W. & Evans, J. (1998). *Bird Monitoring Methods - a Manual of Techniques for Key UK Species.* RSPB: Sandy.

Gilbert, G., Stanbury, A. & Lewis, L. (2021). Birds of Conservation Concern in Ireland 2020–2026. Irish Birds 43: 1–22.

Wildlife Act, 1976. Available at: https://www.irishstatutebook.ie/eli/1976/act/39/enacted/en/html

Williams, G., Pullan, D., Dickie, I., Huggett, D. & Mitchell, H. (2005). *The European Birds Directive – safeguarding special places for people and wildlife.* The RSPB: Sandy.

Figures

Figure 1 Survey Areas

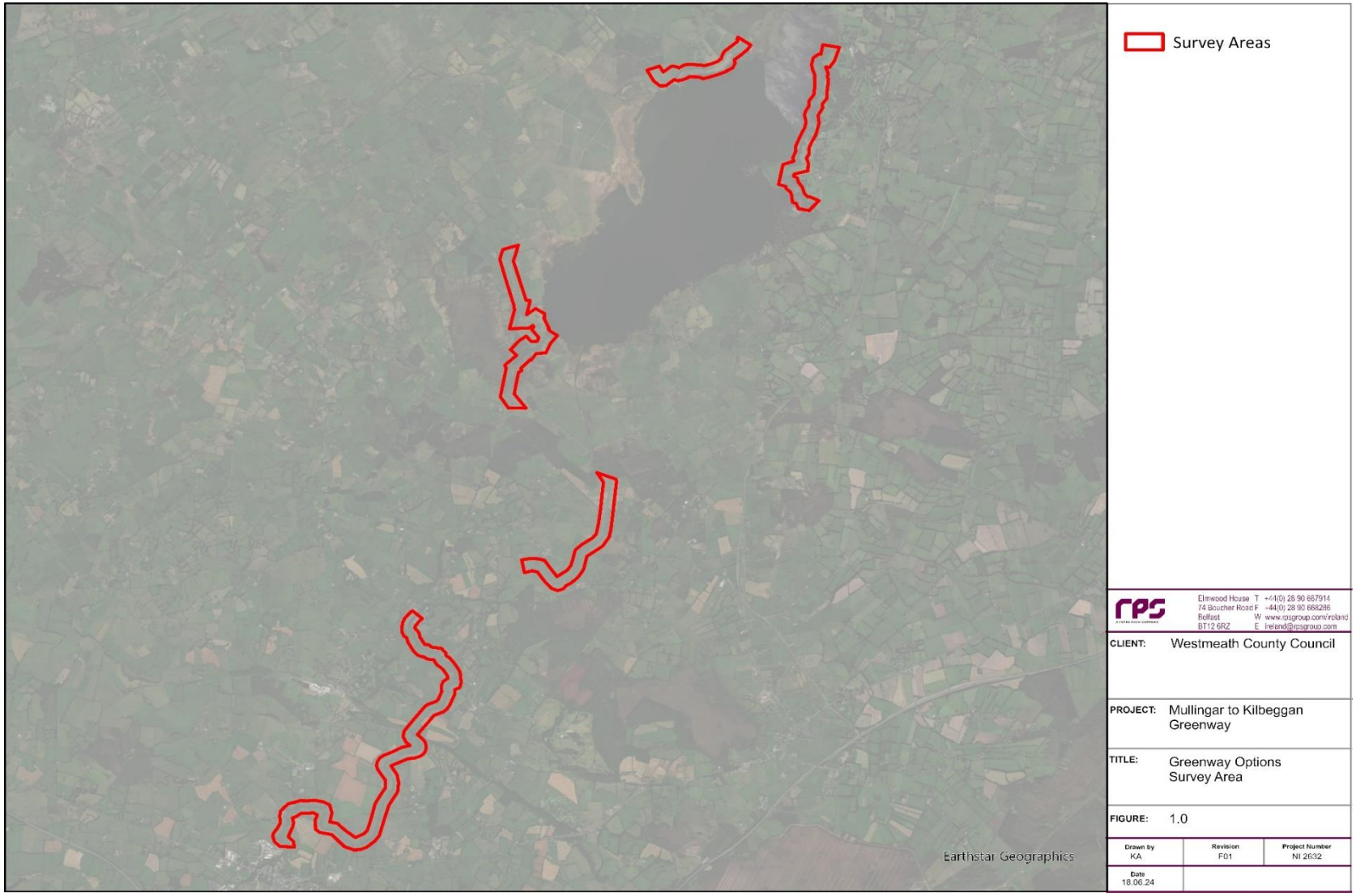


Figure 2 Locations of SPA Qualifying Species – November 2023

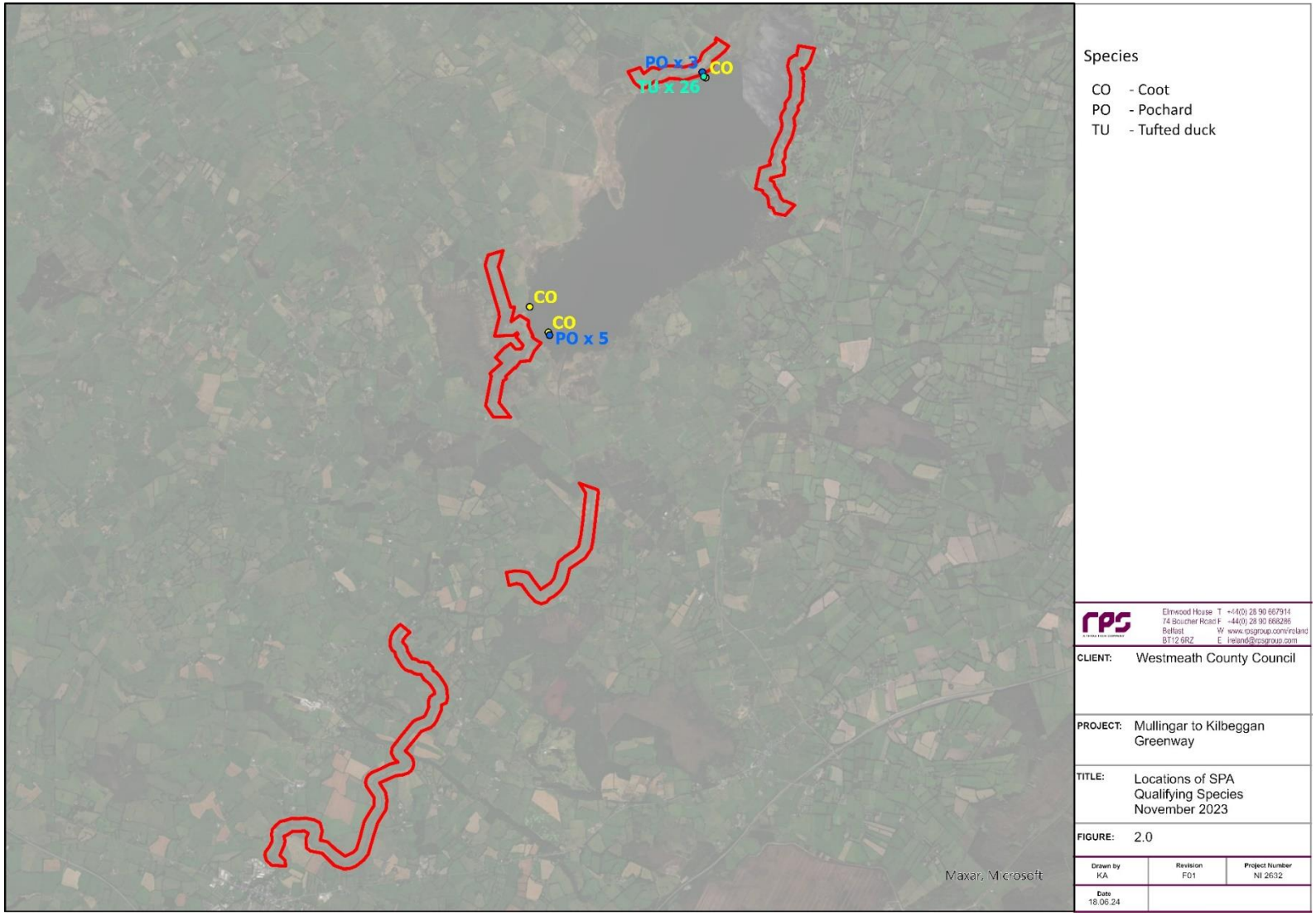


Figure 3 Locations of SPA Qualifying Species – January 2024

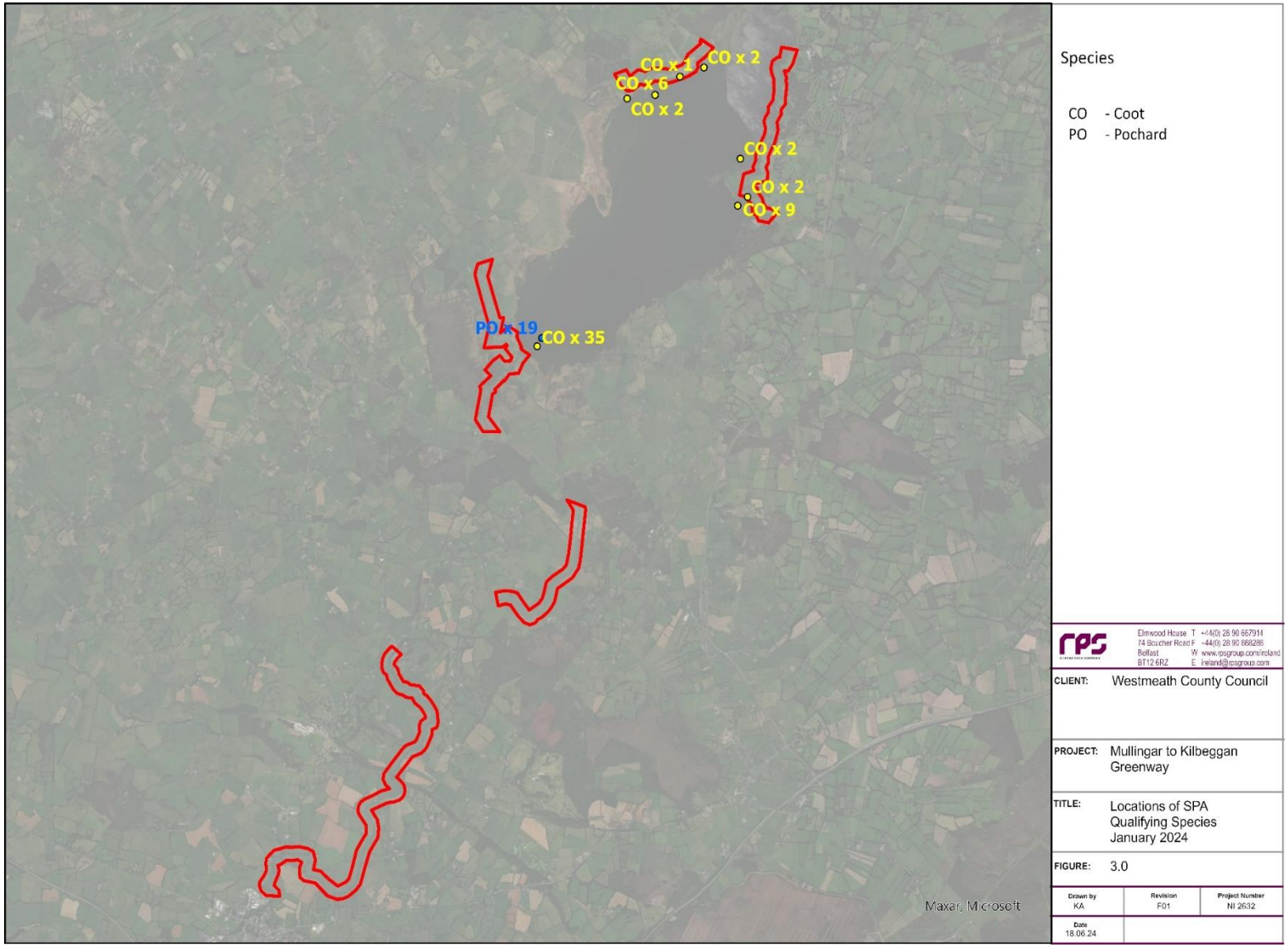
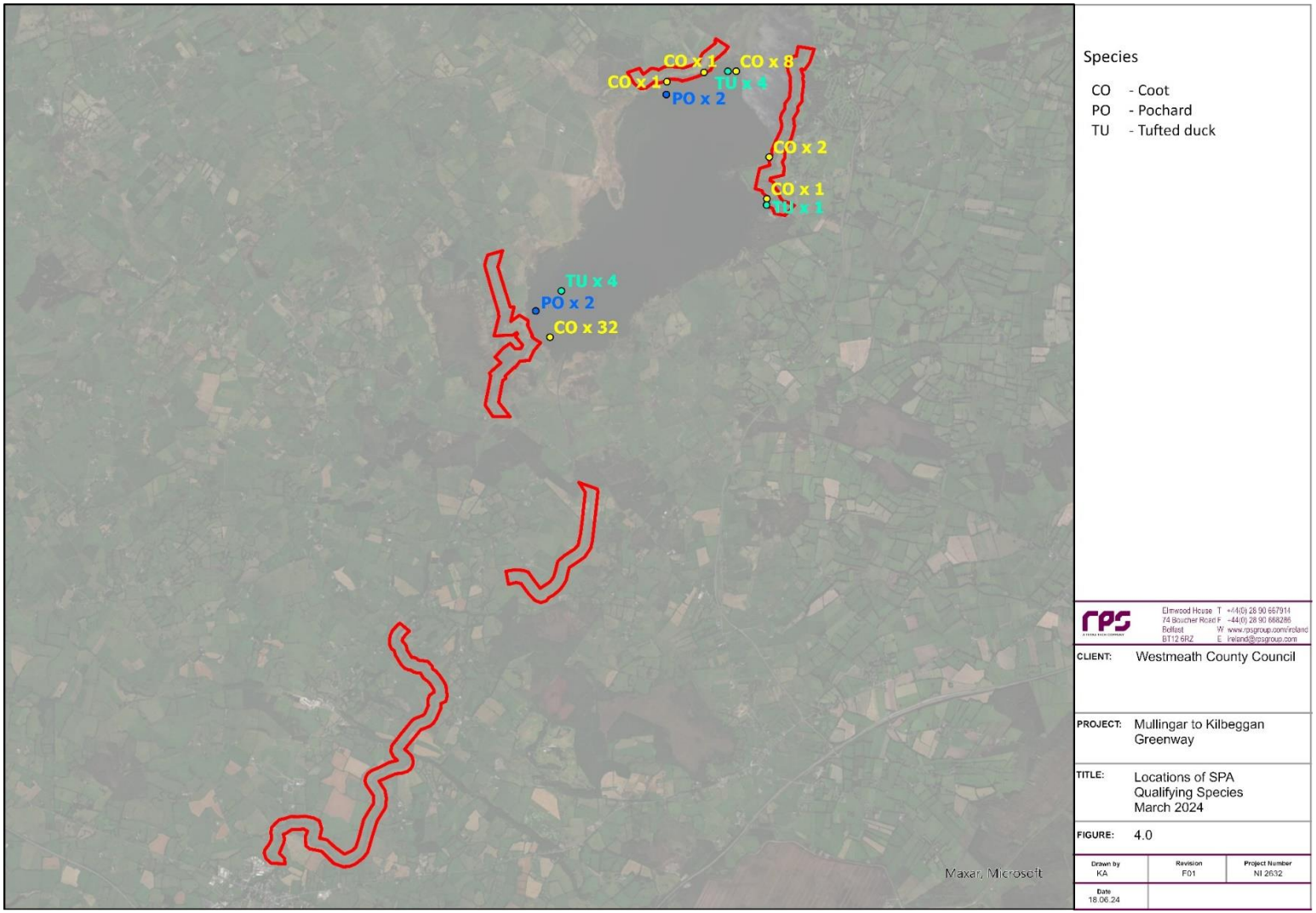


Figure 4 Locations of SPA Qualifying Species – March 2024



Appendix A
BTO Species Codes

BTO SPECIES CODES

AC	Arctic Skua	GA	Gadwall	LE	Long-eared Owl	SM	Sand Martin
AE	Arctic Tern	GX	Gannet	LT	Long-tailed Tit	SS	Sanderling
AV	Avocet	GW	Garden Warbler	MG	Magpie	TE	Sandwich Tern
BO	Barn Owl	GY	Garganey	MA	Mallard	VI	Savi's Warbler
BY	Barnacle Goose	GC	Goldcrest	MN	Mandarin Duck	SQ	Scarlet Rosefinch
BA	Bar-tailed Godwit	EA	Golden Eagle	MX	Manx Shearwater	SP	Scaup
BR	Bearded Tit	OL	Golden Oriole	MR	Marsh Harrier	CY	Scottish Crossbill
BS	Berwick's Swan	GF	Golden Pheasant	MT	Marsh Tit	SW	Sedge Warbler
BI	Bittern	GP	Golden Plover	MW	Marsh Warbler	NS	Serin
BK	Black Grouse	GN	Goldeneye	MP	Meadow Pipit	SA	Shag
TY	Black Guillemot	GO	Goldfinch	MU	Mediterranean Gull	SU	Shelduck
BX	Black Redstart	GD	Goosander	ML	Merlin	SX	Shorelark
BJ	Black Tern	GI	Goshawk	M.	Mistle Thrush	SE	Short-eared Owl
B.	Blackbird	GH	Grasshopper Warbler	MO	Montagu's Harrier	SV	Shoveler
BC	Blackcap	GB	Great Black-backed Gull	MH	Moorhen	SK	Siskin
BH	Black-headed Gull	GG	Great Crested Grebe	MS	Mute Swan	S.	Skylark
BN	Black-necked Grebe	ND	Great Northern Diver	N.	Nightingale	SZ	Slavonian Grebe
BW	Black-tailed Godwit	NX	Great Skua	NJ	Nightjar	SN	Snipe
BV	Black-throated Diver	GS	Great Spotted Woodpecker	NH	Nuthatch	SB	Snow Bunting
BT	Blue Tit	GT	Great Tit	OP	Osprey	ST	Song Thrush
BU	Bluethroat	GE	Green Sandpiper	OC	Oystercatcher	SH	Sparrowhawk
BL	Brambling	G.	Green Woodpecker	PX	Peafowl/Peacock	AK	Spotted Crake
BG	Brent Goose	GR	Greenfinch	PE	Peregrine	SF	Spotted Flycatcher
BF	Bullfinch	GK	Greenshank	PH	Pheasant	DR	Spotted Redshank
BZ	Buzzard	H.	Grey Heron	PF	Pied Flycatcher	SG	Starling
CG	Canada Goose	P.	Grey Partridge	PW	Pied Wagtail	SD	Stock Dove
CP	Capercaillie	GV	Grey Plover	PG	Pink-footed Goose	SC	Stonechat
C.	Carrion Crow	GL	Grey Wagtail	PT	Pintail	TN	Stone-curlew
CW	Cetti's Warbler	GJ	Greylag Goose	PO	Pochard	TM	Storm Petrel
CH	Chaffinch	GU	Guillemot	PM	Ptarmigan	SL	Swallow
CC	Chiffchaff	FW	Guineafowl (Helmeted)	PU	Puffin	SI	Swift
CF	Chough	HF	Hawfinch	PS	Purple Sandpiper	TO	Tawny Owl
CL	Cirl Bunting	HH	Hen Harrier	Q.	Quail	T.	Teal
CT	Coal Tit	HG	Herring Gull	RN	Raven	TK	Temminck's Stint
CD	Collared Dove	HY	Hobby	RA	Razorbill	TP	Tree Pipit
CM	Common Gull	HZ	Honey Buzzard	RG	Red Grouse	TS	Tree Sparrow
CS	Common Sandpiper	HC	Hooded Crow	KT	Red Kite	TC	Treecreeper
CX	Common Scoter	HP	Hoopoe	ED	Red-backed Shrike	TU	Tufted Duck
CN	Common Tern	HM	House Martin	RM	Red-breasted Merganser	TT	Turnstone
CO	Coot	HS	House Sparrow	RQ	Red-crested Pochard	TD	Turtle Dove
CA	Cormorant	JD	Jackdaw	FV	Red-footed Falcon	TW	Twite
CB	Corn Bunting	J.	Jay	RL	Red-legged Partridge	WA	Water Rail
CE	Corncrake	K.	Kestrel	NK	Red-necked Phalarope	W.	Wheatear
CI	Crested Tit	KF	Kingfisher	LR	Redpoll (Lesser)	WM	Whimbrel
CR	Crossbill (Common)	KI	Kittiwake	RK	Redshank	WC	Whinchat
CK	Cuckoo	KN	Knot	RT	Redstart	WG	White-fronted Goose
CU	Curlew	LM	Lady Amherst's Pheasant	RH	Red-throated Diver	WH	Whitethroat
DW	Dartford Warbler	LA	Lapland Bunting	RE	Redwing	WS	Whooper Swan
DI	Dipper	L.	Lapwing	RB	Reed Bunting	WN	Wigeon
DO	Dotterel	TL	Leach's Petrel	RW	Reed Warbler	WT	Willow Tit
DN	Dunlin	LB	Lesser Black-backed Gull	RZ	Ring Ouzel	WW	Willow Warbler
D.	Dunnock	LS	Lesser Spotted Woodpecker	RP	Ringed Plover	OD	Wood Sandpiper
EG	Egyptian Goose	LW	Lesser Whitethroat	RI	Ring-necked Parakeet	WO	Wood Warbler
E.	Eider	LI	Linnet	R.	Robin	WK	Woodcock
FP	Feral Pigeon	ET	Little Egret	DV	Rock Dove (not feral)	WL	Woodlark
ZL	Feral/hybrid goose	LG	Little Grebe	RC	Rock Pipit	WP	Woodpigeon
ZF	Feral/hybrid mallard type	LU	Little Gull	RO	Rook	WR	Wren
FF	Fieldfare	LO	Little Owl	RS	Roseate Tern	WY	Wryneck
FC	Firecrest	LP	Little Ringed Plover	RY	Ruddy Duck	YW	Yellow Wagtail
F.	Fulmar	AF	Little Tern	RU	Ruff	Y.	Yellowhammer

Annex D European Sites Risk Assessment

D

Annex D
European Sites Risk Assessment

KILBEGGAN TO MULLINGAR GREENWAY

Annex D Stage 2 European Sites Risk Assessment

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Prepared by:

RPS

Prepared for:

Westmeath County Council

Dublin | Cork | Galway | Sligo | Kilkenny
rpsgroup.com

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The Registered office of each of the above companies is West Pier Business Campus, Dun Laoghaire, Co. Dublin, A96 N6T7

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1 ANNEX B: EUROPEAN SITES RISK ASSESSMENT

1.1 Introduction

The two proposed broad route corridor options (Option 1 and Option 2) both pass within and run in close proximity to the boundaries of European sites within the study area. The study area also supports four nationally designated sites of nature conservation importance including two NHAs, although neither of the proposed route options intersects these designated sites. The aim of this risk assessment is to assess each option, focusing on individual sections of Option 1 (1A-D) and Option 2 (2A-D) and determine by high level preliminary analysis if any option indicates that it may potentially undermine the conservation objectives of any of the affected European sites. The purpose of this preliminary analysis is to try to identify if any route corridor option indicates that it may potentially adversely affect the integrity of any European site, insofar as can be identified at this early stage of design evolution and environmental appraisal.

Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) collectively comprise the Natura 2000 Network of sites of European Community interest across the geographical region of EC member states.

This risk assessment is used to inform the Stage 2 Options Selection Report (Stage 2 OSR) and does not constitute a Report to Inform Screening for Appropriate Assessment (RISAA) or a Natura Impact Statement (NIS) which are both reports required to be submitted as part of a development consent application to the competent authority in due course. A RISAA (and a NIS as required) will be prepared on the preferred option selected to go forward for development consent (the project) to determine in view of best scientific knowledge, if the project individually or in combination with another plan or project is likely to have a significant effect on a European site. If it is determined that likely significant effects on a European site cannot be excluded at the screening stage and in the absence of mitigation measures, a NIS will also be prepared to inform the appropriate assessment to be conducted by the competent authority.

It should be noted that this risk assessment, although using the language of Article 6 of the Habitats Directive and following similar steps and criteria of European Commission Notice C(2021) 6913 '*Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC*' (EC, 2021) in relation to appropriate assessment, does not purport to be sufficient to inform an appropriate assessment.

It is not possible, nor indeed practical, at this stage of the design of the proposed project to subject each of the options to scientifically robust evaluation. Indeed the level of road design available for the options is not sufficiently advanced to inform such an assessment. In this regard the risk assessment is not sufficient as regards the information to be included in a RISAA under the Planning Code in respect of Article 6(3) of the Habitats Directive and does not prejudice the determination by a competent authority in due course.

In preparing this European site risk assessment, the following assumptions have been made:

- Greenway construction typically comprises topsoil and scrub/grass removal, levelling of the subsoils and removal of excess materials to achieve smooth gradients for a cycleway, bitumen/tarmac finishing and erection of fencing each side, followed by reinstatement of a temporary 'running track' or 'haul route' along one side of the greenway created during construction phase where construction plant and machinery moves along as the greenway as it is constructed in short sections;
- All options cross wetlands adjacent to and in close proximity to the European sites in question, and likely significant effects on these European sites are unlikely to be able to be excluded at the screening stage in the absence of mitigation measures being applied;
- It is assumed that avoidance and/or mitigation can be applied as part of an appropriate assessment to avoid or reduce impacts to levels that would not constitute an adverse effect on the integrity of one or more of the European sites; and
- Only in circumstances where avoidance or mitigation measures will not be effective and the conservation objectives of any of the affected European sites could potentially be undermined, adverse effects on the integrity of the site are deemed to then occur.

1.2 Methodology

A desk study exercise has been undertaken to inform the optioneering process to identify known biodiversity constraints within the study area, particularly within the proposed route corridor options.

The NPWS designated sites map viewer was used to identify the location of European sites.

The boundaries of those European sites were downloaded from the NPWS GIS database in August 2024.

Guidelines published by the European Commission and relevant national authorities were reviewed and their methodologies and advice followed in preparing this risk assessment where applicable; including:

- Communication from the Commission on the Precautionary Principle., Office for Official Publications of the European Communities, Luxembourg (EC, 2000);
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission; (EC, 2007);
- Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, Dublin (DEHLG, 2010);
- European Commission Notice "Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC", Office for Official Publications of the European Communities, Luxembourg (EC, 2019);
- Office of the Planning Regulator Practice Note (PN01) 'Appropriate Assessment Screening for Development Management' (OPR, 2021); and
- European Commission Notice C(2021) 6913 'Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC', Office for Official Publications of the European Communities, Luxembourg (EC,2021).

1.3 Risk Assessment

1.3.1 Option 1a

Split Hills and Long Hill Esker SAC is located along the northern boundary of Option 1a and spans 7.5% of this corridor area. Its qualifying interests and potential impact pathways are set out in Table 1.1 below.

Table 1.1: Ecological risk associated with Option 1a and Split Hills and Long Esker SAC

Qualifying Feature	Impact Pathways Identified	Likely Significant Risk	Ecological Risk to Conservation Objectives
[6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia – important orchid sites)	Direct habitat loss on esker habitats at construction phase, or indirect habitat deterioration in the zone of influence of the supporting function habitats. Potential introduction of invasive species that may outcompete native vegetation in the orchid rich grasslands.	Habitat loss at construction phase as a result of vegetation stripping, earth movement and levelling or storage. Invasive species being introduced from nearby areas by construction vehicles.	Risk is high in an unmitigated scenario if development footprint overlaps with qualifying interest habitat type. Industry-standard mitigation solutions (including avoidance) are available, effective, and reliable.

1.3.2 Option 1b

Split Hills and Long Hill Esker SAC is located along the southern boundary of Option 1b and spans 0.7% of this corridor area. Its qualifying interests and potential impact pathways are set out in

Table **1.2** below.

Table 1.2: Ecological risk associated with Option 1b and Split Hills and Long Esker SAC

Qualifying Feature	Impact Pathways Identified	Likely Significant Risk	Ecological Risk to Conservation Objectives
[6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia – important orchid sites)	Direct habitat loss on esker habitats at construction phase, or indirect habitat deterioration in the zone of influence of the supporting function habitats. Potential introduction of invasive species that may outcompete native vegetation in the orchid rich grasslands.	Habitat loss at construction phase as a result of vegetation stripping, earth movement and levelling or storage. Invasive species being introduced from nearby areas by construction vehicles.	Risk is high in an unmitigated scenario if development footprint overlaps with qualifying interest habitat type. Industry-standard mitigation solutions (including avoidance) are available, effective, and reliable.

1.3.3 Option 1c

There are no designated sites or qualifying habitats within this portion of route corridor. Therefore it can be considered that there will be no direct effects or indirect effects on the qualifying interests of the European sites as a result of construction/operation of the proposed development within Option 1c corridor area.

1.3.4 Option 1d

Lough Ennell SPA and Lough Ennell SAC are located within and along the eastern border of Option 1d corridor area, the northernmost section. Lough Ennell SPA spans 2.2% of this corridor area. Lough Ennell SAC spans 16.5% of this corridor area. Lough Ennell SPA special conservation interests and potential impact pathways are set out in Table 1.3 below.

Table 1.3: Ecological risk associated with Option 1d and Lough Ennell SPA

Qualifying Feature	Impact Pathways Identified	Likely Significant Risk	Ecological Risk to Conservation Objectives
[A059] Pochard (*Aythya ferina*)	Potential disturbance at construction phase or operational phase. Potential pollution of wetland habitat at construction phase or operational phase.	Disturbance of bird populations during construction and operational phase causing reduction in wintering population or reduction in the distribution of the species in terms of their timing and intensity of use of areas of the SPA	Construction of the greenway could potentially introduce a barrier to connectivity of areas of the SPA used by the species or site use by the species. Accidental pollution could potentially cause diminution of water quality of the wetland habitats within the site that he species uses to forage. Risk is high in an unmitigated scenario if development footprint results in a reduction in timing and intensity of use of areas of the SPA. Industry-standard mitigation solutions (including avoidance and pollution prevention) are available, effective, and reliable.
[A061] Tufted Duck (*Aythya fuligula*)	Potential disturbance at construction phase or operational phase. Potential pollution of wetland habitat at construction phase or operational phase.	Disturbance of bird populations during construction and operational phase causing reduction in wintering population or reduction in the distribution of the species in terms of their timing and intensity of use of areas of the SPA	Construction of the greenway could potentially introduce a barrier to connectivity of areas of the SPA used by the species or site use by the species. Accidental pollution could potentially cause diminution of water quality of the wetland habitats within the site that he species uses to forage. Risk is high in an unmitigated scenario if development footprint results in a reduction in timing and intensity of use of areas of the SPA. Industry-standard mitigation solutions (including avoidance and pollution prevention) are available, effective, and reliable.

Qualifying Feature	Impact Pathways Identified	Likely Significant Risk	Ecological Risk to Conservation Objectives
[A125] Coot (*Fulica atra)*	Potential disturbance at construction phase or operational phase. Potential pollution of wetland habitat at construction phase or operational phase.	Disturbance of bird populations during construction and operational phase causing reduction in wintering population or reduction in the distribution of the species in terms of their timing and intensity of use of areas of the SPA	Construction of the greenway could potentially introduce a barrier to connectivity of areas of the SPA used by the species or site use by the species. Accidental pollution could potentially cause diminution of water quality of the wetland habitats within the site that he species uses to forage. Risk is high in an unmitigated scenario if development footprint results in a reduction in timing and intensity of use of areas of the SPA. Industry-standard mitigation solutions (including avoidance and pollution prevention) are available, effective, and reliable.
[A999] Wetland and Waterbirds	Potential disturbance at construction phase or operational phase. Potential pollution of wetland habitat at construction phase or operational phase.	Disturbance of bird populations during construction and operational phase causing reduction in wintering population or reduction in the distribution of the species in terms of their timing and intensity of use of areas of the SPA	Construction of the greenway could potentially introduce a barrier to connectivity of areas of the SPA used by the species or site use by the species. Accidental pollution could potentially cause diminution of water quality of the wetland habitats within the site that he species uses to forage. Risk is high in an unmitigated scenario if development footprint results in a reduction in timing and intensity of use of areas of the SPA. Industry-standard mitigation solutions (including avoidance and pollution prevention) are available, effective, and reliable.

Lough Ennell SAC qualifying interests and potential impact pathways are set out in Table 1.4 below.

Table 1.4: Ecological risk associated with Option 1d and Lough Ennell SAC

Qualifying Feature	Impact Pathways Identified	Likely Significant Risk	Ecological Risk to Conservation Objectives
[3140] Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.	Direct habitat loss at construction phase, or indirect habitat deterioration in the zone of influence of the supporting function wetland habitats.	Greenway construction and/or operational drainage resulting in changes to underlying hydrological regime of the habitat. Greenway construction and/or operational drainage resulting in diminution of water quality and ecological structure and function of the habitat.	Risk is high in an unmitigated scenario if development results in changes to vegetation composition or diminution of water quality and ecological structure and function of the habitat. Industry-standard mitigation solutions (including avoidance and pollution prevention) are available, effective, and reliable.
[7230] Alkaline fens	Direct habitat loss at construction phase, or indirect habitat deterioration in the zone of influence of the supporting function wetland habitats.	Greenway construction and/or operational drainage resulting in changes to underlying hydrological regime of the habitat. Greenway construction and/or operational drainage resulting in diminution of water quality and ecological structure and function of the habitat.	Risk is high in an unmitigated scenario if development results in changes to vegetation composition or diminution of water quality and ecological structure and function of the habitat. Industry-standard mitigation solutions (including avoidance and pollution prevention) are available, effective, and reliable.

1.3.5 Option 2a

Split Hills and Long Hill Esker SAC is located along the northern boundary of Option 2a and covers 2.5% of corridor area. Its qualifying interests and potential impact pathways are set out in Table 1.5 below.

Table 1.5: Ecological risk associated with Option 2a and Split Hills and Long Esker SAC

Qualifying Feature	Impact Pathways Identified	Likely Significant Risk	Ecological Risk to Conservation Objectives
[6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (*important orchid sites)	Direct habitat loss on esker habitats at construction phase, or indirect habitat deterioration in the zone of influence of the supporting function habitats. Potential introduction of invasive species that may outcompete native vegetation in the orchid rich grasslands.	Habitat loss at construction phase as a result of vegetation stripping, earth movement and levelling or storage. Invasive species being introduced from nearby areas by construction vehicles.	Risk is high in an unmitigated scenario if development footprint overlaps with qualifying interest habitat type. Industry-standard mitigation solutions (including avoidance) are available, effective, and reliable.

1.3.6 Option 2b

Split Hills and Long Hill Esker SAC is located within the southernmost boundary of option 2b and less than 1% of corridor segment area. Its qualifying interests and potential impact pathways are set out in Table 1.6 below.

Table 1.6: Ecological risk associated with Option 2b and Split Hills and Long Esker SAC

Qualifying Feature	Impact Pathways Identified	Likely Significant Risk	Ecological Risk to Conservation Objectives
[6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (*important orchid sites)	Direct habitat loss on esker habitats at construction phase, or indirect habitat deterioration in the zone of influence of the supporting function habitats. Potential introduction of invasive species that may outcompete native vegetation in the orchid rich grasslands.	Habitat loss at construction phase as a result of vegetation stripping, earth movement and levelling or storage. Invasive species being introduced from nearby areas by construction vehicles.	Risk is high in an unmitigated scenario if development footprint overlaps with qualifying interest habitat type. Industry-standard mitigation solutions (including avoidance) are available, effective, and reliable.

1.3.7 Option 2c

Lough Ennell SAC is located along the northern most boundary of Option 2c. It is 0.3m^2 in size - less than 1% of the route corridor segment. Lough Ennell SAC qualifying interests and potential impact pathways are set out in Table 1.7 below.

Table 1.7: Ecological risk associated with Option 2c and Lough Ennell SPA

Qualifying Feature	Impact Pathways Identified	Likely Significant Risk	Ecological Risk to Conservation Objectives
[3140] Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.	Direct habitat loss at construction phase, or indirect habitat deterioration in the zone of influence of the supporting function wetland habitats.	Greenway construction and/or operational drainage resulting in changes to underlying hydrological regime of the habitat. Greenway construction and/or operational drainage resulting in diminution of water quality and ecological	Risk is high in an unmitigated scenario if development results in changes to vegetation composition or diminution of water quality and ecological structure and function of the habitat. Industry-standard mitigation solutions (including avoidance and pollution prevention) are available, effective, and reliable.

Qualifying Feature	Impact Pathways Identified	Likely Significant Risk	Ecological Risk to Conservation Objectives
		structure and function of the habitat.	
[7230] Alkaline fens	Direct habitat loss at construction phase, or indirect habitat deterioration in the zone of influence of the supporting function wetland habitats.	Greenway construction and/or operational drainage resulting in changes to underlying hydrological regime of the habitat. Greenway construction and/or operational drainage resulting in diminution of water quality and ecological structure and function of the habitat.	Risk is high in an unmitigated scenario if development results in changes to vegetation composition or diminution of water quality and ecological structure and function of the habitat. Industry-standard mitigation solutions (including avoidance and pollution prevention) are available, effective, and reliable.

1.3.8 Option 2d

European sites within Option 2d include Lough Ennell SPA and Lough Ennell SAC. The total areas present in the route corridor are as follows: SPA - 0.7%, SAC - 1.9%

This route corridor crosses an array of waterbodies (Brosna, Dalystown, Dunboden Park Stream, Gaddaghanstown, Higginstown , Rochfort Demesne) and there is a total length of watercourses within the corridor of 7826m. Lough Ennell intersects with 0.3% of this corridor segment.

Lough Ennell SPA special conservation interests and potential impact pathways are set out in Table 1.8 below.

Table 1.8: Ecological risk associated with Option 2d and Lough Ennell SPA

Qualifying Feature	Impact Pathways Identified	Likely Significant Risk	Ecological Risk to Conservation Objectives
[A059] Pochard (*Aythya ferina*)	Potential disturbance at construction phase or operational phase. Potential pollution of wetland habitat at construction phase or operational phase.	Disturbance of bird populations during construction and operational phase causing reduction in wintering population or reduction in the distribution of the species in terms of their timing and intensity of use of areas of the SPA	Construction of the greenway could potentially introduce a barrier to connectivity of areas of the SPA used by the species or site use by the species. Accidental pollution could potentially cause diminution of water quality of the wetland habitats within the site that he species uses to forage. Risk is high in an unmitigated scenario if development footprint results in a reduction in timing and intensity of use of areas of the SPA. Industry-standard mitigation solutions (including avoidance and pollution prevention) are available, effective, and reliable.
[A061] Tufted Duck (*Aythya fuligula*)	Potential disturbance at construction phase or operational phase. Potential pollution of wetland habitat at construction phase or operational phase.	Disturbance of bird populations during construction and operational phase causing reduction in wintering population or reduction in the distribution of the species in terms of their timing and intensity of use of areas of the SPA	Construction of the greenway could potentially introduce a barrier to connectivity of areas of the SPA used by the species or site use by the species. Accidental pollution could potentially cause diminution of water quality of the wetland habitats within the site that he species uses to forage. Risk is high in an unmitigated scenario if development footprint results in a reduction in timing and intensity of use of areas of the SPA. Industry-standard mitigation solutions (including avoidance and pollution prevention) are available, effective, and reliable.

Qualifying Feature	Impact Pathways Identified	Likely Significant Risk	Ecological Risk to Conservation Objectives
[A125] Coot (*Fulica atra)*	Potential disturbance at construction phase or operational phase. Potential pollution of wetland habitat at construction phase or operational phase.	Disturbance of bird populations during construction and operational phase causing reduction in wintering population or reduction in the distribution of the species in terms of their timing and intensity of use of areas of the SPA	Construction of the greenway could potentially introduce a barrier to connectivity of areas of the SPA used by the species or site use by the species. Accidental pollution could potentially cause diminution of water quality of the wetland habitats within the site that he species uses to forage. Risk is high in an unmitigated scenario if development footprint results in a reduction in timing and intensity of use of areas of the SPA. Industry-standard mitigation solutions (including avoidance and pollution prevention) are available, effective, and reliable.
[A999] Wetland and Waterbirds	Potential disturbance at construction phase or operational phase. Potential pollution of wetland habitat at construction phase or operational phase.	Disturbance of bird populations during construction and operational phase causing reduction in wintering population or reduction in the distribution of the species in terms of their timing and intensity of use of areas of the SPA	Construction of the greenway could potentially introduce a barrier to connectivity of areas of the SPA used by the species or site use by the species. Accidental pollution could potentially cause diminution of water quality of the wetland habitats within the site that he species uses to forage. Risk is high in an unmitigated scenario if development footprint results in a reduction in timing and intensity of use of areas of the SPA. Industry-standard mitigation solutions (including avoidance and pollution prevention) are available, effective, and reliable.

Lough Ennell SAC qualifying interests and potential impact pathways are set out in Table 1.9 below.

Table 1.9: Ecological risk associated with Option 2d and Lough Ennell SAC

Qualifying Feature	Impact Pathways Identified	Likely Significant Risk	Ecological Risk to Conservation Objectives
[3140] Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.	Direct habitat loss at construction phase, or indirect habitat deterioration in the zone of influence of the supporting function wetland habitats.	Greenway construction and/or operational drainage resulting in changes to underlying hydrological regime of the habitat. Greenway construction and/or operational drainage resulting in diminution of water quality and ecological structure and function of the habitat.	Risk is high in an unmitigated scenario if development results in changes to vegetation composition or diminution of water quality and ecological structure and function of the habitat. Industry-standard mitigation solutions (including avoidance and pollution prevention) are available, effective, and reliable.
[7230] Alkaline fens	Direct habitat loss at construction phase, or indirect habitat deterioration in the zone of influence of the supporting function wetland habitats.	Greenway construction and/or operational drainage resulting in changes to underlying hydrological regime of the habitat. Greenway construction and/or operational drainage resulting in diminution of water quality and ecological structure and function of the habitat.	Risk is high in an unmitigated scenario if development results in changes to vegetation composition or diminution of water quality and ecological structure and function of the habitat. Industry-standard mitigation solutions (including avoidance and pollution prevention) are available, effective, and reliable.

Annex E Cultural Heritage Inventory

E

Annex E
Cultural Heritage Inventory

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KILBEGGAN TO MULLINGAR GREENWAY

Annex E Cultural Heritage

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Prepared by:

RPS

Prepared for:

Westmeath County Council

Dublin | Cork | Galway | Sligo | Kilkenny
rpsgroup.com

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The Registered office of each of the above companies is West Pier Business Campus, Dun Laoghaire, Co. Dublin, A96 N6T7

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1 NIAH AND RPS INVENTORY

1.1 Built heritage within Route Option 1

1.1.1 CHR 1 - NIAH Reg No. 15403817 - RPS Ref - No. 038-072 - Canal store/warehouse

Rating: Regional

Categories of Special Interest: Architectural, Historical

Original Use: Store/warehouse. In Use As: Apartment/flat (converted)

Date: 1830–1835

Date Recorded: 03/11/2004

Description: Detached fifteen-bay two-storey former canal warehouses and stores, built c.1833, restored and converted to private apartments and workshops by FAS, c.1990. Pitched natural slate roof with clay ridge tiles and cast-iron rainwater goods. Constructed of roughly coursed limestone rubble with dressed limestone detailing/dressings to the openings. Square-headed window openings with dressed stone and brick surrounds, cut stone sills and replacement top hung timber casement windows. Segmental-headed loading bays with replacement timber sheeted doors to the third, eight and thirteenth bays. Cast-iron tie-bars at first floor level flanking loading bay openings. Sited on the south quay of The Grand Canal Terminus Harbour (15403816). Small disused crane to site. Located to southeast of Kilbeggan.

Appraisal: A substantial, well-built and attractive complex of canal warehouses and stores, which retains its original form and much of its original fabric. The form of this complex suggests that the two five-bay sections to either end (east and west) were originally built as two separate buildings with the central five-bay section then added at a subsequent date. They were originally used to store agricultural produce and manufactured goods (mainly from the distilling, brewing and the tobacco processing industries, which were important in the Kilbeggan region at the time the canal was constructed) and helped to encourage economic prosperity in south Co. Westmeath in during the early-to-mid nineteenth-century. These warehouses are of considerable historical and social significance as a part of the extensive canal network that was developed in Ireland in the late eighteenth and early nineteenth-century. They were built as part of The Grand Canal (Kilbeggan Branch), which was constructed between 1830-36 by the noted engineer William Dargan. This canal was officially closed in 1961 but had been out of use from the end of the nineteenth century due to competition from the railway and road transport networks.

1.1.2 CHR 2 - NIAH Reg No. 15403816 - RPS Ref - No. 038-071 - Kilbeggan Branch – Grand Canal Harbour/ dock/port

Rating: Regional

Categories of Special Interest: Historical, Social, Technical

Original Use: Harbour/dock/port. In Use As: –

Date: 1830–1835

Date Recorded: 03/11/2004

Description: Grand Canal harbour and dock complex, built c.1833, comprising rubble limestone retaining walls with ashlar limestone coping over to harbour sides. Harbour now out of use and drained. Extensive canal stores and warehouses (15403817) to the south side of harbour. Original formed the terminus of The Grand Canal (Kilbeggan Branch). Canal runs away to the east.

Appraisal: This former canal harbour is of considerable historical and social importance having been constructed to help promote the expansion of commercial enterprise in south Co. Westmeath during the early-to-mid nineteenth-century. The construction of the harbour walls attests to the high quality of stone masonry employed during the construction of the canal network in Ireland in the late eighteenth and early-nineteenth

centuries. This canal harbour forms part of an important group of canal-related structures with the canal warehouses and stores to the south (15403817). It was built as part of The Grand Canal (Kilbeggan Branch), which was constructed between 1830-36 by the engineer William Dargan. This canal was officially closed in 1961 but had been out of use from the end of the nineteenth century due to competition from the railway and road transport networks.

1.1.3 CHR 3 - NIAH Reg No. 15403819 - RPS Ref - No. 038-074 - Harbour Master's House

Rating: Regional

Categories of Special Interest: Architectural, Historical

Original Use: Harbour Master's House. In Use As: –

Date: 1850–1880

Date Recorded: 03/11/2004

Description: Detached three-bay two-storey former harbour master's house, built c.1865, having a projecting single-bay single-storey gable-fronted porch (with slate roof and timber bargeboards) to the centre of the main façade (south). Now out of use. Pitched natural slate roof with raised rendered verges and rendered chimneystacks to both gable ends (east and west). Cast-iron rainwater goods. Roughcast rendered walls having square-headed window openings with cut stone sills and the remains of one-over-one pane timber sliding sash windows. Square-headed doorway to porch having a replacement timber door. Set back from road with small garden to the front (south). Located adjacent to the north of the former Grand Canal Terminus Harbour (Kilbeggan Branch) (15403817) and to the southeast of Kilbeggan.

Appraisal: A modest but well-composed former harbour master's house, which retains its early form, historic character and fabric despite being out of use. The form of this building suggests that it was built during the second half of the nineteenth century, a number of decades after the construction of the associated canal harbour to the south (15403817). This building is of considerable historical and social significance as a part of the extensive canal network that was developed in Ireland in the late eighteenth and the early nineteenth-century. This structure was built as part of The Grand Canal (Kilbeggan Branch), which was constructed between 1830-36 by the noted engineer William Dargan. This canal was officially closed in 1961 but had been out of use from the end of the nineteenth century due to competition from the railway and road transport networks. This building forms part of an important collection of related structures and it is a worthy addition to the built heritage of the Kilbeggan local area.

1.1.4 CHR 4 - NIAH Reg No. 15321053 - RPS Ref - No. 038-048 - Harbour Road House

Rating: Regional

Categories of Special Interest: Architectural, Social

Original Use: House. In Use As: House

Date: 1890–1910

Date Recorded: 20/09/2004

Description: Semi-detached three-bay single-storey local authority house with attic level, built c.1900. Now in use as a private dwelling. One of a pair with the building adjoining to the west. Pitched natural slate roof with gabled dormer window to western-most bay, a central brick chimneystack and cast-iron rainwater goods. Roughcast rendered walls over smooth rendered plinth course. Square-headed window openings with rendered surrounds, cut stone sills and two-over-two pane timber sliding sash windows. Projecting gable-fronted entrance porch with natural slate roof and bargeboard to east end of main façade with square-headed doorcase with rendered surround and replacement panelled timber door. Located to east of Kilbeggan in own grounds with mature gardens to front (south). Rubble stone boundary wall to south.

Appraisal: An attractive, well-built, modest-scale house which retains its early form and fabric. It is the best surviving example of a pair of houses, the other having been modernised in recent years. It was originally

constructed as part of a scheme of social housing at the end of the nineteenth/early twentieth-century . This was a time when many houses of this type were being built throughout Ireland, by the various local authorities, following the passing of various Labourers' Acts by the British Parliament. These houses were usually built to a high architectural standard and it is rare to find an example in such good condition. This structure is very similar in form to a number of social housing schemes on the outskirts of Mullingar, notably at Springfield Cottages, near Dublin Bridge. This appealing building remains an interesting reminder of a phase of Irish architectural history and is an important part of the architectural heritage of Westmeath.

1.1.5 CHR 5 - NIAH Reg No. 15321034 - RPS Ref - No. 038-032 - Saint Mary's Convent of Mercy – Graveyard/cemetery

Rating: Regional

Categories of Special Interest: Artistic, Social

Original Use: Graveyard/cemetery. In Use As: Graveyard/cemetery

Date: 1890–1930

Date Recorded: 20/09/2004

Description: Convent graveyard, erected c.1900, comprising collection of cast-iron crosses (of common design) set in a rectilinear enclosure to the east of the Convent of Mercy. Graveyard bounded by cast-iron railings. Set well back from the road in convent grounds and accessed by lane running west-east from the main convent building.

Appraisal: This simple yet poignant burial ground is of historical and social significance to the community and landscape of Kilbeggan. It is a vivid memorial to the women of the Convent of Mercy who established the convent and associated schools in Kilbeggan during the late nineteenth-century. The gravemarkers themselves are attractive pieces of cast-iron and the composition is enhanced by the simple cast-iron railings surrounding the site.

1.1.6 CHR 6 - NIAH Reg No. 15321057 - RPS Ref - No. 038-052 - Saint Mary's Convent of Mercy

Rating: Regional

Categories of Special Interest: Architectural, Artistic, Social

Original Use: Convent/nunnery. In Use As: Convent/nunnery

Date: 1890–1900

Date Recorded: 20/09/2004

Description: Detached nine-bay two-storey convent, c.1898, with advanced two-bay full-height gable-fronted sections to either end (north and south) and single-bay gable-fronted breakfront to centre of front façade (west). Convent chapel to south with polygonal apse. Five-bay two-storey extension, c.1930, to rear of north end. Steeply pitched natural slate roof with ridge combs, decorative brick eaves course, decorative moulded brick multi-tier chimneystacks and cast-iron rainwater goods. Cut stone cross finials to apex of gabled end bays, wrought-iron cross finial to central breakfront. Cement rendered walls over projecting limestone plinth with yellow brick detailing, including window surrounds, relieving arches and quoins to corners. Cut limestone string course at first floor sill level. Central breakfront constructed of ashlar limestone. Square-headed window openings with limestone sills, brick reveals and replacement windows. Window openings to upper storey of flanking breakfronts on main façade (west) have pointed-arched brick relieving arches with inset ashlar limestone panels with trefoil motif, pointed-arched statue niches above to gables with statues of St. Joseph and Virgin Mary. Paired blind trefoil-headed lancet openings to first floor of central breakfront with hoodmoulding over and quatrefoil motif above to gable. Paired trefoil-headed lancet openings to chapel. Segmental-headed door opening to central breakfront with timber double doors with overlight and hoodmoulding over, flanked by marble colonnettes. Set in extensive mature grounds to east of Kilbeggan with cast-iron gates to south and collection of modern school buildings to north. Convent graveyard to west (15320134).

Appraisal: A substantial convent building with attractive, if subdued, Tudor-Gothic detailing. This building has a considerable presence in the streetscape and retains its early form and character. The mixture of the plain rendered walls with yellow brick and ashlar detailing creates an appealing textured visual effect, which is typical of convent architecture at this time in Ireland. The fine doorcase and the carved ashlar panels are of artistic merit. This structure was built to designs by the noted and prolific architect W.H. Byrne (1844-1917), who was responsible for numerous building projects for the Roman Catholic Church, throughout Leinster, in the late nineteenth and early-twentieth centuries. This convent occupies a prominent location in the eastern outskirts of Kilbeggan and is an important component of the townscape.

1.1.7 CHR 7 - NIAH Reg No. 15321059 - RPS Ref - No. 038-054 - Saint James's Catholic Church – Gates/railings/walls

Rating: Regional

Categories of Special Interest: Architectural, Artistic, Historical, Social

Original Use: Gates/railings/walls. In Use As: Gates/railings/walls

Date: 1800–1840

Date Recorded: 20/09/2004

Description: Gateways and section of boundary wall, erected c.1810, comprising two pairs of gate piers on square plan with replacement wrought-iron gates linked by a section of ashlar limestone plinth walling with cast-iron railings over. Gate piers constructed of tooled ashlar limestone with ashlar pyramidal capping over.

Appraisal: An attractive set of good quality gate piers with ornate cast-iron railings. This subtle feature is all that remains extant of Saint James's Catholic Church, a T-plan chapel built c.1805 and given a Gothic remodelling in 1889. This church was demolished c.1980. These fine gates and associated boundary walling remains an appealing feature to the east of the Kilbeggan, adding historical interest and a picturesque quality to the streetscape.

1.1.8 CHR 8 - NIAH Reg No. 15321058 - RPS Ref - No. 038-053 - Saint James's Hall – Community Centre

Rating: Regional

Categories of Special Interest: Architectural, Social

Original Use: Community centre. In Use As: Community centre

Date: 1940–1950

Date Recorded: 03/09/2004

Description: Detached gable-fronted three-bay double-height parish hall, built c.1944, with projecting single-bay single-storey wings to sides (east and west) and modern single-storey extension to rear. Pitched corrugated cement roof hidden behind raised parapet with cast-iron rainwater goods. Roughcast rendered walls over smooth rendered plinth with splayed smooth concrete buttresses between each bay to side elevations (east and west). Square-headed openings with six-pane timber casement windows to ground floor with three adjoining six-pane metal casement windows above just below parapet level. One-over-one pane timber sliding sash windows to side elevations at first floor level. Central square-headed door opening to entrance front with timber double-doors flanked by smooth rendered panels. Smooth rendered fascia above doorcase with raised metal letters 'St. James's Hall'. Set well back from road in own grounds to east end of Kilbeggan with tennis court to rear. Bounded on road by rendered walls with metal gates.

Appraisal: An interesting and competent exercise in Modernist design attached to a plain hall behind. Its design reflects mid twentieth-century Modernism, incorporating smooth linear features and an attractive symmetrical layout. Built in 1944, during 'The 'Emergency', this building retains many of its original features and is representative of a period when little was being built in rural Ireland. It occupies a prominent site on the eastern approach into Kilbeggan and contrasts well with the predominately early nineteenth-century townscape to the west.

1.1.9 CHR 9 - NIAH Reg No. 15321036 - RPS Ref - No. 038-033 - Marshall's Corn Mill

Rating: Regional

Categories of Special Interest: Architectural, Technical

Original Use: Mill (water). In Use As: –

Date: 1760–1820

Date Recorded: 14/09/2004

Description: Detached three-bay four-storey former corn mill, built c.1790, now in ruins. Two-bay two-storey extension to southwest. Original pitched natural slate roof now collapsed. Constructed of rubble limestone with lime rendered over, brick quoin detailing to corners. Square-headed and segmental-headed window openings, some with stone lintels. Square-headed door openings with stone lintels over. Remains of millrace to north running east-to-west. Access gained through gateway with rubble limestone piers (on circular plan) to southeast, flanked by sections of rubble limestone walling. Single-arched bridge over stream to southwest. Located to the north of Kilbeggan adjacent to the River Brosna.

Appraisal: This corn mill was one of three working mills within the Kilbeggan area in the late eighteenth and early nineteenth-century. Its remaining shell is an indication of the bourgeoning local economy at the time. Although now a ruin it retains its original mass and has an imposing presence that adds considerably to the Kilbeggan countryside. The composition is completed by the millrace, the bridge and by the boundary wall and vernacular gateposts to the southwest.

1.1.10 CHR 12 - NIAH Reg No. 15321032 - RPS Ref - No. 038-030 - Coola Mill

Rating: Regional

Categories of Special Interest: Architectural, Social, Technical

Original Use: Kiln. In Use As: –

Date: 1760–1800

Date Recorded: 03/09/2004

Description: Corn mill complex, built c.1770 and extended c.1830, comprising main multiple-bay five-storey building on L-shaped plan, four-bay five storey mill and associated ancillary structures including the remains of a corn kiln to west. Now derelict and out of use. Roofs now gone, brick crenellated parapet with limestone coping over to main structure and barrel-vaulted corrugated metal roof to four-bay five-storey structure. Constructed mainly of rubble limestone with lime render over. Segmental-headed waterwheel opening to north side of north-facing building (possibly a corn store) with dressed limestone voussoirs. Flush dressed limestone quoins to corners of main building. Square-headed window openings remains of timber sliding sash and timber casement windows, cast-iron bars to ground floor windows. Ruins of three-bay single-storey building with pointed-arched windows and hoodmouldings over to south of main structure, possibly a mill worker's cottage. Set back from road in own grounds on south bank of River Brosna and to west of Coola Bridge. Remains of millrace and sluices to north running east-west. Rubble limestone boundary wall to west.

Appraisal: A substantial mill complex, although largely derelict, which remains a significant and imposing feature in the landscape. It is one of a number of corn mills along the River Brosna in south County Westmeath. This complex acts as a physical reminder of the great boom that took place in the Irish corn milling industry during the late eighteenth and early nineteenth-century. Corn mills were amongst the biggest building projects in Ireland at the time and Coola Mills would have played a major role in the social and economic history of Kilbeggan during this period. According to local sources, Coola Mill was a small scale milling operation owned by the Fitzpatrick Family (who owned the mill at nearby Ballinagore) but was sold to a Mr. R Connolly in 1781. The Connolly Family greatly expanded Coola Mills and by 1790 it was producing more flour than any other mill in Westmeath, sending 4,693 tonnes to Dublin in 1790. Although largely a utilitarian industrial complex, the crenellated parapet is an interesting architectural feature that acts as a landmark in the area. The single-storey mill (possible) worker's cottage is unusual in that it has Gothic detailing and is similar in style and appearance to a modest early nineteenth-century gate lodge serving a country house. Indeed, there is cartographic evidence to suggest that this may have been a gate lodge serving a property known as Coola Cottage (the

property of Gustavus Lambert Esq. and leased to J. Connolly, Esq c. 1837), which was located to the immediate south of this building but now demolished. This complex, including ancillary structures such as the mill race to the north and the corn kiln to the west, is one of the most substantial industrial edifices of the period in Westmeath and represents an important element of the architectural heritage and industrial archaeology of the area.

1.1.11 CHR 13 - NIAH Reg No. 15321031 - RPS Ref - No. 038-029 - Coola Bridge

Rating: Regional

Categories of Special Interest: Architectural, Technical

Original Use: Bridge. In Use As: Bridge

Date: 1760–1800

Date Recorded: 03/09/2004

Description: Five-arch road bridge, built c.1780, carrying the Mullingar Road over the River Brosna and adjacent millrace associated with Coola Mills. Constructed of rubble limestone with dressed limestone voussoirs to arches and rubble stone coping. V-profile cutwaters on upstream elevation (east). Reconstructed at northeast end c.1980. The bridge is effectively in two sections - three arches over the River Brosna (north) and a further two over the millrace (south) which is a cut across a bend in the river to serve the mill. Located to the north of Kilbeggan.

Appraisal: An attractive and well-built bridge which represents an important element of the historic infrastructure of the Kilbeggan area. It is likely that this bridge was constructed as part of a Grand Jury transport improvement scheme in the late eighteenth-century. It is similar in scale and construction to a number of mid-to-late eighteenth-century five-arch road bridges over the River Brosna in Co. Offaly to the south. This structure forms part of an interesting group of structures associated with Coola Mill to the immediate west and is an integral element of the architectural heritage of Westmeath.

1.1.12 CHR 16 - NIAH Reg No. 15403204 - RPS Ref - No. 032-041 - Balrath Graveyard – Gates/railings/walls

Rating: Regional

Categories of Special Interest: Archaeological, Architectural, Social

Original Use: Gates/railings/walls. In Use As: Gates/railings/walls

Date: 1800–1840

Date Recorded: 20/10/2004

Description: Entrance gates serving Balrath graveyard, erected c.1820, comprising a pair of rubble limestone gate piers (on circular plan) supporting wrought-iron bar gates. Rubble limestone boundary wall runs around graveyard (on irregular sub-rectangular plan) with mainly nineteenth century grave markers. Located to the west of Ballinagore adjacent to rural crossroad junction.

Appraisal: An appealing and unassuming set of gate piers with associated wrought-iron gates. Simple vernacular entrance gates of this nature were once very common features of the rural landscape of Westmeath but are now becoming increasingly rare on account of clearance to accommodate modern agricultural needs and road widening schemes etc. They represent good examples of the North Leinster vernacular tradition of rubble stone gate piers on circular plan, a tradition now in terminal decline. It is probably only on account of that fact that these are the entrance gates to a graveyard that has insured their survival. The good quality rubble boundary wall completes this composition, which is a simple but worthy addition to the built heritage of the local area.

1.1.13 CHR 27 - NIAH Reg No. 15403206 - RPS Ref - No. 032-043 - Lilliput House

Rating: Regional

Categories of Special Interest: Architectural, Artistic, Historical

Original Use: House. In Use As: Building misc.

Date: 1820–1840

Date Recorded: 20/10/2004

Description: Detached three-bay two-storey over basement house, built c.1820, having two-storey additions to the south gable end and to the rear (west). Now in use as an outdoor pursuits centre. Pitched artificial slate roof with a central pair of rendered chimneystacks. Constructed of rubble limestone, originally rendered, having (flush) roughly dressed quoins to the corners and brick dressings to the window openings. Square-headed window openings having six-over-six pane timber sliding sash windows. Central round-headed doorcase to the front façade (east) having cut stone architraved surrounds with fluted impost posts and a keystone over. Replacement timber door with a spoke fanlight over. Flight of cut stone steps flanked by rubble limestone parapet walls gives access to doorway over basement level. Segmental-headed carriage to the rear (west) having cut stone voussoirs. Set back from road in extensive grounds on the west shore of Lough Ennell with extensive views over the lake to the east. Located to the east of Castletown Geoghegan.

Appraisal: A typically well-proportioned late-Georgian house, which retains much of its early character and form despite extensive alterations to accommodate new use as an adventure centre in recent years. It retains much of its early fabric, including a good quality doorcase of artistic merit, but much of the historic veneer has been eroded by the removal of the original roof and the render finish in recent years. The heavily altered extension to the south was probably built in the late nineteenth-century (map information) and the carriage arch to the rear (west) suggests that it may have been built as a coach house and/or outbuilding. This house is very well sited with glorious views over Lough Ennell to the east and adds extra historic incident to its scenic rural location. Lilliput House was in the ownership of a Andrew Savage Nugent, Esq., in 1837 and was described as 'uninhabited' at this time (Lewis 1837).

1.1.14 CHR 32 - NIAH Reg No. 15402543 - RPS Ref - No. 025-039 - Kilcooley House – Farm house

Rating: Regional

Categories of Special Interest: Architectural, Artistic

Original Use: Farm house. In Use As: –

Date: 1860–1890

Date Recorded: 01/10/2004

Description: Detached three-bay two-storey house built c.1875, having a single-storey flat-roofed entrance porch to the centre of the main elevation (southeast) with a return to the rear (northwest). Hipped natural slate roof with projecting eaves course, a pair of central rendered chimneystacks and cast-iron rainwater goods. Roughcast rendered walls with square-headed window openings having cut stone sills and two-over-two pane timber sash windows. Ruled-and-line rendered finish to projecting porch having moulded limestone detailing including cornice at roof level. Square-headed doorcase to centre of porch having moulded limestone surround with a stuccoed pediment over having moulded keystone detail. Sidelights to either side of doorcase, now missing. Complex of single-storey rubble limestone and rendered outbuildings to the rear (northwest) having hipped or pitched natural slate roofs, cast-iron rainwater goods, square-headed window and door openings (retaining a number of timber sheeted doors and early timber sash windows) and segmental-headed carriage-arches having brick surrounds. Cast and wrought-iron gates to the rear of house gives access to outbuildings. Rubble limestone wall to south side of approach avenue from the west. Main entrance gates to the west with rendered piers and crenellated rendered walls. Located to the southwest of Mullingar, overlooking Lough Ennell to the south.

Appraisal: A handsome and well-proportioned house, which retains much of its early form and character despite being unoccupied and in a poor state of repair. This house is enhanced by the retention of much of its early fabric, including timber sash windows and a natural slate roof. The well-detailed entrance porch is an interesting feature and retains a good quality moulded limestone doorcase and a number of moulded stone and stucco decorative elements of artistic merit. The good collection of rubble limestone outbuildings to the rear, which retain much of their early fabric and form, adds to this good quality middle-sized composition. The cast and wrought-iron gates and the rubble limestone boundary wall to the west completes the setting. This house is beautifully sited on the northwestern shores of Lough Ennell, with extensive views to the south, and is an integral element of the architectural heritage of the local area.

1.1.15 CHR 68 - NIAH Reg No. 15402502 - RPS Ref - No. 025-002 - Ladestown House – Farmyard complex

Rating: Regional

Categories of Special Interest: Architectural, Artistic, Historical

Original Use: Farmyard Complex. In Use As: Stables

Date: 1780–1830

Date Recorded: 29/09/2004

Description: A very fine and substantial complex of outbuildings, walled gardens and ancillary structures associated with Ladestown House (demolished c.1960). They are well built and have good quality dressing to the openings and extensive dressed limestone trim, indicating that this was an estate of some wealth and importance in its heyday. The gable with clock and bellcote is of particular architectural note and is similar in form to the stable block at Bellmount House (15402506), which is located a short distance to the north. Much of the complex has been sensitively altered to new uses in recent without damage to the form and fabric of this impressive complex. This complex provides an interesting historical insight into the extensive resources required to maintain and service a large country estate in the late-eighteenth and nineteenth century in Ireland. Ladestown House was in existence c.1780 (Taylor and Skinner) but was rebuilt c.1823 as a five-bay two-storey over basement house with a single-storey porch to the entrance front (south). It is likely that some of the outbuildings date to this earlier house but that much of the main complex of outbuildings was built or rebuilt at this time. These ancillary structures, including the walled gardens, icehouse, walls and gates, now act as a reminder of this former great house and are an important component of the architectural heritage of Westmeath in their own right. The owner of the house in 1843, a Mr John Charles Lyons, wrote the first manual on the cultivation of tropical orchids in the world. He built his own printing press (now in the County Library, Mullingar) and grew orchids in a glasshouse heated and watered by a system invented by him. Ladestown was the site of an earlier castle and it is possible that some of the fabric of this earlier structure was used in the construction of these buildings.

Appraisal: Though Ladestown House was demolished in the 1960s the stable block and outbuildings survive well as a riding school. It is an impressive complex reflecting its importance to the life of the original house. The gable with clock and bellcote is of particular architectural note and is similar to the stable block of Bellmount House a few miles to the north. The owner of the house in 1843, Mr John Charles Lyons, wrote the first manual on the cultivation of tropical orchids in the world. He built his own printing press (now in the County Library, Mullingar) and grew orchids in a glasshouse heated and watered by a system invented by him.

1.1.16 CHR 69 - NIAH Reg No. 15402503 - RPS Ref - No. 025-002 - Ladestown House – Gate Lodge

Rating: Regional

Categories of Special Interest: Architectural, Artistic

Original Use: Gate Lodge. In Use As: House

Date: 1880–1900

Date Recorded: 29/09/2004

Description: Detached two-bay single-storey former gate lodge, built or rebuilt c.1890, with projecting canted bay projection to the south elevation. Extended to the west, c.1980, creating a double-pile structure with conservatory and a flat roofed extension to the rear. Originally served main entrance gates to Ladestown House, now demolished. Now in use as a private house. Hipped and pitched natural slate roofs with overhanging eaves and a central rendered chimneystack having terracotta chimney pots. Constructed of brick with ashlar limestone plinth to base, flush quoins to corners and dressings to the openings. Shallow segmental-headed window openings with ashlar limestone block-and-start surrounds, cut stone sills and replacement windows. Square-headed doorcase with ashlar limestone surrounds and a timber door. Cast-iron gates to the site. Located to the north of the site of Ladestown house and to the southwest of Mullingar.

Appraisal: This former gate lodge to Ladestown House (now demolished) is of pleasing proportions and adds character to its countryside location. The use of gray limestone pleasantly contrasts with the red brick used in the construction of the walls. Ladestown house was demolished in the 1960's and today the former estate avenue, once marked by this building, has been made into a county road, leaving the former gate lodge somewhat isolated from its former lands. Although considerably extended this has been done sympathetically and the original form and character has been retained. This lodge is on the site of an earlier lodge, built c.1823.

1.1.17 CHR 71 - NIAH Reg No. 15402501 - RPS Ref - No. 025-001 - Kilpatrick House

Rating: Regional

Categories of Special Interest: Architectural

Original Use: House. In Use As: House

Date: 1800–1900

Date Recorded: 29/09/2004

Description: Detached five-bay two-storey house, built c.1800. Altered c.1900 with addition of a projecting gable-fronted two-storey bay to east end of the front elevation (south) and a single-storey canted bay to the west end. Return to rear (north). Pitched natural slate roof with smooth rendered chimneystacks, having terracotta chimney pots over, cast-iron rainwater goods and a raised verge to the gable end to the west. Overhanging eaves with timber brackets to gable-fronted section. Ruled-and-line rendered with raised block quoins to the corners. Square-headed window openings with cut stone sills throughout. Chamfered reveals with stuccoed surrounds to window openings on gable-fronted bay. Timber sliding sash windows to ground floor openings with replacement windows over to the first floor openings. Former pedimented entrance to the centre of the main façade now blocked. Square-headed entrance to the rear elevation with timber door. Set back from road in extensive grounds to the north of Lough Ennel and to the southwest of Mullingar. Main entrance to the east and a complex of single and two-storey outbuildings/stables to the rear (north) arranged around a central courtyard.

Appraisal: An unusual middle-sized house, which retains much of its early character and has evidence of a number of different phases of construction. The front façade is well-composed and nicely proportioned despite the recent blocking up of the former main doorcase. This former doorcase appears to have had a pediment over, suggesting that this building may have mid-to-late eighteenth-century origins. The loss of some of the early window fittings in recent years, although regrettable, does not detract too much from the visual appeal of this building. The outbuildings to the rear complete this interesting composition, which is very pleasantly sited to the north of Lough Ennell.

1.2 Built heritage within Route Option 2

1.2.1 CHR 1 - NIAH Reg No. 15403817 - RPS Ref - No. 038-072 - Canal store/warehouse

See Section 1.1.1

1.2.2 CHR 2 - NIAH Reg No. 15403816 - RPS Ref - No. 038-071 - Kilbeggan Branch – Grand Canal Harbour/ dock/port

See Section 1.1.2

1.2.3 CHR 3 - NIAH Reg No. 15403819 - RPS Ref - No. 038-074 - Harbour Master's House

See Section 1.1.3

1.2.4 CHR 4 - NIAH Reg No. 15321053 - RPS Ref - No. 038-048 - Harbour Road House

See Section 1.1.4

1.2.5 CHR 5 - NIAH Reg No. 15321034 - RPS Ref - No. 038-032 - Saint Mary's Convent of Mercy – Graveyard/cemetery

See Section 1.1.5

1.2.6 CHR 6 - NIAH Reg No. 15321057 - RPS Ref - No. 038-052 - Saint Mary's Convent of Mercy

See Section 1.1.6

1.2.7 CHR 7 - NIAH Reg No. 15321059 - RPS Ref - No. 038-054 - Saint James's Catholic Church – Gates/railings/walls

See Section 1.1.7

1.2.8 CHR 8 - NIAH Reg No. 15321058 - RPS Ref - No. 038-053 - Saint James's Hall – Community Centre

See Section 1.1.8

1.2.9 CHR 9 - NIAH Reg No. 15321036 - RPS Ref - No. 038-033 - Marshall's Corn Mill

See Section 1.1.9

1.2.10 CHR 12 - NIAH Reg No. 15321032 - RPS Ref - No. 038-030 - Coola Mill

See Section 1.1.10

1.2.11 CHR 13 - NIAH Reg No. 15321031 - RPS Ref - No. 038-029 - Coola Bridge

See Section 1.1.11

1.2.12 CHR 79 - NIAH Reg No. 15319006 - RPS Ref - No. 032-027 - Miller's House, Knockycosker

Rating: Regional

Categories of Special Interest: Architectural, Historical, Social, Technical

Original Use: Miller's House. In Use As: House

Date: 1800–1820

Date Recorded: 27/09/2004

Description: Detached five-bay single-storey former miller's house, built c.1810, with return and later extension to rear (north). Now in use as a private house. Hipped natural slate roof with rendered chimneystacks to centre. Pitched natural slate roof to rear return. Roughcast rendered walls over smooth rendered plinth. Square-headed window openings with cut stone sills and replacement casement windows. Central square-headed doorway to main façade (south) with plain cut limestone surround having projecting keystone, a fluted frieze and a moulded cornice above. Replacement timber door. Located to the southeast of associated former mill (15319005) and to the south of Ballynagore.

Appraisal: A well-proportioned former miller's house, associated with the former mill that lies in ruins to the northwest (15319005). This pleasant structure is enhanced by the good quality cut limestone doorcase, which enlivens the otherwise plain front façade. This former miller's house is of humble proportions and is dwarfed by the enormous bulk of the mill to the rear (northwest). This house was probably built by the Mulock family, who owned the mill to the rear in the early nineteenth-century. This structure forms part of an interesting group of structures associated with the industrial past of Ballynagore and is an interesting addition to built heritage of the local area.

1.2.13 CHR 80 - NIAH Reg No. 15319005 - RPS Ref - No. 032-026 - Knockycosker Mill

Rating: Regional

Categories of Special Interest: Architectural, Historical, Social, Technical

Original Use: Mill (water). In Use As: –

Date: 1760–1780

Date Recorded: 27/09/2004

Description: Detached multi-bay five-storey former corn and bleach mill, built c.1770, having a single-bay two-storey block to the southwest corner running perpendicular to the main body of the building. Later in use as a corn and saw mill (1914), now out of use and derelict. Pitched natural slate roofs, partially collapsed to main body of building. Cut stone coping to gable ends of five-storey structure and a projecting brick eaves course and a rendered end chimneystack to the two-storey structure. Surviving sections of cast-iron rainwater goods. Roughcast rendered walls over rubble stone construction with square-headed openings to the five-storey building and shallow segmental-headed openings to the two-storey block. A number of timber sliding sash windows survive to the north end of the five-storey block. Brick dressings to openings to the two-storey block. Square-headed doorways with the remains of timber sheeted doors. Remains of a timber water wheel with iron fittings to the northwest side. Former mill race, now dry, to the west side of the mill. Located on the east bank of the River Brosna and to the southwest of Ballynagore. Mill house (15319006) and outbuildings to the southeast.

Appraisal: The substantial remains of a large-scale former milling complex, which retains its enormous industrial scale and character. This former mill is the largest industrial structure of its date still surviving in Westmeath and is an important part of the industrial heritage of Westmeath and the social history of Ballinagore. It was originally one of a number of mills in Ballynagore, of which this is the only survival. The remains of the former water wheel and the mill race add technical interest and provide an insight into past industrial processes. This mill was originally in use as a flour and bleach mill in the late eighteenth-century. A field to the south was formerly a 'bleach green', indicating that it was involved in the processing of flax in the late eighteenth-century, a significant industry in south Westmeath at this time. This mill was in the ownership of the Fleetwood family in the late eighteenth-century and its annual production of flour (and sent to Dublin) increased from 3,158 cwts in 1777 to 6,772 cwts in 1788. It was later in the ownership of a W.H. Mulock, Esq., c.1835, who owned a number of mills in Ballynagore at the time that collectively produced some 40,000 barrels of flour a year and employed a work force of 70. The Murlock family sold their interests to the Perry family in 1838. Adjacent to the mill once stood a gas works, which apparently powered one of the first street lighting projects in Ireland. This mill is a significant survival and its enormous bulk is a feature of some picturesque

merit to the south of Ballynagore. The former mill race, the outbuildings and other ancillary structures to site adds to this composition and complete the setting.

1.2.14 CHR 84 - NIAH Reg No. 15319004 - RPS Ref - No. 032-025 - Glen Brosna House

Rating: Regional

Categories of Special Interest: Architectural, Artistic, Historical

Original Use: House. In Use As: House

Date: 1820–1840

Date Recorded: 27/09/2004

Description: Detached five-bay single-storey over basement 'T-plan' villa, built c.1830 and altered c.1850, having single-storey over basement returns to the rear (southwest) and a projecting single-bay gable-fronted porch (with timber supports and timber brackets) to the centre of the front façade (northeast). Pitched natural slate roof with overhanging bracketed eaves, rendered chimneystacks having terracotta pots over and with cast-iron rainwater goods. Artificial slate roofs to the rear (southwest). Roughcast rendered walls over smooth rendered plinth with raised block quoins to the corners. Square-headed window openings with paired timber casement windows and rendered architraves. Triple-light round-headed window with pediment over to northwest side elevation. Square-headed doorcase to the projecting porch having glazed timber double-doors, sidelights and rendered surrounds. Cast-iron lattice work panels to sides of open porch and a row of rendered garlands to wall above doorway. Cut stone steps give access to the doorway. Set back from road in own grounds to the west side of Ballynagore on the south banks of the River Brosna. Crenellated rubble stone wall to the northwest running along river bank. Main entrance gates to the east, comprising a pair of open work cast-iron gate piers flanked to either side by curved sections of rendered walling with wrought-iron railings over and terminated by rendered gate piers on square-plan.

Appraisal: An interesting and well-detailed gentleman's villa, of early to mid-nineteenth-century appearance, which retains its early form character and fabric. This charming house is enhanced by the decorative rendered elements, the well-detailed projecting porch with interesting cast-iron lattice work panels and the triple-light window to the northwest elevation. This house was originally the home of the Mulock Family, the owners of the large mill to the south (15319005) in the early nineteenth-century. The Mulock family sold their interests to the Perry family in 1838 and this house became the home of a William Perry. This house appears to have been altered after this date, possibly to designs by John Skipton Mulvany (1813-1870), who designed Ballynagore House (15319011) for William's brother John Perry c.1852. William sold this house in 1856. This house is an important element of the architectural heritage of the local area and is a feature of some picturesque merit to the west end of Ballynagore on the banks of the Brosna. The railings, gates and boundary walls complete the setting of this good quality composition.

1.2.15 CHR 78 - NIAH Reg No. 15319014 - RPS Ref - No. 032-045 - Knockycosker Water Pump

Rating: Regional

Categories of Special Interest: Architectural, Social, Technical

Original Use: Water pump. In Use As: Water pump

Date: 1870–1900

Date Recorded: 27/09/2004

Description: Freestanding cast-iron water pump, erected c.1885, comprising banded cylindrical shaft with fluted head having fluted spout, 'cow tail' curvilinear handle, and fluted ogee-dome cap with finial. Set in rendered walled enclosure, open to road to the southwest. Located to the southeast of Ballynagore.

Appraisal: A typical late nineteenth-century water pump, of a standard design encountered throughout rural Westmeath. Water pumps played an important social role in the late nineteenth and early-twentieth centuries by providing a communal water source before the development of mains water supply. This water pump is sited adjacent to a rural road junction, a communing location for water pumps for obvious reasons. This cast-

iron pump now serves as an attractive piece of street furniture, aesthetically enhancing the rural landscape to the southeast of Ballynagore.

1.2.16 CHR 81 - NIAH Reg No. 15319012 - RPS Ref - No. 032-033 - Ballynagore House – gates/railings/walls

Rating: Regional

Categories of Special Interest: Architectural

Original Use: Gates/railings/walls. In Use As: Gates/railings/walls

Date: 1850–1860

Date Recorded: 16/09/2004

Description: Boundary wall associated with Ballinagore House (15319011), erected c.1855). Constructed using roughly coursed rubble limestone with crenellated cut stone coping over. Located to the south of Ballynagore House and to the east end of Ballynagore.

Appraisal: A well-built and imposing section of boundary wall associated with Ballinagore House (15319011). This wall is an attractive feature along the main approach into the village from the east and it makes a positive contribution to the streetscape. At a time when most large estates are no longer in single ownership and their associated lands divided up, often these boundary walls fall victim of neglect. It is therefore refreshing to find this wall in such good condition and continuing to add historical incident to east end of Ballynagore.

1.2.17 CHR 82 - NIAH Reg No. 15319010 - RPS Ref - No. 032-031 - Ballynagore House – gates/railings/walls

Rating: Regional

Categories of Special Interest: Architectural, Artistic

Original Use: Gates/railings/walls. In Use As: Gates/railings/walls

Date: 1850–1855

Date Recorded: 16/09/2004

Description: Entrance gateway serving Ballynagore House (15319011), erected c.1852, comprising a central pair of ashlar gate piers (on square-plan with pronounced moulded capstones over) supporting a pair of cast-iron gates. Main gateway flanked to either side by snecked/ashlar limestone walls on curved-plan with cast-iron pedestrian gates and terminated by ashlar gate piers. Located to the southwest of Ballynagore House (15319011) and to the east end of Main Street, Ballynagore. Rubble limestone boundary wall (15319012) runs away to the east.

Appraisal: Monumental entrance piers and gates serving Ballynagore House (15319011), which retain their early character and form. This gateway is well executed and is a fine example of the stonemason's craft. The good quality decorative cast-iron gates add further aesthetic and artistic merit to this notable gateway. The gates and piers are perhaps the most dramatic piece of architecture along the main street of Ballynagore and makes a strongly positively contribution to the streetscape. It is very likely that the designs for this elegant gateway were carried out by John Skipton Mulvany (1813-1870), who is credited with the designs for Ballynagore House (15319011) itself to the northwest.

1.2.18 CHR 83 - NIAH Reg No. 15319009 - RPS Ref - No. 032-030 - Knockycosker Water Pump

Rating: Regional

Categories of Special Interest: Social, Technical

Original Use: Water pump. In Use As: Water pump

Date: 1870–1900

Date Recorded: 16/09/2004

Description: Freestanding cast-iron water pump, erected c.1885, comprising banded cylindrical shaft with fluted head having fluted spout, ‘cow tail’ curvilinear handle, and fluted ogee-dome cap with finial. Sited on concrete plinth with three steps to north west. Located to the north side of the Main Street, Ballynagore.

Appraisal: A typical late nineteenth-century water pump, of a standard design that is encountered throughout rural Westmeath. Water pumps played an important social role in the nineteenth and early-twentieth centuries by providing a communal water source before the development of mains water supply. This cast-iron pump now serves as an attractive piece of street furniture, aesthetically enhancing the streetscape of Ballynagore.

1.2.19 CHR 85 - NIAH Reg No. 15319003 - RPS Ref - No. 032-024 - Ballynagore Bridge

Rating: Regional

Categories of Special Interest: Architectural, Technical

Original Use: Bridge. In Use As: Bridge.

Date: 1700–1740

Date Recorded: 16/09/2004

Description: Triple-span road bridge over river Brosna, built c.1720 and new central arch added in 1951. Random rubble construction to early arches to either end (east and west) having rubble stone voussoirs and cut stone coping over parapet walls. Smooth concrete construction to 1950's rebuild with rusticated concrete blocks to parapets having reused cut stone coping over. Cut stone date plaques, one with Irish inscription to southern parapet wall and one with English inscription northern parapet, reading 'Office of Public Works Brosna Drainage Rebuilt 1951'. Located to the west end of Ballynagore village.

Appraisal: An interesting bridge of two distinct phases of construction, which has a graceful form and is a vital part of the local infrastructure for a considerable period of time. This bridge formerly had four arches (Lewis 1837). However, the central two arches were replaced by a modern arch in the 1950s as part of extensive drainage works carried out by the Office of Public Works at the time. The small size of the arches and the form of the voussoirs to the original sections suggests that it is quite early, perhaps early eighteenth-century in date. The sympathetic reuse of the original cut stone coping over the rebuild helps to blend this section in with the original bridge fabric.

1.2.20 CHR 86 - NIAH Reg No. 15319011 - RPS Ref - No. 032-032 - Ballynagore House

Rating: Regional

Categories of Special Interest: Architectural, Artistic

Original Use: House. In Use As: House

Date: 1850–1855

Date Recorded: 16/09/2004

Description: Detached four-bay two-storey over basement house on irregular ‘L-shaped plan’, built c.1852, having two advanced single-bay gable-fronted bays to the north end of the front façade (east). Projecting single-bay single-storey pedimented ashlar limestone Doric entrance porch/portico to the projecting bay closest to the centre of the main facade. Pitched natural slate roofs with overhanging bracketed eaves, rendered chimneystacks with terracotta pots and having cast-iron rainwater goods. Roughcast rendered walls with raised ashlar limestone block quoins to a number of the corners. Square-headed window openings to the main body of the building with cut stone sills and replacement windows. Tripartite square-headed window opening to the ground floor of the advanced bay to the north end of the front façade having cut limestone surrounds with cut stone console brackets supporting entablature over and with replacement windows. Square-headed window over tripartite window having cut limestone surround with cut limestone console brackets over supporting cut limestone entablature. Paired round-headed window openings with cut limestone heads and margin timber sash windows over porch to the first floor of second bay from the north. Square-headed doorway set into channelled ashlar limestone wall behind porch having a timber door with overlight over. Flight of cut stone steps gives access to doorway. Cast-iron railings over basement to entrance front. Set back from road

in extensive landscaped grounds to the northeast of Ballynagore. Main entrance gates to the southwest (15319010).

Appraisal: An elaborate and eclectic mid nineteenth-century house, which retains its early form, character and much of its early. This fine house is built in an Italianate style and has extensive decorative elements in ashlar limestone, including a well-detailed entrance porch, block quoins and surrounds to a number of the window openings. The asymmetrical layout, the variety of the treatments to the window openings and the pronounced overhanging bracketed eaves helps to give this building an attractive and variety façade. This fine structure was built for John Perry to designs by John Skipton Mulvany (1813-1870), an eminent architect of his day. The Perry Family were a prominent milling family in Ballynagore, having bought out the milling interests of the Mulock family in 1838, and owned the large mill to the southwest of the village (15319005) among other business interests in the area. This fine composition is a noteworthy addition to the built heritage of Westmeath and forms an important pair of related structures with the fine gateway (15319010) to the southwest.

1.2.21 CHR 87 - NIAH Reg No. 15319017 - RPS Ref - No. 032-037 - Knock House

Rating: Regional

Categories of Special Interest: Archaeological, Architectural, Artistic

Original Use: House. In Use As: House

Date: 1800–1830

Date Recorded: 27/09/2004

Description: Detached three-bay two-storey house with return, built c.1815, having a single-bay single-storey extension/wing attached to the north gable end. Pitched natural slate roof with rendered chimneystacks to either gable end. Roughcast rendered walls with square-headed window openings having cut stone sills and six-over-three pane windows to the first floor openings and six-over-six pane timber sliding sash windows over to the first floor. Central round-headed doorway to the main façade having a cut stone architraved surround with timber door and a spoke/radial fanlight over. Complex of single-storey outbuildings and a two-bay two-storey former coach house arranged around a courtyard to the north of the house, having rubble stone walls, pitched natural slate or corrugated metal roofs and square-headed openings. Roughcast rendered finish and a segmental-headed carriage arch to the coach house. A pair of rubble limestone gate piers (on circular-plan) having a wrought-iron flat bar gate gives access to outbuilding complex from the south. Main entrance gates serving the house to the south comprising a pair of cut limestone gate posts on octagonal plan. Set back from country lane in mature grounds. Located to the east of Ballynagore.

Appraisal: An elegant and well-proportioned house, which retains its early form and character. The importance of this charming house is elevated by the retention of much of its original fabric, including early timber sliding sash windows and a timber panelled door, while the good quality doorcase forms an architectural centerpiece to the front façade. This house has quite a deep plain and large windows, suggesting that this is a gentleman's or strong farmer's house rather than a house from the extended vernacular tradition. The extensive collection of outbuildings to the north and the vernacular gateway serving this complex adds significantly to this composition. The well-carved cut limestone gate posts to the south complete the setting of this fine composition, which is a worthy addition to the built heritage of the local area. The current house and farmyard is built on the site of an earlier castle, indicated on the Down Survey map of the area (1654-6), of which no extant remains are visible. It is probable that fabric from this earlier structure was incorporated into the present buildings.

1.2.22 CHR 88 - NIAH Reg No. 15402606 - RPS Ref - No. 026-002 - Newells Bridge

Rating: Regional

Categories of Special Interest: Architectural, Technical

Original Use: Bridge. In Use As: Bridge

Date: 1850–1880

Date Recorded: 20/10/2004

Description: Single-arched road bridge over River Brosna, built c.1870. Constructed using coursed rock-faced limestone rubble with rusticated rock-faced limestone voussoirs to arch and an ashlar string course to road level. Roughly dressed limestone coping to parapet. Cast-iron ties to sides of bridge. Located to the east of Castletown Geoghegan.

Appraisal: A well-built small-scale mid-to-late nineteenth-century bridge, which is pleasing feature in the rural landscape to the east of Castletown Geoghegan. The good quality rusticated masonry is a typical feature of the many bridges built by Board of Works in the second half of the nineteenth century, suggesting that they were responsible for the construction of this bridge. It replaced an earlier bridge at this location (map 1838). It represents an integral element of the civil engineering Heritage of County Westmeath and is an attractive structure in its own right.

1.2.23 CHR 89 - NIAH Reg No. 15403208 - RPS Ref - No. 032-045 - Dalystown House

Rating: Regional

Categories of Special Interest: Architectural, Artistic

Original Use: House. In Use As: House

Date: 1800–1820

Date Recorded: 20/10/2004

Description: Detached three-bay two-storey house, built c.1810, having a single-bay gable-fronted entrance porch to the centre of the front façade (northeast), a blank walled extension to the east end and a two-storey return to the centre of the rear elevation (southwest). Pitched natural slate roof, hipped over extension to the east end, with rendered chimneystacks to either end having terracotta pots over. Cast-iron rainwater goods. Roughcast rendered walls over smooth rendered plinth. Square-headed window openings having cut stone sills and with eight-over-eight pane timber sliding sash windows to ground floor openings and four-over-eight pane timber sliding sash windows to the first floor openings. Round-headed doorcase to the front face of projecting porch having cut stone block-and-start doorcase with fluted lintel and fluted keystone detail over, timber door and with a spoke fanlight over. Doorcase flanked to either side by round-headed sidelights having Gothic style timber glazing bars. Set back from road in own grounds to the east of Castletown Geoghegan with complex of single-storey outbuildings to the rear (southwest).

Appraisal: An interesting early nineteenth-century house, which retains its early form, fabric and character despite being no longer occupied. This proportions and detailing to this building lend it the feel of a middle-sized farmhouse with aspirations towards a more formal architectural pedigree. Of particular interest is the fine cut stone doorcase, which enlivens the front façade and helps to elevate this building above many of contemporaries in Westmeath. The sidelights flanking this elegant doorcase have a vaguely Gothic glazing pattern and are another curious and noteworthy feature of this house. It is likely that this porch is a later addition with the doorcase moved to its original location. The blank extension to the east end of the front façade is another unusual feature that is difficult to explain. The extensive complex of rubble limestone outbuildings to the rear and the wrought-iron gates throughout the site complete the setting of this good quality composition, which is a strong addition to the built heritage of the local area.

1.2.24 CHR 99 - NIAH Reg No. 15403302 - RPS Ref - No. 033-023 - Robinstown House – Country House

Rating: Regional

Categories of Special Interest: Architectural, Artistic, Historical

Original Use: Country House. In Use As: Country House

Date: 1780–1800

Date Recorded: 20/10/2004

Description: Detached five-bay two-storey over basement county house, built c.1790, having three-storey returns to the rear (south). Pitched slate roof with raised verges and rendered chimneystacks to each gable end (east and west). Roughcast rendered walls with square-headed window openings, diminishing in size towards the eaves, having stone sills and replacement windows. Central round-headed doorcase having a cut

limestone blocked architraved surround and a timber panelled door with a replacement fanlight over. Doorway reached by a flight of cut stone steps flanked by cast-iron railings. Set well back from road in mature grounds with outbuildings to the rear (south). Located to the northwest of Rochfortbridge.

Appraisal: A well-proportioned small-scale country house, which retains much of its early form and character. Of particular interest is the very handsome doorcase, which acts as an elegant centerpiece enlivening the main façade (north). The visual appeal of this well-balanced structure has been compromised by the loss of the early windows and fanlight in recent years. This house was in the ownership of the Evans Family during the first decades of the nineteenth century and was the residence of a W. D'Arcy Irwin, Esq., in 1837 (Lewis). The remains of an earlier castle associated with the Nugent Family is located a short distance to the northwest. This fine house at Robinstown makes a positive contribution to the built heritage of the area and is a welcome addition to the rural landscape to the northwest of Rochfortbridge. The rubble stone outbuildings to the rear (south) complete the setting.

1.2.25 CHR 115 - NIAH Reg No. 15402623 - RPS Ref - No. 026-019 - Carrick House - Boathouse

Rating: Regional

Categories of Special Interest: Architectural

Original Use: Boat house. In Use As: –

Date: 1760–1800

Date Recorded: 16/10/2004

Description: Freestanding single-bay single-storey former boathouse associated with Carrick House (15402624), erected c.1780. Now out of use and ruinous. Constructed of random rubble with a single segmental-headed carriage arch to the west side, overlooking Lough Ennell. Located to the northwest of Carrick House and to the south of Mullingar on the western shores of Lough Ennell. Random rubble limestone boundary wall to west.

Appraisal: An interesting, if ruinous, former boathouse associated with Carrick House (15402624) to the southeast. The water level of Lough Ennell was lowered by approx 6m in the recent past and, as a result, the remains of this boathouse now stand firmly on dry land. A replacement boathouse was built a few metres to the south west of blockwork construction, creating an interesting juxtaposition between old and new. This humble ruin is a simple addition to the built heritage of the area and adds a subtle historic feel to its scenic lakeside location.

1.2.26 CHR 120 - NIAH Reg No. 15402620 - RPS Ref - No. n/a - Rochfort Mill

Rating: Regional

Categories of Special Interest: Architectural, Social, Technical

Original Use: Mill (water). In Use As: –

Date: 1780–1840

Date Recorded: 16/10/2004

Description: Detached single-storey over basement former corn mill on a T-shaped plan, built c.1810. Site now derelict, out of use and largely overgrown. Pitched natural slate roof with cast-iron rainwater goods and rendered chimneystacks. Roughcast rendered finish over random rubble stone construction. Square-headed doorways with timber sheeted doors. Pointed-arched window opening to north gable with timber sash window. Timber waterwheel to north gable. Internal machinery and fittings largely still intact. Millrace and remains of former millpond to north. Outbuildings and mill house (15402621) to east and south.

Appraisal: Located just west of the main Tullamore to Mullingar road this corn mill is of modest proportions yet forms a significant part of the industrial heritage of Westmeath. This complex is of particular importance and merit as it appears to have remained virtually unaltered and with a full complement of mill related structures, including head and tailraces races, mill pond, associated outbuildings and a former millers house (15402620). It retains much of its early timber and cast-iron machinery, including the remnants of an early timber waterwheel to the north gable. Survival of early machinery is now very rare, which helps to add importance to this functional complex. This corn mill probably dates to the late eighteenth or early nineteenth-century, which was a boom

period for the Irish corn milling industry. It forms an interesting pair of related structures with the former miller's house to the south (15402620) and is a worthy addition to the industrial heritage of Westmeath, along with the ancillary elements of this complex including the outbuildings and watercourses. This is a largely unique and untouched site and is a rare find in today's landscape.

1.2.27 CHR 121 - NIAH Reg No. 15402621 - RPS Ref - No. n/a - Rochfort Mill – Miller's House

Rating: Regional

Categories of Special Interest: Architectural, Social

Original Use: Miller's House. In Use As: –

Date: 1780–1800

Date Recorded: 16/10/2004

Description: Detached six-bay two-storey former mill house built c 1830. Now in use as a private house. Steeply pitched natural slate roof with raised verges to gable ends (north and south) and a pair of central rendered chimneystacks. Cast-iron rainwater goods. Random rubble limestone walls with brick dressings to the openings, originally rendered. Square-headed window openings with cut stone sills and having six-over-six pane timber sliding sash windows to the ground floor openings and three-over-six pane timber sliding sash windows to first floor openings. Central square-headed doorcase with glazed timber door. Set back from road in extensive grounds with former corn mill complex to the north (15402620). Located to the south of Mullingar.

Appraisal: An interesting and rather curious former miller's house, of probable early nineteenth-century date, which retains its early form, character and much of its early fabric. The form of this building is unusual for its date (not indicated on Ordnance Survey map in 1837) and the proportions and the pitched roof suggest a mid-to-late eighteenth-century (or even earlier) construction date. The steeply pitched roof suggests that this building may have originally had a thatched roof, which is unusual for a building of its quite considerable size and date. This building forms part of a rare almost fully complete corn mill complex (15402620), with the mill itself, the watercourses and other ancillary structures. This building forms part of an interesting group of related structures and is an interesting and important addition to the built heritage of the area, adding historic appeal to its rural location. This interesting complex deserves closer inspection.

1.2.28 CHR 125 - NIAH Reg No. - RPS Ref - No. 026-015 - Tudenham Park – Country House

Rating: National

Categories of Special Interest: Architectural, Artistic, Historical

Original Use: Country House, subsequently hospital/infirmary. In Use As: –

Date: 1740–1750

Date Recorded: 16/10/2004

Description: Detached seven-bay three-storey over basement country house, built c.1743, with projecting full-height bows to the centre of the west and east side elevations. Later return to rear (south). Later in use as a military hospital (1914-1919). Now out of use and a roofless overgrown shell. Shallow hipped natural slate roof, now collapsed, having a pair of cut limestone chimneystacks to the centre, aligned parallel with former roof ridge, having moulded ashlar cornices over. Constructed of ashlar limestone with extensive cut limestone detailing, including a heavy moulded eaves cornice, raised quoins to the corners and a string course at first floor level. Square-headed window openings, diminishing in size towards eaves, with moulded cut stone architraved surrounds and cut stone sills. Central round-headed pedimented tripartite Doric doorcase to south façade having four columns supporting entablature and pediment over. Fittings to all openings now gone. Round-headed niche flanked by Ionic pilasters over central doorcase at first floor level with a circular/oculus niche over to second floor having a scrolled console bracket to base. Interior now gutted but retaining some fragments of original plasterwork to ground floor walls. Located in extensive grounds on the western shores of Lough Ennell to the south of Mullingar. Remains of former outbuildings to the northeast and former main entrance gates and attendant gate lodge (15402616) to the east.

Appraisal: Though Tudenham Park sadly now survives only as a roofless shell, this building is of high architectural and artistic significance and retains good quality cut stone detailing throughout. This enormous Palladian edifice was built for George Rochfort, a brother of Robert Rochfort of Belvedere House (15402615), and was designed by the same architect as Belvedere, namely Richard Castle. Tudenham Park shares with Belvedere the bow projections to the side elevations, but it is built on a much larger scale than its neighbour to the north and does not display as much ingenuity in its design. The regularity of the main façade is only broken by the central arrangement of architectural motifs to the centre of the main façade, namely the tripartite doorcase with a blank Venetian niche over and the oculus opening to the second floor. This central arrangement is a typical feature of much of Castle's work and of Palladian architecture in this part of Ireland in general. Tudenham Park played an important role in the development of the planned landscape at Belvedere to the north and its scale probably pre-empted the erection of 'The Jealous Wall' (15402614) to the north, which was built to shield Robert Rochfort's view of his brother's enormous pile to the south. Tudenham House was later sold to Sir Francis Hopkins, c.1837 and to the Tottenham Family c.1870. It was later used as a hospital during World War I and was still in military ownership until after 1945 and was gutted and de-roofed in 1957. Although the building is badly overgrown it is pleasing to find surviving fragments of plaster panelling to the interior. In addition the remnants of the former service buildings to the rear are of note and have some good examples of brick vaulting. Tudenham Park is beautifully sited on the shores of Lough Ennell and is an important part of the architectural heritage of Westmeath.

1.2.29 CHR 131 - NIAH Reg No. 15402614 - RPS Ref - No. 026-012 - Belvedere House – 'The Jealous Wall' Folly

Rating: National

Categories of Special Interest: Architectural, Artistic, Cultural, Historical

Original Use: Folly/Stables. In Use As: Heritage centre/interpretative centre

Date: 1750–1770

Date Recorded: 13/10/2004

Description: Detached three-storey 'sham ruin' on complex irregular plan, located to the south of Belvedere House (15402615), built c.1760. Constructed of rubble limestone with a variety of differently-shaped forms and elements, including towers on polygonal and square-plans, an open Gothic arcade/loggia on a concave plan to the centre and recessed and projecting bays. Ashlar or cut stone string courses roughly delineate the three stages/storey. Variety of differently shaped openings, including pointed-arched windows with the imitation remains of cut stone Y-tracery and round-headed and square-headed windows with cut stone and roughly dressed stone surrounds. Three-bay two-storey house and a double-height former stable block to the south side of structure now in use as a visitor centre. Sited to the south of Belvedere House (15402615) and to the north of Tudenham House (15402617). Located on the west shores of Lough Ennell and to the south of Mullingar.

Appraisal: 'The Jealous Wall' is the largest folly in Ireland and forms part of an important collection of Gothic follies at Belvedere House (15402615), together representing one of the most important collections of its type in Ireland. This spectacular 'sham ruin' is built in the form of the fragmentary remains of a sprawling Gothic castle or palace. This unique structure has a huge variety of forms and elements, which create the illusion of depth and complexity along its 50 metre length. It creates a romantic silhouette against the skyline, with the irregular form of the top of this structure further emphasising the illusion that this is a crumbling Gothic ruin. 'The Jealous Wall' shields the view of the stable block from the main house to the north but it is much better known for its role in a story of jealousy and bitter sibling rivalry. The story goes that 'The Jealous Wall' was built by Robert Rochfort, the owner of Belvedere House (15402615) and a man of notorious cruelty, to obscure his view of and the view from his brother George's enormous Palladian pile, Tudenham Park (15402617), the shell of which can be found a short distance to the south. The designer of 'The Jealous Wall' is not known but it is believed that Thomas Wright of Durham, who is credited with the designs of the other follies at Belvedere, was not responsible for this structure as it does not conform to the his usual formula of Gothic detailing combined with a certain Classical symmetry, as is the case with the 'Gothic Arch' to the north. Together with the 'Gothic Arch' (15402612) and the 'Gothic Octagon' (15402613) to the north, this structure forms part a unique collection of garden follies of national importance.

1.2.30 CHR 132 - NIAH Reg No. 15402615 - RPS Ref - No. 026-013 - Belvedere House – Hunting/fishing lodge

Rating: National

Categories of Special Interest: Architectural, Artistic, Cultural, Historical

Original Use: Hunting/fishing lodge. In Use As: Museum/gallery

Date: 1740–1750

Date Recorded: 13/10/2004

Description: Detached five-bay two-storey over basement former country house/hunting lodge on L-shaped plan, built c.1740, with advanced bays to either end of the main elevation (west), bow projections to the side elevations (north and south) and a bow projection to the rear elevation west) housing the main staircase. Extension to rear, added c.1780. Now in use as a museum. Shallow-hipped natural slate roof, almost hidden behind a raised parapet, having a pair of central dressed limestone chimneystacks with terracotta chimneypots over. Cast-iron rainwater goods. Coursed dressed limestone walls over an ashlar limestone plinth and with extensive ashlar limestone trim, including raised quoins to the corners, cornice at eaves level and coping over parapet. Square-headed window openings to central three (recessed) bays having cut limestone Gibbsian surrounds to the ground floor openings with six-over-six pane timber sliding sash windows and cut limestone surrounds to the first flour openings having three-over-three-pane timber sliding sash windows. Venetian window openings to ground floor of projecting bays with Diocletian openings over to first floor, all having cut limestone surrounds and timber sash windows. Central projecting doorcase with rusticated ashlar limestone surround having a cut limestone entablature over supported on a pair of Doric columns, and a timber panelled door with a spoke fanlight over. Very interesting interior with surviving Rococo plasterwork, an early staircase and marble or oak fireplaces. House set on a stepped limestone terrace with cut limestone balustrades, added c.1858. Located in extensive mature parkland grounds on the west shores of Lough Ennell with a number of follies to the site (‘The Jealous Wall’ (15402614), ‘The Gothic Arch’ (15402612), and ‘The Gothic Octagon’ (15402613). Located to the south of Mullingar.

Appraisal: A sophisticated and elegant Palladian hunting lodge/house, which retains its early form, fabric and character. This accomplished house is articulated in a tripartite arrangement with the projecting end bays breaking the front façade into three separate parts. The tall chimneystacks help to further emphasis this tripartite division of the front façade and this motif is carried through to the Venetian and Diocletian windows to the projection bays. Designed by Richard Castle, probably the foremost architect working in Ireland at the time, Belvedere has been recently restored and is now open to the public as a visitor attraction. It ranks as one of the most accomplished designs by this noteworthy architect and is one of three houses Castle designed in Westmeath, along with and Tudenham Park (15402617), to the south, and Waterstown House (15414014), Glassan, which are both now in ruins. The bow projections to the north and south sides of Belvedere are among the earliest such features in Ireland and they may have influenced similar features at Belville Cottage (15402609) to the northeast and at Tudenham Park. The fine main doorcase and the fenestration pattern of the building, in particular the Diocletian windows, reflect Castle's hand in the building's design. These Diocletian windows were recently reinstated as part of the renovation of the property. The house also contains some of the finest and most important surviving Rococo plasterwork schemes in Ireland (attributed to Barthelemij Cramilion) and noteworthy examples of early oak joinery and marble fireplaces. This house was built for the notorious Robert Rochfort, later first Earl of Belvedere, and was originally intended as a hunting lodge. However, Rochfort abandoned his main house at Gaulstown (now demolished), Rochfortbridge, on account of a family feud, and made Belvedere his main home soon after its initial construction. Belvedere later passed on to the Marlay Family and later still to Lt-Col. Howard-Bury, leader of the ill-fated 1921 Mount Everest Expedition. Built on the shores of Lough Ennell, Belvedere occupies a commanding location and it forms the centrepiece of an important designed landscape of national importance along with the three associated Gothic follies, ‘The Jealous Wall’ (15402614), The Gothic Octagon (15402613) and The Gothic Arch’ (15402612).

1.2.31 CHR 133 - NIAH Reg No. 15402613 - RPS Ref - No. 026-011 - Belvedere House – ‘Gothic Octagon’ Folly

Rating: Regional

Categories of Special Interest: Architectural, Artistic, Historical

Original Use: Folly. In Use As: Folly

Date: 1750–1780

Date Recorded: 13/10/2004

Description: Freestanding Gothic gazebo on octagonal plan located within the grounds of Belvedere House (15402615), built c.1765. Constructed of coursed dressed limestone with brick lining to the interior. Seven ogee-headed window openings and one ogee-headed door openings, one to each elevation, having recessed quatrefoil panels over. Set on a rubble stone plinth, on octagonal plan, and on a raised earthwork platform to the northwest of Belvedere House (15402615). Located to the south of Mullingar and on the eastern shores of Lough Ennell.

Appraisal: A mid-eighteenth century Gothic folly that forms part of an important collection of Gothic follies at Belvedere House (15402615), which together represent one of the most important collections of its type in Ireland. This structure was originally built with a roof over, now gone, and it is thought that it was originally intended to act as a Summerhouse. It is believed that Thomas Wright of Durham, who was responsible for the other follies at Belvedere, was also responsible for the designs for this curious structure. It is possible that Wright based the designs for this structure on the remains of the octagonal baptistery at Mellifont Abbey, County Louth. Wright had previously produced detailed drawings of this structure for his work on the antiquities of Co. Louth, entitled 'Louthania', published in 1747. This structure at Belvedere is set on an earthen work bastion, the extant of which is difficult to gauge today on account of the extensive tree and shrub growth in the area. The plan of this bastion looks very similar to a star-shaped fort on the 1837 map of the area where it is indicated as a 'castle'. Together with the 'Gothic Arch' (15402612) to the north and the 'Jealous Wall' (15402614) to the south, this structure forms part a unique collection of garden follies of national importance.

1.2.32 CHR 135 - NIAH Reg No. 15402612 - RPS Ref - No. 026-010 - Belvedere House – 'The Gothic Arch' Folly

Rating: National

Categories of Special Interest: Architectural, Artistic, Historical, Technical

Original Use: Folly. In Use As: Folly

Date: 1750–1770

Date Recorded: 13/10/2004

Description: Freestanding rusticated Gothic folly/arch located within the grounds of Belvedere House (15402615), built c.1760, comprising a three-bay two-stage tower, on square-plan, having a central oriel opening to first floor above carriage arch and a crenellated parapet over. Constructed of rubble limestone with water-eroded limestone detailing/elements. Round-headed carriage arch to the centre of ground floor flanked by large loop hole-shaped openings to either side (east and west). Pointed-arched openings flank the central oriel window at the first floor level. Located to the north of Belvedere House (15402615) on the eastern shore of Lough Ennell and to the south of Mullingar.

Appraisal: This deliberately romantic and complex feature forms part of an important collection of Gothic follies at Belvedere House (15402615), which together represent one of the most important collections of its type in Ireland. The design for the 'Gothic Arch' is attributed to Thomas Wright of Durham, who published numerous designs for follies and grottos in his book 'Universal Architecture', first published in 1755. It is thought that the designs for this particular folly were based on a plan from this book but that only the central section of this 'plan' was ever built at Belvedere. This structure is both fantastic and grotesque, and it is very different in style and purpose to the more famous 'Jealous Wall' (15402614) to the south. The 'Gothic Arch' has a more symmetrical layout than its neighbour to the south whilst the oriel window above the central carriage arch is a very distinctive feature. The 'Gothic Arch' is sited on a high point in the demesne parkland setting and serves as a two-dimensional focal point in the landscape to the north of the main house. Together with the 'Gothic Octagon' (15402613) and the 'Jealous Wall' (15402614) to the south, the 'Gothic Arch' forms part a unique collection of garden follies of national importance.

1.2.33 CHR 136 - NIAH Reg No. 15402666 - RPS Ref - No. 026-046 - La Mancha House - Demesne walls/gates/ railings

Rating: Regional

Categories of Special Interest: Architectural, Artistic

Original Use: Demesne walls/gates/railings. In Use As: Gates/railings/walls

Date: 1800–1840

Date Recorded: 24/07/2006

Description: Main entrance gates serving La Mancha (15402608), erected c.1820, comprising a pair of decorative cast-iron gate piers supporting cast-iron double gates. Curved sections of decorative cast-iron railings sweep away to the north and south, terminated by cut limestone gate piers on square-plan. Located to the south of Mullingar and to the southeast of La Mancha House.

Appraisal: A highly decorative and elegant screen gateway and cast-iron railings associated with La Mancha (15402608). These cast-iron railings and gates are well executed in the Greek Revival style and are indicative of good quality design and craftsmanship. This gateway is an interesting feature in the landscape to the south of Mullingar, adding a decorative element to its pleasant rural location. It constitutes an integral element of the architectural heritage of the local area.

1.2.34 CHR 138 - NIAH Reg No. 15402606 - RPS Ref - No. 026-006 - Lynnbury House - Demesne walls/gates/ railings

Rating: Regional

Categories of Special Interest: Architectural, Social

Original Use: Demesne walls/gates/railings. In Use As: Demesne walls/gates/railings

Date: 1780–1820

Date Recorded: 01/10/2004

Description: Boundary wall to the west of Lynnbury House (15402603), erected c.1800. Constructed of random rubble stone with ashlar limestone coping over. Wall reduces in height to the south end with shallow saddle-back coping over. Located along the roadside to the south of Mullingar. Main gates (15402604) to Lynnbury House located towards the north end.

Appraisal: A well-built and imposing boundary wall associated with Lynnbury House (15402603). This wall is well-maintained and retains good quality dressed limestone coping over. It forms part of an interesting group of structures associated with Lynnbury House and is an attractive feature along the roadscape to the south of Mullingar. This wall is known locally as "Musical Wall" and, apparently, the wall resonates with sound if you run a stone along its length, adding an interesting additional folklore element to the particular feature.

1.2.35 CHR 139 - NIAH Reg No. 15402604 - RPS Ref - No. 026-004 - Lynnbury Gate Lodge

Rating: Regional

Categories of Special Interest: Architectural, Artistic

Original Use: Gate Lodge. In Use As: –

Date: 1780–1820

Date Recorded: 01/10/2004

Description: Main entrance gates and attendant detached three-bay single-storey gate lodge serving Lynnbury House (15402603), built c.1800, with central projecting cut stone single-bay open pedimented Doric porch to the entrance front (south) Gate lodge extended to the rear (north). Hipped natural slate roof with clay ridge tiles and a ruled-and-line rendered chimneystack to centre. Roughcast rendered walls with square-headed window openings having cut stone sills and one-over-one pane timber sliding sash windows. Central square-headed doorcase having replacement timber door. Wrought-iron railings to the front (south). Main entrance gates to Lynnbury House (15402603) located to the south comprising a central pair of moulded cut limestone gate posts (round in plan) supporting cast-iron double-gates. Main carriage entrance flanked to the north and the south by pedestrian entrances, comprising cut limestone gate piers, square in plan, supporting cast-iron gates. Curved sections of rendered quadrant screen walling run away to the north and the south terminated

by further cut stone gate piers with fluted detailing to frieze. Rubble limestone boundary wall to north and south (15402606). Located to the south of Mullingar and to the west of Lynnbury House (15402603).

Appraisal: An attractive neoclassical gate lodge and main entrance gates serving Lynnbury House (15402603) to the west. These structures retain much of their early fabric and character. The fine cut stone pedimented entrance porch to the lodge is a noteworthy feature of some architectural merit. This handsome feature, displaying excellent craftsmanship, helps to enliven the humble form of this small-scale structure. The lodge has been extended to the north and this has been carried out in a sympathetic manner that does not compromise/impact on the principal elevation. The attendant gateway is very well-built using good quality cut limestone and retains early cast-iron gates of some visual appeal. This gateway is an interesting feature along the main road running south from Mullingar and is of artistic merit. These features form part of an interesting group of related structures within the Lynnbury House (15402603)Demesne and are important elements of the built heritage of the area. Description: Main entrance gates and attendant detached three-bay single-storey gate lodge serving Lynnbury House (15402603), built c.1800, with central projecting cut stone single-bay open pedimented Doric porch to the entrance front (south) Gate lodge extended to the rear (north). Hipped natural slate roof with clay ridge tiles and a ruled-and-line rendered chimneystack to centre. Roughcast rendered walls with square-headed window openings having cut stone sills and one-over-one pane timber sliding sash windows. Central square-headed doorcase having replacement timber door. Wrought-iron railings to the front (south). Main entrance gates to Lynnbury House (15402603) located to the south comprising a central pair of moulded cut limestone gate posts (round in plan) supporting cast-iron double-gates. Main carriage entrance flanked to the north and the south by pedestrian entrances, comprising cut limestone gate piers, square in plan, supporting cast-iron gates. Curved sections of rendered quadrant screen walling run away to the north and the south terminated by further cut stone gate piers with fluted detailing to frieze. Rubble limestone boundary wall to north and south (15402606). Located to the south of Mullingar and to the west of Lynnbury House (15402603).

1.2.36 CHR 140 - NIAH Reg. No. 15402602 - RPS Ref. No. 026-002 - Lynn House – Demesne walls/gates/ railings

Rating: Regional

Categories of Special Interest: Architectural

Original Use: Demesne walls/gates/railings. In Use As: Gates/railings/walls

Date: 1790–1810

Date Recorded: 13/10/2004

Description: Entrance archway serving Lynn House, erected c.1800, comprising a pair of coursed roughly dressed rubble limestone gate piers on square-plan supporting a round-headed dressed limestone arch over. Cut stone ball finials over pier to the south and over apex of arch. Final to north pier now missing. Detached five-bay single-storey former gate lodge located adjacent to the southwest having roughcast rendered, a pitched natural slate roof and square-headed openings retaining a number of one-over-one pane timber sliding sash windows. Extended to the west and to the rear (south) with lean-to extension. Sections of rubble limestone boundary walls run away to the north and the south. Located to the southeast of Lynn House, (altered and not in survey) and to the south of Mullingar Town.

Appraisal: An appealing and impressive entrance arch serving Lynn House (not in survey) to the northwest. This well-built feature adds an attractive feature in the rural landscape to the south of Mullingar Town. The altered gate lodge to the south is a modest structure compared to its neighbour (15402604) serving Lynnbury House to the east. The rubble limestone boundary wall completes the setting of this interesting built feature. Lynn House was in the ownership of an R. Swift, Esq., and was the residence of the Rev. G. M. Dennis in 1837.

2 RECORDED MONUMENTS INVENTORY

2.1 Recorded monuments within Route Option 1

2.1.1 CHR 9 - WM038-017008 - Water mill – vertical-wheeled - Kilbeggan

The precise location of a watermill in the town of Kilbeggan has not been identified. Kilbeggan town (WM038-017----) is situated on the River Brosna in the low-lying countryside of south Westmeath. In 1606 Sir Oliver Lambert was granted 'the site and precinct of the late abbey (WM038-017007-) of the B. V. Mary of Kilbeggan, in M'Geoghogans countrie, with the stone walls of a church and other buildings therein – 3 gardens, and a waste orchard, containing half an acre – a small chapel or church (WM038-017006-) belonging to the town of Kilbeggan, and to the parishioners of said monastery – a close to said monastery adjacent, containing 1a. – 3 messuages, 6 cottages, 60a. arable, standard measure, 16a. pasture, 6a. bog, in the town and fields of Kilbeggan – a water mill, near the town of Kilbeggan, upon the river Brassnagh (Brosnagh) – 2 eel-weares (WM038-017010-), 2 mess., 3 closes or cottages, 70a. arable, 30a. pasture and common of bog' (Erck 1846, 268). In 1618 an inquisition into the estate of the deceased of Oliver Lord Lambert listed a water mill and a fulling mill (WM038-017012-) which were powered by the River Brosna (Anon 1826, 56). It is possible that the mills may have formed part of the monastic estate of the Cistercian abbey of Kilbeggan that was granted to Sir Oliver Lambert in 1606 (Erck 1846, 268). It is not clear if there were two separate mills at Kilbeggan on the River Brosna consisting of a watermill and a fulling mill. The 1656-59 Down Survey map of Moycashel Barony depicts one watermill standing on the E bank of the River Brosna a short distance to the N of the settlement at Kilbeggan (NLI Ms. 723-724). A corn mill depicted on the 1837 ed. OS 6-inch map stands roughly in the same location as that of the watermill depicted on the 1656-59 Down Survey map. This corn mill may have been built on the site of the earlier watermill or possibly incorporates fabric of the earlier mill in the masonry of the present mill. Compiled by: Caimin O'Brien Date of upload: 17 April 2014

References: Bradley, J., Halpin, A., and King, H. 1985 Urban archaeological survey - county Westmeath. Unpublished report commissioned by the Office of Public Works, Dublin. Erck, J.C. (ed.) 1846-52 A repertory of the inrolments of the patent rolls of chancery in Ireland commencing with the reign of King James I, vol. 1, parts 1-2. Dublin. Anon. 1826 Inquisitionum in officio rotulorum cancellariae Hiberniae asservatarum, repertorium, vol. I. Dublin. George and John Grierson and Martin Keene, Printers. Gwynn, A. and Hadcock, R.N. 1970 (Reprint 1988) Medieval religious houses of Ireland. Dublin. Irish Academic Press.

Six-Inch First edition: 'Corn Mill'

Six-Inch Latest edition: Outlined

ITM Coordinates: 633465 , 735712

Latitude and Longitude: 53.370538 , -7.497136

2.1.2 CHR 10 - WM038-018 - Building - Coola

Situated in a small trapezoidal-shaped greenfield plot, to rear of a small dwelling plot on the Mullingar Road, on the E side of Kilbeggan. Building depicted as a ruin on Larkin's 1808 map of Co. Westmeath (NLI, MS 46,580). Not depicted on the 1837 ed. OS 6-inch map or the revised 1910 ed. OS 25-inch map. Monument described in 1979 as no surface remains visible. Site of ruin is not visible today on Digital Globe aerial photography. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 17 December 2019

References: NLI, MS 46,580 - National Library of Ireland, A map of the county of Westmeath by William Larkin. Dublin.

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 633758 , 735762

Latitude and Longitude: 53.370968 , -7.492728

2.1.3 CHR 11 - WM038-064 - Enclosure - Coola

Partial cropmark of possible enclosure (approx. diam. 65m) visible on Google earth aerial imagery. See attached image taken from Google Earth aerial photographs taken 28/06/2018 Compiled by: Caimin O'Brien based on details provided by Jean-Charles Caillère Date of upload: 07 May 2019

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 634161 , 735934

Latitude and Longitude: 53.372488 , -7.486654

2.1.4 CHR 14 - WM032-106 - Ringfort - Teernacreeve

Described in 1977 as a ringfort on good pastureland, situated on a small hillock, just below the summit on the E facing slope of rising ground. The site consists of a roughly circular area (diam. 56m N-S; 53m E-W) defined by a low poorly preserved earth and stone bank best preserved from W to NW with a shallow outer fosse which is best preserved at NW and not visible from N to E. The inner bank is lower in height in the S and is very faint from NE to E. There is a short stretch of a counterscarp bank at SE, but this is not visible elsewhere. There is a gap on the E which probably represents the original entrance feature and a later smaller gap on the N. The interior slopes from NW to SE and no features are visible. Compiled by: Caimin O'Brien Date of upload: 28 March 2013

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Hachured

ITM Coordinates: 634870 , 738659

Latitude and Longitude: 53.396930 , -7.475699

2.1.5 CHR 15 - WM032-101 - Ringfort – cashel - Toorlisnamore

Described in 1977 as a ringfort that was recently bulldozed when the heavy scrub and the bank enclosing the monument had been removed and the interior has been scraped over during the removal of the scrub (SMR File). An earlier site report from 1977 described the upstanding monument as situated on a small hillock in undulating countryside with extensive views to NE, E and S. The monument which was then covered in scrub vegetation consisted of a small oval-shaped area (diam. c. 33m NNW-SSE) defined by a low bank of earth and stone with no evidence of an external fosse. The bank was composed of large stones and boulders with a thin covering of earth and grass. This enclosing earth and stone bank may originally have been a stone wall. An entrance gap (Wth 3.1m) in the bank was visible at E. The terminals of the bank on either side of the entrance gap were faced with large stones set on edge. The interior was densely overgrown making detailed examination of the interior impossible. Compiled by: Caimin O'Brien Date of upload: 28 March 2013

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 634132 , 739310

Latitude and Longitude: 53.402828 , -7.486725

2.1.6 CHR 16 - WM032-102 - Graveyard - Balrath (Moycashel By.)

Described in 1978 as a graveyard situated on the E end of a ridge, with extensive views in all directions. Balrath Castle (WM032-103001-) located 320m to the E. The graveyard consists of a sub-rectangular shaped area (dims. c. 43m N-S; 25m E-W) enclosed by a post-1700 stone wall with gateway in the SE corner. The interior of the graveyard slopes slightly from N to S. At the N end of the graveyard just inside the boundary wall are the low wall footings of a rectangular structure aligned E-W which possibly represents the remains of a church (WM032-102001-). Only the wall footings of the N and S walls are visible, with no visible trace of the E or W walls of this structure. These two walls are depicted on the 1st edition of the OS 6-inch map but not as a building, possibly depicting a private burial enclosure area. No church indicated inside this graveyard on any edition of the OS six-inch maps. The graveyard does not appear to have been used very much as there are

only 7 headstones still visible. These headstones date from the 19th and 20th centuries. This graveyard or burial ground may be post 1700 in date. Compiled and revised by: Caimin O'Brien Date of revised upload: 3 October 2017

Six-Inch First edition: 'Balrath Grave Yard'

Six-Inch Latest edition: 'Balrath Grave Yard'

ITM Coordinates: 634360 , 739332

Latitude and Longitude: 53.403011 , -7.483294

2.1.7 CHR 17 - WM032-102001 - Church - Balrath (Moycashel By.)

Situated on the E end of a ridge, with extensive views in all directions. Balrath Castle (WM032-103001-) 320m to the E. Forming the N end of Balrath graveyard (WM032-102----) are the wall footings of a rectangular structure aligned E-W which possibly represents the remains of a church. Only a short section of the central part of the S wall (L 2.2m; H 2.5m; T 0.85m) of the church survives upstanding and is featureless. The wall built of coursed rubble measures 0.85m thick suggesting a pre-1700 date for this building. There was no visible remains of the wall footings of the E or W walls of this structure. The N and S walls of this possible church are depicted on the 1837 ed. OS 6-inch map. On this map the two walls are not depicted as a building. It has been suggested that these walls represent the remains of a private burial area instead of a pre-1700 church (SMR file). No church is depicted standing inside this graveyard on any edition of the OS 6-inch maps. According to local information this building is known locally as Balrath Church. Compiled by: Caimin O'Brien Date of upload: 3 October 2017

Six-Inch First edition: Outlined

Six-Inch Latest edition: Not indicated

ITM Coordinates: 634349 , 739346

Latitude and Longitude: 53.403138 , -7.483458

2.1.8 CHR 18 - WM032-103001 - Castle – unclassified - Balrath (Moycashel By.)

In 1488 the Annals of the Four Masters recorded that the Earl of Kildare demolished the castle of Bile-ratha (Balrath) upon the sons of Murtough Mageoghegan, after having brought ordnance to it' (O'Donovan 1856, 1165). In 1604, King James I granted William Taaffe the 'castle of Belraha and 1 cartron, rent 2s 6d., Ir. parcel of the estate of James McRosse McGeoghegan, late of Belraha, outlawed' (Griffith 1966, 2). This Mac Geoghegan castle was described in 1977, as Balrath [Belraha] Castle which consists of the remains of a long narrow rectangular stone-built building aligned N-S with a roughly D-shaped enclosure (WM032-103002-) adjoining the E side. This building along with the adjoining enclosure to the E of the castle is depicted on the first edition of the OS 6-inch map. The enclosure acts as the earthen enclosure of a bailey or courtyard area located to the E of the castle. A modern silage pit has been built just outside the external face of the W wall of the castle. Only the W wall (int. L. c. 16m; wall T 1m; H c. 10m), its S gable (H. c. 10m; wall T 1m) and SE corner of the castle survives upstanding. The castle walls are built with large undressed rubble some of which is very large. The structure appears to have been a long narrow building aligned N-S as depicted on the first edition of the OS 6-inch map. The N end of the W wall is obscured by a modern field bank and fence. There is evidence for an internal partition wall (T 0.55m) running E-W running parallel to the S gable which is only 0.6m to the S. The purpose of this wall is unclear but it may have been part of a garderobe structure as there is evidence for the upper part of a chute or shaft located in the SW angle of this partition wall. A second transverse wall running E-W from W wall can be seen to the N of the first partition wall. The lateral W wall of the castle is in a very ruinous condition and there is a large gap in the wall between the two partition walls. There are two rectangular opes visible in the W wall, the first one is located just to the N of the first partition wall and the second is located just N of the second partition wall. The area to the W of the castle is very disturbed and is used as a farmyard. Compiled by: Caimin O'Brien Date of upload: 28 March 2013

References: Griffith, M.C. 1966 Irish patent rolls of James I. Dublin. Irish Manuscripts Commission. O'Donovan, J. (ed. and trans.) 1856 Annals of the kingdom of Ireland, by the four masters, from the earliest period to the year 1616. Dublin. Hodges, Smith and Co.

Six-Inch First edition: 'Balrath Castle'

Six-Inch Latest edition: 'Balrath Castle (in Ruins)'

ITM Coordinates: 634685 , 739362

Latitude and Longitude: 53.403260 , -7.478404

2.1.9 CHR 19 - WM032-103002 - Enclosure - Balrath (Moycashel By.)

In 1488 the Annals of the Four Masters recorded that the Earl of Kildare demolished the castle of Bile-ratha (Balrath) upon the sons of Murtough Mageoghegan, after having brought ordnance to it' (O'Donovan 1856, 1165). In 1604, King James I granted William Taaffe the 'castle of Belraha and 1 cartron, rent 2s 6d., Ir. parcel of the estate of James McRosse McGeoghegan, late of Belraha, outlawed' (Griffith 1966, 2). This Mac Geoghegan castle was described in 1977, as Balrath [Belraha] Castle (WM032-103001-)which consists of the remains of a long narrow rectangular stone-built building aligned N-S with a roughly D-shaped enclosure (diam. 24m N-S) adjoining the E side. This building along with the adjoining enclosure to the E of the castle is depicted on the first edition of the OS 6-inch map. The enclosure acts as the earthen enclosure of a bailey or courtyard area located to the E of the castle. The enclosure consists of a rough D-shaped area enclosed by an earth and stone bank mainly reduced to a scarp and partly built on a natural rise of rock outcrop. The whole area of the enclosure is greatly disturbed due to livestock poaching. There are indications of quarrying in the N and S quadrants of the enclosure. There is a short stretch of low wall footing visible along the edge of the bank of the enclosure at SE which may be remains of the original enclosing wall supported by the earthen bank of the enclosure attached to the stone castle. A gap (Wth. 3.1m) in the bank at NNE may be the remains of the original entrance feature into the enclosure. A modern silage pit has been built just outside the external face of the W wall of the castle. Compiled by: Caimin O'Brien Date of upload: 28 March 2013

References: O'Donovan, J. (ed. and trans.) 1856 Annals of the kingdom of Ireland, by the four masters, from the earliest period to the year 1616. Dublin. Hodges, Smith and Co. Griffith, M.C. 1966 Irish patent rolls of James I. Dublin. Irish Manuscripts Commission.

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 634698 , 739362

Latitude and Longitude: 53.403259 , -7.478208

2.1.10 CHR 20 - WM032-104 - Ringfort - rath - Ballykilroe

Described in 1977 as a ringfort that is situated on top of a low rise of ground in good pastureland with good views to the SE. The monument consists of a roughly circular-shaped area (diam. 35m N-S; 32m E-W) defined by an earth and stone bank with an external fosse. There are the partial remains of an external earth and stone bank visible at SW only. The fosse has been mainly filled in and is only visible at SW and NE. The inner bank is best preserved at the NE and there is evidence of internal stone facing of the bank from E to SE. A gap (Wth 2.8m) in the bank at SE appears to be the original entrance feature. The terminals of the bank on either side of the gap are faced with large stones set on edge. Two later gaps in the bank are visible at NW. The interior slopes slightly from NE to SW. Compiled by: Caimin O'Brien Date of upload: 28 March 2013

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Hachured

ITM Coordinates: 635134 , 739575

Latitude and Longitude: 53.405144 , -7.471628

2.1.11 CHR 21 - WM032-062 - Enclosure - Ballybrennan

Aerial photograph (GB91.DM.12) shows the foundations of four small irregular structures, probably hut sites (WM032-062001-/002-/003-/004-) set within a curvilinear enclosure defined by a bank. The low-level earthwork was photographed on 29th of May 1991. The above report has been compiled by Dr. G. F. Barrett and supplied to the Archaeological Survey of Ireland. In 1981 the monument was recorded as consisting of 'the outline of two substantial house sites (WM032-062001-/002-) can be seen on a gentle south facing slope. One site measures approx. 9m by 9m while the second which is sub-rectangular measures 10m approx. by 8m approx..

To the NE is the outline of a possible third house site (WM032-062003-). The house sites are enclosed by old field banks which do not appear to form regular enclosures. There are stony outcrops in the area which could be the remains of other house sites' (SMR file). The S section of this possible curvilinear enclosure is clearly visible on the aerial photograph and is indicated on the revised 25-inch edition of the OS 6-inch map but is not indicated on the 1837 edition of the OS 6-inch map. It is possible that this enclosure represents a post-medieval enclosing of the area of rock outcrop on which the house sites are located. This would explain the curvilinear shape of the field boundary as it was formed by running around the irregular shaped base of rock outcrop on which the house sites are located. On the 1837 edition of the OS 6-inch map a possible lime kiln is indicated 90m to the NNW and a cluster of dwellings indicated as 'Loughtown' are located 230m to the NW. On the revised 25-inch OS 6-inch map these buildings around 'Loughtown' are now indicated as a 'Lodge'. A holy well (WM032-060----) known as Tober Patrick is located 520m to the W. An irregular shaped enclosure (WM032-063----) depicted on the 1837 edition of the OS 6-inch map is located immediately to the N of the house sites in an area now covered with trees. It is possible that these hut sites represent a post-medieval clustered settlement associated with the nearby dwellings indicated as 'Loughtown'. Compiled by: Caimin O'Brien Date of upload: 13 December 2010

Six-Inch First edition: Partially indicated

Six-Inch Latest edition: Indicated

ITM Coordinates: 635939 , 742138

Latitude and Longitude: 53.428122 , -7.459230

2.1.12 CHR 22 - WM032-063 - Enclosure - Ballybrennan

This monument was recorded in 1981 as consisting of 'an area of gently rising ground. No trace of an enclosure to be seen now' (SMR file). On the 1837 edition of the OS 6-inch map an irregular shaped area is indicated not as an antiquity but as an enclosure defined by a dotted line. This may indicate that the enclosure was a natural or geological feature, possibly an area of quarrying rather than an archaeological feature. The 1837 edition of the OS 6-inch map shows a lime kiln 70m to the east of this possible enclosure. It is possible that this area may have been quarried in order to supply stone for the nearby lime kiln. This is an area of rock outcrop which today is covered in trees which are indicated on the revised edition of the OS 25-inch map. A cluster of four possible house sites (WM032-062/001/002/003/004-) are located immediately to the S of the enclosure. Compiled by: Caimin O'Brien Date of upload: 13 December 2010

Six-Inch First edition: Indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 635973 , 742189

Latitude and Longitude: 53.428578 , -7.458713

2.1.13 CHR 23 - WM032-062001 - House – indeterminate date - Ballybrennan

Aerial photograph (GB91.DM.12) shows the foundations of four small irregular structures, probably hut sites (WM032-062001-/002-/003-/004-) set within a curvilinear enclosure (WM032-062----) defined by a bank. The low-level earthwork was photographed on 29th of May 1991. The above report has been compiled by Dr. G. F. Barrett and supplied to the Archaeological Survey of Ireland. In 1981 the site was recorded as consisting of 'the outline of two substantial house sites (WM032-062001-/002-) can be seen on a gentle south facing slope. One site measures approx. 9m by 9m while the second which is sub-rectangular measures 10m approx. by 8m approx.. To the NE is the outline of a possible third house site (WM032-062003-). The house sites are enclosed by old field banks which do not appear to form regular enclosures. There are stony outcrops in the area which could be the remains of other house sites' (SMR file). The S section of this possible curvilinear enclosure is clearly visible on the aerial photograph and is indicated on the revised 25-inch edition of the OS 6-inch map but is not indicated on the 1837 edition of the OS 6-inch map. It is possible that this enclosure represents a post-medieval enclosing of the area of rock outcrop on which the house sites are located. This would explain the curvilinear shape of the field boundary as it was formed by running around the irregular shaped base of rock outcrop on which the house sites are located. On the 1837 edition of the OS 6-inch map a possible lime kiln is indicated 90m to the NNW and a cluster of dwellings indicated as 'Loughtown' are located 230m to the NW. A holy well (WM032-060----) known as Tober Patrick is located 520m to the W. An irregular shaped enclosure (WM032-063----) depicted on the 1837 edition of the OS 6-inch map is located immediately

to the N of the hut sites in an area now covered with trees. It is possible that these hut sites represent a post-medieval clustered settlement associated with the nearby dwellings indicated as 'Loughtown'. Compiled by: Caimin O'Brien Date of upload: 13 December 2010

Six-Inch First edition:

Six-Inch Latest edition: Not indicated

ITM Coordinates: 635923 , 742128

Latitude and Longitude: 53.428033 , -7.459472

2.1.14 CHR 24 - WM032-062002 - House – indeterminate date - Ballybrennan

Aerial photograph (GB91.DM.12) shows the foundations of four small irregular structures, probably hut sites (WM032-062001-/002-/003-/004-) set within a curvilinear enclosure (WM032-062----) defined by a bank. The low-level earthwork was photographed on 29th of May 1991. The above report has been compiled by Dr. G. F. Barrett and supplied to the Archaeological Survey of Ireland. In 1981 the site was recorded as consisting of 'the outline of two substantial house sites (WM032-062001-/002-) can be seen on a gentle south facing slope. One site measures approx. 9m by 9m while the second which is sub-rectangular measures 10m approx. by 8m approx.. To the NE is the outline of a possible third house site (WM032-062003-). The house sites are enclosed by old field banks which do not appear to form regular enclosures. There are stony outcrops in the area which could be the remains of other house sites' (SMR file). The S section of this possible curvilinear enclosure is clearly visible on the aerial photograph and is indicated on the revised 25-inch edition of the OS 6-inch map but is not indicated on the 1837 edition of the OS 6-inch map. It is possible that this enclosure represents a post-medieval enclosing of the area of rock outcrop on which the house sites are located. This would explain the curvilinear shape of the field boundary as it was formed by running around the irregular shaped base of rock outcrop on which the house sites are located. On the 1837 edition of the OS 6-inch map a possible lime kiln is indicated 90m to the NNW and a cluster of dwellings indicated as 'Loughtown' are located 230m to the NW. A holy well (WM032-060----) known as Tober Patrick is located 520m to the W. An irregular shaped enclosure (WM032-063----) depicted on the 1837 edition of the OS 6-inch map is located immediately to the N of the hut sites in an area now covered with trees. It is possible that these hut sites represent a post-medieval clustered settlement associated with the nearby dwellings indicated as 'Loughtown'. Compiled by: Caimin O'Brien Date of upload: 13 December 2010

Six-Inch First edition:

Six-Inch Latest edition: Not indicated

ITM Coordinates: 635949 , 742120

Latitude and Longitude: 53.427960 , -7.459082

2.1.15 CHR 25 - WM032-062003 - Hut site - Ballybrennan

Aerial photograph (GB91.DM.12) shows the foundations of four small irregular structures, probably hut sites (WM032-062001-/002-/003-/004-) set within a curvilinear enclosure (WM032-062----) defined by a bank. The low-level earthwork was photographed on 29th of May 1991. The above report has been compiled by Dr. G. F. Barrett and supplied to the Archaeological Survey of Ireland. In 1981 the site was recorded as consisting of 'the outline of two substantial house sites (WM032-062001-/002-) can be seen on a gentle south facing slope. One site measures approx. 9m by 9m while the second which is sub-rectangular measures 10m approx. by 8m approx.. To the NE is the outline of a possible third house site (WM032-062003-). The house sites are enclosed by old field banks which do not appear to form regular enclosures. There are stony outcrops in the area which could be the remains of other house sites' (SMR file). The S section of this possible curvilinear enclosure is clearly visible on the aerial photograph and is indicated on the revised 25-inch edition of the OS 6-inch map but is not indicated on the 1837 edition of the OS 6-inch map. It is possible that this enclosure represents a post-medieval enclosing of the area of rock outcrop on which the house sites are located. This would explain the curvilinear shape of the field boundary as it was formed by running around the irregular shaped base of rock outcrop on which the house sites are located. On the 1837 edition of the OS 6-inch map a possible lime kiln is indicated 90m to the NNW and a cluster of dwellings indicated as 'Loughtown' are located 230m to the NW. A holy well (WM032-060----) known as Tober Patrick is located 520m to the W. An irregular shaped enclosure (WM032-063----) depicted on the 1837 edition of the OS 6-inch map is located immediately to the N of the hut sites in an area now covered with trees. It is possible that these hut sites represent a post-

medieval clustered settlement associated with the nearby dwellings indicated as 'Loughtown'. Compiled by: Caimin O'Brien Date of upload: 13 December 2010

Six-Inch First edition:

Six-Inch Latest edition: Not indicated

ITM Coordinates: 635940 , 742156

Latitude and Longitude: 53.428284 , -7.459213

2.1.16 CHR 26 - WM032-062004 - Hut site - Ballybrennan

Aerial photograph (GB91.DM.12) shows the foundations of four small irregular structures, probably hut sites (WM032-062001-/002-/003-/004-) set within a curvilinear enclosure (WM032-062----) defined by a bank. The low-level earthwork was photographed on 29th of May 1991. The above report has been compiled by Dr. G. F. Barrett and supplied to the Archaeological Survey of Ireland. The fourth levelled hut site appears to be rectangular in outline and is only visible on the aerial photograph (GB91.DM.12) as a cropmark. The S section of this possible curvilinear enclosure is clearly visible on the aerial photograph and is indicated on the revised 25-inch edition of the OS 6-inch map but is not indicated on the 1837 edition of the OS 6-inch map. It is possible that this enclosure represents a post-medieval enclosing of the area of rock outcrop on which the house sites are located. This would explain the curvilinear shape of the field boundary as it was formed by running around the irregular shaped base of rock outcrop on which the house sites are located. On the 1837 edition of the OS 6-inch map a possible lime kiln is indicated 90m to the NNW and a cluster of dwellings indicated as 'Loughtown' are located 230m to the NW. A holy well (WM032-060----) known as Tober Patrick is located 520m to the W. An irregular shaped enclosure (WM032-063----) depicted on the 1837 edition of the OS 6-inch map is located immediately to the N of the hut sites in an area now covered with trees. It is possible that these hut sites represent a post-medieval clustered settlement associated with the nearby dwellings indicated as 'Loughtown'. Compiled by: Caimin O'Brien Date of upload: 13 December 2010

Six-Inch First edition:

Six-Inch Latest edition: Not indicated

ITM Coordinates: 635965 , 742146

Latitude and Longitude: 53.428192 , -7.458838

2.1.17 CHR 28 - WM032-112 - Burial - Nure or Lilliput

In May 1950 a disturbed inhumation burial was discovered during quarrying operations. Comprised a narrow, shallow grave orientated W-E (L 1.70m, Wth 0.30m). The grave contained an extended inhumation of a middle-aged adult male, orientated W-E with the head in the W. The individual had suffered a fracture of the wrist which had led to the development of osteoarthritis in the wrist bones. The degree of wear and general low amount of caries is consistent with prehistoric and early medieval populations (NMI). Compiled by: Geraldine Stout

Six-Inch First edition:

Six-Inch Latest edition: Not indicated

ITM Coordinates: 637407 , 744497

Latitude and Longitude: 53.449219 , -7.436863

2.1.18 CHR 29 - WM025-146 - Moated site - Rathnamuddagh

Situated on a slight rise, in fairly level pasture, with wide views in all directions, overlooking the W shoreline of Lough Ennell, c. 200m to E. Monument described in 1977 as a very large trapezoidal-shaped area (dims. 72m N-S; 58m E-W) enclosed by a bank, an intervening fosse and traces of an outer bank. The inner earth and stone bank is very wide and low and has been breached and broken down in several places. The NW corner is slightly raised and in contrast, the SE and SW corners are wide, perhaps having been flattened out over time. There are very slight remains of a very wide fosse on all sides, which is almost completely infilled. There are slight suggestions of an outer bank. There is no definite trace of the original entrance. The interior is fairly even with a slight rise towards the centre. There is a low curvilinear bank cutting off the NE corner within,

although its significance is not obvious and it may be a later feature. See attached profiles of monument surveyed and drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 27 September 2019

Six-Inch First edition: Outlined

Six-Inch Latest edition: Outlined

ITM Coordinates: 637310 , 744958

Latitude and Longitude: 53.453368 , -7.438268

2.1.19 CHR 30 - WM025-168 - Crannog - Lough Ennell

Standing 40m S of the original shoreline of Lough Ennell, overlooked by the royal ringfort Dún na Sgiath (WM025-145----) 130m to NW and crannóg (WM025-150----) 200m to SSW. Listed as Dysart 5 and described by O'Sullivan (2004, 91) as 'a low, small irregular shaped platform, located almost at the original water's edge (surrounded by 1m water prior to drainage) and separated from original shoreline by wet, marshy ground. It appears as a rocky platform, sloping gradually to the south towards the lake. Large angular and rounded limestone boulders are exposed on its surface. There is a particularly massive limestone block on the east side, by the water. This may be a natural geological feature. This is not certainly an archaeological site, but it is certainly a quite distinctive feature along this level foreshore, strongly resembling a crannog'. Compiled by: Caimin O'Brien Date of upload: 15 February 2017

References: O'Sullivan, A. 2004 The social and ideological roles of crannogs in early medieval Ireland. Unpublished PhD thesis. Department of History, NUI Maynooth.

Six-Inch First edition:

Six-Inch Latest edition:

ITM Coordinates: 638042 , 745768

Latitude and Longitude: 53.460595 , -7.427150

2.1.20 CHR 31 - WM025-145 - Ringfort - rath - Dysart (Moyashel & Magheraernon By.)

Situated on the upper S edge of a natural terrace, overlooking the W shoreline of Lough Ennell, c. 120m to S, with extensive views in all directions. According to Cox (1972, 23), this monument was the 'chief residence of Maeleachlainn Mor who became high king of Ireland in 980AD'. Walsh (1955, 31), recorded that 'Maelsechnaill, King of Meath, and high king of Ireland, died in 1022, at his house of Dun na Sgiath at Lough Ennell'. However, Walsh (ibid) stated that he died on the crannóg of Cró-inis (WM025-150---), or Cormorant Island located 335m to S, in 1022. High status ringfort or raised rath described as a raised circular-shaped platform (diam. 26m) defined by a scarp, inner fosse, earth and stone bank, an intervening fosse and an outer bank. The platform (H 3-4m) is high and steep with a much disturbed, uneven top. The side of the platform has been broken down at NNW. The platform is enclosed by a wide inner fosse which is almost completely infilled from SE-S-SW. The inner bank is visible from NNE-E-SE. The intervening fosse is very shallow and is also present from NNE-E-SE. Only a short segment of the outer bank is visible from NNE-NE-E. There is no recognisable trace of a formal entrance. The top of the platform has a very gentle S-facing slope, the surface of which is very uneven, being pitted with numerous holes and animal burrows. Profile of monument suggests a raised rath type earthwork which is similar to the profiled of a low motte. See attached profile of monument surveyed and drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 27 September 2019

References: Cox, L. 1970 The Magawlys of Calry. Journal of the Old Athlone Society 2, 61-71. Walsh, P. 1957 The Placenames of Westmeath. Dublin Institute for Advanced Studies.

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured, 'Dun-na-Sgiath'

ITM Coordinates: 638009 , 745903

Latitude and Longitude: 53.461811 , -7.427630

2.1.21 CHR 33 - WM025-144 - Ringfort - rath - Dysart (Moyashel & Magheraernon By.)

Situated on top of a small rise (300ft/91m OD), in low lying wet pasture, with good views to SE. Monument described as a roughly circular-shaped area (52m NW-SE; 51m NE-SW) enclosed by a low steep bank with the remains of an external fosse. The bank is low, yet sharp and is almost reduced to a scarp (H 0.9m) which is irregular, having very slight concavities and appears straight in places. There are very slight traces of a fosse (overall Wth 4m; basal Wth 1.5m; approx. D 0.05m) and the original entrance is not visible. The interior rises gently from the perimeter towards the centre and there are no obvious features. Monument is visible on Digital Globe aerial photography as a much modified subrectangular-shaped earthwork whereby straight sides have been formed to NW, NE and SE whilst the bank has remained curvilinear from S-W-NW. In the immediate vicinity of the ringfort are a series of very low, linear and curvilinear banks, scarps and fosses. One bank intersects the base of the ringfort scarp at N and another at ESE. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 27 September 2019

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Hachured

ITM Coordinates: 636768 , 746093

Latitude and Longitude: 53.463606 , -7.446295

2.1.22 CHR 34 - WM025-117 - Castle - unclassified - Dysart (Moyashel & Magheraernon By.)

No surface remains visible of the building indicated on first ed. OS 6-inch map but not on subsequent editions. Depicted as a small rectangular structure on the W shore of Lough Ennell and annotated as a 'Ruin' on the 1837 Ordnance Survey Plan. It has been suggested that this building may have been the remains of Kilcowle [Kilcooley] Castle listed in a 1609 land grant to Sir Robert Nugent of Walshestown. In this year Sir Robert Nugent was granted 'a castle, a bawn (WM025-117001-), a large orchard or croft, 20 messuages; 20 gardens, a watermill (WM025-117002-), 4 carucates of free land, containing by estimation of the great measure in the said manor and the town of Kilcowle, parcels of the demesne, 480a arable, 100a meadow, 200a pasture, furze, and bush, 40a wood, 40a marsh, 40a bog, 50a moor — the great lough called Loughenia otherwise Loughenill [Lough Ennell], with the fishing thereof, as far as it mears with the lands of Disert [Dysart] and Kilcowle ; also the three islands therein called the great island [Dysart Island], 2a, Robbins island ½a, and Crowyence [Croincha], 1a – the river, and the fishing thereof, running upon and near the said manor of Disert and Kilcowle in Tolchane-Even' (Cal. pat. rolls Ire., Jas I, 196). Numerous earthworks are visible on Digital Globe aerial photographs in the area where the ruin is indicated on the OS Fair Plan Map. Kilcooley House stands 470m to the W, Dysart Island is 750m to the E and Croincha Island (WM025-150---) lies 720m to the S. Compiled and revised by: Caimin O'Brien Date of revised upload: 10 November 2017

References: Cal. pat. rolls Ire., Jas I - Irish patent rolls of James I: facsimile of the Irish record commissioners' calendar prepared prior to 1830, with foreword by M.C. Griffith (Irish Manuscripts Commission, Dublin, 1966)

Six-Inch First edition: Outlined

Six-Inch Latest edition: Not indicated

ITM Coordinates: 638185 , 746311

Latitude and Longitude: 53.465464 , -7.424931

2.1.23 CHR 35 - WM025-117001 - Bawn - Dysart (Moyashel & Magheraernon By.)

Depicted as a small rectangular structure on the W shore of Lough Ennell and annotated as a 'Ruin' on the 1837 Ordnance Survey Plan. It has been suggested that this building may have been the remains of Kilcowle [Kilcooley] Castle and bawn listed in a 1609 land grant to Sir Robert Nugent of Walshestown. In this year Sir Robert Nugent was granted 'a castle (WM025-117----), a bawn, a large orchard or croft, 20 messuages; 20 gardens, a watermill (WM025-117002-), 4 carucates of free land, containing by estimation of the great measure in the said manor and the town of Kilcowle, parcels of the demesne, 480a arable, 100a meadow, 200a pasture, furze, and bush, 40a wood, 40a marsh, 40a bog, 50a moor — the great lough called Loughenia otherwise

Loughenill [Lough Ennell], with the fishing thereof, as far as it mears with the lands of Disert [Dysart] and Kilcowle ; also the three islands therein called the great island [Dysart Island], 2a, Robbins island ½a, and Crowyence [Croincha], 1a – the river, and the fishing thereof, running upon and near the said manor of Disert and Kilcowle in Tolchane-Even' (Cal. pat. rolls Ire., Jas I, 196). Numerous earthworks are visible on Digital Globe aerial photographs in the area where the ruin is indicated on the OS Fair Plan Map. These earthworks may form part of the bawn and orchard described above in the 1609 land grant. Kilcooley House stands 470m to the W, Dysart Island is 750m to the E and Croincha Island (WM025-150---) lies 720m to the S. Compiled and revised by: Caimin O'Brien Date of revised upload: 10 November 2017

References: Cal. pat. rolls Ire., Jas I - Irish patent rolls of James I: facsimile of the Irish record commissioners' calendar prepared prior to 1830, with foreword by M.C. Griffith (Irish Manuscripts Commission, Dublin, 1966)

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 638112 , 746335

Latitude and Longitude: 53.465685 , -7.426027

2.1.24 CHR 36 - WM025-115 - Ringfort – unclassified - Dysart (Moyashel & Magheraernon By.)

Situated on a very slight rise, in gently undulating pasture and tillage, with good views of Lough Ennell to E and restricted views in other directions. Depicted on the 1837 OS Fair Plan map as a D-shaped earthwork defined by a straight side to NW, annotated ‘fort’. Depicted on the revised 1913 ed. OS 25-inch map as a subrectangular-shaped earthwork. Levelled enclosure described in 1971 as no surface remains visible. Levelled monument is not visible today on Digital Globe aerial photography. Compiled by Alison McQueen, Vera Rahilly and Caimin O’Brien. Date of upload: 23 September 2019

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 638051 , 747267

Latitude and Longitude: 53.474065 , -7.426833

2.1.25 CHR 37 - WM025-114 - Enclosure – large enclosure - Dysart (Moyashel & Magheraernon By.)

Situated on a fairly flat, rough, wet pasture with a good view to E and S and moderate views to W and N. Depicted on the 1837 ed. OS 6-inch map as subrectangular-shaped earthwork. Incorporated into a deserted medieval settlement (WM025-111004-) and an ancient field system (WM025-111001-). Enclosures (WM025-113----/-112----) lie c. 85m to W and c. 87m to NW, respectively. Monument described as a large subrectangular-shaped earthwork enclosure by a low well preserved earthen bank with no trace of an external fosse and no entrance feature visible. The interior is fairly level with a very slight S-facing slope and is cut by old cultivation ridges running N-S. In the vicinity there are slight remains of the surrounding field system in the form of low banks, although none make contact with the monument. Monument is visible today as a long subrectangular-shaped earthwork on Digital Globe aerial photography. A Preservation Order was placed on this monument 26/02/1966 (SMR file). See attached profile surveyed and drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O’Brien. Date of upload: 23 September 2019

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 637438 , 747142

Latitude and Longitude: 53.472985 , -7.436081

2.1.26 CHR 38 - WM025-111003 - House – indeterminate date - Dysart (Moyashel & Magheraernon By.)

Situated in relatively low-lying, rough, wet pasture. Incorporated into a deserted medieval settlement (WM025-111004-) and an ancient field system (WM025-111001-) is a circular-shaped house site c. 20m to W of enclosure (WM025-114----). A second house site (WM025-111002-) lies c. 50m to NW, an enclosure (WM025-113----) lies c. 52m to W and a ringfort (WM025-112----) lies c. 135m to NW. The archaeological complex that encompasses this house site lies c. 165m to SE of St Maol Tuile (St Multilly's) holy well and c. 290m to S of ecclesiastical remains consisting of high cross (WM025-110005-) and the medieval parish church (WM025-110002-) & graveyard (WM025-110004-) of Dysart which are situated on the site of an Early Christian monastery which was founded here in the 8th or 9th century by St Maol Tuile. House site is visible today as a circular-shaped earthwork on Digital Globe aerial photography. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 23 September 2019

Six-Inch First edition:

Six-Inch Latest edition:

ITM Coordinates: 637392 , 747113

Latitude and Longitude: 53.472728 , -7.436777

2.1.27 CHR 39 - WM025-111002 - House – indeterminate date - Dysart (Moyashel & Magheraernon By.)

Situated in relatively low-lying, rough, wet pasture. Incorporated into a deserted medieval settlement (WM025-111004-) and an ancient field system (WM025-111001-) is a rectangular-shaped house site c. 40m to W of enclosure (WM025-114----). A second house site (WM025-111003-) lies c. 50m to SE, an earthwork (WM025-113----) lies c. 60m to SW and a ringfort (WM025-112----) lies c. 75m to NW. The archaeological complex that encompasses this house site lies c. 165m to SE of St Maol Tuile (St Multilly's) holy well and c. 290m to S of ecclesiastical remains consisting of high cross (WM025-110005-) and the medieval parish church (WM025-110002-) & graveyard (WM025-110004-) of Dysart which are situated on the site of an Early Christian monastery which was founded here in the 8th or 9th century by St Maol Tuile. House site is visible as a rectangular-shaped earthwork on Digital Globe aerial photography. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 23 September 2019

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 637359 , 747163

Latitude and Longitude: 53.473180 , -7.437268

2.1.28 CHR 40 - WM025-112 - Ringfort – rath - Dysart (Moyashel & Magheraernon By.)

Situated in relatively low-lying, rough, wet pasture with good views in all directions. Depicted on the 1837 OS 6-inch map as a subtriangular-shaped earthwork. Incorporated into a deserted medieval settlement (WM025-111004-) and an ancient field system (WM025-111001-). Enclosures (WM025-114----/-113----) lie c. 87m to SE and 105m to SW, respectively. Monument described as a subtriangular-shaped area (dims. 41m N-S) enclosed by a low, rounded bank which is almost reduced to a scarp with no visible trace of an external fosse, a possible entrance gap visible at NNE. The interior has traces of cultivation ridges running E-W. Monument is visible today as an irregular-shaped earthwork on Digital Globe aerial photography. See attached profile surveyed and drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 23 September 2019

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 637325 , 747262

Latitude and Longitude: 53.474072 , -7.437769

2.1.29 CHR 41 - WM025-113 - Enclosure – large enclosure - Dysart (Moyashel & Magheraernon By.)

Situated on a very slight rise, in low-lying rough wet pasture with a good view of Lough Ennel to SE yet restricted in other directions by higher ground. Depicted on the 1837 OS Fair Plan map as an irregular, subrectilinear-shaped earthwork which is annotated 'fort'. Incorporated into a deserted medieval settlement (WM025-111004-) and an ancient field system (WM025-111001-). Enclosures (WM025-114----/112----) lie c. 85m to E and c. 105m to NNE, respectively. Monument described as a large irregular-shaped area (approx. diam. 78m) enclosed by a low bank which is almost reduced to a scarp with slight remains of an external fosse, no clear entrance feature visible. A linear bank and ditch of the field system is visible running N-S across the monument dividing it into two unequal parts. The interior rises gently from the perimeter towards the centre. Monument is visible today as an irregular-shaped earthwork on Digital Globe aerial photography. See attached profile surveyed and drawn by the ASI Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 23 September 2019

Six-Inch First edition: Hachured

Six-Inch Latest edition: Not indicated

ITM Coordinates: 637302 , 747095

Latitude and Longitude: 53.472573 , -7.438135

2.1.30 CHR 42 - WM025-111001 - Field system - Dysart (Moyashel & Magheraernon By.)

Situated in relatively low-lying, rough, wet pasture. Monument described in 1971 as an ancient field system which pre-dates the modern field system. It is located in the existing fields where house sites (WM025-111002-/-111003-), ringfort (WM025-112----) and enclosures (WM025-113---- and WM025-114----) are located. It appears to extend into the modern fields to the immediate N and to the S of these monuments and may have extended further into fields to E and W which are now ploughed. The ancient system consists of straight, curvilinear and irregular banks, scarps and fosses forming roughly circular, oval and irregular field enclosures. It is clearly older than the modern system which consists primarily of long, straight, linear boundaries of a more substantial form. These small irregular fields which are depicted on the 1837 OS 6-inch map, the revised 1913 ed. OS 25-inch map and the current edition OS 6-inch map are not typical of modern fields and are clearly part of an older system. This ancient field system lies c. 165m to SE of St Maol Tuile (St Multilly's) holy well and c. 290m to S of ecclesiastical remains consisting of high cross (WM025-110005-) and the medieval parish church (WM025-110002-) & graveyard (WM025-110004-) of Dysert which are situated on the site of an Early Christian monastery which was founded here in the 8th or 9th century by St Maol Tuile. The ancient field system extends quite close to the old earthworks surrounding the Dysart graveyard and more detailed investigation may reveal that they are contemporaneous. The ringfort, two earthworks and two house sites which are incorporated into this field system appear to represent the remains of a possible deserted medieval settlement (WM025-111004-). See attached map annotated by the ASI Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 23 September 2019

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 637090 , 747036

Latitude and Longitude: 53.472058 , -7.441335

2.1.31 CHR 43 - WM025-108 - Ringfort - rath - Dysart (Moyashel & Magheraernon By.)

Situated on the summit of a rise, in pasture, with extensive views to S, W and E. Ringfort (WM025-107----) lies c. 100m to NW. Monument described in 1971 as a roughly circular-shaped area enclosed by a bank and external fosse, no clear entrance feature visible. The substantial earthen bank (int. H 0.5-0.75m) has many disturbance gaps and the exterior has been steepened in relatively modern times, possibly when planting trees in the bank. There is a wide shallow fosse which may also have been recut when the bank was steepened. The interior has a slight SSE-facing slope. There are old banks, scarps and fosses in the immediate vicinity.

A field report from 1976 adds that the fosse has been infilled around the northern arc and soil has been deposited against the exterior of the bank. See attached profile of monument surveyed and drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 23 September 2019

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 636545 , 747099

Latitude and Longitude: 53.472662 , -7.449536

2.1.32 CHR 44 - WM025-107 - Ringfort - rath - Dysart (Moyashel & Magheraernon By.)

Situated on fairly level, elevated ground, just below the summit of a rise, in pasture, with extensive views to S, W and E. Ringfort (WM025-108----) lies c. 100m to SE. Monument described in 1971 as a roughly circular-shaped area enclosed by a substantial earthen bank (int. H 0.9m; ext. H 1.6m; Wth at top 0.4m; overall Wth 3.9m) and wide, shallow external fosse (Wth at top 3.5m; basal Wth 2.3m; D 0.4m). A gap (Wth at top 4.6m; basal Wth 3.1m) with a slight causeway (Wth at top 3m; overall Wth 5.2m; H 0.2m) at NW may represent the entrance. The top of the causeway is lower than the outer lip of the fosse. There is a wide, modern-looking gap (Wth at top 4.1m; basal Wth 2m) at SSE. The exterior of the bank has been steepened in relatively modern times, possibly when the trees were planted around the bank. Modern fences intersect the exterior at NNW and SSE. The interior has a slight SSE-facing slope with faint traces of cultivation ridges running E-W. There are old banks, scarps and depressions in the vicinity. A later field description from 1976 indicates that a new laneway running NW-SE cuts through the monument, almost bisecting it. See attached profile of monument surveyed and drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 23 September 2019

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 636473 , 747230

Latitude and Longitude: 53.473844 , -7.450606

2.1.33 CHR 45 - WM025-160 - Water mill - unclassified - Dysart (Moyashel & Magheraernon By.)

The location of a watermill mentioned in a seventeenth century land grant to Robert Nugent of Walshestown has not been identified. In 1611 Robert Nugent was granted 'a watermill' in the 'said manor and town of Kilcowle' (Cal. pat. rolls Ire., Jas I, 196). The placename Kilcowle or Kilcooley refers to the southern part of the townland of Dysart. The identification of this placename is preserved in the name of Kilcooley House located close to shoreline of Lough Ennell. Millbrook House which is built on the site of a post medieval corn mill may have been built on the site of the medieval watermill. Compiled by: Caimin O'Brien Date of upload: 24 July 2015

References: Cal. pat. rolls Ire., Jas I - Irish patent rolls of James I: facsimile of the Irish record commissioners' calendar prepared prior to 1830, with foreword by M.C. Griffith (Irish Manuscripts Commission, Dublin, 1966)

Six-Inch First edition: 'Corn Mill & Kiln'

Six-Inch Latest edition: 'Millbrook House'

ITM Coordinates: 636101 , 747254

Latitude and Longitude: 53.474085 , -7.456206

2.1.34 CHR 46 - WM025-104 - Ringfort – rath - Dysart (Moyashel & Magheraernon By.)

Situated on the summit of a high rise, in pasture, with good views of gently undulating pasture to NE and SW. Ringforts (WM025-103----/-102----) lie c. 25m and 200m to NW, respectively. Monument described as a large roughly circular-shaped area enclosed by a bank and external fosse, with a modern-looking gap in the bank

at WNW, a modern gap and causeway at NNE. No clear The original entrance feature visible. The substantial earthen bank (int. H 1.1m; ext. H 1.75m; Wth at top 0.4m; basal Wth 3.8m) appears to have been steepened on the interior and exterior in relatively modern times, possibly when planting the trees which now grow from it. A short undisturbed portion of fosse (Wth at top 3m; basal Wth 1.2m; approx. D 0.2m) is visible at NE, otherwise it has been modified to form a drain. Modern field fences encroach on the exterior of the perimeter at ENE and incorporate the bank and a modified fosse from S-W. The interior has a gentle SE-facing slope with vague traces of cultivation ridges running NW-SE. See attached profile of monument surveyed and drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 23 September 2019

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 636367 , 747520

Latitude and Longitude: 53.476457 , -7.452169

2.1.35 CHR 47 - WM025-109 - Ritual site – holy well - Dysart (Moyashel & Magheraernon By.)

In 1837 John O'Donovan wrote in the Ordnance Survey Letters that the parish of Dysart was named after St. Maol Tuile [Multilly] 'whose memory was celebrated at his holy wells in the glebe about 30 years ago (c. 1807) on the 28th or 29th of May' (OSL vol. 1, 152). The Martyrology of Donegal recorded the 29th of May as the feast day of Maoltuile whose 'baculus [or pastoral staff] works miracles on perjurers before they go out of the church. His well, and his yellow bell and his baculus and his statue, are there still. This is the first Maoltuile' (O'Donovan 1864, 445). The Martyrology of Donegal lists the 30th of July as the feast day of 'Maoltuile, son of Nochar' (ibid.). An early Christian monastery (WM012-110003-) or hermitage (dísirt) was founded here in the late 8th or early 9th century by Maol Tuile who died before the year 830. He was reputedly the son of Nóchaire of the Ceinéal Laoghaire of Meath (Ó Riain 2011, 447). Maol Tuile of Díseart (Dysart) was associated with Maol Ruain of Tallaght. Dysart church and graveyard containing the base of a possible Early Christian high cross (WM025-110005-) were possibly built on the site of the monastery (WM025-110003-) the enclosing element of which lies 280m to NE of 'Multilly's Wells'. Visited by the ASI in 1981 and described as two conjoined stone lined wells underneath two large ash trees standing on low-lying poorly drained grassland standing immediately E of an old drain with small stream running from W-E 35m to S . The wells were both faced internally with several courses of masonry and were partially covered in scrub vegetation. The N well measured approx. 1m in diameter with the S well measuring 1.5m in diameter. An overflow or outlet channel was visible running out of S side of the S well. Access to the holy wells was from the E and approached from between the two ash trees. Compiled by: Caimin O'Brien Date of upload: 6 November 2017

References: OSL - Ordnance Survey Letters. Letters written by members of the Ordnance Survey's 'Topographical Department' (T. O'Conor, A. O'Curry, E. Curry, J. O'Donovan and P. O'Keeffe) sent to headquarters from the field (1834-41). MSS in Royal Irish Academy. Ó Riain, P. 2011 A dictionary of Irish Saints. Dublin. Four Courts Press. O'Donovan, J. 1864 The martyrology of Donegal: a calendar of the saints of Ireland. Dublin. Alexander Thom.

Six-Inch First edition: 'Multilly's Well's'

Six-Inch Latest edition: 'Multilly's Well's'

ITM Coordinates: 636961 , 747481

Latitude and Longitude: 53.476066 , -7.443226

2.1.36 CHR 48 - WM025-105 - Enclosure - Dysart (Moyashel & Magheraernon By.)

Situated on a low rise, in low-lying gently undulating pasture, with good views to NE and SW. Ringforts (WM025-104----/-103----/106001-) lie c. 170m to SW, c. 185m to WSW and 110m to ENE, respectively. Not depicted on the 1837 ed. OS 6-inch map or the revised 1913 ed. OS 25-inch map. Monument described in 1971 as a roughly circular-shaped area (diam. 47.5m) defined by a broad band of differential growth in contrast with the surrounding vegetation. This distinctive band (Wth 3m) extends from E-S-W-NW and probably represents the cropmark of a backfilled fosse. A very slight scarp would appear to follow the perimeter of the

enclosure from NW-N, however this is defaced by old cultivation ridges. The monument is divided in two by a low, broad earthen bank running NW-SE, which is in line with a modern field fence to NW and which probably formed part of the modern field system. The entrance is not recognisable. The interior rises gently from the perimeter towards the centre and old cultivation ridges occupy the NE quadrant. Cropmark of monument is no longer visible on Digital Globe aerial photography and the entire area is now occupied by a modern house plot. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 23 September 2019

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 636500 , 747678

Latitude and Longitude: 53.477868 , -7.450147

2.1.37 CHR 49 - WM025-106002 - Field system - Dysart (Moyashel & Magheraernon By.)

Situated on W-facing slope of a low rise, in gently undulating pasture, with moderate views in all directions. In the immediate vicinity of a ringfort (WM025-106001-) there is a field system consisting of linear and curvilinear banks, scarps and depressions. It is older than the modern field system, although its chronological relationship to the ringfort is difficult to determine. This complex does not appear to continue on the W side of the public road. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 23 September 2019

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 636631 , 747739

Latitude and Longitude: 53.478407 , -7.448166

2.1.38 CHR 50 - WM025-106001 - Ringfort - rath - Dysart (Moyashel & Magheraernon By.)

Situated on a W-facing slope of a low rise, in gently undulating pasture, with moderate views in all directions. Ringfort (WM025-105----) lies c. 110m to WSW. Monument described as a subcircular-shaped area (dims. 23m N-S) enclosed by an earthen bank (int. H 0.1m) which is steep on the exterior and is almost reduced to a scarp (H 1.7m) with a shallow external fosse visible from NW-N and from ENE-E-ESE, which seems to form part of a field boundary. There is no trace of an outer fosse from SSE-S-W-WNW. The original entrance is not recognisable. The interior rises gently from the perimeter towards the centre. A field system (WM025-106002-) is visible in the fields around the ringfort. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 23 September 2019

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 636626 , 747749

Latitude and Longitude: 53.478497 , -7.448241

2.1.39 CHR 51 - WM025-169002 - Fish-pond - Dysart (Moyashel & Magheraernon By.)

A pond located to the W of Dysart House may have the fish-pond listed in a 1609 land grant to Sir Robert Nugent of Walshestown. In this year Sir Robert Nugent was granted the manor of Disert [Dysart] which included 'a castle (WM025-169----); a hall, and a stone bawn (WM025-169001-), with a lough, a stable, two barns, a haggard, 40 messuages, 50 gardens, and a fish pond in Disert' (Cal. pat. rolls Ire., Jas I, 196). Compiled and revised by: Caimin O'Brien Date of revised upload: 10 November 2017

References: Cal. pat. rolls Ire., Jas I - Irish patent rolls of James I: facsimile of the Irish record commissioners' calendar prepared prior to 1830, with foreword by M.C. Griffith (Irish Manuscripts Commission, Dublin, 1966)

Six-Inch First edition: Inidicated

Six-Inch Latest edition: Indicated

ITM Coordinates: 636923 , 747849

Latitude and Longitude: 53.479375 , -7.443755

2.1.40 CHR 52 - WM025-110001 - Souterrain - Dysart (Moyashel & Magheraernon By.)

Possible site of souterrain recorded by the ASI in 1982 when the local landowner informed them that during the land reclamation work of the 1960s a sink hole appeared in a field 300m W of the ruins of Dysart House. The site identified by the landowner was visible in 1982 as a patch of differential vegetation growth marking an area 3m wide by 15m long which may suggest that this was the location of a possible souterrain associated with the nearby monastic site (WM025-110003-) of Dysart. Compiled by: Caimin O'Brien Date of upload: 8 November 2017

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 637093 , 747797

Latitude and Longitude: 53.478896 , -7.441200

2.1.41 CHR 53 - WM025-110004 - Graveyard - Dysart (Moyashel & Magheraernon By.)

Roughly square-shaped graveyard (approx. dims. 45m N-S x 44m E-W) enclosed by a 19th century wall (ext. H 1.15m; int. H 0.7m; wall T 0.4m) with entrance gate and stile at W. Medieval parish church ruins (WM025-110002-) of Dysart in W quadrant. A second stone stile over the graveyard wall is visible at centre of the N wall. An earthen bank belonging to an earlier graveyard boundary is visible running along the inner face of the graveyard wall from S through W to N. The graveyard contains memorials dating from the post-1700 period onwards and are concentrated to the S of the medieval church. There are no visible memorials in the N sector of the graveyard. Numerous architectural fragments from the parish church of late medieval date have been reused as grave markers and are visible in the S quadrant. Several architectural fragments from the medieval church ruins have also been incorporated into the fabric of the 19th century graveyard wall. Graveyard appears to have extended to the W as depicted on the 1837 ed. OS 6-inch map. Three buildings which no longer survive were located in the field immediately to the W of the present graveyard boundary wall. The field to the W of the present graveyard formed part of the graveyard and was designated as glebe land belonging to the church. The graveyard was originally enclosed by an earthen bank which is still visible running along the inner face of the graveyard wall from S through E to N. Compiled by: Caimin O'Brien Date of upload: 6 November 2017

Six-Inch First edition: 'Grave Yard'

Six-Inch Latest edition: 'Grave Yd.'

ITM Coordinates: 637245 , 747714

Latitude and Longitude: 53.478139 , -7.438920

2.1.42 CHR 54 - WM025-110002 - Church - Dysart (Moyashel & Magheraernon By.)

Situated on rising ground overlooking Lough Ennell 1.8km to the SE. The ruins of Dysart House are 160m to NNE and. Holy wells dedicated to St. Maol Tuile of Dysart known locally as 'Multilly's Wells (WM025-109----/109001-) located 340m to SW. An early Christian monastery or hermitage (dísirt) was founded here in the late 8th or early 9th century by Maol Tuile who died before the year 830. He was reputedly the son of Nóchaire of the Ceinéal Laoghaire of Meath (Ó Riain 2011, 447). Maol Tuile of Díseart (Dysart) was associated with Maol Ruain of Tallaght. In 1837 John O'Donovan wrote in the Ordnance Survey Letters that the parish of Dysart was named after St. Maoltuile 'whose memory was celebrated at his holy wells in the glebe about 30 years ago on the 28th or 29th of May' (OSL vol. 1, 152). The Martyrology of Donegal recorded the 29th of May as the feast day of Maoltuile whose 'baculus [or pastoral staff] works miracles on perjurers before they go out of the church. His well, and his yellow bell and his baculus and his statue, are there still. This is the first Maoltuile'

(O'Donovan 1864, 445). The Martyrology of Donegal lists the 30th of July as the feast day of 'Maoltuile, son of Nochar' (ibid.). Cogan (1867, 424) recorded that 'there was an abbey here, formerly called Disert-Maoltuile' and described the church ruins as 'the old church of Dysart' which measured 'seventy-three feet (int. dims. 22.25m) by twenty feet three inches (6.17m)'. In the year 1003 the Annals recorded that 'Disert-Maeltuile was plundered by Murchadh Ua Maeleachlainn' (AFM, 2, 828-9). Some time before 1202 the church of Dysart [ecclesia de Lochannin de Disertimoletuh] was granted to the Canons of St. Thomas's Abbey in Dublin (Orpen 1920, 168). The church is listed in the 1302 ecclesiastical taxation of the Deanery of Lough Sewdy in the Diocese of Meath, where it is entered as 'Dissard' with an annual value of '8 marks' and the church tithe valued at '10s. 8d.' (Cal. doc. Ire., 266). In 1309 John de Fresingfeld was presented to the parish of Dysart (Cogan 1867, 424). In 1407 Nicholas Moynagh was described as the Pastor of Dysart who exchanged parishes with Richard King, Vicar of Faghly [Faughalstown] (ibid.). The 1540 ecclesiastical taxation of the Diocese of Meath recorded that in the Deanery of Lough Sewdy the Rectory of Dysart was valued at £5 4s. 5d. (Cogan 1862, 380). Present remains consist of the poorly preserved ivy-covered nave (approx. ext. dims. 7.9m N-S; 13.8m E-W; wall T 0.9m) and chancel church (approx. ext. dims. 6.8m N-S; 11m E-W) aligned WSW-ENE standing in W quadrant of graveyard (WM025-110004-). The fabric of the church is covered in ivy making detailed examination of the fabric impossible. A moss-covered section of the N wall of the nave appears to have been constructed with large rectangular blocks and is different from the fabric of the rest of the church. It is possible that this moss-covered section of the N wall of the nave represents the remains of a pre-Norman church which was converted into a nave and chancel church in the late 12th century. However the dense cover of vegetation on the church walls makes it impossible to examine the masonry remains. The nave is entered through a destroyed doorway (Wth 1.3m) located off centre to W in S wall. Two late medieval punch dressed jamb-stones of this doorway mark the location of this broken out entrance. A broken out window is visible in the centre of the ivy covered W gable of the nave. Only the lower courses of the N and S walls of the nave survive upstanding. The E end of the nave and the chancel are covered in trees and scrub vegetation. A broken out window is visible in the centre of the E gable. A broken out window is visible located off centre to E in the S wall. Numerous architectural fragments belonging to the church have been reused as grave markers and are visible in the area to the S of the church. A late medieval punch-dressed arch stone from the church has been reused as a capstone In the W boundary wall of the graveyard, other cut stone fragments have been incorporated into the fabric of this post-1700 boundary wall. The decorated base of a possible early Christian high cross (WM025-110005-) stands 1.2m N of the NW angle of the church. The W gable of the church stands 2.2m E of the graveyard boundary wall. Glebe land belonging to the church located immediately SW of the church and graveyard as depicted on the 1837 ed. OS 6-inch map. Compiled by: Caimin O'Brien Date of upload: 6 November 2017

References: O'Donovan, J. 1864 The martyrology of Donegal: a calendar of the saints of Ireland. Dublin. Alexander Thom. Ó Riain, P. 2011 A dictionary of Irish Saints. Dublin. Four Courts Press. Cogan, Rev. A. 1862-70 Ecclesiastical history of the diocese of Meath: ancient and modern. (3 vols) Dublin: John Fowler, Joseph Dollard OSL - Ordnance Survey Letters. Letters written by members of the Ordnance Survey's 'Topographical Department' (T. O'Conor, A. O'Curry, E. Curry, J. O'Donovan and P. O'Keeffe) sent to headquarters from the field (1834-41). MSS in Royal Irish Academy. AFM - Annals of the kingdom of Ireland by the Four Masters from the earliest period to the year 1616, ed. and trans. John O'Donovan (7 vols., Dublin, 1851; reprint New York, 1966) Cal. doc. Ire. - Calendar of documents relating to Ireland 1171-1307, ed. H.S. Sweetman (5 vols., London, 1875-86). Orpen, H. G. 1921 The Earldom of Ulster: Part V – Inquisition touching Ratoath, in Co. Meath. Journal of the Royal Society of Antiquaries of Ireland, 51, 68-76.

Six-Inch First edition: 'Church'

Six-Inch Latest edition: 'Church (in Ruins)'

ITM Coordinates: 637240 , 747705

Latitude and Longitude: 53.478059 , -7.438997

2.1.43 CHR 55 - WM025-110005 - High Cross - Dysart (Moyashel & Magheraernon By.)

In 1837 John O'Donovan wrote in the Ordnance Survey Letters that the parish of Dysart was named after St. Maol Tuile 'whose memory was celebrated at his holy wells (WM025-109----) in the glebe about 30 years ago on the 28th or 29th of May' (OSL vol. 1, 152). The Martyrology of Donegal recorded the 29th of May as the feast day of Maoltuile whose 'baculus [or pastoral staff] works miracles on perjurers before they go out of the church. His well, and his yellow bell and his baculus and his statue, are there still. This is the first Maoltuile' (O'Donovan 1864, 445). The Martyrology of Donegal lists the 30th of July as the feast day of the second

‘Maoltuile, son of Nochar’ (ibid.). An early Christian monastery (WM025-110003-) or hermitage (dísirt) was founded here in the late 8th or early 9th century by Maol Tuile who died before the year 830. He was reputedly the son of Nóchaire of the Ceinéal Laoghaire of Meath (Ó Riain 2011, 447). Maol Tuile of Díseart (Dysart) was associated with Maol Ruain of Tallaght. A small decorated sandstone pyramidal-shaped cross-base (H 0.55m; top Wth 0.29m; base Wth 0.32m) with a rectangular mortice or socket (dims. 0.12m x 0.07m x D 0.06m) on top which stands 2.2m N of the NW angle of Dysart Church ruins (WM025-110002-) in W quadrant of graveyard (WM025-110004-). Three faces of the cross are decorated with poorly preserved carvings that are difficult to identify. The carvings are framed by incised panels. The fourth face of the cross-base is now very smooth and may originally have had a carved surface. The present N face of the base has a carved figure which is difficult to interpret. It could be a very naïve or primitive style folk carving of the crucified Christ. The figure has a rounded face with arms stretched out hands upright similar to the Orans or upright praying position. There is a carving at the base of the figure which is difficult to decipher but could be a serpent or snake like animal. The carving of the Christ like figure may not be the crucifixion but could be a monk in the Orans position with hands upright standing on top of a serpent. The current east side of the base is divided into four quadrants with a double line cross, the current west face is also decorated with an hourglass or figure 8 type symbol, which could be a face or some other symbol. Possible carving of Christ crucified in primitive or naïve style and is similar in style to the carving of Christ crucified on a cross shaft in Killaloe Cathedral, Co. Clare. Compiled by: Caimin O’Brien based on details kindly provided by Derek John Date of upload: 6 November 2017

References: O'Donovan, J. 1864 The martyrology of Donegal: a calendar of the saints of Ireland. Dublin. Alexander Thom. Ó Riain, P. 2011 A dictionary of Irish Saints. Dublin. Four Courts Press. OSL - Ordnance Survey Letters. Letters written by members of the Ordnance Survey's 'Topographical Department' (T. O'Conor, A. O'Curry, E. Curry, J. O'Donovan and P. O'Keeffe) sent to headquarters from the field (1834-41). MSS in Royal Irish Academy.

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 637228 , 747710

Latitude and Longitude: 53.478105 , -7.439177

2.1.44 CHR 56 - WM025-110003 - Ecclesiastical enclosure - Dysart (Moyashel & Magheraernon By.)

An Early Christian monastery or hermitage (dísirt) was founded here in the late 8th or early 9th century by Maol Tuile who died before the year 830. He was reputedly the son of Nóchaire of the Ceinéal Laoghaire of Meath (Ó Riain 2011, 447). Maol Tuile of Díseart (Dysart) was associated with Maol Ruain of Tallaght. The Annals recorded that the festival of ‘St. Maeltuile mac Nochaire, who gave his name to this place, is set down in O’Clery’s Irish Calendar at 30th of July’ (AFM, 2, 828). However the Martyrology of Donegal recorded the 29th of May as the feast day of Maoltuile whose ‘baculus [or pastoral staff] works miracles on perjurers before they go out of the church. His well, and his yellow bell and his baculus and his statue, are there still. This is the first Maoltuile’ (O’Donovan 1864, 445). The Martyrology of Donegal lists the 30th of July as the feast day of the second ‘Maoltuile, son of Nochar’ (ibid.). Remains of possible ecclesiastical enclosure (approx. diam. 480m) of Early Christian monastery visible in curve of field fence 110m S of church (WM025-110002-) and graveyard (WM025-110004-) which contains base of possible high cross (WM025-110005-). Holy wells (WM025-109----) dedicated to St. Maol Tuile located 280m to SW. Earthworks in field to S of graveyard may be associated with ecclesiastical enclosure (Swan 1988, 24). The earthworks in the field to the E of the graveyard were locally believed to mark the site of the monastery (ASI Field report). However the rectilinear nature of the earthworks would suggest that they are related to the ruins of Dysart House which is depicted on the 1837 ed. OS 6-inch map standing 160m NE of Dysart graveyard. Compiled by: Caimin O'Brien Date of upload: 13 October 2015

References: AFM - Annals of the kingdom of Ireland by the Four Masters from the earliest period to the year 1616, ed. and trans. John O'Donovan (7 vols., Dublin, 1851; reprint New York, 1966) OSL - Ordnance Survey Letters. Letters written by members of the Ordnance Survey's 'Topographical Department' (T. O'Conor, A. O'Curry, E. Curry, J. O'Donovan and P. O'Keeffe) sent to headquarters from the field (1834-41). MSS in Royal Irish Academy. Swan, D.L. 1988 The Early Christian ecclesiastical sites of County Westmeath. In J. Bradley (ed.), Settlement and society in Medieval Ireland: studies presented to F.X. Martin O.S.A., 1-31. Kilkenny.

Boethius Press. Ó Riain, P. 2011 A dictionary of Irish Saints. Dublin. Four Courts Press. O'Donovan, J. 1864 The martyrology of Donegal: a calendar of the saints of Ireland. Dublin. Alexander Thom.

Six-Inch First edition: Partially indicated

Six-Inch Latest edition: Partially indicated

ITM Coordinates: 637327 , 747761

Latitude and Longitude: 53.478556 , -7.437679

2.1.45 CHR 57 - WM025-169003 - Castle - ringwork - Dysart (Moyashel & Magheraernon By.)

Dysart House may have been located on the site of Dysart Castle (WM025-169----) and bawn (WM025-169001-) listed in a 1609 land grant to Sir Robert Nugent of Walshestown (WM018-155----). In this year Sir Robert Nugent was granted the manor of Disert [Dysart] which included 'a castle; a hall, and a stone bawn (WM025-169001-), with a lough, a stable, two barns, a haggard, 40 messuages, 50 gardens, and a fish pond (WM025-169002-) in Disert' (Cal. pat. rolls Ire., Jas I, 196). Numerous earthworks are visible on Digital Globe aerial photographs taken November 2011 in the area where the ruins of Dysart House are shown on the 1837 ed. OS 6-inch map and in the fields to the E of Dysart church (WM025-110002-) and graveyard (WM025-110004-). This castle site may have been built on or close to the site of an Anglo-Norman earth & timber castle described in 1302-03 'a small, weak, and ruined fort', belonging to Ralph Pippard, lord of Dysart manor (Cal. doc. Ire., 65). Hugh de Lacy kept the manorial lands of Dysart in his possession when granting the barony of Magheradernon to William le Petit in the late 12th century (Orpen 1920, 167). In this grant Hugh de Lacy retained possession of the 'lake and vill of Dysart' (ibid.). This lake may be the pond (WM025-169002-) located 240m to the W of Dysart House. In the early 13th century the lands of Dysart were held of Walter de Lacy by William Pipard, son of Ralph Pipard (ibid., 168). In 1301 Ralph Pipard sold the lands of Dysart Manor to King Edward I. In 1302-03 an inquisition into the extent of the Manor of 'Dyssard' was held at Dysart. The jurors of the inquisition recorded that Ralph Pippard, lord of Dysart Manor possessed at Dysart 'a small, weak, and ruined fort, which together the with the messuage is worth nothing a year' (Cal. doc. Ire., 65). The precise location of this 'ruined fort' has not been identified but it may have been located in the field to the E of Dysart church (WM025-110002-) and graveyard (WM025-110004-). This Anglo-Norman 'fort' may have taken the form of a ringwork rather than a mote & bailey castle. There is no evidence for any motte like earthwork in the fields surrounding Dysart church and graveyard. A group of three sub-triangular-shaped earthworks (WM025-112-/113-/114-) and a field system (WM025-111001-/111002-) in the field 420m to the S of Dysart church and graveyard could be related to the Anglo-Norman manor of Dysart. Compiled by: Caimin O'Brien Date of upload: 14 November 2017

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 637376 , 747830

Latitude and Longitude: 53.479172 , -7.436933

2.1.46 CHR 58 - WM025-169001 - Bawn - Dysart (Moyashel & Magheraernon By.)

Dysart House may have been located on the site of Dysart Castle (WM025-169----) and bawn listed in a 1609 land grant to Sir Robert Nugent of Walshestown. In this year Sir Robert Nugent was granted the manor of Disert [Dysart] which included 'a castle (WM025-169----); a hall, and a stone bawn, with a lough, a stable, two barns, a haggard, 40 messuages, 50 gardens, and a fish pond (WM025-169002-) in Disert' (Cal. pat. rolls Ire., Jas I, 196). Numerous earthworks are visible on Digital Globe aerial photographs taken November 2011 in the area where the ruins of Dysart House are shown on the OS 6-inch map and in the fields to the E of Dysart church (WM025-110002-) and graveyard (WM025-110004-). These earthworks may form part of the castle and bawn mentioned above in the 1609 land grant. Compiled and revised by: Caimin O'Brien Date of revised upload: 10 November 2017

References: Cal. pat. rolls Ire., Jas I - Irish patent rolls of James I: facsimile of the Irish record commissioners' calendar prepared prior to 1830, with foreword by M.C. Griffith (Irish Manuscripts Commission, Dublin, 1966)

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 637323 , 747853

Latitude and Longitude: 53.479383 , -7.437729

2.1.47 CHR 59 - WM025-169 - Castle – unclassified - Dysart (Moyashel & Magheraernon By.)

Dysart House may have been located on the site of Dysart Castle and bawn listed in a 1609 land grant to Sir Robert Nugent of Walshestown (WM018-155----). In this year Sir Robert Nugent was granted the manor of Disert [Dysart] which included 'a castle; a hall, and a stone bawn (WM025-169001-), with a lough, a stable, two barns, a haggard, 40 messuages, 50 gardens, and a fish pond (WM025-169002-) in Disert' (Cal. pat. rolls Ire., Jas I, 196). Numerous earthworks are visible on Digital Globe aerial photographs taken November 2011 in the area where the ruins of Dysart House are shown on the 1837 ed. OS 6-inch map and in the fields to the E of Dysart church (WM025-110002-) and graveyard (WM025-110004-). These earthworks may form part of the castle and bawn mentioned above in the 1609 land grant. This castle site may have been first built as the manorial castle of the Anglo-Norman manor of Dysart which Hugh de Lacy kept in his possession when granting the barony of Magheradernon to William le Petit in the late 12th century (Orpen 1920, 167). In this grant Hugh de Lacy retained possession of the 'lake and vill of Dysart' (ibid.). This lake may be the pond (WM025-169002-) located 240m to the W of Dysart House. In the early 13th century the lands of Dysart were held of Walter de Lacy by William Pipard, son of Ralph Pipard (ibid., 168). In 1301 Ralph Pipard sold the lands of Dysart Manor to King Edward I. In 1302-03 an inquisition into the extent of the Manor of 'Dyssard' was held at Dysart. The jurors of the inquisition recorded that Ralph Pippard, lord of Dysart Manor possessed at Dysart 'a small, weak, and ruined fort, which together the with the messuage is worth nothing a year' (Cal. doc. Ire., 65). The precise location of this 'ruined fort' has not been identified but it may have been located in the field to the E of Dysart church (WM025-110002-) and graveyard (WM025-110004-). This Anglo-Norman 'fort' may have taken the form of a ringwork rather than a mote & bailey castle. There is no evidence for any motte like earthwork in the fields surrounding Dysart church and graveyard. A group of three sub-triangular-shaped earthworks (WM025-112-/113-/114-) and a field system (WM025-111001-/111002-) in the field 420m to the S of Dysart church and graveyard could be related to the Anglo-Norman manor of Dysart. Compiled and revised by: Caimin O'Brien Date of revised upload: 14 November 2017

References: Orpen, H. G. 1921 The Earldom of Ulster: Part V – Inquisition touching Ratoath, in Co. Meath. Journal of the Royal Society of Antiquaries of Ireland, 51, 68-76. Cal. pat. rolls Ire., Jas I - Irish patent rolls of James I: facsimile of the Irish record commissioners' calendar prepared prior to 1830, with foreword by M.C. Griffith (Irish Manuscripts Commission, Dublin, 1966) Cal. doc. Ire. - Calendar of documents relating to Ireland 1171-1307, ed. H.S. Sweetman (5 vols., London, 1875-86).

Six-Inch First edition: 'Dysart Ho. (in ruins)'

Six-Inch Latest edition: Not indicated

ITM Coordinates: 637295 , 747888

Latitude and Longitude: 53.479699 , -7.438146

2.1.48 CHR 60 - WM025-070 - Mound - Dysart (Moyashel & Magheraernon By.)

Surveyed in 2013 and described by McGuinness (2014, 66) as following: 'This monument was described by an ASI fieldworker in 1982 as ‘an earthen mound, rectangular in shape, flat-topped, measuring 24m N-S, by 8m-10m E-W, and rising to a height of 3.5m, the surface area of the flat top is 12m by 4.5m’ [SMR file]. It was suggested from its location that it might have been a landscape feature, although it appeared more ancient than this. Its sharply rectilinear shape, as indicated in a rough sketch by same ASI fieldworker, is certainly inconsistent with prehistoric earthen burial mounds, and it is rejected as one here'. Compiled by: Caimin O'Brien based on details provided by David McGuinness. Date of upload: 23 February 2015

References: McGuinness, D. 2014 The prehistoric burial mounds and related monuments of County Westmeath. Part II - Monuments in central Westmeath (Barony of Rathconrath and parts of baronies of Moygoish, Moycashel, and Moyashel & Magheradernon). Unpublished survey funded by Westmeath County Council in association with Westmeath Archaeological and Historical Society.

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 636852 , 748348

Latitude and Longitude: 53.483864 , -7.444766

2.1.49 CHR 61 - WM025-116 - Moated site - Dysart (Moyashel & Magheraernon By.)

Situated on a rise of marked by an OS trig. point (312ft/95m OD), overlooking Lough Ennell c. 480m to E. Depicted on the 1837 ed. OS 6-inch map as a square shaped field and not as an antiquity. Shown on the revised 1913 ed. OS 25-inch map as a rectangular-shaped tree-planted earthwork (approx. dims 31m NE-SW; 22m NW-SE). Monument is visible today as a faint rectangular-shaped cropmark on Digital Globe aerial photography, with a tree marking the NE corner. Possible moated site reused as a landscape feature, alternatively it may be the remains of a landscaped feature of post-1700 date. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 24 September 2019

Six-Inch First edition: Outlined

Six-Inch Latest edition: Hachured

ITM Coordinates: 638452 , 747472

Latitude and Longitude: 53.475878 , -7.420768

2.1.50 CHR 62 - WM025-075 - Ringfort - rath - Dysart (Moyashel & Magheraernon By.)

Situated in pasture c. 55m to W of the historic shoreline of Lough Ennel and c. 500m from the present day shoreline. Depicted on the 1837 ed. OS 6-inch map as a circular-shaped earthwork (dims. 48m NE-SW; 41m NW-SE) which incorporates a field boundary from SE-S-SW. Not depicted on the revised 1913 ed. OS 25-inch map. The faintest outline of this levelled enclosure is visible today on Digital Globe aerial photography. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 11 September 2019

Six-Inch First edition: Hachured

Six-Inch Latest edition: Not indicated

ITM Coordinates: 638401 , 747834

Latitude and Longitude: 53.479135 , -7.421492

2.1.51 CHR 63 - WM025-071 - Ringfort - unclassified - Dysart (Moyashel & Magheraernon By.)

Depicted as a circular shaped enclosure (approx. diam. 39m NE-SW) on the 1838 ed. OS 6-inch map and annotated as a 'fort' on the 1837 OS Fair Plan map. The possible ringfort is not indicated on the revised 1876 OS map suggesting that the monument was levelled between these two map dates. Situated on a slight rise of ground on undulating grassland with good views to the NE, E, SE and S. Levelled monument barely visible as a low rise of ground (diam. 47m NW-SE x 43m NE-SW) defined by a scarp (H 1.2m0 with no trace of an external fosse or entrance feature. The interior is slightly uneven with very vague suggestions of cultivation ridges. A field fence which extended outside the earthwork on the NE has been removed. Levelled monument visible on aerial photograph taken by Leo Swan (LS_AS-35CT-0011_16). Oval-shaped earthwork visible in the foreground is depicted as a tree plantation or landscaped tree-ring on the 1837 ed. OS 6-inch map and not as an antiquity. This tree plantation is associated with the landscaped demesne of Dysart House located 600m to the W. Compiled by: Caimin O'Brien Date of upload: 13 December 2017

Six-Inch First edition: Hachured

Six-Inch Latest edition: Not indicated

ITM Coordinates: 637865 , 748047

Latitude and Longitude: 53.481088 , -7.429540

2.1.52 CHR 64 - WM025-076002 - Cist - Keoltown

Situated on top of a knoll in low lying pasture, near the N shore of Lough Ennell. A cist burial uncovered immediately beside a possible barrow (WM025-076001-) which was excavated the National Museum of Ireland in 1976. In this year a cist burial was exposed when backfilling a small disused gravel pit at the base of a glacial hillock. The cist was situated just below the break of the hillock on SE facing slope. Eamonn Kelly of the National Museum of Ireland carried out an investigation of the site and recorded the following details; 'The capstone (dims. 0.91m x 0.76m x 0.08m) was fully removed and the cist was seen to contain a small pottery vessel and a pile of cremated bones. Excavation relocated the grave (max. L 0.47m x Max. L 0.41m x D 0.5m) which had not been further damaged in the back-filling operation. It was trapezoidal in shape and was made up of 4 slabs set into a sub-rectangular pit (dims. 0.95m x 0.8m x D 0.5m). The cist contained a small pottery vessel and a deposit of cremated bones, later analysed to be skull fragments, mandible and maxilla, phalanges and metacarpal bones from one individual. Four unworked flint flakes were found in the bulldozed soil near the cist. The cist being reported on was situated outside this earthwork' (Kelly 1982-3, 86-9). Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 11 September 2019

References: Kelly, E.P. 1982-3 A cist burial at Keoltown. Co. Westmeath. Ríocht na Mídhe VII, 2, 86-89.

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 639355 , 748311

Latitude and Longitude: 53.483351 , -7.407061

2.1.53 CHR 65 - WM025-076001 - Barrow - unclassified - Keoltown

Situated on top of a knoll in low lying pasture, near the N shore of Lough Ennell. A possible barrow described as a ring-work in 1976 was depicted as a circular-shaped earthwork on Larkin's 1808 map of Co. Westmeath. Shown as a circular-shaped earthwork on Lyons Estate Map of 1823 (NLI MS 2753). In 1976 a cist burial (WM025-076002-) was exposed when backfilling a small disused gravel pit at the base of a glacial hillock. The cist was situated just below the break of the hillock on SE facing slope. Eamonn Kelly of the National Museum of Ireland carried out an investigation of the site and recorded the following details; 'The capstone (dims. 0.91m x 0.76m x 0.08m) was fully removed and the cist was seen to contain a small pottery vessel and a pile of cremated bones. Excavation relocated the grave (max. L 0.47m x Max. L 0.41m x D 0.5m) which had not been further damaged in the back-filling operation. It was trapezoidal in shape and was made up of 4 slabs set into a sub-rectangular pit (dims. 0.95m x 0.8m x D 0.5m). Mr Maguire informed me that a ring-work consisting of an earthen bank approximately 50cm high and 8m in diameter once crowned the knoll. A large tree known locally as 'The Hangman's Tree' grew in the centre of it. The cist being reported on was situated outside this earthwork' (Kelly 1982-3, 87-8). Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 11 September 2019

References: Kelly, E.P. 1982-3 A cist burial at Keoltown. Co. Westmeath. Ríocht na Mídhe VII, 2, 86-89.

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 639364 , 748322

Latitude and Longitude: 53.483449 , -7.406924

2.1.54 CHR 66 - WM025-173 - Earthwork - Ladestown

Outline of irregular-shaped earthwork (approx. dims. 90m N-S x 110m E-W) visible on Google earth aerial imagery and Digital Globe aerial photographs. Compiled by: Caimin O'Brien based on details provided by Jean-Charles Caillère Date of upload: 6 March 2020

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 639658 , 748880

Latitude and Longitude: 53.488441 , -7.402424

2.1.55 CHR 67 - WM025-072 - Icehouse - Ladestown

Situated in pasture, c. 75m to SSW of Ladestown House (WM025-073001-). Post-1700 icehouse described in 1970 as a deep subterranean, circular-shaped tank-like structure defined by brick and having a round vaulted roof. The roof is covered on the exterior by a low circular mound. The structure is entered via a small brick-lined passage which is situated just below the roof at ground-level. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 11 September 2019

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 640055 , 749247

Latitude and Longitude: 53.491709 , -7.396396

2.1.56 CHR 68 - WM025-073001 - House – fortified house - Ladestown

Late 18th/early 19th century Ladestown House which forms the SW side of a courtyard complex (b. 1780-1830) (NIAH reg. No. 15402502). Ice house (WM025-072----) lies c. 75m to SSW. No castle is depicted at this location on the 1654-7 Down Survey map of Mullingar parish, in 1641 these lands belonged to Richard Hope (NLI MS 723-4). Ladestown was also known as Ballyledwich or Ledwichtown. Rental. In 1666, under the Act of Settlement, Randall Adams was granted the, following lands in Westmeath, Ledwichtowne alias Ledustowne (after the death of Mary widow), Kealestowne, Farran Maguannon, alias Cartron Maganon, Ballykenny, Row and Tullogh, Taghniferagh, Ballycloghans, magowe, Creeve and Killeagh, Bunnamore, Cloyglasse (Walsh 1941, 254). The map of the townland of Ledwichtown has a sketch of the House as it appeared in 1697 (Walsh 1941, 253). In 1715 the estate of Ledwithstown/Ledwichtown was sold by Randall Adams, son of John Adams of Ledwichtown. Ladestown House possibly built on the site of a fortified house and bawn (WM025-073002-) of which there are no surface remains visible. Castle ruin depicted at this location on Larkin's 1808 map of Co. Westmeath (NLI, MS 46,580). Possible fortified house described as a 3-bay, 3-storey battlemented house with round corner turrets based on its depiction on the Adams renalt map of 1697 (NLI MS 391). It has a single-bay breakfront with an open pediment (ibid). The structure had a hipped roof and is set in a rectangular walled enclosure (ibid). The site is now occupied by the roofless remains of a 19th century house adjoining a range of outbuildings including a stables and a farmyard. There are no visible remains of any features earlier than the late 18th/early 19th century. Ladestown House described by the National Inventory of Architectural Heritage (NIAH) as following; 'Ladestown House was in existence c.1780 (Taylor and Skinner) but was rebuilt c.1823 as a five-bay two-storey over basement house with a single-storey porch to the entrance front (south). It is likely that some of the outbuildings date to this earlier house but that much of the main complex of outbuildings was built or rebuilt at this time. Ladestown was the site of an earlier castle and it is possible that some of the fabric of this earlier structure was used in the construction of these buildings' (www.buildingsofireland.ie). Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 11 September 2019

References: NLI MS 391 National Library of Ireland, A rental and a collection of 9 maps of the estate of John Adams in County Westmeath, surveyed by Edward Wilson, with names of tenants, agreements, etc., 1681-97. Rental of the Westmeath estate of John Adams, August, 1697, edited by Rev. Paul Walsh in Analecta Hibernica, No. 10, 1941. NLI, MS 723-4 - National Library of Ireland, The parish maps of the Down Survey for the County of Westmeath, attested by W. Petty, in 1659. Copied by Daniel O'Brien. A set of 67 maps with accompanying terriers in two volumes, 1786-7. Dublin. Walsh, P. 1941 The Adams Rental. Analecta Hibernica 10, 253-286.

Six-Inch First edition: 'Ladestown Ho.'

Six-Inch Latest edition: 'Ladestown House'

ITM Coordinates: 640085 , 749322

Latitude and Longitude: 53.492381 , -7.395934

2.1.57 CHR 70 - WM026-112 - Water mill – Kilpatrick (Moyashel & Magheradernon)

In 1612 Thomas Petyt [Petit] of Irishtown was granted in 'Killpatrick near Mollingar, containing a castle, a bawn, a watermill' (Cal. pat. rolls Ire., Jas I, 233). The precise location of this medieval watermill within the townland of Kilpatrick has not been identified. The corn mill depicted on the 1837 ed. OS 6-inch map may have been located on site of the medieval mill. Compiled by: Caimin O'Brien Date of upload: 27 July 2015

References: Cal. pat. rolls Ire., Jas I - Irish patent rolls of James I: facsimile of the Irish record commissioners' calendar prepared prior to 1830, with foreword by M.C. Griffith (Irish Manuscripts Commission, Dublin, 1966)

Six-Inch First edition: 'Corn Mill'

Six-Inch Latest edition: Indicated

ITM Coordinates: 640497, 750545

Latitude and Longitude: 53.503339 , -7.389568

2.1.58 CHR 72 - WM025-028002 - Ecclesiastical enclosure – Kilpatrick (Moyashel & Magheradernon)

Earthen banked enclosure surrounding church site (WM025-028----) and graveyard (WM025-028001-) possibly represents the remains of an Early Christian ecclesiastical enclosure (Swan 1988, 24). Situated on a gentle SW-facing slope, which falls toward a small stream. Kilpatrick House lies c. 145m due E. Annotated ‘Kilpatrick graveyard (Disused)’ on the revised 1913 ed. OS 25-inch map and depicted as a rectangular-shaped earthwork. Monument described as a subrectangular-shaped area enclosed by a low earthen bank. The bank rises barely above the interior on the E, S and W sides where it is almost reduced to a scarp. It is well defined on the exterior, except where a modern field fence and drain runs NNW-SSE along the E side. There are three slight humps of unknown significance within the interior which may represent the sod covered remains of a church site (WM025-028----). The original entrance is not recognisable. Where conjoined, the bank which forms the S side of the larger enclosure (WM025-028003-), overlies the N side of the smaller enclosure. There is a slight fosse along the S side of this bank which is within the interior of the small enclosure, suggesting that the larger enclosure was constructed after the smaller one. Monument is visible as a subrectangular-shaped cropmark on Digital Globe aerial photography. See attached plan and profile of monument surveyed and drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O’Brien. Date of upload: 05 September 2019

References: Swan, D.L. 1988 The Early Christian ecclesiastical sites of County Westmeath. In J. Bradley (ed.), Settlement and society in Medieval Ireland: studies presented to F.X. Martin O.S.A., 1-31. Kilkenny. Boethius Press.

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Hachured

ITM Coordinates: 640103 , 750807

Latitude and Longitude: 53.505724 , -7.395473

2.1.59 CHR 73 - WM025-028 - Church – Kilpatrick (Moyashel & Magheradernon)

Situated on a gentle SW-facing slope, which falls toward a small stream. Kilpatrick House lies c. 145m due E. Annotated ‘Church (Site of)’ on the revised 1913 ed. OS 25-inch map. Within ecclesiastical enclosure (WM025-028002-). Levelled church site described as no surface remains visible. There are three low humps at this location which may represent the grass-covered wall footings of a levelled church. Adams (1960, 33) refers to the ruins of the old chapel of Kilpatrick, near which is a well. Church site is not visible on Digital Globe aerial photography. See attached plan and profile of monument surveyed and drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O’Brien. Date of upload: 05 September 2019

References: Adams, F.R.G. 1960 Killucan-some remarks on its prehistory and history. Ríocht na Mídhe 2 (2), 23-34.

Six-Inch First edition: Not indicated

Six-Inch Latest edition: 'Church (Site of)'

ITM Coordinates: 640093 , 750812

Latitude and Longitude: 53.505769 , -7.395623

2.1.60 CHR 74 - WM025-028001 - Graveyard – Kilpatrick (Moyashel & Magheradernon)

Situated on a gentle SW-facing slope, which falls toward a small stream. Kilpatrick House lies c. 145m due E. Annotated Annotated ‘Kilpatrick graveyard (Disused)’ on the revised 1913 ed. OS 25-inch map and depicted as a rectangular-shaped earthwork. Site of Kilpatrick church (WM025-028----) located in centre of ecclesiastical enclosure (WM025-028002-) which may have been used as burial ground. No surface remains visible of any memorials or grave markers in area where church and graveyard is depicted on OS 6-inch maps. Graveyard described as a subrectangular-shaped area enclosed by a low earthen bank. The bank rises barely above the interior on the E, S and W sides where it is almost reduced to a scarp. It is well defined on the exterior, except where a modern field fence and drain runs NNW-SSE along the E side. There are three slight humps of unknown significance within the interior which may represent the sod covered remains of a church site (WM025-028----). Where conjoined, the bank which forms the S side of the larger enclosure (WM025-028003-), overlies the N side of the smaller enclosure. There is a slight fosse along the S side of this bank which is within the interior of the small enclosure, suggesting that the larger enclosure was constructed after the smaller one. Monument is visible as a subrectangular-shaped cropmark on Digital Globe aerial photography. See attached plan and profile of monument surveyed and drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O’Brien. Date of upload: 05 September 2019

Six-Inch First edition: Not indicated

Six-Inch Latest edition: 'Kilpatrick Grave Yard (Disused)'

ITM Coordinates: 640106 , 750821

Latitude and Longitude: 53.505849 , -7.395426

2.1.61 CHR 75 - WM018-169 - Rabbit warren – Kilpatrick (Moyashel & Magheradernon)

Outline of oval-shaped enclosure (approx. dims. 32m N-S x 60m E-W) visible on Google earth aerial imagery and Digital Globe aerial photographs. Compiled by: Caimin O'Brien based on details provided by Jean-Charles Caillère Date of upload: 6 March 2020

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 639745 , 751032

Latitude and Longitude: 53.507773 , -7.400841

2.2 Recorded monuments within Route Option 2

2.2.1 CHR 9 - WM038-017008 - Water mill – vertical-wheeled – Kilbeggan

See Section 2.1.1

2.2.2 CHR 10 - WM038-018 – Building – Coola

See Section 2.1.2

2.2.3 CHR 11 - WM038-064 - Enclosure – Coola

See Section 2.1.3

2.2.4 CHR 76 - WM038-006 - Barrow – unclassified – Kilbeggan

Situated on the summit of a ridge, in undulating pasture, with good views in all directions. Depicted on the revised 1910 ed. OS 25-inch map as a very small oval-shaped earthwork (approx. dims. 10m NW-SE; 7m NE-SW). Monument described in 1973 as no surface remains visible. The location of this mound would have been suitable for a barrow. Levelled monument is not visible today on Digital Globe aerial photography. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 16 December 2019

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Hachured

ITM Coordinates: 635358 , 737176

Latitude and Longitude: 53.383571 , -7.468528

2.2.5 CHR 77 - WM038-062 - Enclosure – large enclosure – Guigginstown

Partial cropmark of large roughly circular-shaped enclosure (approx. diam. 90m) with entrance gap at NNW visible on Google earth aerial imagery. See attached image taken from Google Earth aerial photographs taken 28/06/2018 Compiled by: Caimin O'Brien based on details provided by Jean-Charles Caillère Date of upload: 07 May 2019

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 634905 , 737341

Latitude and Longitude: 53.385083 , -7.475319

2.2.6 CHR 90 - WM032-065 - Ringfort – rath – Dalystown (Fartullagh By.)

This monument was inspected in 1976 and described as follows: 'At the E end of a small, low E-W ridge in good pasture with extensive views to the W. A large, roughly oval-shaped area (diam. 57m N-S; 66m E-W) defined by an earth and stone bank visible from W-N-E only. There are faint traces of an outer fosse visible from W-N-E only. The bank is best preserved from N-E and on the W. The bank is defaced at NE and NW by animal tracks and there is no indication of an original entrance. The interior slopes from NW to SE' (SMR file). Compiled by: Caimin O'Brien Date of upload: 06 March 2013

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 639834 , 742755

Latitude and Longitude: 53.433387 , -7.400548

2.2.7 CHR 91 - WM032-030 - Enclosure – Dalystown (Fartullagh By.)

Monument surveyed by ASI in 1977 and described as following; 'The site consists of a large subrectangular enclosure with a smaller sub-rectangular enclosure attached to it on the N, bounded by a bank of earth and stone. The bank of the S enclosure is best preserved on the W and it is faint on the S and E. The bank of the N enclosure is best preserved on the NW. There is no indication of an external fosse. The bank between the two enclosures has a somewhat fresher appearance than the other banks and there is a narrow shallow fosse on its S side. This fosse starts inside the external bank on the W and continues through the site, bank on the E. There is a large depression just E of the N enclosure into which the fosse runs. There is a gap in the bank of the S enclosure just S of the N enclosure on the W side, but it is not clear if this is an original entrance feature. The interior of the N enclosure is slightly uneven. There is a small boulder at its centre which marked 'Standing Stone' (WM032-030001-) on the 1912 ed. OS 6-inch map, its purpose is unclear. The interior of the

S enclosure is also rather uneven and there are a number of small stony hummocks in the central area. These may be no more than old field clearance heaps as no coherent pattern can be discerned. A modern field fence runs N-S past the site just E of it. The site is on a slight rise in fairly level land of fairly good pasture. There is a small valley to the E of the site. There are fairly good views to the N and W' (SMR File 20/06/1977). Compiled by: Caimin O'Brien Date of upload: 15 February 2013

Six-Inch First edition: Indicated

Six-Inch Latest edition: Hachured

ITM Coordinates: 640195 , 743305

Latitude and Longitude: 53.438302 , -7.395046

2.2.8 CHR 92 - WM032-030001 - Standing stone – Dalystown (Fartullagh By.)

Monument surveyed by ASI in 1977 and described as following; 'The site consists of a large subrectangular enclosure (WM032-030----) with a smaller sub-rectangular enclosure attached to it on the N, bounded by a bank of earth and stone. The bank of the S enclosure is best preserved on the W and it is faint on the S and E. The bank of the N enclosure is best preserved on the NW. There is no indication of an external fosse. The bank between the two enclosures has a somewhat fresher appearance than the other banks and there is a narrow shallow fosse on its S side. This fosse starts inside the external bank on the W and continues through the site, bank on the E. There is a large depression just E of the N enclosure into which the fosse runs. There is a gap in the bank of the S enclosure just S of the N enclosure on the W side, but it is not clear if this is an original entrance feature. The interior of the N enclosure is slightly uneven. There is a small boulder at its centre which marked 'Standing Stone' on the 1912 ed. OS 6-inch map, its purpose is unclear. The interior of the S enclosure is also rather uneven and there are a number of small stony hummocks in the central area. These may be no more than old field clearance heaps as no coherent pattern can be discerned. A modern field fence runs N-S past the site just E of it. The site is on a slight rise in fairly level land of fairly good pasture. There is a small valley to the E of the site. There are fairly good views to the N and W' (SMR File 20/06/1977). Compiled by: Caimin O'Brien Date of upload: 15 February 2013

Six-Inch First edition: 'Standing Stone'

Six-Inch Latest edition: 'Standing Stone'

ITM Coordinates: 640180 , 743326

Latitude and Longitude: 53.438492 , -7.395269

2.2.9 CHR 93 - WM032-028 - Ecclesiastical enclosure – Friarstown

Monument surveyed by ASI in 1976 and described as following; 'A rectangular embankment of earth and stone with the earth covered footings of a stone wall at its edge on the N and w and probably also the S. There is an external fosse with an outer bank. There is no indication of the stone wall on the E but the ground slopes down here and it is very faint on the S. The fosse and external bank are best preserved on the N and W, and are faint on the S. On the E the fosse and bank seem to be incorporated in a field fence which runs (roughly N-S) along this side of the site. This latter field fence may also incorporate a boundary bank running to the S enclosing one side of a field to the S of this site. There is what may be a hut site in the SE corner of the modern field but this is rather doubtful. Consisting of a roughly rectangular depression with some evidence of stone in the sides. There are two causeways across the fosse, one on the W and the other on the S and both may be original entrances. A later field bank running E-W begins at the outer edge of the W causeway and runs to the W for a short distance. The interior is fairly level in the W but slopes towards the E. At the S there are fairly substantial remains, grass covered stone footings of a rectangular structure with some grass covered collapse around it. The NW corner of this feature survives to a height of approx. 2m and part of its E wall also survives to a height of c. 1.5m. The walls are built of horizontal courses of undressed stone bonded with mortar. There is a small short wall running out from the N wall of this structure and forms 2 bays against the inside of the N wall. There is a shallow depression with very faint and indefinite traces of a bank(s) running E-W across it in the N half of the interior. There is a small rectangular depression just N of the site but this is probably due to fairly recent disturbance. The S, N, E and NW sides of this site are slightly overgrown with trees and thorn bushes. The site is at the S end of a N-S ridge in fairly good pasture and there are extensive views to the W, S and E '(SMR File 10/08/1976). According to Swan (1988, 12) the circular enclosure defined by an earthen bank and ditch represented the remains of an Early Christian ecclesiastical enclosure. However it is possible

that this earthwork represents the remains of the precinct boundary wall of the Dominican Friary (WM032-028001-) rather than an Early Christian ecclesiastical enclosure. Compiled and revised by: Caimin O'Brien Date of revised upload: 24 August 2015

References: Swan, D.L. 1988 The Early Christian ecclesiastical sites of County Westmeath. In J. Bradley (ed.), Settlement and society in Medieval Ireland: studies presented to F.X. Martin O.S.A., 1-31. Kilkenny. Boethius Press.

Six-Inch First edition: 'Friary'

Six-Inch Latest edition: 'Friary (in Ruins)'

ITM Coordinates: 639809 , 743405

Latitude and Longitude: 53.439230 , -7.400842

2.2.10 CHR 94 - WM032-028001 - Religious house – Dominican friars – Friarstown

Monument surveyed by ASI in 1976 and described as following; 'A rectangular embankment of earth and stone with the earth covered footings of a stone wall at its edge on the N and w and probably also the S. There is an external fosse with an outer bank. There is no indication of the stone wall on the E but the ground slopes down here and it is very faint on the S. The fosse and external bank are best preserved on the N and W, and are faint on the S. On the E the fosse and bank seem to be incorporated in a field fence which runs (roughly N-S) along this side of the site. This latter field fence may also incorporate a boundary bank running to the S enclosing one side of a field to the S of this site. There is what may be a hut site in the SE corner of the modern field but this is rather doubtful. Consisting of a roughly rectangular depression with some evidence of stone in the sides. There are two causeways across the fosse, one on the W and the other on the S and both may be original entrances. A later field bank running E-W begins at the outer edge of the W causeway and runs to the W for a short distance. The interior is fairly level in the W but slopes towards the E. At the S there are fairly substantial remains, grass covered stone footings of a rectangular structure with some grass covered collapse around it. The NW corner of this feature survives to a height of approx. 2m and part of its E wall also survives to a height of c. 1.5m. The walls are built of horizontal courses of undressed stone bonded with mortar. There is a small short wall running out from the N wall of this structure and forms 2 bays against the inside of the N wall. There is a shallow depression with very faint and indefinite traces of a bank(s) running E-W across it in the N half of the interior. There is a small rectangular depression just N of the site but this is probably due to fairly recent disturbance. The S, N, E and NW sides of this site are slightly overgrown with trees and thorn bushes. The site is at the S end of a N-S ridge in fairly good pasture and there are extensive views to the W, S and E '(SMR File 10/08/1976). There were four houses of refuge for friars opened in the Diocese of Meath about 1713 (Moran 1961, 9-15). The field in which the house was built is almost level except for a low ridge. On this low ridge two small raths had been built. The friary was built within one of these raths (WM032-028---). The choice of this site for the friary may be explained by the presence of a souterrain. The corbelled roof of the souterrain has now collapsed. Friarstown was probably one of the houses which were demolished by the British in 1732 (Moran 1961, 9-15). Compiled by: Caimin O'Brien Date of upload: 15 February 2013

References: Moran, W. 1961 Friarstown "House of Refuge". Ríocht na Midhe 3, 9-15.

Six-Inch First edition: 'Friary'

Six-Inch Latest edition: 'Friary (in Ruins)'

ITM Coordinates: 639811 , 743394

Latitude and Longitude: 53.439131 , -7.400813

2.2.11 CHR 95 - WM032-027 - Ringfort – rath – Friarstown

Monument surveyed by the ASI in 1976 and described as 'a small roughly circular enclosure (diam. 23m N-S; 23m E-W) bounded by a low bank of earth and stone with very slight traces of a shalllow fosse on the N and W. The bank is best preserved on the N and W and is absent on the E where there is a low scarp at the edge of the site. The bank is defaced by animal tracks on the N, W and S but there is no sign of an original entrance. The interior is slightly uneven but there are no internal features. The site is on the N end of a N-S ridge in fairly good pasture. It has extensive views in all directions. Friary site (WM032-028001-) located 75m to the SSE' (SMR File 10/08/1976). Compiled by: Caimin O'Brien Date of upload: 16 February 2013

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Hachured, Shantullagh

ITM Coordinates: 639710 , 743465

Latitude and Longitude: 53.439777 , -7.402325

2.2.12 CHR 96 - WM033-004 - Ringfort – Higginstown (Fartullagh By.)

Only a short curving section of a cropmark or vegetation stain marks the location of a ringfort that was levelled during land improvement works carried out c.1956. Monument was located on a slight rise of ground with possible ringfort (WM033-003----) located 160m to the NW. Depicted as a large subrectangular shaped-enclosure or possible ringfort (dims. c. 50m NNW-SSE; c. 33m E-W) defined by an enclosing bank on the revised edition of the OS 6-inch map. Compiled by: Caimin O'Brien Date of upload: 29 March 2013

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 641096 , 743369

Latitude and Longitude: 53.438808 , -7.381478

2.2.13 CHR 97 - WM033-003 - Ringfort – rath – Higginstown (Fartullagh By.)

Poorly preserved ringfort situated on slight S facing slope, with ringfort (WM033-004----) located 160m to the SE. Present remains consist of a small circular raised area (diam. 19m NNW-SSE) enclosed by a poorly preserved bank mainly reduced to a scarp with traces of a possible external fosse which is only visible from S to W and may be a later feature. There is no evidence of an entrance feature. The site is covered with scrub and thorn bushes making detailed examination impossible. A pathway running roughly N-S is depicted running across the centre of the site as depicted on the revised editions of the OS 6-inch map. Compiled by: Caimin O'Brien Date of upload: 29 March 2013

Six-Inch First edition: Hachured

Six-Inch Latest edition: Outlined

ITM Coordinates: 640901 , 743457

Latitude and Longitude: 53.439614 , -7.384401

2.2.14 CHR 98 - WM033-006 - Ringfort – unclassified – Walterstown

Depicted as a circular enclosure possibly a ringfort, on the 1837 ed. OS 6-inch map which where it is shown located immediately to the NE of a small quarry or gravel pit. On this map a small limekiln appears to be shown built into the N side of the ringfort. On the Ordnance Survey Fair Plan this monument is annotated as 'Fort' and 'Gravel Pit'. The monument is not indicated on the revised 1910 ed. OS 6-inch map. The site of this possible ringfort was inspected in 1976 and described as a destroyed monument of which only a large shallow oval-shaped depression survives which appears t be the remains of a disused gravel pit. The field has been recently ploughed and planted. No archaeological features visible.' (SMR file). Compiled by: Caimin O'Brien Date of upload: 02 July 2013

Six-Inch First edition: Hachured

Six-Inch Latest edition: Not indicated

ITM Coordinates: 641519 , 743478

Latitude and Longitude: 53.439754 , -7.375097

2.2.15 CHR 100 - WM032-026 - Ringfort – rath – Robinstown (Fartullagh By., Carrick Par.)

Monument surveyed by ASI in 1976 and described as following; 'a roughly broad oval earthen embankment (diam. 40m N-S; 36m E-W). There is no indication of a bank or of a fosse. The site shows considerable signs

of disturbance. The area just outside the site on the W, S and e seems to have ben levelled in recent years and the grass is very thin in this area. The townland boundary runs around the perimeter of the site on the NW, N and NE and there are a number of very large rocks piled against this. There is no indication of an entrance. The interior is very uneven and rises irregularly towards the centre. There is a depression just inside the perimeter on the E and another on the SE with a large boulder or rock outcrop in it. There is a small mound of earth covered stones just S of centre, probably outcrop and field clearance. There are also rock outcrops N of centre. No features are discernible. There is a single thorn bush near the centre of the interior and the perimeter is overgrown with trees and thorn bushes particularly from the W to N to E. The site is on a low rise in undulating land of poor pasture. Ringfort (WM032-029----) visible on a rise 560m to the SSW '(SMR File 16/08/1976). Robinstown Castle (WM033-001----) located 220m to the NNE. Compiled by: Caimin O'Brien Date of upload: 16 February 2013

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Hachured

ITM Coordinates: 640406 , 744219

Latitude and Longitude: 53.446499 , -7.391753

2.2.16 CHR 101 - WM032-029 - Ringfort – rath – Gaddaghanstown

Monument surveyed by ASI in 1971 and described as following; 'An approx. circular slightly uneven enclosure (diam. 38.8m N-S; 35.6m E-W) bounded by a high steep scarp with very slight remains of an earthen bank on its upper edge and with very slight remains of a fosse at its foot. The fosse is visible (but barely so) from E-S and from W-NNW. The scarp is broken down by cattle in places. A later field bank skirts the site, partly covering the site of the fosse on the W. A gap (Wth 3.3m) on the ESE may represent the entrance. The interior has a general slight slope towards the entrance but it drops slightly towards the perimeter on the other sides also. A tree grows near the centre. The scarp is partially covered by two thorn bushes. Sited on a slight rise on gently undulating fertile pasture and meadow land. Good views.' (SMR File 23/07/1971). Compiled by: Caimin O'Brien Date of upload: 15 February 2013

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 640109 , 743691

Latitude and Longitude: 53.441777 , -7.396291

2.2.17 CHR 102 - WM032-024 - Enclosure – Friarstown

Monument was levelled in 1965 during land improvement works. The site had been visited in 1965 and was described as following; 'In undulating countryside (sheep grazing) beside L. Ennell. Most of the 'monument' area has been quarried away (limestone) not very recently. Very little of original surface remains. There is some of surrounding at SW and S (scarped edge 5'-6' high, of natural hillock): elsewhere it has been levelled. Not apparently circular, but roughly sub-rectangular according to OS map. There is nothing now remaining to warrant the supposition that this was a ringfort, but it is not impossible. If so it has been destroyed to all intent of purposes' (SMR File 31/03/1965). The site of this monument was visited by ASI in 1971 and described as following; 'Completely demolished. A curve in the field fence on the E side marks the perimeter of the site. It consists of a modern scarp. The site is situated on top of a prominent rise, is under meadow now. The site slopes slightly from NNW-SSE. Good view of lake to the W and NW. Detailed observation not possible because of meadow' (SMR File 23/06/1971). Compiled by: Caimin O'Brien Date of upload: 14 February 2013

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 639591 , 743837

Latitude and Longitude: 53.443128 , -7.404069

2.2.18 CHR 103 - WM033-001 - Castle – unclassified – Robinstown (Fartullagh By., Carrick Par.)

In 1581 the Nugent family rebelled against the Crown and this rebellion was led by Nicholas Nugent at Robinstown. Nicholas Nugent held the position of Chief Justice of the Common Pleas and was described as a 'man well liked in the English pale, his wife is daughter of Sir John Plunket, Chief Justice of the King's Bench' (Cal. S.P. Ire. 1574-85, 345). In 1581 he was replaced by Robert Dillon as Chief Justice of the Common Pleas and was 'discredited as a resister of the cess' (ibid. 296). In 1582 Ellen Nugent (nee Plunket) sent a petition to the Lord Treasurer of Ieland for 'stay of the suit of John Tyrrell of Fertullaghe for a parcel of land called Robenston [Robinstown], settled on her and her child by her husband, Nicholas Nugent, before his troubles' (ibid. 421). In 1584 the Queen granted the attainted lands of Nicholas Nugent to his wife, Ellen Nugent and her son, Richard Nugent (ibid., 510). In 1588 Queen Elizabeth granted a pardon to 'William Nugent, of Clonyn, co. Westmeath, esq., and Janet Marward, his wife; reciting that he with others had rebelled at Robenston [Robinstown], co. Westmeath, on the 20 March, xxiii [1581]' (Nicholls 1994, vol. 3, 61). This castle is not depicted on the 1654 Down Survey map of the parish of Carrick and Clonfad (NLI p 7384). In 1640 the lands of Robinstown belonged to Christopher Nugent. The 1659 Census records the presence of 29 Irish families and 0 English families in the townland of 'Robins towne' (Pender 1939, 516). The chief landowners or tenants were listed as 'Edward Tyrrill, Lavallin Newgent, and Dominick Newgent his sonn gents.' (ibid.). In 1660, Edward Tyrrell had purchased lands from several adventurers and others, these lands included the townland of Robinstown (Cal. S.P. Ire. 1669-70, 664). In 1670, Richard Nugent the Earl of Westmeath is listed as the landowner of Robinstown. Poorly preserved ivy-covered castle situated on a small rise of ground in undulating countryside. Only the ivy-covered E wall (L. c. 12m; Wall T 0.9m; H c. 4.5m) of the castle survives upstanding where it has been incorporated into the remains of a 19th century outhouse belonging to Lake View Cottage, the latter is located 15m to the N of the castle. This outhouse was built onto the external face of the E wall of the castle utilising the wall of the castle as the side wall of the outhouse. The poorly preserved ivy-covered wall of the castle and the outbuilding makes it difficult to ascertain what fabric belongs to the castle and what part belongs to the 19th century outhouse. Only the W and S wall of the outhouse survives. The outhouse consists of a narrow rectangular structure (L c. 12m; Wth c. 4m) aligned N-S. This building is depicted as Robinstown Castle on all editions of the OS 6-inch maps. The remains of a narrow rectangular opening, possibly the remains of a window can be seen in the S wall of the outhouse but this feature has been partially damaged by the insertion of a brick built chimney flue. A large gap in the W face of the E wall of the castle located off centre to N may be the remains of a fireplace. The remains of an inserted 19th century fireplace can be seen on the E face of the W wall of the castle located off centre to N. All of the upstanding walls are covered in ivy making it impossible to examine of the fabric of the buildings. The E wall of the castle is built with more irregular stones than the other walls and this wall appears to be only surviving wall of the medieval castle. The scarring of return of the S wall of the castle can be seen on the SE angle of the E wall. The area to the W of this castle wall is now the orchard of Lake View Cottage and was also used as the vegetable garden. No foundations of the remaining walls of the castle can be seen in this area. A single punch-dressed rebated (Wth 0.12m) chamfered (chamfer Wth 0.03m) jamb stone (H 0.5m; Wth 0.62m; T 0.35m) of the doorway belonging to Robinstown Castle can be seen in the farmyard 57m to the NNE. This architectural fragment displays punch-dressing typically found on castles dating from 1550-1650. A second chamfered (chamfer Wth 0.05m) dressed limestone (L 0.95m; Wth 0.3m; T 0.23m) can been seen lyng on the ground beside the door jamb. This chamfered stone appears to have been reused as a gate lintel. A third architectural fragment now located 30m to the NNE and incorporated into the rockery in front of Lake View Cottage consists of a chamfered (chamfer Wth 0.13m) limestone jamb (L 0.82m; Wth 0.28m; T 0.27m), possibly part of a fireplace surround or doorway dating from the 16th or 17th century. These two high quality carved fragments suggest that this castle was constructed between 1550-1650 and contained an impressive carved stone doorway with possible large fireplace with moulded limestone surround. Compiled by: Caimin O'Brien Date of upload: 19 July 2013

References: Cal. S.P. Ire. - Calendar of the state papers relating to Ireland, 1509-1670 [etc.] (24 vols., London 1860-1911). Nicholls, K.W. (ed.) 1994 The Irish fiants of the Tudor sovereigns during the reigns of Henry VIII, Edward VI, Philip & Mary, and Elizabeth I, 4 vols. Dublin. Éamonn de Búrca for Edmund Burke Publisher. Pender, S. (ed.) 1939 A census of Ireland, c. 1659. Dublin. Irish Manuscripts Commission.

Six-Inch First edition: 'Robinstown Castle'

Six-Inch Latest edition: 'Robinstown Castle (in Ruins)'

ITM Coordinates: 640528 , 744431

Latitude and Longitude: 53.448395 , -7.389889

2.2.19 CHR 104 - WM026-111 - Water mill – unclassified – Carrick (Fartullagh By.)

The precise location of a watermill mentioned in a seventeenth century land grant to Robert Dillon of Cannorstown has not been identified. In 1612 Robert Dillon was granted a watermill in the townland of Carrick which contained '12 houses, a castle (WM026-052002-), a water-mill, and 1 plowland' (Cal. pat. rolls Ire., Jas I, 228). In 1621 Robert Dillon of Cannorstown surrendered to the Crown lands including 2 watermills in Carrick (Cal. pat. rolls Ire., Jas I, 513). In the same year the castle and lands of Carrick including '2 water mills' were granted to Sir William Parsons (ibid.). The corn mill marked as 'Carrick Mill' on the current ed. OS 6-inch map may have been built on site of the medieval mill of Carrick. Compiled by: Caimin O'Brien Date of upload: 24 July 2015

References: Cal. pat. rolls Ire., Jas I - Irish patent rolls of James I: facsimile of the Irish record commissioners' calendar prepared prior to 1830, with foreword by M.C. Griffith (Irish Manuscripts Commission, Dublin, 1966)

Six-Inch First edition: Corn Mill & Tuck Mill'

Six-Inch Latest edition: 'Carrick Mill (Corn)'

ITM Coordinates: 641640 , 744741

Latitude and Longitude: 53.451094 , -7.373109

2.2.20 CHR 106 - WM026-084 - Field system – Carrick (Fartullagh By.)

Situated in gently undulating pasture in the field to S and W of Carrick church (WM026-083----) and graveyard (WM026-083001-). Not depicted on the 1837 OS 6-inch map or on the revised 1913 ed. OS 25-inch map. Monument described in 1984 as a system of banks and several enclosed areas defined by earth and stone banks. A rectangular-shaped area (dims. 58m E-W; 38m N-S) is visible immediately S of the graveyard and is partially within the present boundary. The bank (approx. max. H 2m) is best preserved on the E side. Adjoining to W is a second rectangular-shaped area (dims. 36m E-W; 15m N-S). Adjoining to E of the first enclosed area is a third long, narrow rectangular-shaped area (dims. 50m N-S; 14m E-W) defined by earth and stone banks. It narrows towards S, but is otherwise undefined at this end. The E side of this enclosed area is part of a continuous bank running N-S which extends the length of the field and continuing under the modern wall defining the public road to ESE. To SE of the first enclosed area is a fourth rectangular-shaped area (dims. 33m E-W; 25m N-S) defined by an earth and stone bank. There are no fosses or internal structural remains perhaps suggesting that this field system is 17th or 18th century in date. The remaining portions of the field at the N and S ends have no readily apparent features. The S end is quite uneven and may preserve the remains of other features which are unidentifiable at present. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 04 November 2019

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 642143 , 744787

Latitude and Longitude: 53.451468 , -7.365531

2.2.21 CHR 107 - WM026-083001 - Graveyard – Carrick (Fartullagh By.)

Carrick graveyard situated in gently undulating pasture. Sub-triangular-shaped area (approx. dims. 50m N-S x 56m E-W) with Carrick church ruins (WM026-083----) standing in N quadrant, enclosed by post-1700 stone wall. Burial place of Fr. Timothy Shanley who died in 1835 located to E of church ruins now frequented by visitors who have left votive offerings over the grave. According to local information Fr. Thady Shanley, parish priest of Milltown and Meedin, was the last hunted priest in County Westmeath. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 04 November 2019

Six-Inch First edition: 'Grave Yard'

Six-Inch Latest edition: 'Grave Yd.'

ITM Coordinates: 642140 , 744867

Latitude and Longitude: 53.452187 , -7.365565

2.2.22 CHR 108 - WM026-083 - Church – Carrick (Fartullagh By.)

Situated in gently undulating pasture. Depicted on the revised 1913 ed. OS 25-inch map as a rectangular-shaped tower annotated ‘Church (in Ruins)’ standing in N quadrant of graveyard (WM026-083001-). Carrick Church ruins described in 1976 as the remains of a rectangular-shaped structure (L 8m; Wth 7m) defined by upstanding walls (T 0.85m) at S, W and N, only the wall footings of the E wall of the church survives. Possible ivy-covered residential tower or bell-tower at W end of single cell rectangular-shaped church. The walls have an internal and external buttress at the W end. A doorway with a crude pointed arch is visible in the S wall at the W end. There are no openings visible in the W gable. The N wall contains a small lintelled window and the S wall has a similar but cruder ope with an intact embrasure. There is a narrow internal division at the NW corner which may be an original feature, perhaps a vault. The burials are mounded up to a considerable height around the remains of the church. There are no early slabs within the interior. Compiled by Alison McQueen, Vera Rahilly and Caimin O’Brien. Date of upload: 04 November 2019

Six-Inch First edition: 'Church'

Six-Inch Latest edition: 'Church (in Ruins)'

ITM Coordinates: 642137 , 744878

Latitude and Longitude: 53.452286 , -7.365609

2.2.23 CHR 109 - WM026-085 - Ringfort – rath – Carrick (Fartullagh By.)

Situated on a small rise, in gently undulating pasture, with extensive views to W and NW. Ringfort (WM026-081----) lies c. 45m to N. Depicted on the revised 1913 ed. OS 25-inch map as a broad oval-shaped earthwork. Bivallate monument described in 1971 as an oval-shaped area (dims. 46m E-W; 41.3m N-S) enclosed by an inner bank, an intervening fosse and an outer bank. The substantial inner bank is steep on the exterior and is best preserved from N-NE and from SW-W-NW, being almost reduced to a scarp elsewhere. Where the inner bank is well preserved there are several slight disturbance gaps in its crest and a large portion of it has been removed from S-SW and at NNW. A wide, steep intervening fosse is visible from ESE-S-W-NNE. The slight outer bank is visible from ESE-SE-S and at NNW. There is a probable entrance at S where the E side of the gap is preserved in the inner bank (where it is defined by a large stone) and a slight causeway (Wth at top 2m; basal Wth 5.2m; approx. H 0.3m) extends across the fosse. The interior has a gentle ESE-facing slope. Two small humps inside the inner bank at SW appear to be natural features. See attached profile of monument surveyed and drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O’Brien. Date of upload: 04 November 2019

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 642503 , 745346

Latitude and Longitude: 53.456462 , -7.360036

2.2.24 CHR 110 - WM026-081 - Ringfort – rath – Carrick (Fartullagh By.)

Situated on a small rise, in gently undulating pasture, with good views in all directions. Ringfort (WM026-085----) lies c. 45m to S. Depicted on the revised 1913 ed. OS 25-inch map as a broad oval-shaped earthwork. Bivallate monument described in 1971 as a large subcircular-shaped area (dims. 46m E-W; 44.50m N-S) enclosed by an inner bank, an intervening fosse and an outer bank. The inner earth and stone bank is substantial and is best preserved at ESE and from SE-S-W, being almost reduced to a scarp and fragmentary elsewhere. A wide, steep, flat-bottomed fosse is visible from S-W-N-E-SE and is almost completely infilled from SE-S. The outer earth and stone bank is visible from S-W-N-E-SE only. There are several slight disturbance gaps in the top of the inner bank and a wide disturbance gap in the both banks at WNW. A gap (Wth at top .2m; basal Wth 1.3m) in the inner bank at SE is defined by a stone set on edge on the NE side and represents the most likely entrance. The surface of the interior is uneven and rises slightly from the perimeter towards the centre. Four house sites (WM026-081001-/-081002-/-081003-/081004-) are in the WNW, NW, NE and S quadrants respectively. See attached plan of monument surveyed and drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O’Brien. Date of upload: 04 November 2019

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 642517 , 745434

Latitude and Longitude: 53.457252 , -7.359813

2.2.25 CHR 111 - WM026-081001 - House – indeterminate date – Carrick (Fartullagh By.)

In the WNW quadrant of ringfort (WM026-081----) is a large subrectangular-shaped house site defined by faint traces of a bank on its upper edge. The interior is sunken slightly below the external ground level of the ringfort interior. See attached sketch plan of monument drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 04 November 2019

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 642504 , 745439

Latitude and Longitude: 53.457298 , -7.360008

2.2.26 CHR 112 - WM026-081002 - House – indeterminate date – Carrick (Fartullagh By.)

In the NW quadrant of ringfort (WM026-081----) are three sides of a house site defined by a slight earth and stone bank. To the immediate E is a roughly circular-shaped shallow depression of unknown significance. See attached sketch plan of monument drawn by the ASI . Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 04 November 2019

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 642504 , 745447

Latitude and Longitude: 53.457369 , -7.360007

2.2.27 CHR 113 - WM026-081003 - House – indeterminate date – Carrick (Fartullagh By.)

In the NE quadrant of ringfort (WM026-081----) and conjoined to the inner bank of the ringfort at ENE is a small subrectangular-shaped house site defined by a slight earthen bank. A gap in the SW side represents a doorway which is defined on the SE side by a large stone. See attached sketch plan of monument drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 04 November 2019

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 642529 , 745449

Latitude and Longitude: 53.457385 , -7.359630

2.2.28 CHR 114 - WM026-081004 - House – indeterminate date – Carrick (Fartullagh By.)

In the S quadrant of ringfort (WM026-081----), just inside the entrance at SW is an irregular-shaped house site. It is defined by a prominent L-shaped earthen bank, whereby the shorter portion adjoins the inside of the ringfort bank and the open end is adjacent to the ringfort entrance. Adjoining the opposite end of the L-shape is a slight curvilinear-shaped earthen bank which also faces open toward the ringfort entrance. See attached sketch plan of monument drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 04 November 2019

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 642514 , 745423

Latitude and Longitude: 53.457153 , -7.359860

2.2.29 CHR 116 - WM026-080 - Ringfort – rath – Carrick (Fartullagh By.)

Situated on a small rise, in gently undulating pasture, with good views in all directions. Monument described in 1971 as a much disturbed oval-shaped area (28.5m NE-SW; approx. 18m NW-SE) enclosed by a bank with external fosse. The bank is steep on the exterior and is almost reduced to a scarp. An ESB pole stands in the bank at ENE. There are faint traces of a wide external fosse. The perimeter has been quarried from NW-N and from E-S-SSW. A gap (Wth at top 3.2m; basal Wth 1.6m) in the bank at NNE may represent the entrance. There is no visible trace of a causeway but the fosse is barely traceable at this point. The interior has a slight E-facing slope with no visible features of significance. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 04 November 2019

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Hachured

ITM Coordinates: 642508 , 745767

Latitude and Longitude: 53.460245 , -7.359904

2.2.30 CHR 117 - WM026-052002 - Castle – unclassified – Carrick (Fartullagh By.)

Situated on a small promontory, on the eastern shores of Lough Ennell. Depicted on the 1837 ed. OS 6-inch map as a small rectangular-shaped building on Inchacrone, which at that time was a small, oblong island c. 180m to W of the shoreline. According to O'Donovan (1837, OSNB 6, 11), 'this island lies opposite the townland of Carrick to which it belongs. It is planted with trees and the ruins of a house or castle are scattered about on its surface'. Monument described in 1981 as no surface remains visible. This area was once an island in Lough Ennell prior to the River Brosna drainage scheme after which the water level dropped and the area became a promontory on the mainland. This area is now occupied by dwellings, has been landscaped, planted with trees, and a public road constructed. There is no trace of any earlier buildings or ruinous foundations. Area is visible on Digital Globe aerial photography as a small promontory primarily covered in woodland and occupied by three buildings and a road. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 02 October 2019

Six-Inch First edition:

Six-Inch Latest edition:

ITM Coordinates: 641291 , 746241

Latitude and Longitude: 53.464601 , -7.378166

2.2.31 CHR 118 - WM026-052001 - House – indeterminate date – Carrick (Fartullagh By.)

Situated on a small promontory, on the eastern shores of Lough Ennell. Depicted on the 1837 ed. OS 6-inch map as a small rectangular-shaped building on Inchacrone, which at that time was a small, oblong island c. 180m to W of the shoreline. According to O'Donovan (1837, OSNB 6, 11), 'this island lies opposite the townland of Carrick to which it belongs. It is planted with trees and the ruins of a house or castle are scattered about on its surface'. Monument described in 1981 as no surface remains visible. This area was once an island in Lough Ennell prior to the River Brosna drainage scheme after which the water level dropped and the area became a promontory on the mainland. This area is now occupied by dwellings, has been landscaped, planted with trees, and a public road constructed. There is no trace of any earlier buildings or ruinous foundations. Area is visible on Digital Globe aerial photography as a small promontory primarily covered in woodland and occupied by three buildings and a road. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 02 October 2019

Six-Inch First edition: Indicated, 'Inchacrone'

Six-Inch Latest edition: Not indicated, Inchacrone

ITM Coordinates: 641291 , 746241

Latitude and Longitude: 53.464601 , -7.378166

2.2.32 CHR 119 - WM026-079 - Ringfort – rath – Carrick (Fartullagh By.)

Situated on top of a slight rise, in gently undulating pasture. Depicted on the revised 1913 ed. OS 25-inch map as a roughly circular-shaped enclosure, annotated 'Rahaclowine'. Monument described in 1971 as a small circular-shaped area (dims. 27.2m N-S; 25.3m E-W) enclosed by a bank and external fosse. The earth and stone bank is twice as high on the exterior than on the interior and is almost reduced to a scarp in places. It has slight remains of external stone facing at SW and there are several slight cattle gaps. There is a narrow, shallow fosse visible from SSE-S-W-N-NNE, which is almost completely infilled from NNE-E-SSE. There is a very large stone laid against the bank exterior at SE. The entrance is not recognisable. The interior has a slight SSE-facing slope and is tree-planted. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 04 November 2019

Six-Inch First edition: Hachured, 'Rahaclowine'

Six-Inch Latest edition: Outlined, 'Rahaclowine'

ITM Coordinates: 642193 , 746181

Latitude and Longitude: 53.463990 , -7.364591

2.2.33 CHR 122 - WM026-054 - Ringfort – rath – Rochfort Demesne

Situated on top of a steep hillock, in tillage, surrounded by undulating pasture with good views in all directions, Lough Ennell visible to W. Annotated 'Fort' on the 1837 OS Fair Plan map and depicted as a circular-shaped tree-planted earthwork defined by a scarp. Depicted on the revised 1913 ed. OS 25-inch map as an oval-shaped earthwork (approx. dims. 49m NE-SW; 34m NW-SE) defined by a scarp. Monument described in 1971 as no surface remains visible. The site is represented by a scatter (overall dims. 56m ENE-WSW and 43m NNW-SSE) of earth which is more stony in contrast to the soil around it. There are indications that the earthwork was an enclosure as the most stony soil forms a ring around the perimeter and the ground inside it is smoother and less stony. The site would be suitable for a ringfort. Monument is visible on Digital Globe aerial photography as the cropmark of an oval-shaped earthwork. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 02 October 2019

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 642222 , 746506

Latitude and Longitude: 53.466909 , -7.364111

2.2.34 CHR 123 - WM026-053 - Ringfort – rath – Rochfort Demesne

Situated on top of a steep hillock, in undulating pasture with good views in all directions, including toward Lough Ennell which is visible to W. Annotated 'Fort' on the 1837 OS Fair Plan map and depicted as a large circular-shaped tree-planted earthwork (approx. dims. 51.5m N-S; 50m E-W) defined by a scarp. Monument described in 1971 as no surface remains visible. The siting would be suitable for a ringfort. Outline of levelled monument visible today on Digital Globe aerial photographs. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 02 October 2019

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 641997 , 746705

Latitude and Longitude: 53.468715 , -7.367473

2.2.35 CHR 124 - WM026-048 - Designed landscape feature – Rochfort Demesne

Situated in landscaped garden to immediate rear of Tudenham Park, c. 250m to E of Lough Ennell. Depicted on the revised 1913 ed. OS 25-inch map as a small circular-shaped feature in the centre of a rectangular-shaped sunken garden. A second similar feature is depicted on this map, c. 55m to NE, a third feature lies c. 400m to SW. A fourth similar feature is depicted c. 550m to NE and forms part of the designed landscape of Belvidere House. Monument described in 1978 as a roughly circular-shaped man-made mound of earth and stone (overall diam. 12m). The mound has fairly steep sides (H. c. 1.75m) and a perfectly level flat top with a single tree planted on it. This monument has a fresh and relatively unweathered appearance and for this reason and its location, is likely to be part of a designed landscape associated with Tudenahm Park (formerly Rochfort House) than an earlier antiquity. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 02 October 2019

Six-Inch First edition: Indicated

Six-Inch Latest edition: Hachured

ITM Coordinates: 641790 , 747092

Latitude and Longitude: 53.472209 , -7.370539

2.2.36 CHR 126 - WM026-051 - Ringfort – rath – Rochfort Demesne

Situated on a small yet prominent rise, in gently undulating pasture, overlooked by adjacent hill to NW and with partial view of Lough Ennell to W. On former demesne lands of Tudenham Park (Rochfort House). Monument described as an oval-shaped area (dims. 51m E-W; 44m N-S) enclosed by a bank and external fosse. The bank is high and steep on the exterior although it is reduced to a scarp in places where it is quite fragmentary. A wide V-shaped fosse is best preserved from W-NW and is almost completely infilled from NW-N-E-S-W. The original entrance is not recognisable. A large portion of the interior is occupied by an egg-shaped quarry hole which is defined by a bank of upcast material. The unquarried portion has traces of cultivation ridges running NW-SE and many small stones have been scattered across the surface. Monument is no longer visible on Digital Globe aerial photography, where it is replaced by a large embankment of the realigned N52 National Road. See attached profile of monument surveyed and drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 02 October 2019

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 642709 , 747124

Latitude and Longitude: 53.472423 , -7.356693

2.2.37 CHR 127 - WM026-049 - Ringfort – rath – Rochfort Demesne

Situated on WSW-facing slope of a low rise, in gently undulating pasture, on former demesne lands of Tudenham Park (Rochfort House), c. 385m to E of Lough Ennell. Ringfort (WM026-050----) lies c. 175m to NE. Monument described in 1971 as a subcircular-shaped area (dims. 31.5m N-S; 28m E-W) enclosed by an earthen bank and an external fosse. The bank is low and very fragmentary and is reduced to a scarp from ESE-SE-S. A slight fosse is visible from S-W-N-E. The bank has slight remains of an external stone facing which defines either side of an entrance gap (Wth at top 5.5m; basal Wth 1.8m) at SW. The fosse is very slight at this point, possibly suggesting the presence of a causeway. The interior rises gradually from the perimeter towards the centre, except from SE where it rises steeply. The remains of a possible limekiln consisting of a roughly circular-shaped depression (diam. 4.8m) faced with dry-stone masonry is within the centre. See attached profiles of monument surveyed and drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O'Brien. Date of upload: 02 October 2019

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 641935 , 747285

Latitude and Longitude: 53.473932 , -7.368329

2.2.38 CHR 128 - WM026-115001 - Settlement platform – Rochfort Demesne

A cluster of rock platforms were identified by Karkov & Ruffing (1990-1, 108-110), on the E shoreline of Rochfort Bay on Lough Ennell. The site would originally have been located c. 10m from original shoreline. Listed as Rochfort Demesne 2 and described by O'Sullivan (2004, 96) as 'This is a small, irregular rock platform (dims. 22m N-S x 18m E-W) located immediately south of another rock platform (WM026-1150----); possibly a small natural bedrock outcrop that has been enhanced or enlarged. It has an even profile, with large slabs exposed along the water edge. There are large angular limestone blocks lying on the surface. The nearest archaeological site is the crannóg at Goose Island (WM026-109----), 220m to west, a mound at Rochfort Demesne (WM026-048----), 350m to southeast.' Compiled by: Caimin O'Brien based on details provided by Aidan O'Sullivan Date of upload: 29 March 2017

References: Karkov, C. and Ruffing, J. 1990-1 The crannógs of Lough Ennell: A computer survey. Ríocht na Midhe, 8, 3, 105-113. O'Sullivan, A. 2004 The social and ideological roles of crannogs in early medieval Ireland. Unpublished PhD thesis. Department of History, NUI Maynooth.

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 641529 , 747361

Latitude and Longitude: 53.474647 , -7.374434

2.2.39 CHR 129 - WM026-115 - Settlement platform – Rochfort Demesne

A cluster of rock platforms were identified by Karkov & Ruffing (1990-1, 108-110), on the E shoreline of Rochfort Bay on Lough Ennell. The site would originally have been located c. 10m from original shoreline. Listed as Rochfort Demesne 1 and described by O'Sullivan (2004, 95) as 'a small, irregular rock platform (dims. 18m N-S x 16m E-W; H 1m), possibly a natural bedrock outcrop that has been enhanced or enlarged. It has an even profile, with large slabs exposed along the water edge. There are large angular limestone blocks lying on the surface. This site is a possible prehistoric or medieval rock platform, potentially associated with the early medieval crannóga (WM026-114----; WM026-109----) at Goose Islands. The nearest archaeological site is the crannóg at Goose Island (WM026-109----), 220m to west, a mound at Rochfort Demesne (WM026-048----), 350m to southeast.' Compiled by: Caimin O'Brien Date of upload: 15 February 2017

References: O'Sullivan, A. 2004 The social and ideological roles of crannogs in early medieval Ireland. Unpublished PhD thesis. Department of History, NUI Maynooth. Karkov, C. and Ruffing, J. 1990-1 The crannógs of Lough Ennell: A computer survey. Ríocht na Midhe, 8, 3, 105-113.

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 641529 , 747366

Latitude and Longitude: 53.474692 , -7.374434

2.2.40 CHR 130 - WM026-050 - Ringfort – rath – Rochfort Demesne

Situated on a high ridge, in gently undulating pasture, on former demesne lands of Tudenham Park (Rochfort House), with good views of Lough Ennellc. 460m to W. Ringfort (WM026-049----) lies c. 175m to SW. Monument described in 1971 as a subcircular-shaped area (dims. 36m N-S; 31m E-W) enclosed by an inner bank, an intervening fosse an outer bank and an outer fosse. The bank is high and falls steeply to a wide and deep U-shaped fosse which is best preserved from SE-S-W-N and is very shallow from N-E-SE. The outer bank is visible from SE-S-W-N. A later trench running ENE-WSW extends through the outer bank and intervening fosse at NNW. A wide gap (Wth at top 4.7m; basal Wth 2.5m) in the inner bank at ESE may represent the entrance, although there is no trace of a causeway. A very slight mound of earth and stones in the centre may be the remains of a hut site. See attached profile of monument surveyed and drawn by the ASI. Compiled by Alison McQueen, Vera Rahilly and Caimin O’Brien. Date of upload: 02 October 2019

Six-Inch First edition: Hachured

Six-Inch Latest edition: Hachured

ITM Coordinates: 642094 , 747428

Latitude and Longitude: 53.475204 , -7.365915

2.2.41 CHR 134 - WM026-113 - Crannog – Lough Ennell

Situated on Lough Ennell 30m W of the E shoreline. Listed as Belvidere 1 and described by O'Sullivan (2004, 83-4) as 'a small, rocky, irregular islet (approx. diam. 20m; H 2m) lying in open, shallow water (c. 1m depth). The site is located in 1m depth of water, 50m from the shoreline (c.60m from original shore). It is composed of large limestone blocks lying on possible bedrock outcrop. A second smaller islet (10m N/S) is located 30m to the south. These islets are not marked on maps, so may only have been exposed by the 1950s drainage scheme. The larger islet may be an enhanced natural islet, but this is not certain. This is a probable natural island, that may have been enhanced for use as a crannóg'. Compiled by: Caimin O'Brien Date of upload: 14 February 2017

References: O'Sullivan, A. 2004 The social and ideological roles of crannogs in early medieval Ireland. Unpublished PhD thesis. Department of History, NUI Maynooth.

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 641747 , 748339

Latitude and Longitude: 53.483418 , -7.371021

2.2.42 CHR 137 - WM026-024 - Enclosure – Lynn

Situated in pasture. Depicted as an earthwork on Larkin's 1808 map of Co. Wetmeath (NLI, MS 46,580). Not depicted on the 1837 ed. OS 6-inch map or the revised 1913 ed. OS 25-inch map. Monument described in 1981 as no surface remains visible. This area is visible a low natural rise intersected by a field fence. There are no traces of any banks or fosses. Outline of circular-shaped earthwork (approx. diam. c. 40m) bisected by a post 1700 field boundary is visible today on Digital Globe aerial photography. Compiled by Alison McQueen, Vera Rahilly and Caimin O’Brien. Date of upload: 30 September 2019

References: NLI, MS 46,580 - National Library of Ireland, A map of the county of Westmeath by William Larkin. Dublin.

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 642465 , 748974

Latitude and Longitude: 53.489067 , -7.360118

2.2.43 CHR 141 - WM026-002002 - Burial ground – Lynn

A castle (WM026-002----) is indicated in Gothic Script on the 1840 edition of the OS 6-inch map. On the revised 1910 edition of the revised OS 6-inch map the annotation on the map has changed from 'Castle' to 'Monastery (in Ruins)'. The monument was visited in 1976 and described as 'Directly behind and to the NW of Lynn House and within the high walled garden stands the ivy covered E gable of the monastic church (WM026-002001-). The gable contains a large pointed Gothic ope from which the dressings, mullions and tracery of a 14th/15th cent.[ury] window have dissappeared. There is a large rebate to the outer face of the gable, probably part of a buttress. The 'early' walls of the medieval monastic buildings, domestic gardens etc. can be faintly discerned in the character of the surrounding farm outhouses. At the W side of the house [Lynn House] and outbuildings is the reputed site of a 'castle' (WM026-002----). An 18th/19th century gateway (arched) at entrance from the road. There are faint traces of low earthworks in field directly NE of house [Lynn House] and local information places a number of burials & tunnel bteween the house and the graveyard (WM026-003001-) (SMR file 1976). The files of the National Museum of Ireland records that in May 1967 human remains were discovered during excavation works at Mount Lynn House (Cahill & Sikora 2011, vol. 2, 522). The remains were discovered in a trench at a depth of 0.5m below ground level. The monument was reported to the NMI and investigated by Etienne Rynne. A number of skull fragments were noted, as well as leg bones, but it was not possible to ascertain the orientation of the burial. According to the notes of Etienne Rynne the bones were found in a

trench on the grounds of Lynn House, extending from the house to the avenue. The bones are said to have been found a short distance south of the small medieval church (WM026-003----) and graveyard (WM026-003001-), on a site apparently founded by St. Colman towards the end of the 6th century. The remains were not removed and the trench was backfilled (NMI File). Compiled by: Caimin O'Brien Date of upload: 08 December 2010

References: Cahill, M. and Sikora, M. (eds) 2011 Breaking ground, finding graves - reports on the excavations of burials by the National Museum of Ireland, 1927-2006, 2 vols. Dublin. Wordwell Ltd. in association with the National Museum of Ireland.

Six-Inch First edition:

Six-Inch Latest edition: Not indicated

ITM Coordinates: 642360 , 749522

Latitude and Longitude: 53.494000 , -7.361626

2.2.44 CHR 142 - WM026-003001 - Ecclesiastical enclosure – Lynn

Situated on N facing slope of low rising ground with Lynn House and Lough Ennell 190m and 290m to W respectively. Mullingar town lies 3.4km to N. A sub-triangular shaped area (approx. dims. 57m E-W x 54m N-S) enclosed by a stone wall of post-1700 date entered through a gate and stile at S end of E wall. Straight sided wall at N and E with curving graveyard wall from S to W which may follow line of Early Christian ecclesiastical enclosure (Swan 1988, 13). Medieval parish church (WM026-003----) of Lynn lies in N quadrant of graveyard. Memorials date from 18th and 19th century and are mainly located to the E, S and W of the church. The graveyard wall has been broken down in several places due to root disturbance of the trees planted around the perimeter of the graveyard. Compiled by: Caimin O'Brien Date of upload: 12 December 2017

References: Swan, D.L. 1988 The Early Christian ecclesiastical sites of County Westmeath. In J. Bradley (ed.), Settlement and society in Medieval Ireland: studies presented to F.X. Martin O.S.A., 1-31. Kilkenny. Boethius Press.

Six-Inch First edition: 'Grave Yard'

Six-Inch Latest edition: 'Grave Yard'

ITM Coordinates: 642432 , 749617

Latitude and Longitude: 53.494848 , -7.360528

2.2.45 CHR 143 - WM026-003001 - Graveyard – Lynn

Situated on N facing slope of low rising ground with Lynn House and Lough Ennell 190m and 290m to W respectively. Mullingar town lies 3.4km to N. A sub-triangular shaped area (approx. dims. 57m E-W x 54m N-S) enclosed by a stone wall of post-1700 date entered through a gate and stile at S end of E wall. Straight sided wall at N and E with curving graveyard wall from S to W which may follow line of Early Christian ecclesiastical enclosure (Swan 1988, 13). Medieval parish church (WM026-003----) of Lynn lies in N quadrant of graveyard. Memorials date from 18th and 19th century and are mainly located to the E, S and W of the church. The graveyard wall has been broken down in several places due to root disturbance of the trees planted around the perimeter of the graveyard. Compiled by: Caimin O'Brien Date of upload: 12 December 2017

References: Swan, D.L. 1988 The Early Christian ecclesiastical sites of County Westmeath. In J. Bradley (ed.), Settlement and society in Medieval Ireland: studies presented to F.X. Martin O.S.A., 1-31. Kilkenny. Boethius Press.

Six-Inch First edition: 'Grave Yard'

Six-Inch Latest edition: 'Grave Yard'

ITM Coordinates: 642432 , 749617

Latitude and Longitude: 53.494848 , -7.360528

2.2.46 CHR 144 - WM026-003003 - Font – Lynn

Font (WM026-106----) now located inside W porch of R. C. church at Gainestown, 2.65km SSE of Lynn Church (WM026-003----) and graveyard (WM026-003001-) where the font originally stood. Moved from Lynn graveyard in 1954 and placed inside the porch of Gainestown Church by Fr. Finian O'Conor. Cogan (1867, 452) recorded in 1867 that a 'fine old font of the church [Lynn] is in the cemetery; the bowl is circular, and measures one foot ten inches (0.56m) in diameter'. Described by Roe (1968, 118-9) as a 'most remarkable creation and one which well may be unique. Square and massive, the vessel is cut from a single stone (dims. H 0.72m x Wth 0.66m), into three stages, each decreasing in width from the top down. To merge with the middle section (Wth 0.55m x H 0.15m) the under part of the top stage (Wth 0.65m x H 0.29m) is carved as a gentle concave curve while instead of being formed as a simple cube, the lowest part (Wth 0.42m x H 0.27m) has its angles shaped to give a convex profile. The basin (diam. 0.56m x D 0.19m; rim T. 0.05m) is flat-bottomed without a drain'. Compiled by: Caimin O'Brien Date of upload: 19 January 2018

References: Cogan, Rev. A. 1862-70 In John F. Fowler, Joseph Dollard (eds), The diocese of Meath, ancient and modern, 3 vols. Dublin. Dollard Publishers. Roe, H.M. 1968 Medieval fonts of Meath. Meath Archaeological and Historical Society.

Six-Inch First edition: Not indicated

Six-Inch Latest edition: Not indicated

ITM Coordinates: 642432 , 749635

Latitude and Longitude: 53.495009 , -7.360526

2.2.47 CHR 145 - WM026-003 - Church – Lynn

Situated on N facing slope of low rising ground with Lynn House and Lough Ennell 190m and 290m to W respectively. Mullingar town lies 3.4km to N. Parish church of Lynn (Lann Mhic Luacháin) probably dedicated to St. Colmán (Mocholmoc) abbot of Lynn, who died in 699 (Gwynn and Hadcock 1970, 41). Colmán was reputedly the son of Luacháin, of the Clann Cholmáin although others claim he was descended from the Conall Creamhthainne of the southern Ui Néill, and to the Clanna Rudhraighe of north-east Ulster (Ó Riain 2011, 196-7). The relics of Colmán mic Luachain were kept in a shrine in Lynn from the time of Domnall (d. 763) until Turges (d. 845), when the shrine was hidden. In 1122 the shrine was taken out of the ground when the erenagh of Lynn was Gilla Crist mac Gilla Patraic, and a new shrine was made (Gwynn and Hadcock 1970, 41). The feast day of Colmán of Lynn was held on the 17th of June although other sources claim that his feast day occurred at Easter, in June, July and November (Ó Riain 2011, 197). Ó Riain (2011, 197) suggests that Colum Cille of Iona, was probably the original saint venerated at Lynn. In 1400 Odo Ocallan, priest in the diocese of Meath was assigned to the church of Lynn due to the resignation of Thomas Carpentere who did not understand well the tongue of the parishioners (Cal. papal letters, 284). Two castellated structures are depicted on the 1657 Down Survey map of Lynn parish in the area where the parish church is now located (NLI MS 723-4). One of these castellated structures may have been the remains of Lynn Church. Cogan (1867, 452) recorded that the 'old church measures sixty-nine feet (21m E-W) by nineteen (5.8m N-S)'. Poorly preserved church ruins stands in N quadrant of D-shaped graveyard (WM026-003001-). Present remains consist of a nave (int. dims. E-W; N-S; wall T 0.85m) and chancel (int. dims. 6.4m E-W; 4.16m N-S; wall T 0.95m-1.3m) church (overall int. dims. 21.45m E-W; 4.16m N-S) built of rubble stone with buttress added on to support SE angle of church. Most of the walls are greatly reduced in height except for the S wall and SE angle of the chancel which survives to near full height and SW angle of nave. A blocked window embrasure is visible at W end of N wall of the chancel. Only the S splay of the E window of the chancel survives. A well preserved ogee-headed single light window is visible at E end of S wall of chancel. A stepped headed single light window is also present at W end of S wall of chancel. Both windows are set into segmental arched embrasures with wicker centring visible. Stone corbels (dims. 0.23m Wth x 0.18m H x 0.18m D) at the springing level of the window embrasures are visible in S wall of chancel. A flat-headed aumbry is visible in SE corner of E gable.

A large 18th century recumbent ledger belonging to the Fitzgerald family lies in the centre of the chancel. The S wall of the chancel measures 1.3m thick in comparison to the E wall of the chancel which measures 0.95m thick. The thick S wall of the chancel along with the corbels suggest that this wall may have supported a second story or residential tower above the chancel of the church. Only the lower wall courses of the S wall of the nave survives intact. The outline of the levelled N wall and the W gable of the nave are barely discernible. Post 1700 memorials are visible in the centre of the nave. Compiled by: Caimin O'Brien Date of upload: 12 December 2017

References: NLI, MS 723-4 - National Library of Ireland, The parish maps of the Down Survey for the County of Westmeath, attested by W. Petty, in 1659. Copied by Daniel O'Brien. A set of 67 maps with accompanying terriers in two volumes, 1786-7. Dublin. Ó Riain, P. 2011 A dictionary of Irish Saints. Dublin. Four Courts Press. Cal. papal letters - Calendar of entries in the papal registers relating to Great Britain and Ireland: papal letters, 1198-1484 [etc.] (London, 1893-) Cogan, Rev. A. 1862-70 In John F. Fowler, Joseph Dollard (eds), The diocese of Meath, ancient and modern, 3 vols. Dublin. Dollard Publishers. Gwynn, A. and Hadcock, R.N. 1970 (Reprint 1988) Medieval religious houses of Ireland. Dublin. Irish Academic Press.

Six-Inch First edition: 'Church'

Six-Inch Latest edition: 'Church (in Ruins)'

ITM Coordinates: 642440 , 749635

Latitude and Longitude: 53.495009 , -7.360405

3 ARTEFACTS IN NMI

3.1 Archaeological Artefacts

Table 3.1: Archaeological artefacts listed in the NMI topographical files

Townland	NMI ref. no.	Simple name	Material	Find place
Kilbeggan	E499:141	Pin	Copper alloy	Brosna River
Kilbeggan	E499:142	Pin	Copper alloy	Brosna River
Kilbeggan	E499:406	Arrowhead	Flint	Unknown
Kilbeggan	E499:510	Button	Copper	-
Camagh	1972:247	Axehead	Stone	Unknown
Coola	1995:1000	Button	Copper alloy	Corn & sawmills
Coola	1995:1001	Button	Copper alloy	Corn & sawmills
Coola	1995:1002–1012	Bullets	Copper alloy	Corn & sawmills
Coola	1995:1013	Object	Copper alloy	Corn & sawmills
Coola	1995:991–996	Buckles	Copper alloy	Corn & sawmills
Coola	1995:997–999	Buttons	Copper alloy	Corn & sawmills
Ballykilroe	1970:37	Bowl	Ceramic	Cist in ploughed field
Ballykilroe	1970:37.1	Human remains	Bone	Cist in ploughed field
Clonyhague	2005:37	Quern	Stone	Fletcher's field
Carrick	1981:296.60 (1981:296.1–59)	Ingot	Silver	East shores of Lough Ennell
Carrick	2009:201	Spearhead	Iron	Crannóg
N/A	R1442	Buckle	Copper alloy	Rochfort Demesne?

Belvidere	1954:106	Spearhead	Iron	Lough Ennell
Lynn	1953:63	Logboat	Wood	Lough Ennell
Lynn	R3064.1 / 7777:W258.1	Seal matrix	Bronze	Unknown
Lynn	2011C11:1	Ardshare	Stone	Lynn Church
Lynn	2011C11:2	Ring	Copper alloy	
Lynn	2011C11:3	Plaque	Iron	Lynn Church
Lynn	2011C11:4	Bolt	Iron	Lynn Church
Kilpatrick	1988:225	Ingot	Silver	Rushy Island, Lough Ennell
Kilpatrick	1982:47	Quern	Stone	Ploughed field, formerly contained 2 ringforts
Kilpatrick	1944:250	Axehead	Stone	
Kilpatrick	2012:233	Axehead	Stone	Unknown
Balrath	1982:21	Bell	Iron	Found in the course of metal detecting close to a ringfort, in 1964.
Balrath	1999:114	Arrowhead	Iron	Balrath castle
Balrath	4202:W4–W7	Cake	Copper	Between Dysart and Rathconrath
Ballybrennan	1989:57	Human remains	Bone	On shoulder of natural hillock
Ballybrennan	1940:87.1	Human remains	Human remains	N/A
Ballybrennan	1945:24	Human remains	Human remains	Unknown
Ballybrennan	1945:25	Flake	Flint	
Ballybrennan	1945:26.1–3	Animal remains	Animal remains	

Ballybrennan	1945:27	Shell	Shell	
Ballybrennan	1946:12	Bowl	Ceramic	Cist IV
Ballybrennan	1946:13	Human remains	Human remains	
Ballybrennan	1946:14	Human remains	Human remains	
Ballybrennan	P1948:76	Vase	Ceramic	Gravel Pit on Eiscir [Esker]
Ballybrennan	P1948:77	Flake	Flint	Cist 4
Ballybrennan	P1948:78	Blade	Flint	Cist 4
Ballybrennan	P1948:79	Scraper	Flint	Cist 4
Ballybrennan	P1948:80	Blade	Flint	Cist 4
Ballybrennan	P1948:81	Blade	Chert	Cist 4
Ballybrennan	P1948:82	Scraper	Flint	Cist 4
Ballybrennan	P1948:83	Chunk	Flint	Cist 4
Ballybrennan	P1948:84	Human remains	Human remains	
Ballybrennan	L1944:281	Arrowhead	Flint	Bog
Ballybrennan	2010:355	Ingot	Pewter	Unknown
Ballybrennan	2018:83	Quern	Stone	N/A
Ballybrennan	1940:87.2	Pin	Bone	N/A
Clonsingle	1984:12	Fibula	Metal	Monaghanstown river, spoil from drainage
N/A	E499:412	Axehead	Stone	Monaghanstown Bog, Castletown-Geoghegan

Lilliput or Nure	P1950:22	Human remains	Human remains	
Lilliput or Nure	E499:400	Axehead	Stone	Unknown
Lilliput or Nure	E499:1769	Axehead	Stone	Lilliput Bog
Lilliput	1995:1078	Coin	Silver	Banks of Lough Ennell
Lilliput	1995:1079	Object	Lead	Banks of Lough Ennell
Lilliput	1995:1080	Tap	Copper alloy	Banks of Lough Ennell
Lilliput	1995:1081	Tap	Copper alloy	Banks of Lough Ennell
Lilliput	E499:1723–1724	Buttons	Metal	Lough Ennell
Lilliput	E499:1725	Button	Copper alloy	Lough Ennell
Lilliput	E499:1726	Button	Metal	Lough Ennell
Lilliput	E499:1727	Button	Copper alloy	Lough Ennell
Lilliput	E499:1728–1729	Buttons	Metal	Lough Ennell
Lilliput	E499:1730	Button	Copper alloy	Lough Ennell
Lilliput	E499:1731	Button	Metal	Lough Ennell
Lilliput	E499:1732	Button	Copper alloy	Lough Ennell
Lilliput	E499:1734	Button	Copper alloy	Lough Ennell
Lilliput	E499:1552	Pin	Copper alloy	Shoreline, Lough Ennell
Lilliput	E499:1276	Knife	Iron	Lough Ennell
Nure	1983:99.2	Ingot	Silver	N/A
Nure	E499:1061	Bell	Iron	Unknown
Nure	1983:99.1	Ingot	Silver	Unknown

Rathnamuddagh	1989:70	Flake	Chert	SE side of Dun-na-Sgiath ringfort
Rathnamuddagh	2000:15	Vessel	Wood	Dysart bog
Rathnamuddagh	1942:354	Vessel	Wood	Dysert Bog
Keoltown	1976:612	Bowl	Ceramic	Excavation of cist
Keoltown	1976:613	Flake	Flint	Excavation of cist
Keoltown	1976:614	Flake	Flint	Excavation of cist
Keoltown	1976:615	Flake	Flint	Excavation of cist
Keoltown	1976:616	Flake	Flint	Excavation of cist
Keoltown	1976:617	Human remains	Bone	Excavation of cist
Ladestown	1988:135.1	Ingot	Silver	
Ladestown	1995:1060	Button	Copper alloy	Lough Ennell banks
Ladestown	1881:181	Sword	Bronze	Lough Ennell
Ladestown	2005C4:1	Object	Copper alloy	Found on the shore of Lough Ennell
Ladestown	2005C4:2	Buckle	Copper alloy	Found on the shore of Lough Ennell
Ladestown	2005C4:3–6	Coins	Copper alloy	Found on the shore of Lough Ennell
Ladestown	2005C4:7	Disc	Lead	Found on the shore of Lough Ennell
Ladestown	2005C4:8.1	Weight	Lead	Found on the shore of Lough Ennell
Ladestown	2005C4:9–12	Button	Copper alloy	Found on the shore of Lough Ennell
Ladestown	2005C4:13–14	Coins	Copper alloy	Found on the shore of Lough Ennell
Ladestown	2005C4:15	Coin	Silver	Found on the shore of Lough Ennell
Ladestown	2005C4:16	Object	Copper alloy	Found on the shore of Lough Ennell

Ladestown	2005C4:17	Buckle	Copper alloy	Found on the shore of Lough Ennell
Ladestown	2005C4:18–22	Coin	Copper alloy	Found on the shore of Lough Ennell
Ladestown	1988:135.2–6	Ingots	Silver	-
Ladestown	1988:135.7–8	Hack silver	Silver	-
Ladestown	1988:135.9	Object	Copper alloy	-
Ladestown	1988:135.10	Ingot	Silver	-
Ladestown	1988:135.11–12	Coin	Silver	-
Ladestown	1988:135.13	Ingot	Silver	-
Ladestown	1988:135.14	Hack silver	Silver	-
Ladestown	1988:135.15–19	Coin	Silver	-
Ladestown	1988:135.21–26	Coin	Silver	-
Ladestown	2005C4:8.2	Weight	Lead	Found on the shore of Lough Ennell
Ladestown	2005C4:8.3	Weight	Lead	Found on the shore of Lough Ennell
Dysart	1983:89	Pin	Copper alloy	Possibly Ash Island, Lough Ennell
Dysart	1983:96	Finger ring	Copper alloy	Possibly Ash Island, Lough Ennell
Dysart	1983:85–86	Pins	Copper alloy	Possibly Ash Island, Lough Ennell
Dysart	1981:297.1	Ingot	Silver	Dysart Island
Dysart	1983:97	Lamp	Stone	Possibly Ash Island, Lough Ennell
Dysart	1996:83	Brooch	Silver	Dysart Abbey
Dysart	1996:90	Axehead	Bronze	-
Dysart	1996:92	Buckles	Copper alloy	Dysart Abbey
Dysart	1996:93	Buckle	Copper alloy	Dysart Island

Dysart	1982:116	Billhook	Iron	Dysart Island
Dysart	1982:27.2	Ingot	Silver	Dysart Island
Dysart	1982:28.1	Ingot	Silver	Dysart Island, Lough Ennell.
Dysart	1982:29.1	Ingot	Silver	Rocky island, Lough Ennell
Dysart	1982:39	Sword	Copper alloy	Ash Island
Dysart	1982:40	Spearhead	Iron	Ash Island
Dysart	1982:41	Pin	Copper alloy	Dysart Island, in sand on shore
Dysart	1984:14	Brooch	Silver	Lough Ennell
Dysart	1984:15	Brooch	Copper alloy	Lough Ennell
Dysart	1984:16	Brooch	Silver	Lough Ennell
Dysart	1989:115	Axehead	Iron	Dysart bog
Dysart	1993:25	Marble	Clay	N/A
Dysart	1995:1626	Object	Copper alloy	Dysart (Big) island
Dysart	1995:1622–1625	Waste	Copper alloy	Dysart (Big) island
Dysart	1995:1571	Strap tag	Copper alloy	Dysart Island
Dysart	1995:1572–1575	Coins	Silver	Dysart Island
Dysart	1995:1576–1577	Pins	Copper alloy	Ash Island
Dysart	1996:211	Mount	Gilt copper alloy	-
Dysart	1996:212	Mount	Tinned copper alloy	-
Dysart	1996:213	Mount	Copper alloy	N/A
Dysart	1996:214	Rivet	Copper alloy	Dysart Abbey

Dysart	1996:215	Mount	Copper alloy	Dysart Abbey
Dysart	1996:216	Harness fitting	Copper alloy	Dysart Abbey
Dysart	1996:64–65	Moulds	Lead	Dysart Abbey
Dysart	1996:70	Seal matrix	Lead	Dysart Island
Dysart	1996:71	Seal matrix	Lead	Possibly Dysart Abbey
Dysart	1996:72	Mount	Copper alloy	Ash Island
Dysart	1996:124	Weight	Lead	Dysart Abbey
Dysart	1996:125	Weight	Copper alloy	-
Dysart	1996:126–132	Weights	Lead	-
Dysart	1996:137–141	Harp pegs	Copper alloy	Dysart Island
Dysart	1996:142	Mount	Copper alloy	Dysart Island
Dysart	1996:143–146	Mounts	Copper alloy	-
Dysart	1996:110	Buckle	Copper alloy	Dysart Abbey
Dysart	1996:111	Buckle	Copper alloy	N/A
Dysart	1996:112	Object	Copper alloy	Dysart Island
Dysart	1996:113	Buckle	Copper alloy	Dysart Abbey
Dysart	1996:115	Buckle	Copper alloy	Dysart Abbey
Dysart	1996:116	Weight	Lead	Dysart Island
Dysart	1996:117	Spindle whorl	Lead	Dysart Abbey, South side
Dysart	1996:118–121	Weights	Lead	Dysart Abbey
Dysart	1996:122	Weight	Lead	Dysart Abbey, South Side
Dysart	1996:123	Weight	Lead	Dysart Island

Dysart	1996:100	Buckle	Copper alloy	Dysart Island
Dysart	1996:102	Buckle	Copper alloy	Possibly Dysart Island
Dysart	1996:104	Buckle	Copper alloy	Dysart Island
Dysart	1996:105	Buckle	Copper alloy	Dysart Island
Dysart	1996:108	Buckle	Copper alloy	Dysart Island
Dysart	1996:147	Sword	Copper alloy	Dysart Island
Dysart	1996:148	Chape	Copper alloy	
Dysart	1996:149	Buckle	Copper alloy	Dysart Island
Dysart	1996:150	Buckle	Bronze	Dysart Island
Dysart	1996:161	Thimble	Copper alloy	Dysart Abbey
Dysart	1996:163	Thimble	Copper alloy	Dysart Abbey
Dysart	1996:177	Object	Bone	Dysart Island
Dysart	1996:180	Object	Pewter	
Dysart	1996:181	Strap tag	Copper alloy	Dysart Abbey
Dysart	1996:182	Ferrule	Copper alloy	
Dysart	1996:183	Finger ring	Copper alloy	Dysart Abbey
Dysart	1996:184	Mount	Copper alloy	Dysart Abbey
Dysart	1996:185	Brooch	Gilt copper alloy	Dysart Abbey
Dysart	1996:186	Ingot	Copper alloy	Dysart Abbey
Dysart	1996:187	Ingot	Silver	Dysart Abbey
Dysart	1996:188	Ingot	Copper alloy	Dysart Abbey
Dysart	1996:189	Ingot	Silver	Dysart Abbey

Dysart	1996:190	Ingot	Silver	Dysart Abbey
Dysart	1996:191	Spur	Copper alloy	Dysart Island
Dysart	1996:192.1	Sundial	Copper alloy	
Dysart	1996:196	Key	Copper alloy	
Dysart	1996:197	Vessel	Copper alloy	Dysart Island
Dysart	1996:202–204	Querns	Stone	Dysart Abbey
Dysart	1996:73	Brooch	Copper alloy	Possibly Dysart Abbey
Dysart	1996:74	Brooch	Copper alloy	Possibly Dysart Abbey
Dysart	1996:75	Brooch	Copper alloy	Dysart Abbey
Dysart	1996:76	Gaming piece	Copper alloy	
Dysart	1996:77	Pin	Copper alloy	
Dysart	1996:79	Pin	Bone	
Dysart	1996:57–60	Mounts	Copper alloy	Dysart Abbey
Dysart	1996:61	Mould	Lead	Dysart Abbey
Dysart	1996:62	Mould	Lead	Dysart Abbey
Dysart	1996:63	Mount	Copper alloy	Dysart Abbey
Dysart	1996:96	Buckle	Copper alloy	Dysart Island
Dysart	1996:97	Mount	Copper alloy	Dysart Island
Dysart	1964:33	Rapier	Iron	
Dysart	2003:67–69	Ingots	Silver	Submerged crannóg, Rocky Island, Lough Ennell
Dysart	R4052	Bracelet	Gold	UNKNOWN

Dysart	1874:1	Axehead	Bronze	N/A
Dysart	E499:27	Stone	Stone	Great Island off Lough Ennell
Dysart	E499:36	Pin	Bronze	Dysart Abbey
Dysart	E499:48	Pin	Copper alloy	Off Ash Island, Lough Ennell
Dysart	E499:80	Bridle	Copper alloy	Dysart Island-Lough Ennell
Dysart	E499:81	Bridle	Copper alloy	Dysart Island, Lough Ennell
Dysart	E499:119	Needle	Copper alloy	Ash Island on Lough Ennell
Dysart	E499:124	Pin	Copper alloy	Ash Island, Lough Ennell
Dysart	E499:125	Buckle	Copper alloy	Ash Island, Lough Ennell
Dysart	E499:135–139	Pins	Copper alloy	Off Ash Island
Dysart	E499:169	Comb	Antler	Dysart Island on Lough Ennell
Dysart	E499:171.1	Ring	Copper alloy	Dysart Island, Lough Ennell
Dysart	E499:173	Key	Copper alloy	Ash Island, Lough Ennell
Dysart	E499:174	Chape	Copper alloy	Dysart Island, Lough Ennell
Dysart	E499:176–177	Objects	Copper alloy	Dysart Island, Lough Ennell
Dysart	E499:178	Mount	Copper alloy	Dysart Abbey
Dysart	E499:179	Mount	Copper alloy	Dysart Island, Lough Ennell
Dysart	E499:180.1	Ring	Copper alloy	Dysart Island, Lough Ennell
Dysart	E499:183	Object	Copper alloy	Dysart Island, Lough Ennell
Dysart	E499:186.1	Ring	Copper alloy	Ash Island, L, Ennell
Dysart	E499:202	Strip	Bronze	Lough Ennell
Dysart	E499:203	Mount	Copper alloy	Croincha Island, Lough Ennell

Dysart	E499:207	Ringed pin	Copper alloy	Lough Ennell
Dysart	E499:208	Cast	Lead	Lough Ennell
Dysart	E499:219	Mount	Copper alloy	Lough Ennell
Dysart	E499:453.1	Ring	Bronze	Lough Ennell
Dysart	E499:628–629	Coins	Copper	Big Island off Lough Ennell
Dysart	E499:636	Coin	Silver	Big Island, Lough Ennell
Dysart	E499:638.1	Coin	Copper	Big Island, Lough Ennell
Dysart	E499:639	Coin	Copper	Big Island, Lough Ennell
Dysart	E499:645	Coin	Copper	Big Island, Lough Ennell
Dysart	E499:649	Coin	Silver	Big Island, Lough Ennell
Dysart	E499:652	Coin	Silver	Big Island, Lough Ennell
Dysart	E499:654	Coin	Silver	Big Island, Lough Ennell
Dysart	E499:699	Spike	Iron	Big Island, Lough Ennell
Dysart	E499:700	Object	Copper alloy	Ash Island, Lough Ennell. Westmeath
Dysart	E499:701	Ring	Bronze	Ash Island, Lough Ennell
Dysart	E499:702	Button	Copper alloy	Ash Island, Lough Ennell
Dysart	E499:703	Button	Copper	Ash Island, Lough Ennell
Dysart	E499:704	Object	Copper alloy	Ash Island, Lough Ennell
Dysart	E499:705	Buckle	Copper alloy	Ash Island, Lough Ennell
Dysart	E499:706	Brooch	Copper alloy	Ash Island, Lough Ennell
Dysart	E499:707	Arrowhead	Iron	Ash Island. L. Ennell
Dysart	E499:708	Knife	Iron	Ash Island, Lough Ennell

Dysart	E499:709	Animal remains	Animal remains	Ash Island, Lough Ennell
Dysart	E499:710	Clay pipe	Clay	Ash Island, Lough Ennell.
Dysart	E499:711	Object	Metal	Ash Island, Lough Ennell
Dysart	E499:712	Tusk	Tusk	Ash Island, Lough Ennell
Dysart	E499:713	Button	Copper alloy	Ash Island, Lough Ennell
Dysart	E499:714	Spoon	Lead	Ash Island, Lough Ennell
Dysart	E499:715	Stud	Copper	Ash Island, Lough Ennell
Dysart	E499:716	Nail	Metal	Ash Island, Lough Ennell
Dysart	E499:717	Coin	Copper alloy	Ash Island, Lough Ennell
Dysart	E499:718	Coin	Silver	Ash Island, Lough Ennell
Dysart	E499:719	Coin	Silver	Ash Island, Lough Ennell
Dysart	E499:720	Coin	Copper alloy	Ash Island, Lough Ennell
Dysart	E499:721–723	Pins	Copper alloy	Ash Island, Lough Ennell
Dysart	E499:724	Object	Copper alloy	Ash Island, Lough Ennell
Dysart	E499:725	Coin	Silver	Ash Island, Lough Ennell
Dysart	E499:726	Coin	Copper	Ash Island, Lough Ennell
Dysart	E499:727	Coin	Silver	Ash Island, Lough Ennell
Dysart	E499:728	Coin	Silver	Ash Island, Lough Ennell
Dysart	E499:729	Ring	Copper alloy	Ash Island, Lough Ennell
Dysart	E499:730.1	Coin	Silver	Ash Island, Lough Ennell
Dysart	E499:768	Box	Metal	Big Island
Dysart	E499:771	Weight	Lead	Dysart Abbey

Dysart	1000:380	Mould	WAX	N/A
Dysart	1982:29.2	Ingot	Silver	Rocky island, Lough Ennell
Dysart	1982:28.2–5	Ingots	Silver	Dysart Island
Dysart	1981:297.2–85	Ingots	Silver	Dysart Island
Dysart	1981:297.86–87	Brooches	Silver	Dysart Island
Dysart	1981:297.88–95	Arm-rings	Silver	Dysart Island
Dysart	1981:297.96–97	Rings	Silver	Dysart Island
Dysart	1981:297.98	Arm-ring	Silver	Dysart Island
Dysart	1981:297.99–100	Rods	Silver	Dysart Island
Dysart	1981:297.101–110	Wires	Silver	Dysart Island
Dysart	1981:297.111–114	Bars	Silver	Dysart Island
Dysart	1981:297.115	Object	Iron	Dysart Island
Dysart	1981:297.116	Disc	Iron	Dysart Island
Dysart	1981:297.117	Bead	Stone	Dysart Island
Dysart	1982:27.1	Ingot	Silver	Dysart Island
Dysart	E499:993	Sheet	Copper alloy	Big Island
Dysart	E499:894	Spoon	Copper alloy	Big Island
Dysart	E499:896	Strap tag	Copper alloy	Big Island
Dysart	E499:897	Clasp	Copper alloy	Big Island
Dysart	E499:898	Mount	Copper alloy	Big Island
Dysart	E499:899	Vessel	Copper alloy	Big Island
Dysart	E499:900	Inkwell	Copper alloy	Big Island

Dysart	E499:901	Vessel	Pewter	Big Island
Dysart	E499:902–903	Objects	Copper alloy	Big Island
Dysart	E499:904	Harness fitting	Copper alloy	Big Island
Dysart	E499:905	Harness fitting	Pewter	Big Island
Dysart	E499:906	Mould	Copper alloy	Big Island
Dysart	E499:916	Mount	Metal	Cro-Inis crannóg, Lough Ennell
Dysart	E499:979	Spoon	Pewter	Ash Island crannóg, Lough Ennell
Dysart	E499:974–976	Spurs	Copper alloy	-
Dysart	E499:978	Spoon	Pewter	Ash Island crannóg, Lough Ennell
Dysart	E499:980	Spoon	Pewter	Ash Island crannóg, Lough Ennell
Dysart	E499:981	Spoon	Pewter	Ash Island crannóg, Lough Ennell
Dysart	E499:982	Spoon	Copper alloy	Ash Island crannóg, Lough Ennell
Dysart	E499:983	Spoon	Pewter	Ash Island crannóg, Lough Ennell
Dysart	E499:984	Object	Pewter	Ash Island crannóg, Lough Ennell
Dysart	E499:985	Vessel	Pewter	Ash Island crannóg, Lough Ennell
Dysart	E499:986	Container	Copper alloy	Ash Island Crannog, Lough Ennell
Dysart	E499:987	bullet	Copper alloy	Ash Island Crannog, Lough Ennell
Dysart	E499:1142–1143	Coins	Silver	Unknown
Dysart	E499:1172	Mount	Copper alloy	Unknown
Dysart	E499:914.1–2	Fittings	Copper alloy	-
Dysart	E499:1401	Mount	Copper alloy	Unknown
Dysart	E499:1379	Object	Lead	Unknown

Dysart	E499:1422	Mount	Copper alloy	Unknown
Dysart	E499:1403	Mount	Copper alloy	Unknown
Dysart	E499:1402	Object	Lead	Big or Great Island
Dysart	E499:1378	Object	Copper alloy	Big or Great Island
Dysart	E499:1670–1671	Fittings	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1715.1–12	Buckles	Copper alloy	Possibly Big Island, Lough Ennell
Dysart	E499:1672	Object	Copper alloy	Near Dysart Abbey
Dysart	E499:1339	Object	Lead	Possibly Big Island, Dysart
Dysart	E499:1340–1346	Weights	Lead	Possibly Big Island, Dysart
Dysart	E499:1347	Object	Lead	Possibly Big Island, Dysart
Dysart	E499:1409	Mount	Copper alloy	Big Island
Dysart	E499:1490	Vessel	Pewter	Ash Island
Dysart	E499:1405	Mount	Copper alloy	Big Island
Dysart	E499:1491	Vessel	Pewter	Ash Island
Dysart	E499:1492	Object	Pewter	Big Island
Dysart	E499:1496–1504	Studs	Copper alloy	Big Island
Dysart	E499:1513	Stud	Copper alloy	Ash Island
Dysart	E499:1271–1273	Objects	Lead	Big Island
Dysart	E499:1514	Stud	Copper alloy	Ash Island
Dysart	E499:1515	Object	Copper alloy	Ash Island
Dysart	E499:1516–1520	Mounts	Copper alloy	Ash Island
Dysart	E499:1521–1522	Reels	Copper alloy	Ash Island

Dysart	E499:1523–1524	Mounts	Copper alloy	Near Dysart Abbey
Dysart	E499:1526	Harp peg	Copper alloy	Ash Island
Dysart	E499:1529	Candlestick	Copper alloy	Big Island
Dysart	E499:1530	Mount	Copper alloy	Big island
Dysart	E499:1433	Spoon	Metal	Ash Island
Dysart	E499:1436	Spoon	Copper alloy	Ash Island
Dysart	E499:1536	Mount	Copper alloy	Big Island
Dysart	E499:1537	Vessel	Pewter	Big Island
Dysart	E499:1538–1539	Spurs	Copper alloy	Big Island
Dysart	E499:1540	Pin	Copper alloy	Big Island
Dysart	E499:1541	Pin	Copper alloy	Ash Island
Dysart	E499:1427	Spoon	Metal	Ash Island
Dysart	E499:1432	Spoon	Metal	Big Island
Dysart	E499:1480	Cauldron	Copper alloy	Probably Ash Island
Dysart	E499:1475	Cauldron	Copper alloy	Probably Shore line, Lough Ennell
Dysart	E499:1439	Cauldron	Copper alloy	Ash Island
Dysart	E499:1548	Pin	Copper alloy	Ash Island
Dysart	E499:1549	Ringed pin	Copper alloy	Ash Island
Dysart	E499:1441	Cauldron	Copper alloy	Big Island
Dysart	E499:1467	Cauldron	Copper alloy	Shore line, Lough Owl
Dysart	E499:1484	Vessel	Copper alloy	Ash Island, Lough Ennell
Dysart	E499:1442	Vessel	Copper alloy	Ash Island, Lough Ennell

Dysart	E499:1445	Object	Copper alloy	Ash Island
Dysart	E499:1444	Sheet metal	Metal	Ash island
Dysart	E499:1555–1557	Objects	Lead	Big Island
Dysart	E499:1711.1–9	Buckles	Copper alloy	Probably Big Island, Lough Ennell
Dysart	E499:1703.1–12	Buckles	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1713.1	Buckle	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1713.2	Strap tag	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1633	Fitting	Copper alloy	Big Island
Dysart	E499:1634	Ring	Copper alloy	Big Island
Dysart	E499:1635	Fitting	Copper alloy	Big Island
Dysart	E499:1717.1–3	Buckles	Copper alloy	Possibly Big Island, Lough Ennell
Dysart	E499:1717.4	Object	Copper alloy	Possibly Big Island, Lough Ennell
Dysart	E499:1716.1–11	Buckles	Copper alloy	Possibly Big Island, Lough Ennell
Dysart	E499:1707.1–5	Buckles	Copper alloy	Unknown
Dysart	E499:1708.1–2	Objects	Copper alloy	Unknown
Dysart	E499:1708.3	Ring	Copper alloy	Unknown
Dysart	E499:1669	Object	Copper alloy	Big Island
Dysart	E499:1704.1–10	Buckles	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1714.1–6	Buckles	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1701.1	Ring	Iron	Big Island, Lough Ennell
Dysart	E499:1701.2–18	Buckles	Iron	Big Island, Lough Ennell
Dysart	E499:1701.19–21	Objects	Iron	Big Island, Lough Ennell

Dysart	E499:1710.1	Buckle	Copper alloy	Probably Big Island, Lough Ennell
Dysart	E499:1710.2	Ring	Copper alloy	Probably Big Island, Lough Ennell
Dysart	E499:1710.3–10	Buckles	Copper alloy	Probably Big Island, Lough Ennell
Dysart	E499:1702.1	Ring	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1702.2–3	Buckles	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1702.4	Ring	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1702.5	Buckle	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1702.6	Ring	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1712.1–2	Buckle	Copper alloy	Probably Big Island, Lough Ennell
Dysart	E499:1712.3	Buckle	Metal	Probably Big Island, Lough Ennell
Dysart	E499:1712.4–7	Buckle	Copper alloy	Probably Big Island, Lough Ennell
Dysart	E499:1709.1	Buckle	Copper alloy	Unknown
Dysart	E499:1709.2–5	Rings	Copper alloy	Unknown
Dysart	E499:1243	Object	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1247	Object	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1255	Mount	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1241	Buckle	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1242	Object	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1266	Chape	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1240	Fitting	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1268	Sword	Iron	Big Island, Lough Ennell
Dysart	E499:1262	Object	Metal	Big Island, Lough Ennell

Dysart	E499:1238–1239	Objects	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1279	Button	Copper alloy	Big Island, Lough Ennell
Dysart	E499:1285	Object	Silver	Big Island, Lough Ennell
Dysart	E499:1286	Ingot	Silver	Big Island, Lough Ennell
Dysart	E499:1254	Object	Copper alloy	Big Island, Lough Ennell off Robinstown
Dysart	E499:453.2–3	Rings	Bronze	Lough Ennell
Dysart	E499:730.2	Coin	Silver	Ash Island, Lough Ennell
Dysart	E499:638.2	Coin	Copper	Big Island, Lough Ennell
Dysart	E499:1173	Dress-fastener	Copper alloy	Unknown
Dysart	E499:180.2–4	Rings	Copper alloy	Dysart Island, Lough Ennell
Dysart	E499:171.2–4	Rings	Copper alloy	Dysart Island, Lough Ennell
Dysart	E499:186.2–5	Rings	Copper alloy	Ash Island, L, Ennell
Dysart	E499:977	Spur	Copper alloy	
Dysart	E499:991–992	Objects	Copper alloy	Big Island
Dysart	E499:895	Mount	Gilt copper alloy	Big Island
Dysart	E499:1757	Loop	Iron	Ash Island, Lough Ennell
Dysart	E499:915	Object	Copper alloy	Dysart Abbey
Dysart	1996:192.2	Sundial	Copper alloy	-
Robinstown	1995:1589–1590	Coins	Silver	Cherry Island, Lough Ennell
Robinstown	1996:101	Buckle	Copper alloy	Cherry Island, Lough Ennell
Robinstown	1996:171	Thimble	Copper alloy	Cherry Island, Lough Ennell
Robinstown	1996:174	Thimble	Copper alloy	Cherry Island, Lough Ennell

Robinstown	E499:1063	Pommel	Copper alloy	Cherry Island, Lough Ennell
Robinstown	E499:1642	Spoon	Copper alloy	Probably Cherry Island, Lough Ennell
Robinstown	E499:1460	Spoon	Metal	Probably Cherry Island, Lough Ennell
Robinstown	E499:1429	Spoon	Metal	Probably Cherry Island, Lough Ennell
Robinstown	E499:1251	Object	Copper alloy	Cherry Island, Lough Ennell off Robinstown
Robinstown	E499:1252	Buckle	Iron	Cherry Island, Lough Ennell, off Robinstown
Barrettstown	R2469	Bowl	Ceramic	Tumulus on the shores of Lough Ennell
Barrettstown	2582:Wk095	Bowl	Ceramic	Tumulus on the shores of Lough Ennell
Gaddaghanstown	E499:118	Harp peg	Copper alloy	Cherry Island on Lough Ennell
Gaddaghanstown	E499:209	Stud	Gilt copper alloy	Cherry Island, Lough Ennell
Gaddaghanstown	E499:653	Coin	Silver	Cherry Island, Lough Ennell
Gaddaghanstown	E499:1270	Object	Iron	Cherry Island, Lough Ennell, off Robinstown
Gaddaghanstown	E499:1259	Object	Copper alloy	Cherry Island, Lough Ennell off Robinstown
Tullaghan	E499:121	Pin	Copper alloy	Spuderra Island, Lough Ennell
Tullaghan	E499:126	Object	Copper alloy	Spuderra Island, Lough Ennell
Tullaghan	E499:127	Object	Copper alloy	Spuderra Island, Lough Ennell
-	E621:216	Coin	-	Dysart Island, Lough Ennell
-	1943:278	Spear	Iron	Lough Ennell
-	E499:70	Buckle	Copper alloy	Lough Ennell
-	E499:201	Seal	Copper alloy	Cherry Island, Lough Ennell

-	E499:256–260	Knives	Iron	Lough Ennell
-	E499:266	Pan	Iron	Lough Ennell
-	E499:273	Nail	Iron	Lough Ennell
-	E499:278	Object	Iron	Lough Ennell
-	E499:299	Horseshoe	Iron	Lough Ennell
-	E499:301	Knife	Iron	Lough Ennell
-	E499:313–314	Keys	Iron	Lough Ennell
-	E499:319–320	Keys	Iron	Lough Ennell
-	E499:333	Ingot	Copper alloy	Lough Ennell
-	E499:334	Ingot	Silver	Lough Ennell
-	E499:355	Object	Copper alloy	Lough Ennell
-	E499:359	Pendant	Copper alloy	Lough Ennell
-	E499:360	Harness fitting	Copper alloy	Lough Ennell
-	E499:361	Harness fitting	Copper alloy	Lough Ennell
-	E499:364	Object	Copper alloy	Lough Ennell
-	E499:371	Stud	Copper alloy	Lough Ennell
-	E499:374	Finger ring	Silver	Lough Ennell
-	E499:383	Finger ring	Gilt copper alloy	Lough Ennell
-	E499:394	Axehead	Stone	Lough Ennell
-	E499:396	Axehead	Stone	Lough Ennell
-	E499:405	Flake	Flint	Lough Ennell
-	E499:407	Gunflint	Flint	Lough Ennell

-	E499:427–428	Weights	Lead	Lough Ennell
-	E499:438–443	Weights	Lead	Lough Ennell
-	E499:446–449	Weight	Copper alloy	Lough Ennell
-	E499:450	Weight	Bronze	Lough Ennell
-	E499:457	Pestle	Copper alloy	Lough Ennell
-	E499:468–469	Bells	Iron	Northen end of Lough Ennell
-	E499:474	Shaft	Iron	Lough Ennell
-	E499:478–479	Weights	Copper alloy	Lough Ennell
-	E499:481	Button	Bone	Lough Ennell
-	E499:490	Button	Gilt copper alloy	Lough Ennell
-	E499:491	Button	Copper alloy	Lough Ennell
-	E499:494	Button	Copper alloy	Lough Ennell
-	E499:501	Button	Gilt copper alloy	Lough Ennell
-	E499:507	Button	Copper alloy	Lough Ennell
-	E499:515	Button	Lead	Lough Ennell
-	E499:516	Button	Bronze	Lough Ennell
-	E499:518	Button	Silver	Lough Ennell
-	E499:521	Button	Bronze	Lough Ennell
-	E499:522	Button	Copper alloy	Lough Ennell
-	E499:630	Coin	Copper	Lough Ennell
-	E499:634	Coin	Silver	Island, Lough Ennell
-	E499:635	Coin	Copper	Lough Ennell

-	E499:637	Coin	Copper	Lough Ennell
-	E499:650	Coins	Silver	Lough Ennell, (Big Ennell?)
-	E499:651	Coin	Silver	Lough Ennell. Big Island.
-	E499:655	Coin	Silver	Lough Ennell
-	E499:772–774	Coins	Bronze	Lough Ennell
-	E621:6	Pin	Copper alloy	Ash Island, Lough Ennell
-	E621:32–33	Ringed pins	Copper alloy	Ash Island, Lough Ennell
-	E621:68	Ring	Copper alloy	Dysart Island, Lough Ennell
-	E621:71	Ring	Bronze	Ash Island, Lough Ennell
-	E621:192	Hammer	Iron	Ash Island, Lough Ennell
-	E621:203	Key	Iron	Cherry Island, Lough Ennell
-	E499:1064	Object	Copper alloy	Lough Ennell
-	2011C11:5	Chisel	Iron	Goose Island, Lough Ennell
-	2011C11:10	Sample	Charcoal	West of Cherry Island, Lough Ennell
-	E499:1399	Mount	Copper alloy	Shore line, Lough Ennell
-	E499:1400	Mount	Copper alloy	Lough Ennell
-	E499:1396	Hook	Copper alloy	Lough Ennell
-	E499:1366	Weight	Lead	Lough Ennell
-	E499:1361–1362	Weights	Lead	Possibly around Lough Ennell
-	E499:1370	Weight	Lead	Possibly around Lough Ennell
-	E499:1305–1308	Weights	Lead	Possibly Lough Ennell shore-line
-	E499:1363–1365	Weights	Lead	Possibly around Lough Ennell

-	E499:1367–1369	Weights	Lead	Possibly around Lough Ennell
-	E499:1394	Object	Copper alloy	Shore line, Lough Ennell
-	E499:1395	Mount	Copper alloy	Shore line, Lough Ennell
-	E499:1423	Mount	Copper alloy	Shore line, Lough Ennell
-	E499:1397	Button	Copper alloy	Shore line, Lough Ennell
-	E499:1398	Mount	Copper alloy	Lough Ennell
-	E499:1476–1478	Cauldrons	Copper alloy	Probably Shore line, Lough Ennell
-	E499:1718.1	Button	Copper alloy	Shore Island, Lough Ennell
-	E499:1274–1275	Knives	Iron	Shoreline, lough Ennell
-	E499:1258	Fitting	Copper alloy	Possibly Lough Ennell shore
-	E499:1269	Macehead	Copper alloy	Shoreline Lough Ennell
-	E499:775	Coin	Bronze	Lough Ennell
-	E499:776–777	Coins	Copper alloy	Lough Ennell
-	E499:783	Token	Copper alloy	Lough Ennell