Castlepollard Quarry, Deerpark, Castlepollard, Co. Westmeath

Castlepollard Quarry

Environmental Impact Assessment Report

Section 5

Biodiversity

February 2022

LAGAN
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5.1 INTRODUCTION

This section of the EIAR describes the likely significant effects on biodiversity resulting from the proposed development at the existing quarry at Deerpark, Castlepollard, Co. Westmeath. The proposed development will consist of the continued use and operation of the existing quarry (permitted under P.A. Ref. 01/525), including deepening of the quarry, along with minor amendments to the permitted quarry layout comprising an extraction area of c. 4 ha within an overall application area of c. 11.4 ha. The development will include provision of new site infrastructure, including water management system, wheelwash and other ancillaries (Refer to EIAR Figure 1.3).

The quarry will be referred to as 'the site' for ease of reference throughout this chapter.

The aspects of the proposed development that are of particular relevance to biodiversity are:

- Potential effects on water quality in terms of connectivity with the European site located downstream, i.e., the Lough Derravarragh SPA (Site Code 0004043).

The Appropriate Assessment (AA) process was undertaken by Moore Group for the proposed development and a Report for AA Screening and Natura Impact Statement (NIS) are presented as separate documents as part of the Planning application (Refer to Appendices 8 & 9 respectively).

5.1.1 PLANNING CONTEXT

5.1.1.1 Existing Planning

The quarry is currently permitted under P.A. Ref. 01/525, which was granted for a 15 year period to work the quarry, plus one year for final re-instatement works, unless, prior to the end of the period, planning permission has been granted for its extension for a further period. In December 2017, a five year extension of the permission was approved under Section 42 "Extend Appropriate Period". A copy of the planning permission is included in Appendix 2.

5.1.2 PROPOSED DEVELOPMENT

The development will consist of the continued use and operation of the existing quarry (permitted under P.A. Ref. 01/525), including deepening of the quarry, along with minor amendments to the permitted quarry layout comprising an extraction area of c. 4 ha within an overall application area of c. 11.4 ha. The development will include provision of new site infrastructure, including water management system, and other ancillaries.

The floor of the existing quarry is at c. 88 m AOD. It is proposed to develop an additional bench to c. 70 m AOD. The development will include upgrading of the Water Management System. Development of the quarry at depth and discharge to surface water is addressed within the EIAR. The proposed discharge to surface water will be subject to a licence to discharge to surface water as required under Section 4 of the Local Government (Water Pollution) Act, 1977.

The asphalt plant previously granted planning permission under P.A. Ref. 01/525 has been removed and will not be reinstalled as part of this proposed application.

There will be no changes to the method of extraction and processing as a result of this planning application. Drilling and blasting will continue to be utilised with processing of extracted rock using mobile crushing and screening plant located within the quarry void. This will reduce handling of material and will also have the benefit of screening these activities from outside views, and being at depth, will also mitigate impacts associated with noise and dust.

A wheeled loading shovel and/or backhoe excavator will be used to feed the blasted rock to the mobile crushing and screening plant that will be relocated close to the working face so as to reduce handling of materials. This is the extraction method that has been in use at the quarry over many years.

The aggregates produced will then be stockpiled and subsequently loaded out by a front-end loader to road trucks for transport off-site to market.

It is proposed that surface/groundwater water accumulating within the processing and extraction area will be conveyed to the quarry sump/settlement tank sytem. This water will be utilised for dust suppression, if required, and/or discharged off-site to an external watercourse subject to a Discharge Licence. The Water Management Plan, capacity of the settlement system and mechanisms of discharge are presented in this EIAR Section and the Water Section 7.

A Restoration & Landscape Plan for the site has been prepared. Full details for the Restoration Plan are presented in Section 3.4 of this EIAR. The final site restoration will contain a landscaped woodland / amenity with water feature. The intention is to create a habitat suitable for aquatic life and birds, such that the disused workings will eventually become of considerable amenity value. Some of the methods to be employed are detailed on the Restoration Plan Figure 3.2.

In summary, the final restoration will consist of the following:

- Landscaping works will be undertaken during the working life of the quarry, where required;
- At the end of quarrying, all plant and machinery will be removed off the site;
- All site boundaries will be secured;
- Additional planting of trees and shrubs may be necessary in some areas; and
- The water abstraction pumps will be switched off and groundwater will be allowed to return to natural equilibrium, at which sump water levels will be maintained by way of an existing overflow to natural existing drainage channels.

5.1.3 STATEMENT OF EXPERTISE

The EIAR Chapter: Biodiversity has been completed by Ger O'Donohoe B.SC. M.Sc. (Moore Group) and draws on data included in Chapter 7 on Water provided by Dr. Pamela Bartley (Hydro-G) and Dr. Colin O'Reilly (Envirologic).

Ger has over 25 years' experience as an environmental consultant with particular experience in the planning and management of Environmental Impact Assessments. He graduated from GMIT in 1993 with a B.Sc. in Applied Freshwater & Marine Biology and subsequently worked in environmental consultancy while completing an M.Sc. in Environmental Sciences, graduating from Trinity College, Dublin in 1999.

His primary role in Moore Group is as Principal Ecologist in the management and compilation of Environmental Impact Assessment Reports and undertaking Ecological Impact Assessments (EcIA/Biodiversity Assessment/Habitat Surveys) of the terrestrial and aquatic environments of any particular development.

Ger has excellent knowledge of Environmental Legislation, Planning and Policy. He has extensive experience in freshwater and marine ecology and in terrestrial habitat surveying and mapping.

5.1.4 OBJECTIVES

The objectives of this assessment are to:

- Provide baseline Habitat conditions within the footprint of the site and update previous assessments such as bat surveys. Assess the potential impact of the proposed development on flora and fauna and associated surface water bodies and sensitive aquatic receptor species with respect to the proposed quarry water's arisings that will require discharge licencing; and
- Identify potential risks and impacts and provide appropriate mitigation measures for any identified potential impacts, as deemed necessary.

5.1.5 PLANNING GUIDANCE DOCUMENTS & LEGISLATIVE REQUIREMENTS

This report was prepared with consideration of the following guidance documents and ensuring compliance with Irish Regulations, listed in the following subsections.

5.1.5.1 EU Habitats Directive

The *Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna)* is the main legislative instrument for the protection and conservation of biodiversity within the European Union and lists certain habitats and species that must be protected within wildlife conservation areas, considered to be important at a European as well as at a national level. A Special Area of Conservation (SAC) is a designation under the Habitats

Directive. The Habitats Directive sets out the protocol for the protection and management of SACs.

The Directive sets out key elements of the system of protection including the requirement for "Appropriate Assessment" of plans and projects. The requirements for an Appropriate Assessment are set out in the EU Habitats Directive. Articles 6(3) and 6(4) of the Directive.

5.1.5.2 EU Birds Directive

The Birds Directive (Council Directive 79/409/EEC and Council Directive 2009/147/EC on the Conservation of Wild Birds) provides for a network of sites in all member states to protect birds at their breeding, feeding, roosting and wintering areas. This directive identifies species that are rare, in danger of extinction or vulnerable to changes in habitat and which need protection (Annex I species). Appendix I indicates Annex I bird species as listed on the Birds Directive. A Special Protection Area (SPA) is a designation under The Birds Directive.

SACs and SPAs form a pan-European network of protected sites known as Natura 2000 sites (also called "European Sites") and any plan or project that has the potential to impact upon a Natura 2000 site requires appropriate assessment.

5.1.5.3 Wildlife Acts (1976–2012)

The primary domestic legislation providing for the protection of wildlife in general, and the control of some activities adversely impacting upon wildlife is the Wildlife Act of 1976. The aims of the Wildlife Act according to the National Parks and Wildlife Service are "…to provide for the protection and conservation of wild fauna and flora, to conserve a representative sample of important ecosystems, to provide for the development and protection of game resources and to regulate their exploitation, and to provide the services necessary to accomplish such aims." All bird species are protected under the Act. The Wildlife (Amendment) Act of 2000 amended the original Act to improve the effectiveness of the Act to achieve its aims.

5.1.5.4 Relevant Guidance

Following desktop assessment and fieldwork, an evaluation of the development area and determination of the potential effects on the flora and fauna of the area is based on the following guidelines and publications:

- Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM 2019);
- EPA Draft Guidelines on Information to be contained in an EIAR (EPA 2017);
- Best Practice Guidance for Habitat Survey and Mapping (Heritage Council 2011);
- Assessment of plans and projects significantly affecting Natura 2000 sites (EC 2002);
- Managing Natura 2000 Sites (EC 2018);
- Guidance document on Article 6(4) of the Habitats Directive 92/43/EEC (EC 2007);

- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DEHLG, December 2009, Rev 2010);
- Ecological Surveying Techniques for Protected Flora & Fauna (NRA 2008); and
- Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA 2009).

5.2 IMPACT ASSESSMENT METHODOLOGY

This assessment concentrates on ecological features within the development area of particular significance, primarily designated habitats and species. This includes habitats/species listed in Annex I, II and IV of the EU Habitats Directive, birds listed in Annex 1 of the EU Birds Directive, rare plants listed in the Flora Protection Order and other semi-natural habitats of conservation value.

The European Habitats Directive 92/43/EEC (Article 6) indicates the need for plans and projects to be subject to Habitats Directive Assessment (also known as Appropriate Assessment) if the plan or project is not directly connected with or necessary to the management of a Natura 2000 site, which includes Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), but which has the potential to have implications on a site's conservation objectives. These implications can be significant effects, either individually or in combination with other plans or projects.

A habitat survey was carried out, in three stages, firstly through desktop research to determine existing records in relation to habitats and species present in the study areas. This included research on the National Parks and Wildlife Services (NPWS) metadata website, the National Biodiversity Data Centre (NBDC) database and a literature review of published information on flora and fauna occurring in the development area.

Other environmental information for the area was reviewed, e.g., in relation to soils, geology, hydrogeology and hydrology. Interactions in terms of the chapters on these topics presented in this EIAR were important in the determination of source vector pathways and links with potentially hydrologically connected areas outside the proposed development site. While the main focus of biodiversity was on the proposed development site within the red line boundary, the surrounding environment was taken into account in terms of biological and hydrological connectivity, particularly in relation to European sites.

5.2.1 STUDY METHODOLOGY

The habitat survey was carried out firstly through desktop research to determine existing records in relation to habitats and species present in the study areas. This included research on the NPWS metadata website, and the National Biodiversity Data Centre (NBDC) database.

The following resources assisted in the production of this chapter of the report:

- The following mapping and Geographical Information Systems (GIS) data sources, as required:
    - National Parks & Wildlife (NPWS) protected site boundary data;
    - Ordnance Survey of Ireland (OSI) mapping and aerial photography;
    - OSI/Environmental Protection Agency (EPA) rivers and streams, and catchments;
    - Open Street Maps;

  - Digital Elevation Model over Europe (EU-DEM);
  - Google Earth and Bing aerial photography 1995–2021;
- Online data available on Natura 2000 sites as held by the National Parks and Wildlife Service (NPWS) from www.npws.ie including:
  - Natura 2000 - Standard Data Form;
  - Conservation Objectives;
  - Site Synopses;
  - National Biodiversity Data Centre records:
  - Online database of rare, threatened and protected species;
  - Publicly accessible biodiversity datasets.
- Status of EU Protected Habitats in Ireland (National Parks & Wildlife Service 2019); and
- Relevant Development Plans;
  - Westmeath County Development Plan 2021-2027

The second phase of the survey involved a site visit to establish the existing environment in the footprint of the proposed development area. Areas which were highlighted during desktop assessment were investigated in closer detail according to the Heritage Council Best Practice Guidance for Habitat Survey and Mapping (Smith *et al*. 2011). Habitats in the proposed development area were classified according to the Heritage Council publication *A Guide to Habitats in Ireland* (Fossitt 2000). This publication sets out a standard scheme for identifying, describing and classifying wildlife habitats in Ireland. This form of classification uses codes to classify different habitats based on the plant species present. Species recorded in this report are given in both their Latin and English names. Latin names for plant species follow the nomenclature of An Irish Flora (Parnell & Curtis 2012).

Habitats were surveyed on the 16th June 2021 by conducting a study area walkover covering the main ecological areas identified in the desktop assessment. The survey date is within the optimal botanical survey period. A photographic record was made of features of interest during fieldwork.

Birds were surveyed using standard transect methodology and signs were recorded where encountered during the field walkover survey.

A night-time bat detector survey was undertaken on 16th June 2021 by roving transects circling the site using a D230 Pettersson Heterodyne Bat Detector. The survey commenced at 20:30 with sunset at Castlepollard occurring at approximately 22:00. The weather on the night was relatively good with varying cloud cover and moderate westerly wind calming to light breezes later and temperatures ranging from 18°C during the evening to 16°C that night.

The survey was undertaken in line with recommendations of the Bat Conservation Trust 'Good Practice Guidelines', 3rd edition, 2016 (Collins 2016) and Irish Wildlife Manual No. 25' (Kelleher & Marnell 2006).

The final part of the site assessment involved an evaluation of the study area and determination of the potential impacts on the habitats of the study area. This part of the assessment formed the basis for the Impact Assessment.

5.2.2 SITE EVALUATION AND IMPACT ASSESSMENT

Transport Infrastructure Ireland (TII) Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA 2009) outlines the methodology for evaluating ecological impacts of the project in the present report. According to the TII Guidelines, the Ecological Study should address:

- Designated conservation areas and sites proposed for designation within the zone(s) of influence of any of the route options;
- All the main inland surface waters (e.g., rivers, streams, canals, lakes and reservoirs) that are intersected by any of the route corridor options, including their fisheries value and any relevant designations;
- Aquifers and dependent systems and turloughs and their subterranean water systems;
- Any known or potentially important sites for rare or protected flora or fauna that occur along or within the zone(s) of influence of any of the route options;
- Any other sites of ecological value, that are not designated, along or in close proximity to any of the route corridor options;
- Any other relevant conservation designations or programmes (e.g., catchment management schemes, habitat restoration or creation projects, community conservation projects, etc.); and
- Any other features of particular ecological or conservation significance along any of the route options.

5.2.3 CONSULTATION

5.2.3.1 Statutory Stakeholders

J Sheils Planning & Environmental Ltd. circulated a scoping document to relevant NGOs and stakeholders. Information on the scoping and responses is presented in Section 1.5 of the EIAR.

5.2.3.2 Project Ecologist:

The project ecologist briefed the scope of the hydrological and hydrogeological assessment from the perspective that the site has hydrological connectivity to Lough Derravarragh, which is designated for Annexed Bird species and supporting Wetland habitats.

5.3 SITE DESCRIPTION

5.3.1 SITE LOCATION & TOPOGRAPHY

The site is located in the Townland of Deerpark c. 2 km southeast of Castlepollard and c. 13.5 km northwest of Delvin, Co. Westmeath. The quarry is located on the southwest side of, immediately adjacent to, and with direct access onto, the R395 regional road connecting Edgeworthstown, Castlepollard, Collinstown and Delvin.

The topography of the region is that of rolling hilly landscape, typically varying from 80 to 150 m AOD, with more prominent hills reaching as high as 295 m (i.e., Hill of Mael). The site is situated near the northern margin of the Irish Midlands, where the limestone terrain gives way to clastic sediments of the Cavan-Down Massif and the southern limit of the Drumlin Belt. The topography is characterised by a rolling, hilly landform with prominent hills topped with chert or cherty limestone with enclosed lakes and areas of peat deposits. The quarry lies in a rural area on of these elevated limestone outcrops at between c. 90-128 m AOD.

The quarry is located in an area between Lough Lene and Lough Derravaragh that is characterised by NW-SE oriented ridges and a resulting parallel drainage system. Hydraulically, there is a ridgeline that forms a divide c. 600 m northeast of the site with the subcatchments of the Upper Shannon to the west and the Boyne to the east.

5.3.2 LAND USE

Land-use in the area consists of a patchwork of variably small to large agricultural fields, which are predominantly held in pasture, with lesser coniferous and mixed forest, and transitional woodland scrub, while copses of ash and hazel and skirt the eastern and western flanks of the quarry ridge. The land in the area typically supports moderate-intensity agricultural grassland supporting livestock production. Although pasture is the dominant land use in the wider area, there are significant swathes of afforestation, and a few active and disused/restored quarries in the wider area, indicating a limited history of quarrying.

Residential development in the area consists of dispersed farmsteads and diffuse or sporadic ribbon development along roadsides and around towns and villages. The closest large residential settlement to the site is Castlepollard, which is located c. 2 km to the northwest. There are 10 residences within 250 m, 16 within 500 m and 42 within 1 km of the site planning application boundary (Refer Figure 4.1). There are several clusters of residential dwellings located near the site, particularly a cluster of 6 residences that are located within 250 m on the east side of the R395 across from the site entrance and north along the L5743.

A search of planning files on the Westmeath online planning system suggests that potable water supply to all houses in the vicinity of the quarry is sourced from public water supply.

5.3.3 SITE LAYOUT

Lagan, who currently operate the quarry at Deerpark, acquired the leasehold interest in the quarry in 2017. The site is worked using mobile crushing and screening plant, and the quarry is currently being worked dry.

The proposed development will consist of the continued use and operation of the existing quarry (permitted under P.A. Ref. 01/525), including deepening of the quarry, along with minor amendments to the permitted quarry layout comprising an extraction area of c. 4 ha within an overall application area of c. 11.4 ha. The development will include the provision of new site infrastructure, including water management system, wheelwash and other ancillaries.

The site is roughly rectangular with an axial orientation of NW-SE. The proposed extraction area is irregular in shape and runs axially to the southern boundary occupying the central and southern sections of the site. The site is bounded by a copse of trees on the eastern boundary and by hedgerows on the remaining boundaries, with stock fencing on the boundaries of the access road to the main site entrance. The access road extends from the northeastern corner of the main section of the site c. 130 m to the R395 Regional Road, where it has a 10 m frontage at the entrance.

To date, extraction of limestone has taken place in the northern and central sections of the quarry lands. Much of this part of the site comprises excavated or disturbed ground, with stockpiles of aggregate and areas of undisturbed ground. A substantial section in the southern part of the quarry, which is currently permitted, has been stripped of overburden in order to access the underlying limestone resource, which is still in-situ. The overburden has been used to form screening berms along the southern boundary. The copse of trees covering the eastern flank of the hill, into which the quarry has been excavated, screens the quarry workings from most views along the R395.

5.3.4 EXISTING SITE WATER MANAGEMENT

The quarry is currently worked dry with no discharge to surface water. A culvert has been provided beneath the stockpiling area to the north of the quarry extraction area which drains the wetlands to the north of the quarry lands.

5.3.5 PLANNING HISTORY

Historically, the quarry had been used for the extraction of limestone since the early 1900s by Westmeath County Council, among others. In 2001, P. Clarke & Sons Ltd. applied for planning permission to reopen/work the quarry and install a bituminous macadam manufacturing plant. The method of extraction of the limestone used a combination of blasting and mechanical digging.

The Council issued a notification to grant conditional planning permission (P.A. Ref. 01/525) for the development on the 7th December 2001, subject to 32 conditions. The decision was appealed to An Bord Pleanala, who upheld the decision of the Council, granting planning permission for the development in accordance with the submitted plans and particulars, subject to the set of 18 conditions in Schedule 2 (PL 25.128072).

The quarry is currently permitted under P.A. Ref. 01/525, which was granted for a 15 year period to work the quarry, plus one year for final re-instatement works, unless, prior to the end of the period, planning permission has been granted for its extension for a further period. In December 2017, a five year extension of the permission was approved under Section 42 “Extend Appropriate Period”.

The Schedules of Conditions attached to P.A. Ref. 01/525 PL 25.128072 are listed in Appendix 2.

5.4 RECEIVING ENVIRONMENT

5.4.1 HABITATS AND FLORA

5.4.1.1 Designated Sites

The Department of Housing, Planning and Local Government (previously DoEHLG)'s Guidance on Appropriate Assessment (2009) recommends an assessment of European sites within a Zone of Influence (ZoI) of 15 km. This distance is a guidance only and a zone of influence of a proposed development is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European site. This should be established on a case-by-case basis using the Source-Pathway-Receptor framework and not by arbitrary distances (such as 15 km).

The Zone of Influence may be determined by connectivity to the Proposed Development in terms of:

- Nature, scale, timing and duration of works and possible impacts, nature and size of excavations, storage of materials, flat/sloping sites;
- Distance and nature of pathways (dilution and dispersion; intervening 'buffer' lands, roads etc.); and
- Sensitivity and location of ecological features.

The potential for source pathway receptor connectivity is firstly identified and detailed information is then provided on sites with connectivity. European sites that are located within the potential Zone of Influence of the Proposed Development are listed in Table 5.1 and presented in Figure 5.1 and Figure 5.2. Spatial boundary data on the Natura 2000 network was extracted from the NPWS website (www.npws.ie) on the 15 December 2021.

Table 5.1 European Sites located within Potential Zone of Influence[1] of Proposed Development

Site Code	Site name	Distance (km)[2]
002121	Lough Lene SAC	1.18
004043	Lough Derravaragh SPA	4.00

[1] All European sites potentially connected irrespective of the nature or scale of the Proposed Development.
[2] Distances indicated are the closest geographical distance between the Proposed Development and the European site boundary, as made available by the NPWS. Connectivity along hydrological pathways may be significantly greater.

5.4.1.2 Quarry Habitats

The quarry habitats are best identified on the site layout map in Figure 5.3 where the woodland/scrub mosaic areas are identified and the worked quarry areas are shown in grey.

5.4.1.2.2 Dry calcareous and neutral grassland (GS1)

This category is used for unimproved or semi-improved dry grassland that may be either calcareous or neutral, but not acid. It is associated with low intensity agriculture and typically occurs on free-draining mineral soils of various depths. Calcareous grassland is restricted in its distribution and is now largely confined to the steep slopes of esker ridges and moraines in the midlands, and to other areas with shallow and rocky limestone soils.

This grassland type is found in scattered patches on the application site and along linear features such as the access tracks to the north and south. Typical grass species encountered include cock's foot (Dactylis glomerata), creeping bent (Agrostis stolonifera), perennial rye-grass (Lolium perenne), Yorkshire fog (Holcus lanatus), crested dog's tail (Cynosurus cristatus) and meadow grasses (Poa spp.). A variety of herbaceous species were recorded including indude yarrow (Achilea millefolium), ribwort plantain (Plantago lanceolata), knapweed (Centaurea nigra), mouse-ear chickweed (Cerastium fontanum), self-heal (Prunela vulgaris), creeping buttercup (Ranunculus repens), red and white clover (Trifolium pratense and Trifolium repens), meadow buttercup (Ranunculus acris) and bird's foot trefoil (Lotus corniculatus). Commonly recorded weedy species include frequent ragwort (Senecio jacobaea), spear thistle (Cirsium vulgare), broad-leaved dock (Rumex obtusifolius) and nettle (Urtica dioica). There are occasional stands of sot rush (Juncus effusus) in poorly drained areas.

5.4.1.2.3 Mixed Broadleaved Woodland & Scrub Mosaic (WD1/WS1)

There are two remnant areas of mixed broad leaved woodland located on the verges of the main quarry area The dominant species are Ash and Hazel, with hawthorn, blackthorn, holly, willow, ivy, bramble and gorse.

The ground flora below is typically poor in denser areas. Species recorded include bramble, ivy (Hedera helix), cleavers (Galium aparine), bush vetch (Vicia sepium), tufted vetch (Vicia cracca), wood sorrel (Oxalis acetosella), bracken (Pteridium aquilinum), docks (Rumex sp.), nettle (Urtica dioica), male fern (Dryopteris Nix-mas), harts tongue fem (Asplenium scolopendrium) and herb Robert (Geranium robertianum).

Patches of scrub are found interspersed with areas of woodland. Other species present in areas of scrub include bramble, bracken and hawthorn. An area of more dense bracken is found in the south eastern part of the site where the track rises to the upper level of the quarry. The ground flora beneath this scrub is poor and restricted to shade-tolerant species such as bracken, ivy, bramble and occasional hart's-tongue fem.

A topographically enclosed depression along the eastern boundary contains water and is referred to locally as the marsh. Historical OS maps indicate that this is a legacy of gravel extraction in the 1900's. Before the site's development, runoff from this marshy pond was diverted northwards,

ultimately entering the Castlepollard Stream. During the Hydrology site walkover, it was confirmed that this northern outlet ditch is now redundant. The area corresponds to Wet willow-alder-ash woodland and is outside the boundary and hydrology of the Proposed Development.

5.4.1.2.7 Recolonising bare ground (ED3)

This category is used for any areas where bare or disturbed ground, derelict sites or artificial surfaces of tarmac, concrete or hard core have been invaded by herbaceous plants. Areas along the northern boundary of the site and at the quarry entrance support a variety of plant species including; creeping bent, mouse-ear chickweed, cock's-foot, red and white clover, ribwort plantain, creeping buttercup, spear thistle, ragwort, groundsel, yarrow, knapweed, foxglove (Digitalis purpurea), hogweed (Heracleum sphondylium), docks, occasional rushes and colt's-foot.

5.4.1.2.8 Active quarries and mines (ED4)

The majority of the site is dominated by a worked quarry, where limestone is extracted, crushed and processed. The nature of this activity means a high level of disturbance, which prevents the colonisation of this area of the site by vegetation.

5.4.2 FAUNA

5.4.2.1 Bats

There are no records of bats from a custom polygon encompassing the quarry site for a distance of up to 100 m from the site boundary from the National Biodiversity Database which was consulted on 11/07/2021.

The night time detector survey of the site recorded three contacts from one species of bat: Leisler's bats (Nyctalus leisleri) calls were heard from the woodland area to the north.

5.4.2.2 Badgers

No specific feeding signs or setts were found within the quarry site boundary and the soils present tend to be either waterlogged or very thin over the underlying rock. A survey of the upper southern boundary with the adjacent conifer plantation did not reveal any setts.

5.4.2.3 Otters

There are no suitable habitats for otters on the proposed development site and no signs of otter were recorded within the site. Potential impacts on otters are considered under indirect impacts on water quality downstream.

5.4.2.4 Birds

Birds recorded during the site visit were typical of the wider countryside. The following species were recorded; Blackbird (Turdus merula), Robin (Erithacus rubecula), Wren (Troglodytes troglodytes), Blue tit (Parus caeruleus), Great tit (Parus major), Chaffinch (Fringilla coelebs), Song thrush (Turdus philomelos), Dunnock (Prunella modularis), Rook (Corvus frugilegus), Hooded crow (Corvus corone cornix), Starling (Sturnus vulgaris), Magpie (Pica pica), Jackdaw (Corvus monedula), Wood pigeon (Columba palumbus), Stonechat (Saxicola rubicola), Coal tit (Parus ater), Greenfinch (Cardueis chloris), Bullfinch (Pyrrhula pyrrhula) and Pied wagtail (Motacilla alba).

A single Peregrine Falcon (Falco peregrinus) was recorded nesting on the cliff face of the northwestern area of the site.

5.4.2.5 Freshwater Ecology

The proposed development is located within the hydrological catchment of two streams.

1. Castlepollard Stream – this is the northernmost of the streams in the vicinity of the site and Castlepollard village is located within its catchment. Historical mapping shows that the pond adjacent to the northern boundary previously outfalled at its northwestern end to the headwater of the Castlepollard Stream. This northern outfall ditch has become inactive. The stream is now mapped by the EPA as rising 300 m north of the site entrance. It travels westwards from this point towards the village, and is culverted below the R395, 1 km northwest of the site entrance. The Castlepollard Stream outfalls to the Yellow River 2.6 km west of the site.
2. Deerpark Stream – This is a small stream / drainage channel that connects the site to the Yellow (Castlepollard)_030. The northwestern corner of the site is connected to this drainage channel. The Deerpark Stream passes a tract of forestry before joining the Yellow (Castlepollard)_030 at a distance of almost 400 m from the site. The marshy pond to the east of the working quarry reaches the northwestern corner of the site by overflow through an underground 300 mm diameter culvert that traverses the northern part of the site. There is a steep sided drain at the northwestern site boundary that transmits waters to the Deerpark Stream, which then flows beneath the local road (L5739).

Downstream, the waters of these streams enter the Yellow River which in turns flows west into Lough Derravaragh with its European site, the Lough Derravaragh SPA (Site Code 004043), which is located approximately 4 km west of the proposed development and c. 7 river km downstream of the quarry discharge point.

The most recent EPA Biological Water Quality results from the closest station to the site, 3km downstream on the Yellow River, persistently returns Q Ratings of 4, which indicates Good Ecological Status (see Chapter 7).

There are no rare or protected habitats recorded in the study area inside the site boundary. The site may be considered of Low to Moderate Ecological Value at a local level.

5.5 ASSESSMENT OF IMPACTS

The procedure for determination of potential impacts on the receiving environment is to identify potential receptors within the site boundary and surrounding environment and use the information gathered during the field work and desk study to assess the degree to which these receptors will be impacted.

In line with best practice, the individual impacts will be considered with respect to the application site, plus the cumulative impacts with respect to the application site and surrounding area.

The Planning and Development Regulations 2001–2021 require Impact Assessment under the headings of Do Nothing, Transboundary, Direct, Indirect, Cumulative, Residual & Worst Case. Impacts are also assessed in relation to the construction, operational and decommissioning stages.

The main anticipated impact associated with the proposed quarry development, in relation to Biodiversity, relates to the potential risk posed to surface water and aquatic receptors.

Table 5.2 Biodiversity - Impact Matrix

'Do Nothing' Impacts	X		
Factors	**Construction**	**Operation**	**Decommissioning**
Direct Impacts	●	●	●
Indirect Impacts	X	X	X
Cumulative Impacts	X	X	X
Residual Impacts	X	X	X
`Worst Case' Impacts	X	X	X

None: X; Slight: ●; Moderate: ●; Significant: ● (Negative) ● (Positive)

The above Impact Assessment matrix provides an indication of the significance of potential effects arising during the life cycle of the development not accounting for any mitigation measures.

5.5.1 'DO NOTHING' IMPACTS

As mentioned, the site does not contain items of particular ecological interest at present but the successional stage of open scrub that occurs within the worked-out areas of the quarry has a positive biodiversity value in such agricultural surroundings.

Under the 'Do Nothing' scenario, all quarrying and ancillary activities would cease. The site would be restored as per the requirements of the existing planning permission (P.A. Ref. 01/525). Habitat development would occur slowly and lead to a general increase in biodiversity as the plant cover became more varied.

5.5.2 DIRECT IMPACTS

5.5.2.1 Quarry Habitats

There will be no significant change to the quarry habitats from the continued working of the quarry. The quarry base and surrounding upper levels comprise areas of bedrock and have been prepared for quarrying with no predicted significant effects on footprint habitats. The predicted direct effect on footprint habitats is neutral, imperceptible and permanent.

The surrounding Woodland/Scrub mosaic will continue to be managed as part of the quarry operation with similar levels of maintenance of tracks and access areas. The predicted direct effect on surrounding habitats is neutral, imperceptible and long term.

5.5.2.2 Fauna

Bats

There are no records of bats from a custom polygon encompassing the quarry site for a distance of up to 100 m from the site boundary and night time detector surveys returned relatively low numbers of bats.

There are no roosting habitats in the footprint of the proposed development and there are no predicted direct effects on bats.

Badgers

There will be no direct effects on badgers as a result of the proposed development.

Otters

There will be no direct effects on otters as a result of the proposed development.

Birds

Birds recorded during the site visit were typical of the wider countryside. There will be some minor removal of scrub vegetation along the southwestern boundary to open up the quarry extraction area. Potential impacts on nesting birds will be avoided by appropriate timing of this activity as presented in Table 5.3.

The single Peregrine Falcon (*Falco peregrinus*) recorded nesting on the cliff face of the northwestern area of the site will not be affected by the proposed development. Site data from another quarry, in full operation and undergoing regular blasting by the applicant, has shown that nesting peregrines have successfully raised and fledged a chick in 2021.

5.5.3 INDIRECT IMPACTS

5.5.3.1 Quarry Habitats

The surrounding upper levels of the quarry comprise areas of bedrock and have been prepared for quarrying with no predicted indirect effects on surrounding habitats.

Fauna

Bats

The predicted indirect impact on surrounding habitats is neutral, imperceptible and long term and as such there will be no indirect impact on bats in the surrounding area.

Badgers

There will be no indirect impacts on badgers as a result of the proposed development.

Otters

In the absence of mitigation, a significant discharge of silt laden water could have a significant effect on otter habitats or prey availability.

The proposed development includes specific measures for the attenuation and discharge to surface waters and there will be no indirect impacts on otters as a result of the proposed development.

Birds

The single Peregrine Falcon (Falco peregrinus) recorded nesting on the cliff face of the northwestern area of the site will not be affected by the proposed development.

Freshwater Ecology

The proposed development includes specific measures for the attenuation and discharge of surface water and there will be no indirect effects on water quality as a result of the proposed development.

In the absence of mitigation, a significant discharge of silt laden water could have a significant effect on bird habitats or recruitment in Lough Derravaragh.

The proposed development includes specific measures for the attenuation and discharge of surface water and there will be no indirect effects on birds or wetland habitats as a result of the proposed development.

5.5.4 CUMULATIVE IMPACTS

There are no other significant developments within c. 3 km of the site at Deerpark. The absence of any other significant projects including extractive or industrial developments within c. 3 km renders the likelihood of significant negative cumulative impacts on the Biodiversity of the area highly improbable.

5.5.5 TRANSBOUNDARY IMPACTS

The EIA Directive 2014-52-EU invokes the Espoo Convention on Environmental Impact Assessment in a Transboundary Context, 1991, and applies its definition of transboundary impacts. Given the location (c. 50 km from the border with N. Ireland), the nature, size and scale of the proposed development, it is expected that the impacts of the development would not have any significant transboundary effects with respect to biodiversity.

5.5.6 RESIDUAL IMPACTS

Based on the mitigation measures provided for during the operational phase, there will be no significant residual impacts envisaged in terms of biodiversity. On completion of the full restoration and closure of the site, it is expected that there will not be any significant, long-term, adverse impacts.

5.5.7 'WORST CASE' IMPACTS

The proposed development includes specific measures for attenuation and discharge of on-site waters to an external surface watercourse and there will be no indirect effects on Annexed birds or Wetland habitats as a result of the proposed development.

5.6 MITIGATION MEASURES

The predicted impacts can be resolved under the mitigation measures set out in Table 5.3.

Table 5.3 Mitigation Measures

Construction Activity	Attribute Measures	Character of Impact	Mitigation	Residual Impact
1. Fuel storage/ usage on site	Local Rivers Yellow (Castlepollard) _030, Inny_070 & Lough Derravaragh	Accidental spillage of contaminants during site operations could cause short to long term, moderate to significant impacts to soils, groundwater and the surface water environment, if not stored and used in an environmentally safe manner.	• Lagan's SOPs have been designed to ensure responsible activity on their sites. • There will be no bulk fuels stored on-site. Hazardous wastes, such as waste oil, and chemicals will be stored in sealed containers. Fuelling, lubrication and storage areas will not be located within 30 m of drainage ditches or settlement sumps. • All waste containers (including all ancillary equipment such as vent pipes) will be stored within a secondary containment system (*e.g.,* a bund for static tanks or a drip tray for mobile stores and drums). The bunds will be capable of storing 110 % of the tank capacity. Where more than one tank is stored, the bund must be capable of holding 110 % of the largest tank or 25 % of the aggregate capacity (whichever is greater). Drip trays used for drum storage must be capable of holding at least 25 % of the drum capacity. Where more than one drum is stored the drip tray must be capable of holding 25 % of the aggregate capacity of the drums stored. • Regular monitoring of water levels within drip trays and bunds due to rainfall will be undertaken to ensure sufficient capacity is maintained at all times. • A wheel wash facility will be installed on the site and the roads have sprinkler systems. • Regular monitoring and maintenance of silt traps will be undertaken in accordance with the manufacturer's specifications. • Oil that accumulates within hydrocarbon interceptors shall be regularly removed by an appropriately licenced contractor. In addition, the hydrocarbon interceptor shall be appropriately maintained in accordance with the manufacturer's specifications. • Regular visual monitoring of the attenuation sump will be undertaken to ensure no visual oil or fuel contamination is present. • An oil interceptor shall be fitted with the capacity to deal with the throughflow rate to the settlement tanks limited to 0.02 m^3/s and a maximum daily discharge volume of 170 m^3/d (0.002 m^3/s).	Neutral
2. Excavation works, Blasting and vehicle movement on site	Local Rivers Yellow (Castlepollard) _030, Inny_070 & Lough Derravaragh Peregrine Falcon	Excavation works may result in vulnerability of surface water at the site and blasting can affect bird species.	• Excavation works will be completed using Best Practice maintenance of machinery & blasting methods • There will be no bulk fuels stored on-site. • Spoil heaps will be safely sloped and situated away from surface waters. • The single Peregrine Falcon (Falco peregrinus) recorded nesting on the cliff face of the northwestern area of the site will not be affected by the proposed development. Site data from a fully operational rock quarry undertaking regular blasting being operated by the applicant, has shown that nesting peregrines here have successfully raised and fledged a chick in 2021. • Vegetation clearance will be undertaken outside the bird nesting season from 1st March to August 31st.	Neutral

Construction Activity	Attribute Measures	Character of Impact	Mitigation	Residual Impact
3. Surface Water Runoff	Local Rivers Yellow (Castlepollard) _030, Inny_070 & Lough Derravaragh	Road surface runoff or drainage systems have potential, if not correctly designed, to result in contamination of surface waters and groundwater. Accidental spillage could contaminate the aquifer by direct percolation or via the superficial water network. Monitoring results and existing system evaluation suggest that this is not the case at the site.	• The volumetric capacity of the settlement sump on the floor of the quarry has been specified to accommodate the required extreme rainfall storm event waters for the required residence time. • A Hydrocarbon Interceptor has been proposed for the line to the discharge control settlement tanks • The overflow rate from the final settlement tank is designed to be the same or less than the permissible predevelopment Greenfield Runoff Rate. • Assimilation capacity simulations have been completed and appropriate Emission Limit Values have been proposed. • The Emission Limit Value (ELV) proposed for the daily maximum discharge volume, worst case, end of life amount of 170 m^3/d (0.002 m^3/s) is an order of magnitude lower than the calculated 95%ile low flow river condition of 0.024 m^3/s at the mixing point of the Deerpark Stream and the Yellow (Castlepollard)_030. • Discharge will be of a quality that will not impact water quality. The Emission Limits proposed for the site are better quality for Suspended Solids than currently exists in the natural environment receiving the water and the Ammonia ELV proposed is the same as the EQO for Good Status water bodies as specified in the Surface Water Regulations. • A flow meter has been proposed for the discharge.	Neutral

5.7 SPA PROTECTION MEASURES

The main risk associated with the proposed development for the existing quarry, is the potential adverse impact it could have on receiving surface and groundwaters. The ultimate downstream receptor is the Lough Derravaragh SPA. The works completed here with respect to quantification of dewatering and the ability of the receiving waters to accept and assimilate the envisaged discharge suggest no potential for impact and no special measures are required other than those associated with all quarries, which are the appropriately specified floor sump, settlement tanks and the Section 4 Discharge licence.

The NIS has reviewed the predicted impacts arising from the project and found that with the implementation of appropriate mitigation measures, specifically with regard to surface water, significant effects on the integrity of the Lough Derravarragh SPA can be ruled out.

It is the conclusion of the NIS, on the basis of the best scientific knowledge available, and subject to the implementation of the mitigation measures set out therein, that the possibility of any adverse effects on the integrity of the European Sites considered in the NIS, or on the integrity of any other European Site (having regard to their conservation objectives), arising from the proposed development, either alone or in combination with other plans or projects, can be excluded beyond a reasonable scientific doubt.

5.8 MONITORING

There are no proposed monitoring measures with respect to biodiversity. Monitoring of water quality is outlined in EIAR Section 7 and has implications for the quality of habitats and aquatic species downstream.

5.9 CONCLUSIONS

There are no predicted adverse effects on local or downstream biodiversity, flora or fauna as a result of the proposed development given the inclusion of workable industry standard mitigation measures that will be monitored to ensure continued efficacy.

The finding of ***no adverse effects*** is a confident assertion because all risks are mitigated and the proposed development will have no impact on receiving waters and designated sites if the existing mitigating measures continue to be implemented.

No other quarries nor other developments occur within a significant distance to give rise to a cumulative impact.

It is concluded, in light of demonstrated compliance with the requirements of the Groundwater and Surface Water Regulations, as well as aiding the objectives of the Water Framework Directive's implementation in the region, that there are no 'Water' impediments to the proposed development.

5.10 REFERENCES

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5.11 FIGURES

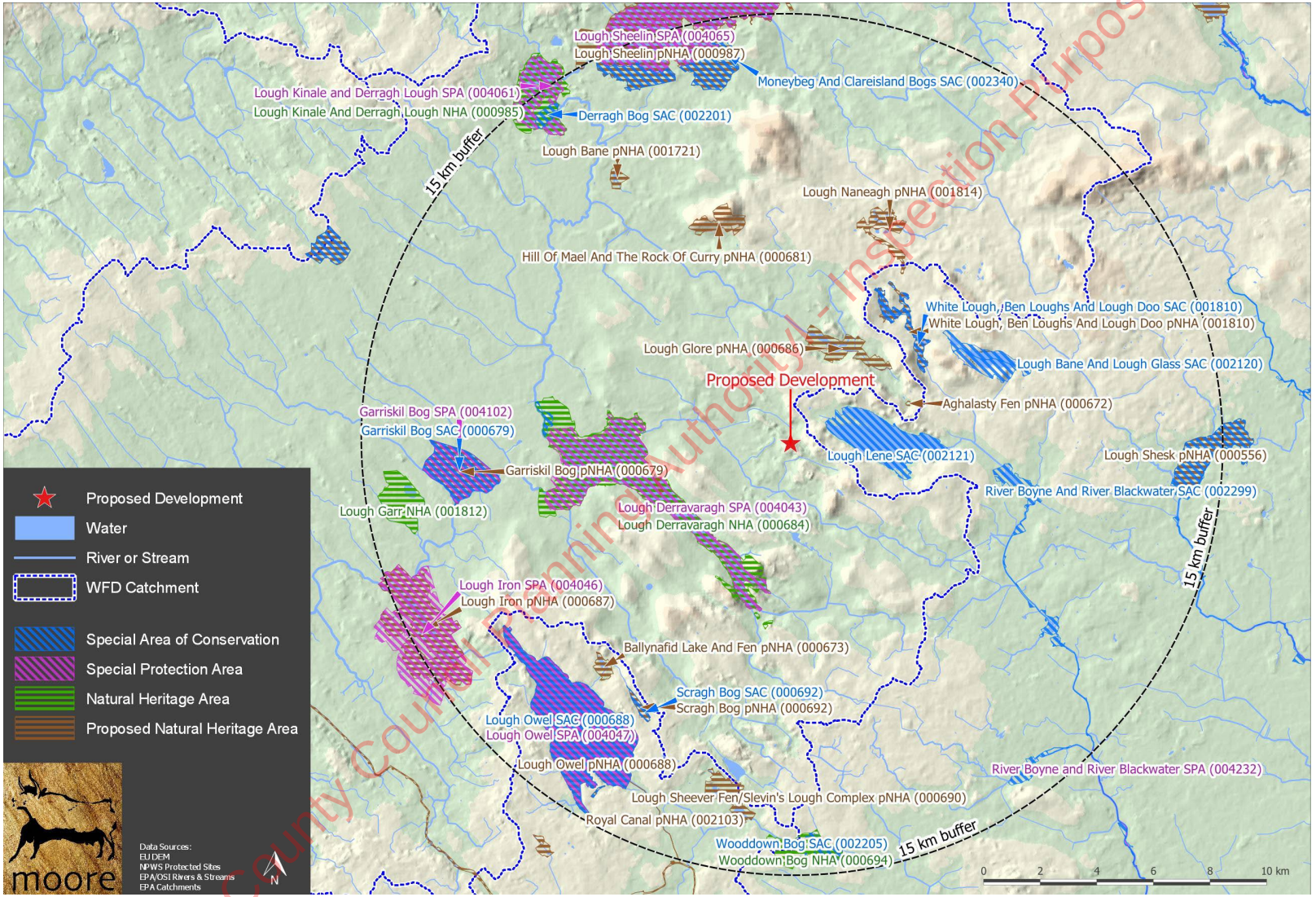


Figure 5.1 Physiographic Map showing European Sites and NHAs/pNHAs in the Wider Area of Proposed Development.

JSPE

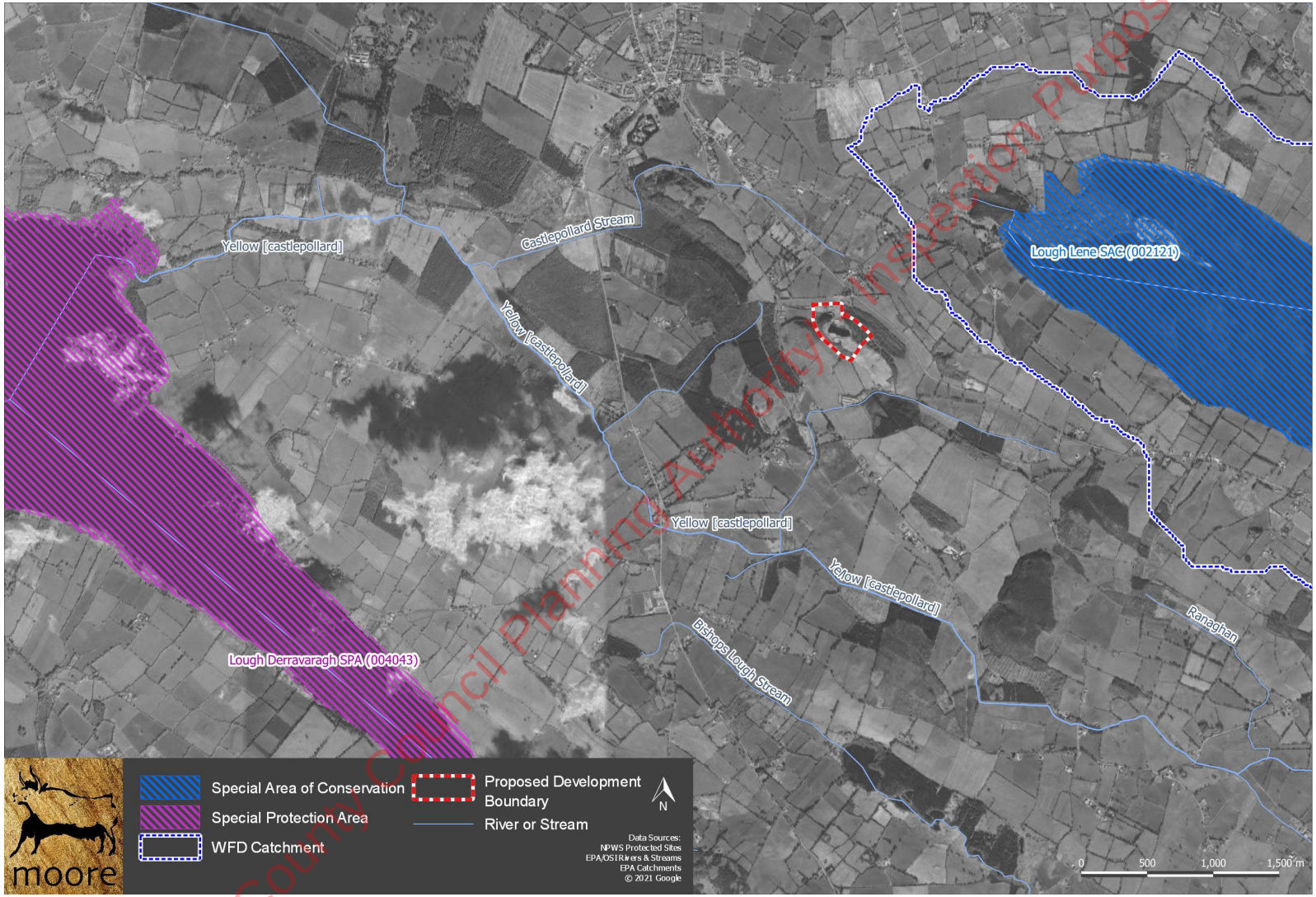
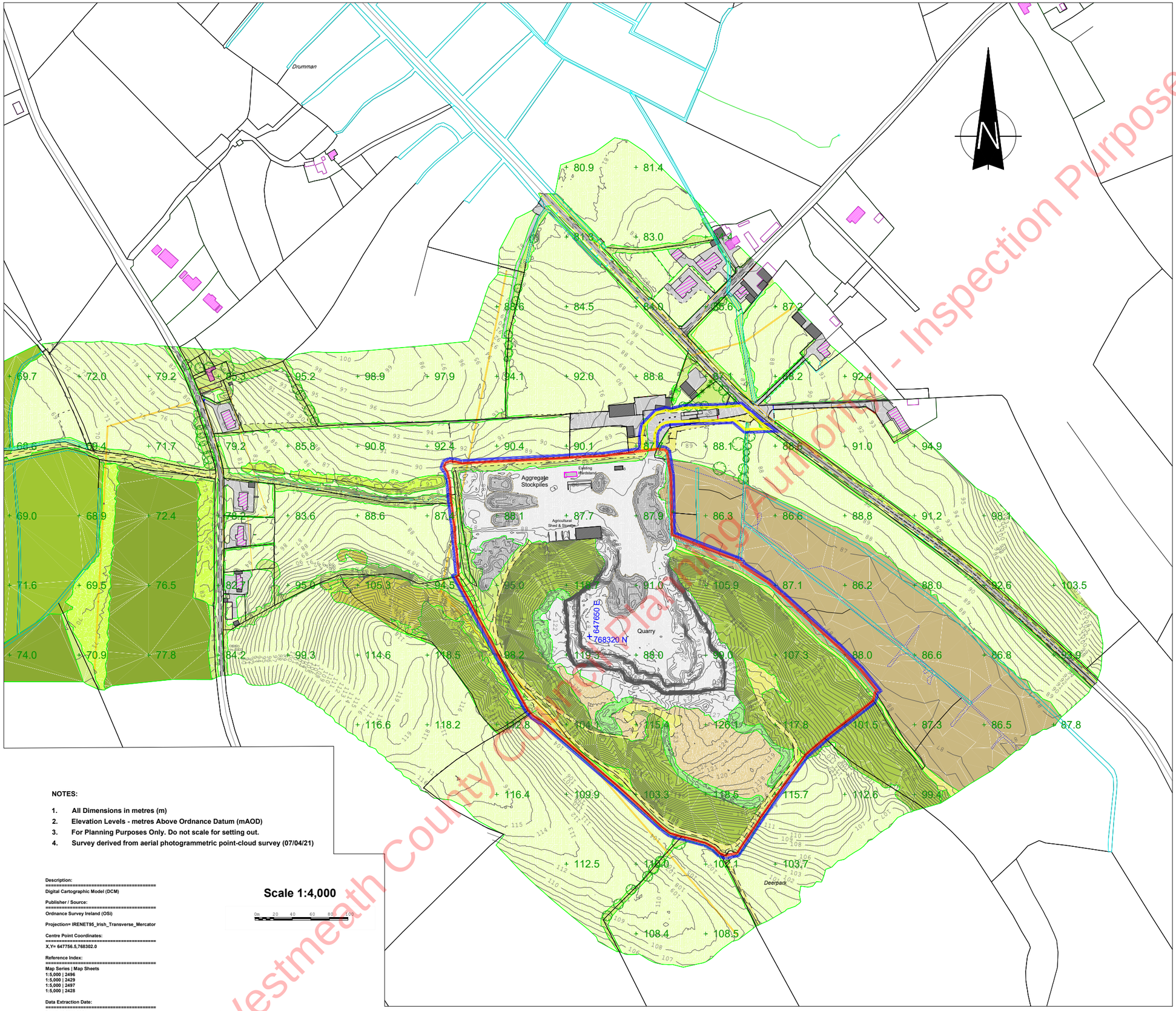


Figure 5.2 Aerial Photograph showing Detail of Designated Conservation Sites in the Vicinity of Proposed Development.



Legend

- Lands under Operators Control (c.11.7 ha)
- Application Area (c. 11.4 ha)
- Wayleave
- Active Quarries and Mines (ED4)
- Recolonisation bare ground (ED4)
- Dry Calcareous & Neutral Grassland (GS1)
- Mixed Broadleaved Woodland & Scrub Mosaic (WD/WS1)
- Fence
- Gate
- Contours *(mAOD)*
- 87.7 Spot Levels *(mAOD)*
- \+ Irish Transverse Mercator (ITM) geographic coordinates

NOTES:

1. All Dimensions in metres (m)
2. Elevation Levels - metres Above Ordnance Datum (mAOD)
3. For Planning Purposes Only. Do not scale for setting out.
4. Survey derived from aerial photogrammetric point-cloud survey (07/04/21)

Description:
Digital Cartographic Model (DCM)

Publisher / Source:
Ordnance Survey Ireland (OSi)

Projection= IRENET95_Irish_Transverse_Mercator

Centre Point Coordinates:
X,Y= 647756.5,768302.0

Reference Index:
Map Series | Map Sheets
1:5,000 | 2496
1:5,000 | 2429
1:5,000 | 2497
1:5,000 | 2428

Data Extraction Date:
Date= 10-May-2021

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CLIENT	Lagan Materials Ltd
DRAWING	Habitats Plan
LOCATION	Deerpark, Castlepollard, Co. Westmeath

Drawn by: John Sheils	Scale: 1: 4,000	
Checked by: John Sheils	Job No.: JSPE 277	
Date: 03/11/21	Figure No.: 5.3	Rev.: 0