

11 ARCHAEOLOGY AND CULTURAL HERITAGE

11.1 Introduction

This Chapter of the EIAR describes and assesses the potential effects of the Proposed Development, located at Bannagagole, Old Leighlin, Co. Carlow, on Archaeology, Cultural Heritage and Architectural Heritage.

The aim of this Chapter is to assess the baseline Archaeological and Cultural Heritage conditions of the surrounding environment for the Proposed Development, in order to determine any significant impacts that may arise as a result of the Proposed Development and highlight any potential effects this may have on these resources. In addition, if deemed appropriate, mitigation measures are recommended, in accordance with the policies of Carlow County Council, the Department of Culture, Heritage, and the Gaeltacht, National Monuments Acts 1930-2004 and best practice guidelines.

11.1.1 Quality Assurance and Competence

This Chapter was prepared by Arthur Greene, Graduate Environmental Consultant, Enviroguide Consulting. Arthur has a Master of Science (Hons) in Ecosystem Science and Policy from University College Dublin and a Bachelor of Arts (Hons) in Geography from Trinity College Dublin. Arthur has experience preparing Environmental Impact Assessment (EIA) Screening Reports, Introduction, Archaeology and Cultural Heritage Chapters of EIARs.

11.1.2 Project Description

The Proposed Development (as detailed in Chapter 2 of this EIAR) will comprise of the following components:

- Demolition of existing derelict buildings;
- The development of a quarry with a projected lifetime of c. 12 years with an additional 1 year permission to allow for the implementation of a restoration plan;
- Earthen screening berms to a height of c. 3 m;
- Wheelwash facility;
- Installation of surface water attenuation and settlement ponds for the treatment of suspended solids in the floor of the quarry;
- Soil storage area with an average storage depth of c.3.85 m;
- All other site development works above and below ground including the restoration of the final quarry void (extractive area).

11.2 Study Methodology

11.2.1 Guidance and Legislation

The following legislation and guidance documents were consulted as part of this assessment. This legislation makes up the main legal mechanisms by which Archaeological, Architectural and Cultural Heritage resources are protected in Ireland.

- National Monuments Act, 1930-2014;
- Heritage Act, 1995;
- Architectural Heritage and Historic Properties Act, 1999;

- Local Government (Planning and Development) Act, 2000
- The Planning and Development (Strategic Infrastructure) Act, 2006;
- EPA 'Advice Notes for preparing Environmental Impact Statements' (Draft 2015);
- EPA 'Guidelines on the Information to be Contained in Environmental Impact Statements' (EPA, 2002);
- Frameworks and Principles for the Protection of the Archaeological Heritage, 1999, (formerly) Department of Arts, Heritage, Gaeltacht, and Islands.
- Architectural Heritage Protection: Guidelines for Planning Authorities, 2011, (formerly) Department of Arts, Heritage, and the Gaeltacht.

The assessment contained in this Chapter has involved a desktop study which considered all publicly available archaeological, architectural, historical, and cartographic sources. This information was used in order to assess any potential impact on the receiving environment and to identify measures to ensure the conservation of any monuments or features.

11.2.2 Desk Study

The following archaeological, historical and cartographic sources were examined as part of the desk study:

- **Records of Monuments and Places (RMP)** is a list of monuments recorded under Section 12 (1) of the National Monuments (Amendment) Act 1994.
- **sites and Monuments Record (SMR)** is a national baseline database of known archaeological sites and monuments in Ireland.
- **Topographical Files of the National Museum of Ireland** is an archive containing records of all finds logged by the National Museum.
- **Aerial Photographs** provide an important archaeological resource in terms of detecting new sites and identifying the exact location and extent of known sites. These features can be identified through surface anomalies such as earthworks or distinct vegetation marks.
- **Excavations Bulletin** is an annual publication, started in 1970, which summarises all archaeological excavations carried out in Ireland each year (www.excavations.ie).
- **The National Inventory of Architectural Heritage** is a comprehensive database of structures relating to the architectural heritage of Ireland.
- **Carlow County Development Plan** contains a list of Architectural Conservation Areas and recorded Protected Structures for County Carlow.
- **Cartographic Sources** are important in providing topographical information on areas of archaeological potential as well as tracing land use development within the Proposed Development area.

11.3 The Existing and Receiving Environment (Baseline Situation)

11.3.1 RMP files (Record of Monuments and Places) close to the study area

Within a 2km radius of the site there are 25 no. recorded archaeological monuments. The monuments are listed below, and identified by townland, RMP reference number, site type, site status and distance from the site to the Proposed Development. The RMP reference consists of a three-letter county code, the relevant number of the Ordnance Survey six-inch sheet on which the site is located, and the number of the individual monument. This

information is gathered from the online Historic Environment Viewer provided by the Department of Culture, Heritage, and the Gaeltacht. These monuments are discussed above within the context of the historical and archaeological background of the surrounding area. No Recorded Monuments will be affected by the development plans.

RMP No.: CW015-002----

Townland: Bannagagole

Class: Quarry

Description: Listed in the RMP (1995) as 'Potential site - map' based on depiction on the 1908 ed. of OS 6-inch map. Area densely overgrown when inspected in 1987 by ASI. Shown as and marked 'Quarry (Disused)' on the 25 inch OS 6-inch map.

RMP No.: CW011-016003-

Townland: Oldleighlin

Class: Cross - High cross

Description: Small granite undecorated wheeled cross with edge mouldings now standing in modern enclosure by St Molaise's Well (CW011-016004-). Granite base set in modern plinth. (Cross, H 1.27m; max. Wth 0.60m; T 0.15m; Base H 0.15m; 0.70m x 0.70m) (Bradley 1989, 45).

RMP No.: CW011-016004-

Townland: Oldleighlin

Class: Ritual site - holy well

Description: Still venerated. Within modern enclosure beside granite cross (CW011-016003-) (Bradley 1989, 45).

RMP No.: CW011-016005-

Townland: Oldleighlin

Class: Cathedral

Description: Present remains consists of thirteenth-century long nave and chancel to which two transepts, low crossing tower and chapel were added in sixteenth century. Built of mixed rubble with dressed granite jambs, windows and sedilia. Nave may incorporate thirteenth-century stonework. Two fonts within cathedral: (1) thirteenth-century, Kilkenny limestone, large square bowl with rounded arcades, standing on possibly modern drum-shaped base: (2) large square undecorated limestone basin, on drum-shaped base, two mid-sixteenth-century limestone memorial slabs. Limestone tomb table and end stone of another in nave. (Bradley 1989, 46-50)

RMP No.: CW011-016006-

Townland: Oldleighlin

Class: Font (present location)

Description: A 13th-century font of Kilkenny limestone located inside the S entrance door of the cathedral's nave (CW011-016005-) (Bradley 1989, 47). It has a large square bowl decorated with rounded arcades resting on a large, possibly modern, drum shaped base (ibid.). According to Pike (1989, 574) this font, described as 'decorated with heavy Romanesque flutes, ten on each side, Fleur-de-lis decoration on the top surface', was moved here from St Mary's Church (KK020-060006-), Gowran, Co. Kilkenny (where the font is recorded as KK020-060070-).

RMP No.: CW011-016007-

Townland: Oldleighlin

Class: Font

Description: Large, square and undecorated limestone font located beside the north pier of the cathedral's crossing tower (CW011-016005-). It is mounted on a large drum-shaped base. The basin is straight sided and has a central drainage hole. (Bradley 1989, 47-8)

RMP No.: CW011-016008-

Townland: Oldleighlin

Class: Memorial stone

Description: Polished black limestone slab in three pieces, set into the centre aisle of the cathedral's chancel (CW011-016005-). It is decorated in false relief with an eight armed cross, rosettes and an inscription. (Bradley 1989, 48-9)

RMP No.: CW011-016----

Townland: Moanduff, Oldleighlin, Raheenwood (Idrone West By.)

Class: Historic town

Description: A deserted medieval borough c. 3 km W of Leighlinbridge. Site of an early Christian monastery which was plundered by the Vikings in 916 and burned in 1060. It functioned as one of the five bishoprics of Leinster in the early twelfth century. The first Norman bishop was appointed in the early thirteenth century and this probably led to the establishment of the borough. Abandoned gradually during the fourteenth century but reconstituted in 1688. (Bradley 1989, 46-50)

RMP No.: CW011-016002-

Townland: Oldleighlin

Class: Cross

Description: Granite cross base lying upside down in graveyard (H 0.63m; 0.78m x 0.63m). Secondary socket in present upper surface. (Bradley 1989, 45).

RMP No.: CW011-014----

Townland: Coolnakeeran

Class: Enclosure

Description: Shown on 1839 'OS 6-inch' map as large circular enclosure (max. diam. c. 60m), and as subcircular on 1908 ed. Quarried out and backfilled. No visible surface traces. Possibly a ringfort.

RMP No.: CW015-028----

Townland: Moanduff

Class: Fulacht fia

Description: Excavated in advance of construction of the N9/N10 Kilcullen-Waterford Road (Excavation Licence number E3736). Two pits filled with burnt mound material were uncovered. The excavator suggested that these may have been the remains of a ploughed-out fulacht fia. (Phelan S. 2009, 6-7)

RMP No.: CW015-033----

Townland: Farranafreney

Class: Enclosure

Description: In tillage. A circular enclosure (diam. c. 38m) identified as a cropmark on Google Earth Pro imagery (imagery date 14 July 2018) by Jean-Charles Caillère. There are irregular fields (CW015-035----) immediately S of the enclosure and there is another enclosure (CW015-034----) c.70m to the E.

RMP No.: CW015-035----

Townland: Farranafreney

Class: Field system

Description: In tillage. Conjoined irregular enclosures (dims. c. 37m x 54m; c. 56m x 80m; c. 36m x 26m) identified as cropmarks on Google Earth Pro imagery (imagery date 14 July 2018) by Jean-Charles Caillère. There is an enclosure (CW015-034----) immediately to the N and another enclosure (CW015-035----) c. 40m to the NE.

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RMP No.: CW015-034----

Townland: Farranafreney

Class: Enclosure

Description: In tillage. A roughly enclosure (dims. c. 36m N-S; c. 44m E-W) identified as a cropmark on Google Earth Pro imagery (imagery date 14 July 2018) by Jean-Charles Caillère. There is a pond, currently filled in, immediately outside the W-SW sector. There is an enclosure (CW015-034----) c.70m to the W with irregular fields (CW015-035----) immediately S of it.

RMP No.: CW015-003----

Townland: Farranafreney

Class: Enclosure

Description: Aerial photographs (GSI S 432 and ASIAP (14) 36) show cropmark of fosse enclosing approximately oval, apparently raised area (max. dims. c. 50m N-S, 40m E-W). A discrete field system (CW015-003001-) associated with this enclosure has been identified as a cropmark by James Eogan on satellite imagery (Google Earth Pro, imagery date 14 July 2018).

RMP No.: CW015-003001-

Townland: Farranafreney

Class: Field system

Description: In tillage. A field system, associated with an oval enclosure (CW015-003----), identified as a cropmark by James Eogan on satellite imagery (Google Earth Pro, imagery date 14 July 2018). This discrete field system consists of a curvilinear enclosure adjoining the N (extending c. 27m N) and E side (extending c. 18m E) of the oval enclosure and an adjoining roughly square enclosure (dims. c. 50m) S of the oval enclosure. There is also a roughly concentric fosse outside the W quadrant (Wth of area c. 10m), from SW-NW and another similar area, defined by a fainter cropmark of a fosse, running concentric with the N quadrant (Wth of area c. 7m), from NW-NE. There are two enclosures, CW015-034---- and CW015-033----, c. 140m and c. 240m to the WSW respectively and a field system (CW015-035----) c. 240m to the SW.

RMP No.: CW015-004----

Townland: Closutton

Class: Moated site

Description: Approximately square platform (c. 48m N-S) enclosed by wet fosse (Wth c. 4m; D 1.4-2m) with causeway (Wth 3.5m) at W. Second, possibly modern entrance at S. Low bank visible outside fosse towards SE corner, not present at S, W or W part of N sides. Known locally as 'The Bawns'. Possibly site of unlocated Down Survey castle (CW015-005----).

RMP No.: CW015-032----

Townland: Bannagagole

Class: Fulacht fia

Description: Excavated in advance of construction of the N9/N10 Kilcullen-Waterford Road (Excavation Licence number E3844). A spread of burnt mound material was uncovered under which lay three troughs, four pits and a number of post-holes. (Phelan S. 2010, 19)

RMP No.: CW015-009----

Townland: Closutton

Class: Enclosure

Description: Small enclosure visible on aerial photograph (GSIAP R4/31). Not visible at ground level when inspected by ASI in 1987.

RMP No.: CW015-030----

Townland: Bannagagole

Class: Fulacht fia

Description: Excavated in advance of construction of the N9/N10 Kilcullen-Waterford Road (Excavation Licence number E3837). Located on wet ground with a small stream c. 400m to the N. A small spread of burnt mound material was uncovered under which lay a trough (L 1.5m; Wth 1.2m; D 0.28m). (Phelan S. 2010, 19)

RMP No.: CW015-007----

Townland: Moanmore (Idrone West By.)

Class: Fulacht fia

Description: Spread of charcoal and burnt stone uncovered during soil stripping in advance of pipeline laying. Probably fulacht fiadh. (Cleary et al. 1987, 6)

RMP No.: CW015-008----

Townland: Moanmore (Idrone West By.)

Class: Excavation - miscellaneous

Description: On a broad, fairly level expanse of land. A single course of flat stone foundations, discovered during work on the Gas pipeline from Cork to Dublin (Sleeman 1983: 364).

RMP No.: CW015-031----

Townland: Moanmore (Idrone West By.)

Class: Structure

Description: Excavated in advance of construction of the N9/N10 Kilcullen-Waterford Road (Excavation Licence number E3843). Fourteen post-holes formed a circular structure with a central hearth. Up to 50 additional stake- and post-holes were located in the vicinity. Finds included two polished stones. (Phelan S. 2010, 19)

RMP No.: CW015-014----

Townland: Moanmore (Idrone West By.)

Class: Fulacht fia

Description: Spread of charcoal and burnt stone (diam. c. 3m) uncovered during laying of pipeline. Probably fulacht fiadh. (Cleary et al. 1987, 6)

RMP No.: CW015-006----

Townland: Moanmore (Idrone West By.)

Class: Ringfort - rath

Description: Approximately oval area (c. 39m ENE-WSW) enclosed by bank, best preserved upslope at N and as scarp at S. Entrance not identifiable. Drystone revetting is probably recent.

11.3.2 Topographical files, National Museum of Ireland (NMI)

11.3.3 Cartographic Analysis

11.3.3.1 Historic six-inch Ordnance Survey Map, 1829-1841

The first edition of the six-inch Ordnance Survey (OS) map was carried out from 1837-1842. This map shows the Proposed Development site and surrounding areas as a series of agricultural fields divided by field boundaries. This similar layout of the fields and boundaries is recorded on all the maps consulted.

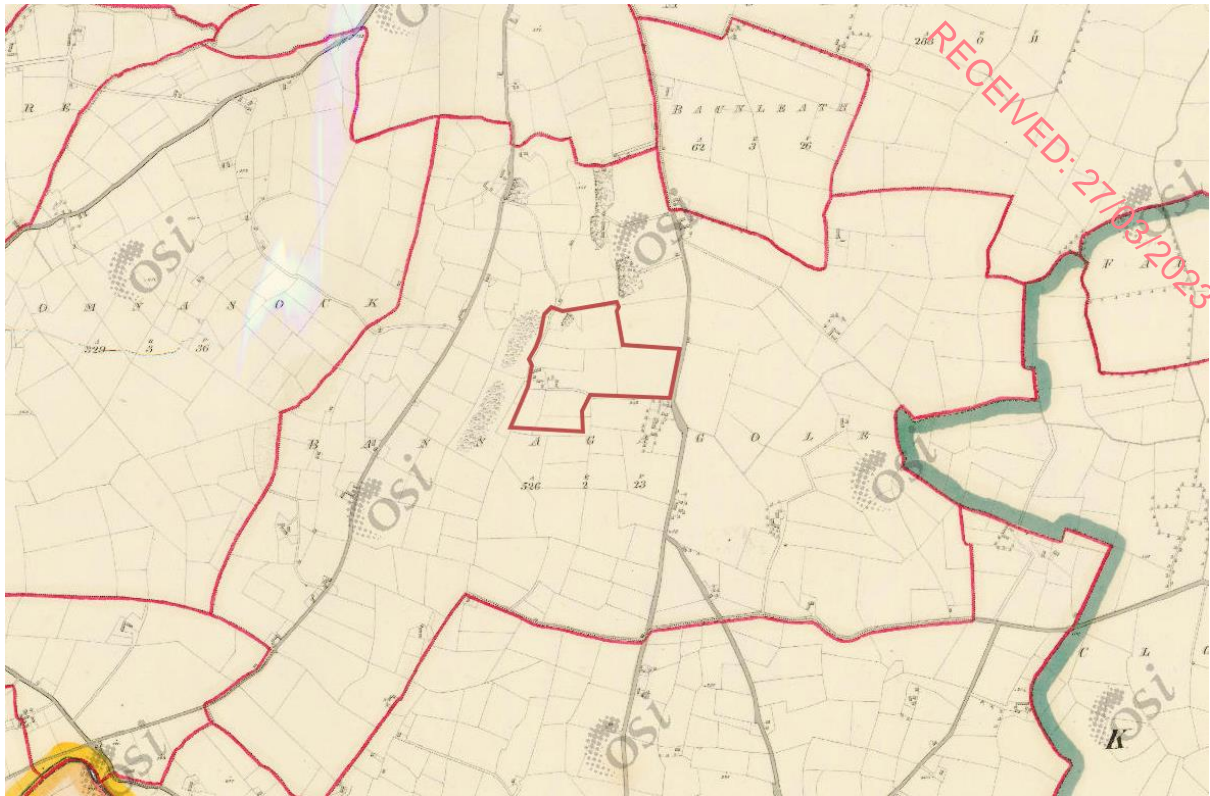


Figure 11-1: Historic 6-Inch OS map with redline boundary.

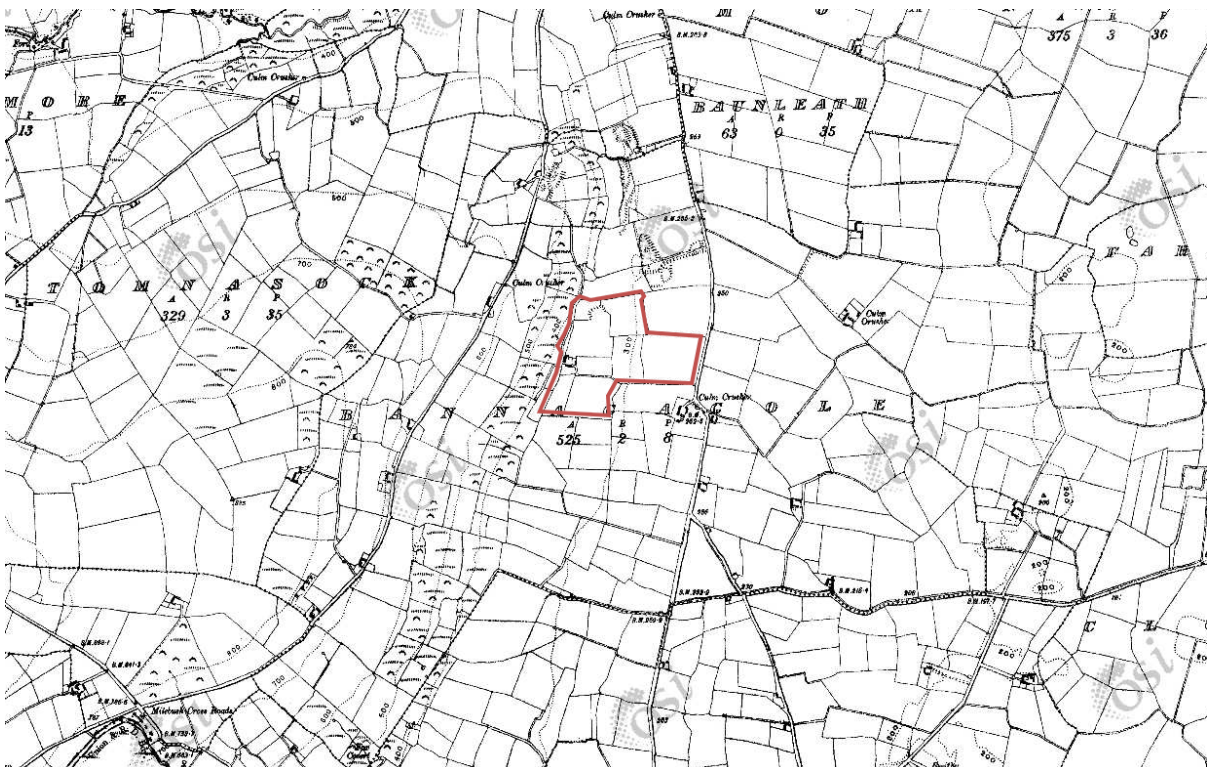


Figure 11-2: Cassini 6-Inch with redline boundary.

11.3.3.2 Excavations Database and Previous work carried out in the surrounding area

Excavations.ie contains summary accounts of all the excavations carried out in Ireland – North and South – from 1970 to 2018. This dataset is compiled in order to provide summary accounts of all excavations carried out on the island of Ireland. The Database recorded 5 no. excavations within 2 km of the Proposed Development. No recorded excavations will be affected by the development plans.

Site Name: St Lasarian's Cathedral, Old Leighlin

Sites and Monuments Record No.: CW011-016

License No.: 13E0055

Site Type: Medieval cathedral and town

Site Name: River Madlin, Moanduff, Carlow

Sites and Monuments Record No.: n/a

License No.: 16E0506

Site Type: River monitoring

Site Name: AR157, Ballyquirk

Sites and Monuments Record No.: n/a

License No.: A032/167; E3839

Site Type: Burnt-mound activity

Site Name: AR160, Ballynolan

Sites and Monuments Record No.: n/a

License No.: A032/121; E3755

Site Type: Ditch

Site Name: AR156, Demense/Ballynolan

Sites and Monuments Record No.: n/a

License No.: A032/120; E3736

Site Type: Prehistoric activity

Site Name: AR155, Demense/Ballynolan

Sites and Monuments Record No.: n/a

License No.: A032/119; E3735

Site Type: Prehistoric activity

Site Name: AR100, Holdenstown

Sites and Monuments Record No.: n/a

License No.: A032/101; E3682

Site Type: Burnt-mound activity

Site Name: AR137, Moanduff

Sites and Monuments Record No.: n/a

License No.: A032/160; E3839

Site Type: Burnt-mound activity

Site Name: AR136, Bannagagole

Sites and Monuments Record No.: n/a

License No.: A032/159; E3844

Site Type: Burnt-mound activity

Site Name: AR135, Bannagagole

Sites and Monuments Record No.: n/a

License No.: A032/158; E3837

Site Type: Burnt-mound activity

Site Name: AR134, Moanmore

Sites and Monuments Record No.: n/a

License No.: A032/157; E3843

Site Type: Possible round house

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11.3.3.3 Inventory of Architectural Heritage

The National Inventory of Architectural Heritage (NIAH) was reviewed in order to identify any buildings/features of architectural significance within 2km of the site. The NIAH Registration Number refers to the registration number on the National Inventory of Architectural Heritage building survey of County Carlow. The NIAH is a section within the Department of the Arts Heritage and the Gaeltacht, and the work involves identifying and recording the architectural heritage of Ireland from 1700 to present day Ireland. It is important to note that there may be structures in the NIAH survey that are also included in the RPS, however not all of them are. There are 2 no. buildings of architectural significance located with 2km of the site. Information from the National Inventory of Architectural Heritage on this building and its features are given below.

Reg No.: 10301103

Date: 1830 - 1850

Original Use: House

In Use As: House

Categories of Special Interest: Architectural, Artistic

Impact: No perceived negative impact as a result of the Proposed Development.

Reg No.: 10301101

Date: 1150 - 1900

Original Use: Cathedral

In Use As: Cathedral

Categories of Special Interest: Archaeological, Architectural, Artistic, Social

Impact: No perceived negative impact as a result of the Proposed Development.

11.3.3.4 Carlow County Council Development Plan

11.3.3.4.1 Architecture

Protection is also recognised to areas of cohesive architectural value and these areas can be classified as Architectural Conservation Areas (ACA), and any works that may have a material effect on the special character of an ACA needs planning permission. An area can be designated an ACA often because it contains a group of historic buildings or has a distinctive street size/plot size that contributes to the distinct character of a town or village.

There are currently 7 ACAs within the Greater Carlow Graiguecullen Urban Area, all located within the functional area of Carlow Town. These ACAs include Montgomery Street, Dublin Street, Granby Row, Little Barrack Street, Brown Street, Maryborough Street and College Street. There is also an ACA designated for Borris. Both Carlow Urban Area and Borris are

greater than 10 km from the Proposed Development and therefore, there are no perceived negative impact as a result of the Proposed Development.

11.3.3.4.2 Protected Structures

A protected structure is a structure or part of a structure that a planning authority considers to be a special interest from an “architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest”.

In certain circumstances, some archaeological structures may also be considered as architectural heritage, meaning they may therefore appear on both the Record of Monuments and Places (RMP) and the Record of Protected Structures (RPS). These structures are protected by both the National Monuments Acts and the Planning and Development Acts 2000 (as amended).

There are 0 no. of Protected Structures located within the site of the Proposed Development. According to the Carlow County Council Development Plan 2022-2028, there are 2 no. Protected Structures located in the vicinity of the Proposed Development.

RPS No.: CW376

Address: Leighlinbridge Road, Old Leighlin

Description: A five-bay, two-storey house of circa 1840, with painted, lime-rendered walls, wide, segmental-headed, granite doorcase with a wide fanlight that covers the sidelights, sash windows with original, six-panes sashes and most of the original glass. The hipped roof is covered with natural slates and there is a pair of stacks set close to the centre. The entrance gates have mid-19th century, cast iron piers.

Impact: No perceived negative impact as a result of the Proposed Development.

RPS No.: CW261

Address: Culm Crusher, Closutton

Description: A granite wheel attached to an iron handle and iron post. The crusher dates from the 1840s and was relocated here in the 1980.

Impact: No perceived negative impact as a result of the Proposed Development.

11.4 Characteristics of the Proposed Development

The proposed quarry void will be extracted to a depth of 2 no. benches of c. 10m from top of bedrock, with a final floor level of c. 56.5m AOD with a proposed rate of rock extraction of c.30,000 cubic metres (84,000 tonnes) per annum. A proposed working area of c. 1.2 hectares to the south of the extraction zone will provide for the crushing / processing of the unusable stone and storage of dimensional stone and will include machinery storage shed (c. 120m²), staff welfare, wastewater holding tank, weighbridge, and parking area.

The Proposed Development will also include for earthen screening berms to a height of c. 3 m, a wheelwash facility; Installation of surface water attenuation and settlement ponds for the

treatment of suspended solids in the floor of the quarry; soil storage area with an average storage depth of c. 3.85 m and all other site development works above and below ground including the restoration of the final quarry void (extractive area).

Access to the Proposed Development will be facilitated by a HGV site entrance from the Local Road to the east of the proposed site via a proposed access haul road.

11.5 Potential Impact of the Proposed Development

11.5.1 Construction Phase

The land for development has been used for agricultural purposes and as such has not been subject to significant groundworks or prior construction. Hence, there is a potential for previously undiscovered sub-surface archaeological features. Although no recorded archaeological sites occur within the development boundary and no features of possible archaeological interest were identified on the field surfaces during the desk-based and topographical analysis, the potential for sub-surface archaeological remains being discovered during earthworks and topsoil stripping must be considered.

11.5.2 Operational Phase

There is a potential for previously undiscovered sub-surface archaeological features. Although no recorded archaeological sites occur within the development boundary and no features of possible archaeological interest were identified on the field surfaces, during the desk-based and topographical analysis, the potential for sub-surface archaeological remains being discovered during earthworks and topsoil stripping must be considered.

11.5.3 Potential Cumulative Impacts

In the context of archaeology and cultural heritage impact, no cumulative effects are anticipated from the Proposed Development.

11.5.4 “Do Nothing” Impact

If the Proposed Development were not to proceed, the existing site would continue to be present and operational at its current capacity as an agricultural field. Archaeological or cultural remains will not be impacted upon.

11.6 Avoidance, Remedial & Mitigation Measures

Should archaeological features and or deposits be revealed then any further work would be subject to further licensing with approval from the Department of Arts, Heritage and the Gaeltacht who may recommend preservation *in situ* or preservation by record.

All recommendations in this report are subject to discussion with and approval from the Department of Arts, Heritage and the Gaeltacht.

11.6.1 “Worst Case” Scenario

In the worst-case scenario where mitigation measures fail for the Proposed Development, it is considered that there is potential that a monument of cultural heritage or importance could be damaged.

11.7 Residual Impacts

Residual Impacts are defined as 'effects that are predicted to remain after all assessments and mitigation measures'. They are the remaining 'environmental costs' of a project and are the final or intended effects of a development after mitigation measures have been applied to avoid or reduce adverse impacts. Potential residual impacts from the Proposed Development were considered as part of this environmental assessment.

Based on this preliminary desk-based screening, there will be no perceived negative impacts on registered features of archaeological and cultural heritage as a result of the Proposed Development.

11.8 Monitoring

No specific monitoring measures are required in relation to archaeology and cultural heritage given the fact that it is not predicted that the Proposed Development will have any adverse impacts on any archaeological features or deposits. The mitigation measures detailed in Section 11.6 will also function as a monitoring system to ensure the ongoing analysis of the effectiveness of the mitigation for both the Construction and Operational Phases.

11.9 Interactions

Interactions between Archaeology and Cultural Heritage and other aspects of this Environmental Impact Assessment Report have been considered and are detailed below.

11.9.1 Land, Soil and Geology

The Proposed Development will involve the movement of soil for the site to reach the required levels. There is potential for previously unrecorded archaeological features or deposits to be discovered during this process.

11.10 Difficulties Encountered When Compiling

There were no difficulties in compiling the specified information with regard to archaeological, architectural and cultural heritage.

11.11 References

Archaeological Survey Database, available at:
<http://webgis.archaeology.ie/historicenvironment/>

Department of Arts, Heritage, Gaeltacht and the Islands (1999b). Policy and Guidelines on Archaeological Excavation. Dublin. Government Publications Office.

Heritage Maps available at: <https://heritagemaps.ie/>

National Monuments of Ireland database available at:
<http://webgis.archaeology.ie/historicenvironment/>

National Inventory of Archaeological Heritage, available at:
<http://www.buildingsofireland.ie/Surveys/Buildings/>

OSI mapping (www.osi.ie)

<https://heritagemaps.ie/WebApps/HeritageMaps/index.html>

Carlow County Development Plan 2022-2028 available at:
<https://consult.carlow.ie/en/consultation/carlow-county-development-plan-2022-2028#:~:text=The%20Carlow%20County%20Development%20Plan,effect%20from%204th%20July%202022.>

Excavations.ie available at: <https://excavations.ie/>

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