

13 CULTURAL HERITAGE

13.1 BACKGROUND AND OBJECTIVES

The cultural heritage chapter was prepared by Through Time Ltd. It presents the results of a cultural heritage impact assessment prepared as part of the Environmental Impact Assessment Report for the proposed development at Drehid Waste Management facility (the 'proposed development').

This chapter assesses the likely significant effects of the proposed development on the archaeological, architectural and cultural heritage environment. The proposed development will involve additional landfill capacity (non-hazardous) as well as allowing for additional capacity for the processing of certain waste streams for materials recycling and recovery, and composting process. It also includes other associated works, buildings and roads, etc. as described in Chapter 2 of this EIAR (Description of the Proposed Development).

Archaeological heritage generally refers to objects, monuments, buildings or landscapes of an (assumed) age typically older than AD1700 and usually recorded as archaeological sites within the Record of Monuments and Places. Archaeological heritage encompasses known archaeological monuments, areas of archaeological potential and underwater archaeology. The term architectural heritage applies to structures, buildings, their contents and setting of an (assumed) age, typically younger than AD1700. Architectural heritage includes designated architectural heritage and other significant architectural heritage. Cultural heritage is applied to other aspects of the landscape such as historical events, folklore and cultural associations and can accompany archaeological and architectural designation.

In order to inform the likely significant effects from an archaeological, architectural and cultural heritage perspective, a study area was established measuring 2 km from the red line boundary. While there is no professional standard for defining the extent of a study area when assessing the possible effects on archaeological, architectural, cultural or protected heritage remains the following was applied based on professional experience.

A 20 km boundary to assess the presence of World Heritage Sites.

A 2 km boundary applied to assess the statutory protected archaeological monuments (RMPs and SMRs), National Monuments and Recorded Protected Structures in the area of the proposed development site.

A 1 km boundary applied to assess the statutory protected archaeological monuments (RMPs and SMRs), National Monuments and Recorded Protected Structures in the vicinity of the existing roads proposed as haul routes.

Where appropriate, mitigation measures to limit likely significant effects to the cultural heritage are documented and, thereafter, residual effects are identified and assessed.

13.1.1 Statement of Authority

Through Time Ltd. is a rebranded (2017) archaeological consultancy company that has previously traded as Arch Consultancy Ltd. for almost twenty years. Based in Athenry, County Galway, the company is directed by licensed archaeologists Martin Fitzpatrick M.A. and Fiona

Rooney B.A. Both have been involved in all stages of development projects from initial design, compilation of EIAs, archaeological monitoring and resolution during construction. The projects managed ranges from single dwelling houses to impact assessments for large-scale residual landfills, road developments and wind farms. Both directors have been involved in the development of residual landfill facilities for almost twenty years from initial design consultations, impact assessments, EIAs and involvement in ensuring that the archaeological and cultural heritage conditions attached to the developments are completed to the highest professional standards. Martin Fitzpatrick, the author of this chapter has worked in Irish archaeology for the past 25 years. He is a graduate of NUIG and completed a Master's Degree specialising in the architecture of 15th/16th century Tower Houses in County Galway. Martin has previously overseen the completion of impact assessments on wind farms, landfill developments and a 60 km motorway development on the M6.

13.1.2 Relevant Legislation, Policy & Guidance

The study was informed by relevant legislation, guidelines, policy, and advice notes, as listed below.

- Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999;
- Code of Practice for Archaeology agreed between the Minister for Arts, Heritage, Regional, Rural and Gaeltacht Affairs and Transport Infrastructure Ireland, 2017;
- Council of Europe (1985). Convention for the Protection of the Architectural Heritage of Europe (ratified by Ireland 1997), 'Granada Convention';
- Council of Europe (1992). European Convention on the Protection of the Archaeological Heritage (ratified by Ireland 1992), 'Valletta Convention';
- Council of Europe (2005). Framework Convention on the Value of Cultural Heritage for Society, 'Faro Convention';
- Department of Arts, Heritage, Gaeltacht and the Islands (DAHG) (1999). Framework and Principles for the Protection of the Archaeological Heritage;
- Environmental Protection Agency (EPA) (2022). Guidelines on the information to be contained in Environmental Impact Assessment Reports, May 2022;
- Heritage Act, 1995 (as amended);
- ICOMOS (2011). Guidance on Heritage Impact Assessments for Cultural World Heritage
- National Monuments Act, 1930 to 2014;
- National Roads Authority (NRA) (2005). Guidelines for the Assessment of Archaeological Heritage
- Planning and Development Act 2000 (as amended);
- The Heritage Council (2013). Historic Landscape Characterisation in Ireland: Best Practice
- The UNESCO World Heritage Convention, 1972.

Archaeological monuments are protected through national and international policy designed to secure the protection of the cultural heritage resource. This is facilitated in accordance with the provisions of the European Convention on the Protection of the Archaeological Heritage (Valletta Convention), which was ratified by Ireland in 1997.

The National Monuments Act 1930 to 2004 and relevant provisions of the National Cultural Institutions Act 1997 are the primary means of ensuring the satisfactory protection of archaeological remains, which includes all man-made structures of whatever form or date

except buildings habitually used for ecclesiastical purposes. A National Monument is described as:

“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” (National Monuments Act 1930 Section 2).”

A number of mechanisms under the National Monuments Act are applied to secure the protection of archaeological monuments. These include the Register of Historic Monuments, the Record of Monuments and Places and the placing of Preservation Orders and Temporary Preservation Orders on endangered sites.

The Minister may acquire National Monuments by agreement or by compulsory order. The State or the Local Authority may assume guardianship of any National Monument (other than dwellings). The owners of National Monuments may also appoint the Minister or the Local Authority of that monument if the State or Local Authority agrees. Once the site is in ownership or guardianship of the State, it may not be interfered with without the written consent of the Minister.

Section 5 of the 1987 Act requires the Minister to establish and maintain a Register of Historic Monuments. Historic monuments and archaeological areas present on the Register are afforded statutory protection under the 1987 Act. Any interference with sites recorded on the Register is illegal without the permission of the Minister. Two months' notice in writing is required prior to any work being undertaken on or in the vicinity of a Registered Monument. The Register also includes sites under preservation orders and temporary preservation orders with the written consent, and at the discretion of the Minister.

Section 12 (1) of the 1994 Act requires the Minister to establish and maintain a Record of Monuments and Places where the Minister believes that such monuments exist. The Record comprises a list of monuments and relevant places and a map/s showing each monument and relevant place in respect of each county in the state. All sites recorded on the Record of Monuments and Places receive statutory protection under the National Monuments Act 1994.

Section 12(3) of the 1994 Act provides that:

“Where the owner or occupier (other than the Minister) of a monument or place included in the Record, or any other person, proposed to carry out, or to cause or permit the carrying out of, any work at or in relation to such a monument or place, he or she shall give notice to the Minister to carry out work and shall not, except in the case of urgent necessity and with the consent of the Minister, commence the works until two months after the giving of notice”.

The Council of Europe, in Article 2 of the 1985 Convention for the Protection of the Architectural Heritage of Europe (Granada Convention), states that 'for the purpose of precise identification of the monuments, groups of structures and sites to be protected, each member State will undertake to maintain inventories of that architectural heritage'. The Granada Convention emphasises the importance of inventories in underpinning conservation policies.

The National Inventory of Architectural Heritage (“NIAH”) was established in 1990 to fulfil Ireland's obligations under the Granada Convention, through the establishment and

maintenance of a central record, documenting and evaluating the architectural heritage of Ireland. Article 1 of the Granada Convention establishes the parameters of this work by defining 'architectural heritage' under three broad categories of Monument, Groups of Buildings, and Sites:

- Monument: all buildings and structures of conspicuous historical, archaeological, artistic, scientific, social or technical interest, including their fixtures and fittings;
- Group of buildings: homogeneous groups of urban or rural buildings conspicuous for their historical, archaeological, artistic, scientific, social or technical interest, which are sufficiently coherent to form topographically definable units;
- Sites: the combined works of man and nature, being areas which are partially built upon and sufficiently distinctive and homogenous to be topographically definable, and are of conspicuous historical, archaeological, artistic, scientific, social or technical interest.

The Architectural Heritage and Historic Properties Act 1999 and the Planning and Development Act of 2000 are the main built heritage legislation. The Architectural Heritage Act requires the Minister to establish a survey to identify, record and assess the architectural heritage of the country. The National Inventory of Architectural Heritage (NIAH) records all built heritage structures within specific counties in Ireland. The document is used to advise Local Authorities on the register of a Record of Protected Structures (RPS) as required by the Planning and Development Act, 2000.

The Act of 2000 requires Local Authorities to establish a Record of Protected Structures to be included in the County Development Plan (CDP). Buildings recorded in the RPS can include Recorded Monuments, structures listed in the NIAH or buildings deemed to of architectural, archaeological or artistic importance by the Minister. Once listed in the RPS, the sites/areas receive statutory protection from injury or demolition under the 2000 Act. Damage to or demolition of a site registered in the RPS is an offence. The detail of the list varies from County to County. If the Local Authority considers a building to be in need of a repair, it can order conservation and/or restoration works. The owner or developer must make a written application/request to the Local Authority to carry out any works on a protected Structure and its environs.

Fieldwork for the NIAH for County Kildare was undertaken in 2003. Where an NIAH survey has been carried out, those structures which have been attributed a rating value of international, national or regional importance in the inventory are recommended by the Minister of Culture, Heritage and the Gaeltacht to the relevant planning authority for inclusion on the Record of Protected Structures RPS. In accordance with Section 53 of the Planning and Development Act 2000, if a planning authority, after considering a recommendation made to it under this section, decides not to comply with the recommendation, it shall inform the Minister in writing of the reason for its decision.

13.2.2. Kildare County Development Plan 2023-2029

Kildare County Council (KCC) has written policies on built and cultural heritage, on the preservation of structures, or part of structures, which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. Their aim is:

“To protect, conserve and sensitively manage the built and cultural heritage of County Kildare and to encourage sensitive sustainable development so as to ensure its survival and maintenance for future generations.”

The following details some of the relevant policies and objectives of the 2023-2029 County Development Plan.

“It is the policy of the Council to:

- Recognise the value and opportunity of Kildare’s unique heritage resource and to manage, conserve, promote and protect it, for present and future generations.
- Protect and enhance archaeological sites, monuments and where appropriate and following detailed assessment, their setting, including those that are listed in the Record of Monuments and Places (RMP) or newly discovered archaeological sites and/or sub-surface and underwater archaeological remains.
- Support the protection and conservation of the medieval fabric and form of walled towns in the county.
- Recognise and respect potential World Heritage Sites in Kildare on the UNESCO Tentative List – Ireland.
- Secure the identification, protection and conservation of historic items and features of interest throughout the county including street furniture, surface finishes, roadside installations, items of industrial heritage, riverine heritage, and other stand-alone features of interest (items not listed on the RMP or RPS).
- Protect, conserve and manage the archaeological and architectural heritage of the county and to encourage sensitive sustainable development in order to ensure its survival, protection and maintenance for future generations.
- Promote appreciation of the landscape and historical importance of traditional and historic gardens, demesnes and parks within County Kildare and particularly where they constitute an important and intrinsic value to the setting of a protected structure.
- Promote the protection, retention, appreciation and appropriate revitalisation of the built vernacular heritage of the county.

“It is the objective of the Council to:

- Implement the actions of the County Kildare Heritage Plan 2019-2025 and subsequent heritage plans, in partnership with all relevant stakeholders.
- Manage development in a manner that protects and conserves the archaeological heritage of County Kildare, avoids adverse impacts on sites, monuments, features or objects of significant historical or archaeological interest and secures the preservation in-situ or by record of all sites and features of historical and archaeological interest, including underwater cultural heritage. The Council will favour preservation in – situ in accordance with the recommendation of the Framework and Principles for the Protection of Archaeological Heritage (1999) and the Council will seek and have regard to the advice and recommendations of the Department of Housing, Local Government and Heritage.
- In co-operation with the National Monuments Service, Department of Housing, Local Government and Heritage require archaeological impact assessment, surveys, test excavation and/or monitoring and/or underwater archaeological impact assessments for planning applications in areas of archaeological importance and where a development proposal is likely to impact upon in-situ archaeological monuments, their setting and archaeological deposits, based on recommendations of a suitably qualified archaeologist and the Council will seek and have regard to the advice and recommendations of the Department of Housing, Local Government and Heritage.
- Ensure that development in the vicinity of a site of archaeological interest is not detrimental to the character of the archaeological site or its setting by reason of its

location, scale, bulk or detailing and to ensure that such proposed developments are subject to an archaeological assessment prepared by a suitably qualified archaeologist. Such an assessment will seek to ensure that the development can be sited and designed in such a way as to avoid impacting on archaeological heritage that is of significant interest including previously unknown sites, features, objects and areas of underwater archaeological heritage.

- Require the preservation of the context, amenity, visual integrity and connection of the setting of archaeological monuments. As a general principle, views to and from archaeological monuments shall not be obscured by inappropriate development. Where appropriate, archaeological visual impact assessments will be required to demonstrate the continued preservation of an archaeological monument's siting and context.
- Secure the preservation in-situ or by record of the archaeological monuments included in the Record of:
 - Monuments and Places as established under section 12 of the National Monuments (Amendment) Act, 1994
 - any sites and features of historical and archaeological interest including underwater cultural heritage and protected wrecks.
 - any subsurface archaeological features including those underwater, that may be discovered during the course of infrastructural/development works in the operational area of the Plan. Preservation relates to archaeological sites or objects and
 - their settings.
- Contribute towards the protection and preservation of the archaeological value of underwater or archaeological sites associated with rivers and associated features.
- Protect historic burial grounds that are recorded monuments and encourage their maintenance in accordance with best conservation principles in co-operation with the Historic Monuments Advisory Committee and the National Monuments Service, Department of Housing, Local Government and Heritage. Development may be restricted or conditions requiring substantial excavation may be imposed in and adjacent to former burial grounds.
- Promote and support in partnership with the National Monuments Section of the Department of Housing, Local Government and Heritage (DHLGH), the concept of Archaeological Landscapes where areas contain several Recorded Monuments.
- Require that all development proposals for industrial buildings and sites identified in Kildare Industrial Archaeology Survey (2007) or otherwise identified as being of industrial archaeological importance be accompanied by an industrial archaeology assessment of the surrounding environment. New development should be designed in sympathy with and to protect existing features and structures.
- Support the State in the nomination process of Dun Ailinne to World Heritage status as part of an assemblage of Royal and Monastic Sites in co-operation with the relevant Local Authorities.
- Protect and enhance the setting of Dun Ailinne and support managed limited public access to the site. Only sensitive development that does not undermine the archaeological and cultural significance of the site will be permitted.
- Protect and sustain the established appearance and character of views associated with Dun Ailinne. Require any development proposals within/around Dun Ailinne to demonstrate that no adverse effects will occur on the established appearance or character of Dun Ailinne as viewed from either the Protected Panoramic Views or from surrounding public roads.

- Ensure that development within the county including Council development retains, refurbishes and incorporates features of historical interest, as deemed appropriate in each instance.
- Conserve and protect buildings, structures and sites contained on the Record of Protected Structures of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.
- Protect the curtilage of protected structures or proposed protected structures and to refuse planning permission for inappropriate development that would adversely impact on the setting, curtilage, or attendant grounds of a protected structure, cause loss of or damage to the special character of the protected structure and/or any structures of architectural heritage value within its curtilage. Any proposed development within the curtilage and/or attendant grounds must demonstrate that it is part of an overall strategy for the future conservation of the entire built heritage complex and contributes positively to that aim.
- Encourage conservation, renewal and improvement which enhances the character and the setting of parks, gardens, and demesnes of historic interest within the county.
- Assess the demesnes and historic designed landscapes within Kildare and promote the conservation of their essential character, both built and natural, while allowing for appropriate re-use.
- Require that planning applications take into consideration the impacts of the development on their landscapes and demonstrate that the development proposal has been designed to take account of the heritage resource of the landscape.
- Designate and protect historic landscape areas including demesnes and ensure that new development enhances the special character and visual setting of these historic landscapes and to prevent development that would have a negative impact on the character of the lands within these historic landscape areas.

13.2. METHODOLOGY

13.2.1 Assessment Methodology

The methodology was designed to provide a full understanding of the potential impacts of the proposed development on archaeological, architectural and cultural heritage assets.

For the purpose of this Chapter, the following definition from the Department of Arts, Heritage, Gaeltacht and the Islands (DAHGI) (now Department of Housing, Local Government and Heritage (DHLGH)) Framework and Principles for the Protection of the Archaeological Heritage is applied for archaeology (DAHGI 1999):

‘the study of past societies through material remains left by those societies and the evidence of their environment. The ‘archaeological heritage’ consists of such material remains (whether in the form of sites and monuments or artefacts in the sense of moveable objects) and environmental evidence’ (DAHGI 1999).

Cultural heritage as set out in the Environmental Protection Agency (EPA) Guidelines on Information to be Contained in Environmental Impact Assessment Reports (hereafter referred to as the EPA Guidelines) (EPA 2022) includes archaeology, architectural heritage, folklore and history. It is a broad term that includes a wide range of tangible and intangible cultural considerations. Cultural heritage can relate to settlements, former designed landscapes,

buildings and structures, folklore, townland and place names, and historical events, as well as traditions (e.g. mass paths and pilgrim ways) and traditional practices (e.g. saints' pattern days).

Cultural heritage assets are valued for the important contribution they make to the understanding of the history of a place, an event or people. Sites of cultural heritage interest are often afforded protection either as recorded archaeological monuments (on the Record of Monuments and Places (RMP) / Sites and Monuments Record (SMR)) or as protected structures (on the Record of Protected Structures (RPS) in the relevant City or County Development Plan), or as structures within the National Inventory of Architectural Heritage (NIAH). Each of these provides a unique cultural record and acts as a carrier of memory, meaning and cultural value. When considered in its wider context, they can form an essential component in the mechanism for analysing the broader cultural character and context of an area. Together, these can assist in mapping the changes that have led to the development of the modern environment. Such analysis provides insight into the communication, trade, transport, growth and associations of past societies.

13.2.2. Desk Study

This involved an evaluation of the archaeological, historical and cultural heritage resource through a desk study of published and unpublished cartographic sources and historical accounts supported by a field survey.

The following sources were examined as part of the assessment:

- The National Monuments, Preservation Orders and Register of Historic Monuments lists, sourced directly from the DHLGH;
- Record of monuments and Places and Sites and Monuments Record;
- The topographical files of the National Museum of Ireland ;
- Cartographic sources, comprising pre-19th century historic maps and various editions of the Ordnance Survey (OS) six-inch maps and 25-inch maps
- Excavations Bulletins and Excavations Database (Excavations 1970 to 2020);
- NIAH, Building Survey and Garden Survey (NIAH 2020);
- Placenames Database of Ireland (Logainm 2020);
- Aerial imagery online: Google Earth 2001 to 2018 (Google Earth 2001 to 2018), Bing 2013 (Bing 2020) and Ordnance Survey Ireland (OSI) 1995; 2000; 2005 to 2012 (OSI 2020);
- Schools collection
- Sites and Monuments Record for County Kildare
- Kildare County Development Plan 2023-2029

National Monuments in State Care

The Department of Housing, Local Government and Heritage (DHLGH) maintains a database on a county basis of National Monuments in State Care. The term National Monument is defined in Section 2 of the National Monuments Act (1930) as 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 database is a list of all the National Monuments in State guardianship or ownership. Each is assigned a National Monument number whether in guardianship or ownership and has a brief description

of the remains of each Monument. The Minister for the DHLGH may acquire national monuments by agreement or by compulsory order. The state or local authority may assume guardianship of any national monument (other than dwellings). The owners of national monuments (other than dwellings) may also appoint the Minister or the local authority as guardian of that monument if the state or local authority agrees. Once the site is in ownership or guardianship of the state, it may not be interfered with without the written consent of the Minister.

Record of Monuments and Places & Sites and Monuments Record

The Sites and Monuments Record SMR, as revised in the light of fieldwork, formed the basis for the establishment of the statutory Record of Monuments and Places RMP in 1994 (RMP; pursuant to Section 12 of the National Monuments (Amendment) Act, as amended in 1994). The RMP records known upstanding archaeological monuments, their original location (in cases of destroyed monuments) and the position of possible sites identified as cropmarks on vertical aerial photographs. The information held in the RMP files is read in conjunction with published constraint maps. Archaeological sites identified since 1994 have been added to the non-statutory SMR database of the Archaeological Survey of Ireland (NMS, DHLGH), which is available online (NMS 2020) and includes both RMP and SMR sites. Those sites designated as SMR sites have not yet been added to the statutory record, but are scheduled for inclusion in the next revision of the RMP.

Topographical Files of The National Museum of Ireland

This is the archive of all known finds recorded by the National Museum. The archive primarily relates to artefacts but also includes references to monuments and previous excavations. The find spots of artefacts are important contributors to the knowledge of the archaeological landscape. Location information relating to finds is an important indicator of human activity. A list of finds from the townlands impacted by the proposed development and surrounding townlands is included in (Appendix 13-2).

Photography

The Ordnance Survey of Ireland aerial photographs (www.osi.ie) were consulted to identify any archaeological features in the landscape which may not have been previously recorded. Photomontage from the LVIA chapter were examined.

Kildare County Development Plans

The County Development plan(2023-2029) was consulted for the schedule of buildings (Record of Protected Structures) and items of cultural, historical or archaeological interest that may be affected by the proposed development.

National Inventory of Architectural Heritage

The NIAH maintains a non-statutory register of buildings and structures and historic gardens and designed landscapes recorded on a county basis.

Cartographic Analysis

Consultation of the historical mapping such as the 1752 map of Kildare by Noble and Keenan, the Ordnance Survey Maps from 1838 to the present day, Lewis map 1837 and Taylor and Skinner maps facilitated a further assessment of the archaeological and architectural and cultural heritage.

Excavation Bulletins

The Bulletin is a summary publication that has been produced every year since 1970. This summarises every archaeological excavation that has taken place in Ireland during that year up until 2013 and since 1987 has been edited by Isabel Bennett. This information is vital when examining the archaeological content of any area, which may not have been recorded under the SMR and RMP files. This information is also available online (www.excavations.ie) from 1970–to 2018.

Schools Collection

The Schools Collection forms part of the National Folklore Collection, created in the late 1930's it is comprised of folklore and local traditions compiled by school children throughout Ireland. Documents relating to the area of the proposed development were examined relating to details of community, placenames and folklore.

13.2.3. Field Surveys

Field inspection is necessary to determine the extent and nature of archaeological and architectural remains and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information.

The archaeological and architectural field walking inspection entailed:

- Walking the proposed development area and its immediate environs;
- Noting and recording the terrain type and land usage;
- Noting and recording the presence of features of archaeological, architectural or cultural heritage significance;
- Verifying the extent and condition of recorded sites;
- Inspection of existing drains.

A survey of Timahoe Bog was undertaken by The Irish Archaeological Wetland Unit in the 1990's. The survey identified a number of trackways and/or fragments of trackways in the vicinity of the existing landfill facility. Two of these trackways were destroyed before they were plotted (information received from Irish Archaeological Wetland Unit in 2002). The archaeological sites have, since 2010, been updated to the Sites and Monuments Record (SMR). One of the sites recorded - an unclassified togher (KD008-038) is located at the northern end of the proposed development infrastructure. It was recorded as several pieces of hazel brushwood in a haphazard arrangement (L 72 m, Wth 1 m; D 0.08 m), probably the destroyed remains of a more substantial structure. Some evidence for burning was recorded. No trace of this features survives today, and the monument is not scheduled for inclusion in the next revision of the Record of Monuments and Places RMP.

Walkover surveys in the area of the proposed development site have been ongoing since 2002 when the initial assessment for the existing landfill facility was completed by Martin Fitzpatrick

and Fiona Rooney. The most recent field survey of the proposed development was undertaken by Martin Fitzpatrick and Fiona Rooney in April 2022. Details of the field survey are included in Section 13.4.

Following consultation with National Monuments, Department of Culture, Heritage, and the Gaeltacht (now DoHLGH) a detailed survey of the existing drains in the area of the proposed development was undertaken under license (License 16E0467) by Fiona Rooney and Martin Fitzpatrick in 2016. The work involved monitoring the cleaning down of the section face of existing drains within the western area of the proposed development site to record the stratigraphy and identify any possible archaeological remains. The work was undertaken over a period of ten days in September-October 2016. The monitoring found that in general peat levels were less than 1 m and in many places there is between 0.3-0.5 m of peat deposit remaining above the natural. Peat levels greater than 2 m were also recorded in the north-east of the site. No archaeological features or artefacts were identified in any of the drains examined.

13.2.4. Assessment of Likely Significant Effects

The effects of the proposed development can be assessed based on the detailed information of the project, the nature of the area affected and the range of resources potentially affected. The terminology used to describe the effects is per Guidelines on the Information to be contained in Environmental Impact Assessment Reports EPA (Aug, 2022).

Archaeological, architectural and cultural heritage sites are sensitive to their particular environment and any change to that environment can potentially affect these sites adversely.

The quality of the effects can be described as follows:

- **Positive Effects:**
 - Positive effects from development includes an increase in the level and understanding of an archaeological or historical landscape as a result of archaeological assessments and subsequent fieldwork.
- **Neutral Effects:**
 - Examples of no effect or effects that are imperceptible, include recorded monuments that are listed however no surface trace survives due to clearance and/or excavation.
- **Negative/adverse Effects:** Cultural heritage can be adversely affected both directly and indirectly.

Construction projects can effect the archaeological, architectural and cultural heritage landscape in a number of ways:

Direct Effects

- Permanent and temporary land-take, landscaping, mounding and general excavations associated with construction may result in the loss or damage of archaeological remains or physical loss to the setting of historic landscapes and to the physical coherence of the landscape.
- Construction work can alter the hydrological system resulting in changes to groundwater levels. This may have an adverse effect on archaeological sites and features.

- Landscaping associated with developments can damage or destroy sub-surface archaeological features. Root action of trees for example can have an adverse effect on archaeological layers.
- The weight of permanent embankments can cause damage to sub-surface archaeological layers and features.

Indirect effects

- Visual effects on the archaeological, architectural and cultural heritage landscape, outside the footprint of the proposed development. The construction of structures, landscaping, mounding and planting as well as boundary fences, perimeter walls and associated works can impinge on historic and archaeological landscape as well as their visual amenity value.

Cumulative effect

- Cumulative effects arise when the addition of many effects, including the effects of other projects, create larger, more significant effects.

Residual effects

- These are the degree of environmental change that will occur after the proposed mitigation measures have taken effect.

13.2.4.1. Level of Effect

The level of effect on an archaeological, historical or architectural landscape depends on a number of factors which include the existing environment and the type of monument affected. The level or severity of effect was assessed by taking the following into consideration:

- The proportion of the feature effected and the potential loss of characteristics essential to the understanding of the monument, feature or site.
- Consideration of the type, condition, vulnerability and potential amenity value of the landscape, feature, site or monument affected.
- Consideration of the likely effects of visual, noise and hydrological alterations which were informed by other specialist reports or observations.

Table 13-1 *Criteria for Rating Effect Significance on Archaeological, Architectural and Cultural Heritage.*

IMPACT	CRITERIA
Imperceptible	An impact capable of measurement but without noticeable consequences
Not Significant	An impact which causes noticeable changes in the character of the environment but without significant consequences
Slight	An impact which causes minor changes in the character of the environment and does not affect an archaeological / cultural heritage asset in a moderate or significant manner.
Moderate	A moderate impact arises where a change to the site is proposed which though noticeable, does not lead to a significant loss of character, integrity and data about the archaeological / cultural heritage asset.

Significant	An impact which, by its magnitude, duration or intensity, alters an important aspect of the environment. An impact like this would be where part or all of a site would be permanently impacted upon, leading to a significant loss of character, integrity and data about the archaeological / cultural heritage asset.
Very Significant	An impact that, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
Profound	Applies where mitigation would be unlikely to remove adverse impacts. Reserved for adverse, negative impacts only. These impacts arise where an archaeological / cultural heritage asset is completely and irreversibly destroyed by a proposed development.

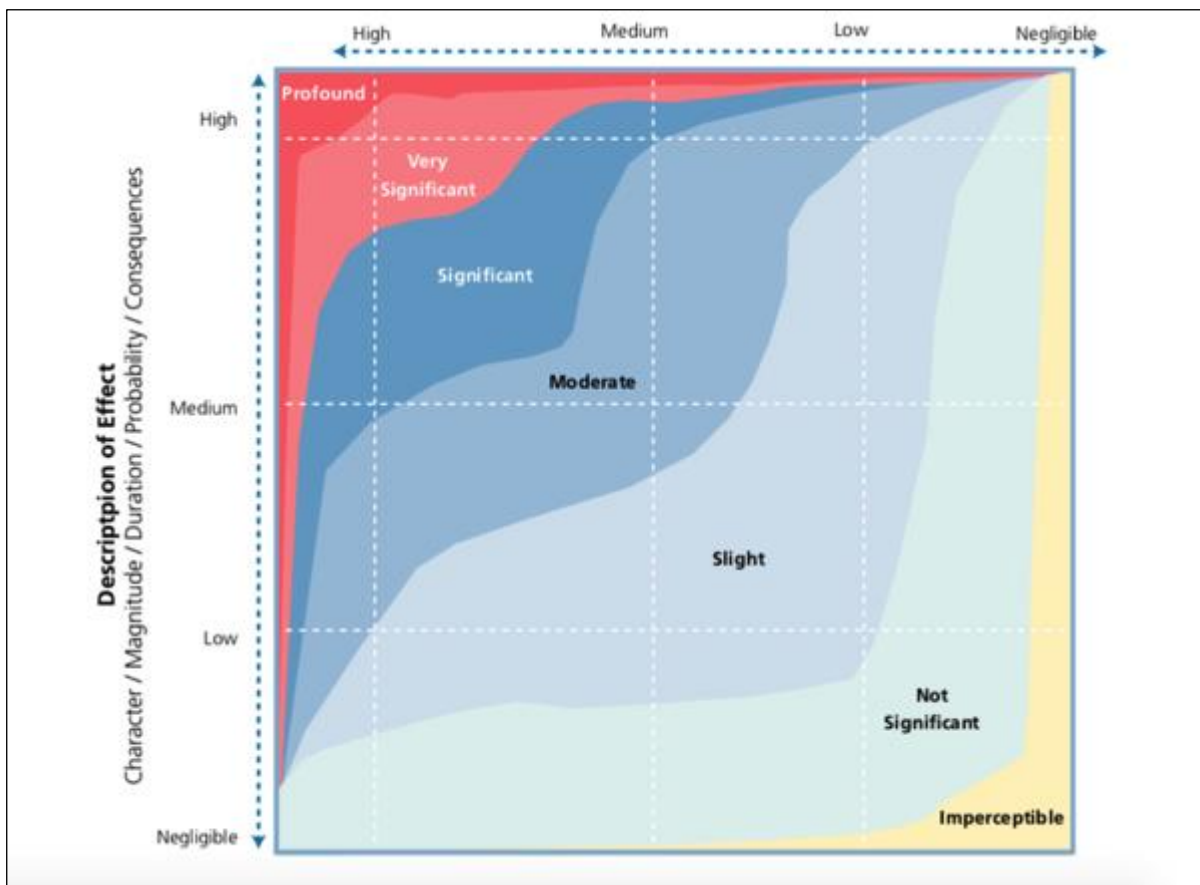


Figure. 13.1: Chart Showing Typical Classifications of the Significance of Effects (After EPA 2022).

13.3 BASELINE DESCRIPTION

The existing facility is located in Timahoe Bog which is part of Bord na Móna’s Allen Group of bogs that were first brought into industrial peat production in the 1950’s. Peak production at

Timahoe Bog was during the 1960's when the bog was in sod peat production. The peat was removed from the bog via a railway system. Industrial production at the site was gradually phased out over the last thirty plus years as most of the bog was cut away and the poor quality of the remaining peat made further peat harvesting uneconomical. Small scale production for domestic purposes continues at the margins of the commercially cut away bog.

To reduce the moisture content of the peat material during the years of peak industrial activity, it was necessary to drain the entire bog. This was achieved by the excavation of a network of east to west running drains that discharged into a central underground culvert and/or drain that ran from north to south. The drainage network facilitated heavy plant and machinery to safely traverse the bog. As a result of the drainage channels, the entire site was divided into plots referred to as 'peat fields'. These turf plots span the length of the bog. In some areas they have been exploited to a depth of 0.5 m-1 m above the natural mineral soil.

An examination of historical cartographic sources and aerial photographs of the site revealed nothing of archaeological significance. The 1752 map by Noble and Keenan records the Bog of Allen with Timahoe and Drehid marked. The area of the proposed development is indicated as part of the vast bog in this mid-18th century map. Alexander Taylor's map of 1783 similarly depicts the area as a vast bog with the Cashanure River to the west. The first edition Ordnance Survey map produced in the mid-19th century highlights Coolcarrigan Demesne to the east of the site but no features are indicated in the area of the proposed development. More recent maps and aerial photographs highlight the drainage channels throughout the site.



Figure 13.2: Extract from 1752 map by Nobel and Keenan.

13.3.1 Archaeological and Historical Background

Boglands cover one-sixth of the total landmass of Ireland extending over an approximate area of 1.34 million hectares. They can be divided into two major types, raised bogs and blanket bogs, although both appear similar in character the mode of formation differs greatly. The vast majority of Ireland's raised bogs occur in the central lowlands of the country unlike blanket bogs that are predominately confined to mountainous areas and some occasional lowland areas along the western seaboard.

The anaerobic environment of bogs and wetlands helps create unique circumstances for the preservation of remains and have long been known for their rich abundance of archaeological deposits, which can range from the prehistoric to the medieval periods. One of earliest known sites from a wetland context is the Mesolithic habitation from Lough Boora in County Offaly where radiocarbon dating provided a range of dates from 7000-6500 BC. Dates have also been recorded from the Bronze Age through to the early historic period (AD500-1100).

A variety of site types were constructed in bogs, according to the needs of the communities that built them. These include platforms for a range of activities, rows of posts, trackways and other wooden structures. Trackways (toghers) or short stretches of trackways (tertiary and secondary toghers) were constructed to traverse the peat or provide a foot holding along certain stretches of wet bog. Wooden platforms most likely functioned as hides or hunting platforms in order to exploit the natural flora and fauna of the bogs (O' Carroll, 2001). A number of trackways, trackway fragments, artefacts and miscellaneous wooden structures have been uncovered in the Bog of Allen and in the area immediately surrounding the proposed development site (See section 13.3.4 and Appendix 13-2). One trackway is recorded within the area of the proposed development infrastructure. The feature (KD0008:038) was recorded as measuring 72 m in length, 1 m in width and 0.08 m in depth and consisted of several pieces of hazel brushwood (diam. 0.01-0.025 m) in a haphazard arrangement. Some evidence of burning was recorded. It was thought that the feature probably represented the destroyed remains of a more substantial structure. No trace of this feature survives above ground or in the surrounding drainage ditches and the monument is not scheduled for inclusion in the next revision of the RMP.

The cooler and wetter climatic conditions of the Bronze Age together with the impact of farming on vegetation and, in particular, tree regeneration, led to soils becoming wetter and drainage deteriorated. These conditions facilitated a more rapid increase in the growth and the spread of bogs. Consequently, the crossing of bogs became more difficult and problematic and the archaeological record shows a significant increase in the size and number of toghers constructed during this period. The Bronze Age also saw the deliberate deposition of artefacts as votive offerings in water logged areas and bogs. Boglands have in the past yielded high concentrations of artefacts, particularly Bronze Age flat axes, swords and rapiers. For instance, in north Leinster 48% of Early Bronze Age flat axes have been found in bogs, while in Ireland as a whole, 51% of Late Bronze Age (Dowris Phase) hoards and 59% of later Iron Age (La Tène Phase) weapons have been recovered from bogs (Cooney and Grogan, 1994). The topographical files of the National Museum of Ireland record a multi-period assemblage of finds for the Timahoe area and surrounding townlands (Section 13.3.4 and Appendix 13-2). Some, such as the bronze rapier from Allenwood Middle, indicate activity for the Middle Bronze Age or Bishopsland Phase.

Discoveries of bog butter are frequent in Irish bogs, though not entirely an Irish phenomenon, as examples have also been found in Scotland. The preservative properties of the bog would have been ideal for storage. Containers made from a variety of materials were used to store the butter during its time in the peat, though wooden vessels predominate with some highly decorated examples having been found. Bog butter has also been buried in bark, cloth, wickerwork and animal skin. A bog butter find is recorded from the townland of Coolcarrigin c. 1.6 km south of the proposed development site (Appendix 13-2).

Ireland underwent radical change from the 5th century AD. An upsurge in grasses and weeds is demonstrated in the pollen record, associated with increased pasture and arable farming. A

combination of factors led to a revolution in the landscape. Foremost amongst these was the introduction of Christianity in the early 5th century. The new religion was readily accepted and spread throughout the country from the 5th century presenting a catalyst for change. Population expansion was also central to the transformation that swept across Ireland around this time which resulted in a complete, if uneven, spread of settlement across the country. Secular habitation sites in the early medieval period include crannógs, cashels and ringforts. Given the marginal wetland nature of the landscape, the area of proposed development would not have provided an ideal location for settlement.

Although usually known as Drehid bog, after Drehid townland, the bog is also known as Timahoe Bog. Timahoe derives its name from Tígh Mochua or the house of Mochua, from the monastery founded here by St. Mochua in the fifth century. The remnants of a church and a well-preserved twelfth-century round tower are all that survive of this monastic settlement. The area had previously been known as Sidh Neachtain or 'The Fairy Hill', a name derived from Nuadha Neacht of Neachtain, who was High King of Ireland for a year, before being slain in 45 AD. The proposed development is situated in the townlands of Timahoe West, Coolcarrigan, Killinagh Upper, Killinagh Lower, Drummond, Kileaskin, Loughnacush and Parsonstown.

To the south of the proposed development is the Hill of Allen which also has associations with myths. It was here that "*Almhuin (was) the palace of Fionn Mac Cumhal in Leinster*", Almhuin being the Hill of Allen. The Annals of The Four Masters records two battles being fought here in 526 AD and 718 AD (O'Donovan 2002). The last reference to Sidh Neachtain was in the Annals of the Four Masters which records the death of Laoghaire, High King of Ireland, at Sidh Neachtain in 458. The area then became known as "Cairbre Og Ciarta" or Carbury. Cairbre was Laoghaires' brother and his dynasty controlled the area until the Norman period when Meider Fitzhenry was granted the Carbury area. Fitzhenry subsequently lost the property in 1181.

The next major holders of the Carbury lands were the Fitzgeralds who were a powerful family in Ireland. The 7th Earl served as Chief Governor of Ireland on a number of occasions. Unfortunately for the Fitzgeralds, their power came to an end because of their involvement in the 1641 rebellion. In the aftermath of the Cromwellian War, Timahoe became the property of the Duke of York, brother of Charles II, who later became King of England, and who was defeated at the Battle of the Boyne in 1690. Subsequently, the property was confiscated and given to two brothers, John and Robert Curtis. They leased the property to Theobald Burke and Richard Aylmer, who in turn leased it to a group of Quakers from Northern Ireland. They built a meeting house adjacent to their own cemetery and also a windmill nearby.

The bog played an important part in the 1798 rebellion in North Kildare. "*The Prosperous and Clane rebels formed a camp at Timahoe, where it was sited on Hodgestown Hill...*" (Cullen 1998, 13). This was an area of dry land within the bog thus making access almost impossible for English cavalry and artillery. At one point there were almost 2,500 rebels camped there, growing to 4,000 when rebels from Wexford and Wicklow joined them. This latter group moved on however, after just a day, (Ibid, 25).

Some 600 m south-east of the proposed development site is Coolcarrigan Demesne. Historically, the demesne is defined as 'the lands held by the manor for its own use and occupation' and once occupied nearly 6% of the country. The concept of the demesne may be traced to the medieval tenurial system, when a proportion of the manorial lands was set-aside 'in demesne' to produce both goods and profits for the lord while the remainder of his lands were later leased to non-landowning subordinates. The demesnes evolved as separate social and

economic areas, whose distinctive layouts incorporated farmland, gardens, woods and buildings. In Ireland, the concept survived until the break-up of the estate system early in the twentieth century. Historical continuity from the medieval period to the eighteenth and nineteenth centuries, a characteristic of Irish demesnes, is often apparent in demesnes where a medieval nucleus is indicated by the presence of a castle or tower house found in the vicinity of the country house (Reeves-Smyth 1997, 197). The demesne at Coolcarrigan contains a Georgian House built in the 1830's and has a small 19th century Church of Ireland church in the grounds. Both these are Protected Structures (Reg. B09-10, B09-11).

13.3.2 World Heritage Sites

The Royal site of Dun Áilinne, located close to village of Kilcullen, has been placed on the World Heritage tentative list for Ireland which is an inventory of properties that each State Party intends to consider for nomination. Located some 25 km (as the crow flies) south of the proposed development it will not be impacted. There is significant development in the area surrounding Dun Áilinne with the M7 motorway located 5 km to the north, the M9 motorway 1.2 km to the east and a large quarry development 500 m north west. Furthermore the town of Newbridge is located between the proposed development site and Dun Áilinne.

13.3.3 Record of Monuments and Places (RMP) & Sites and Monuments Record (SMR)

All known archaeological monuments are indicated on 6 inch ordnance survey maps and are listed in this record. The RMP and the SMR are not complete records as newly discovered sites may not appear. In conjunction with the RMP and SMR, the electronic database of recorded monuments and the files of the Archaeological Survey of Ireland were consulted. Details of Recorded monuments in the townlands surrounding the existing facility are included to highlight the type of sites that survive in the vicinity of the site.

Twenty six recorded monuments are located within 2 km of the proposed development site. One recorded monument (KE008:038), to the immediate south of the existing facility, is located within the area of the proposed development infrastructure (Figure 13.3). According to the Archaeological Survey of Ireland, this monument is classified as a Road – Unclassified Togher. A togher or tóchar is a brushwood trackway or more usually a roadway constructed from timber beams held in place by wooden pegs, traversing bogland or wetland. Stone-built roads or tracks were also constructed and are known in some cases to connect with wooden trackways. Both the roads of wood and stone construction have a broad date span, with some dating to the Neolithic period, while others are assigned a late medieval date. In many cases, modern roads follow the line of their more ancient antecedents (O'Brien and Sweetman 1997). The Archaeological Survey of Ireland have divided these roads into various classes. The feature (KD0008:038) was recorded as measuring 72 m in length, 1 m in width and 0.08 m in depth, consisting of several pieces of hazel brushwood (diam. 0.01-0.025 m) in a haphazard arrangement. Some evidence of burning was recorded and it is probably the destroyed remains of a more substantial structure. No trace of this feature survives above ground and the monument is not scheduled for inclusion in the next revision of the RMP.

A further three recorded archaeological sites are located within the proposed development Site boundary but are not directly impacted by the proposed development infrastructure. Immediately north of the existing facility, two trackways or toghers, (KD008-029001 & KD008-030) are recorded (Figure 13.3). KD008-029001- was a wooden trackway that crossed Timahoe Bog on an ESE-WNW orientation linking dry ground near Ardnacoolia in Timahoe

West townland to the E with dry ground in Loughnacush and Parsonstown townlands to the W (est. L c. 2275m). It intersected a second, oak, trackway (KD008-030----) mid-way across the bog, The monuments were partially excavated by E. Rynne in the 1960's and by Monroe in 1986, (O'Carroll, 2002). One of the trackways was a substantial oak plank trackway whilst the other was a less substantial birch trackway. Monroe thought that the trackways were broadly contemporary, and the oak plank trackway was dendrochronologically dated in the Middle Bronze Age (1987, 22). A walkover survey conducted in 2002 in preparation for the existing facility found no extant trace of either trackway. Subsequent monitoring of all excavations works associated with the existing facility (License 06E0746) revealed no features of archaeological significance.

A number of archaeological monuments recorded as unclassified roads, peatland structures and toghers are located predominantly to the north and north-east of the existing facility in the townlands of Coolcarrigan and Timahoe West. One of these monuments (KD009-029) is located within the area of the proposed development site and 40 m east of the proposed development infrastructure. It is recorded as a road-unclassified togher (L178.4 m; Wth 3 m; D 0.12 m) that consisted of a number of transverse roundwoods lying on occasional longitudinal, with scatters of brushwood (diam. 0.02-0.06 m) nearby. Several of the timbers were burnt. No trace of this feature survives above ground or was evident in an examination of the existing drainage ditches and the monument is not scheduled for inclusion in the next revision of the RMP.

A togher (KD008-037002) is located c. 85 m from the proposed development site. The Historic Environment Viewer of the National Monuments Service (www.archaeology.ie) describes as "*A two-layered structure (L 61.8 m; Wth 3.1 m; D 0.33 m), lying just 0.3 m above the mineral soil, is composed of a compact longitudinal roundwood and brushwood superstructure (diam. 0.02-0.05 m) above a thin, dispersed layer of brushwood (hazel, birch and yew) four rods deep. Some of the roundwood (diam. 0.17-0.195 m) was identified as ash. A number of pieces are worked into wedge and chisel points. Hazelnuts were present within the structure*". Four separate areas of wooden fragments identified to the immediate east of this togher are designated as archaeological monuments (KD009-034, KD009-035, KD009-027, KD009-030). A togher (KD008-036) and peatland structure ((KD008-036) are located c. 80 m - 90 m from the proposed development site.

Enclosures are recorded in the townland of Coolcarragin (KD009:046) and Timahoe West (KD009-048) c. 1.2 km and 1.6 km respectively from the edge of the proposed development site. Two further enclosures (KD008-016---- & KD008-023----) are located in the townland of Parsonstown c. 1.3 -1.5. km from the proposed development site. Enclosures are usually distinguished on the basis of their anomalous characteristics, such as their large or small size, or lack of entrance features, which sets them apart from ringforts or other classifiable enclosures. The term usually refers to a site which consists of an enclosing bank surrounding a circular or subcircular area, and with no apparent entrance. Due to the lack of diagnostic remains it is difficult to suggest a period of construction or use for the monuments. Occasionally, the enclosures are surrounded by a ring of trees. The function of these sites is indeterminable from visual inspection alone, that is, without excavation and due to the lack of identifiable features. Sites which are now destroyed but which have been detected on aerial photographs, marked on various Ordnance Survey maps or locally described as circular or subcircular areas defined by banks and/or fosses are usually categorised as enclosures.

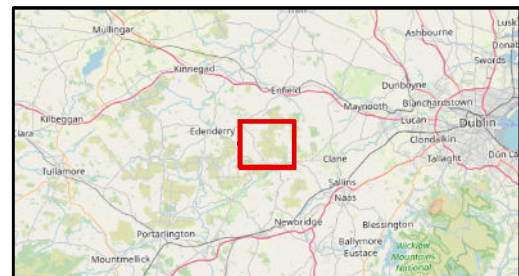
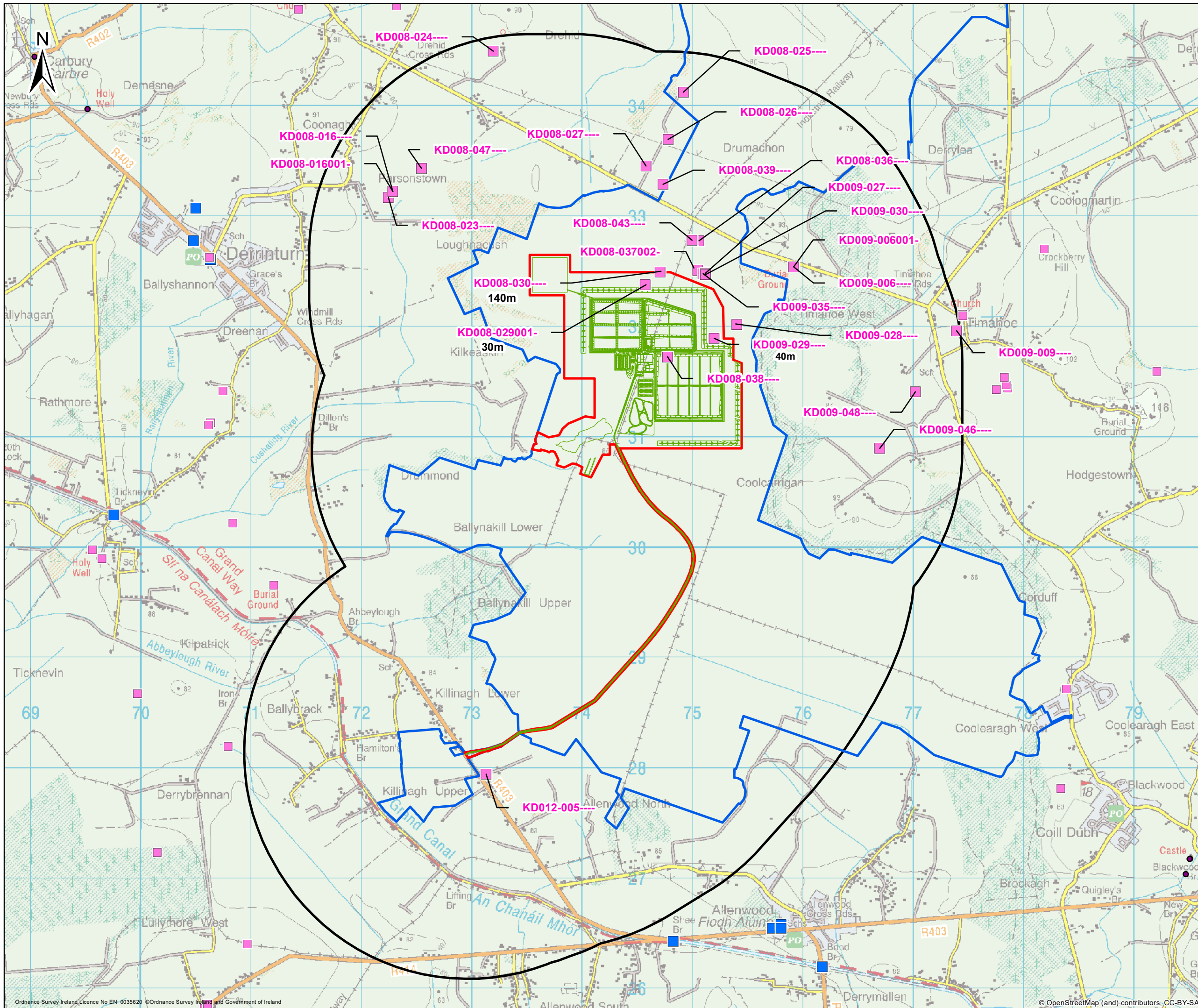
A Children's Burial Ground is recorded from Timahoe West (KD009:006001-), c. 730 m to the north-east of the proposed development site. These sites are usually found either in isolation or

associated with other monuments such as enclosures and are characterised by the presence of numerous small, uninscribed set stones, often arranged in rows.

Medieval churches, which often incorporate the fabric of early Christian churches, are distinguished on the basis of their ground plan and date. Nave and chancel churches are dated to the twelfth to thirteenth century, while single-celled churches are assigned a thirteenth to seventeenth century date. The single-celled churches were generally orientated east/west and were entered at the west end of either the north or south wall. Some churches had opposing doorways at the west end of the church. These churches may also have had a subdivision at the west end of the church, in the form of a cross-wall, or the presence of corbels or beam-holes which indicate the former presence of a loft. These quarters comprised the accommodation for the parish priest. A Church and Graveyard is recorded in the townland of Timahoe East (KD009:008) c. 2.1 km east of the proposed development Site boundary.

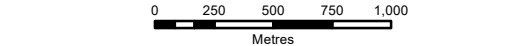
A moated site is recorded in the townland of Drehid (KD008:024) c. 1.9 km north north-west of the proposed development site, in Parsonstown townland c. 1.3 km to the north-west and Killanagh Upper townland (KD012-005) c. 200 m south of the entrance to the existing landfill facility. These monuments are square, rectangular or occasionally circular areas, sometimes raised above the ground, enclosed by a wide, often water-filled, fosse, with or without an outer bank and with a wide causewayed entrance. They date to the late 13th/early 14th centuries and were primarily fortified residences/farmsteads of Anglo-Norman settlers though also built by Gaelic lords.

Stone castles date to the Anglo Norman period and would have come after an earlier earth and timber castle, as they took longer to build and were more expensive. A castle (KD009:009) is recorded in the townland of Timahoe West c. 2 km east of the proposed development site. No surface trace of the monument survives.



Legend

- Planning Application Boundary
- Bord na Móna Ownership Boundary
- 2km Buffer from Proposed Development
- Site Infrastructure
- Sites and Monuments Record (SMR)
- National Inventory of Architectural Heritage (NIAH)



- NOTES**
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
 2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
 3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
 4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Issue	Date	Description	By	Chkd.
D01	10/02/2023	Draft issue	S.P	J.S

Client:
Bord na Móna

Project:
Drehid Landfill Planning Application

Title:
Recorded Monument Locations

Scale @ A3: 1:32,000

Prepared by: S.Pezetta Checked: J.Staunton Date: February 2023

Project Director: D.Grehan

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RMP/SMR Ref.	Townland	Monument type	Distance to Development Site
KD012-005----	Killinagh Upper	Moated Site	200 m
KD009-046----	Coolcarrigan	Enclosure	1.2 km
KD009-048----	Timahoe West	Enclosure	1.6 km
KD008-038----	Timahoe West	Unclassified Togher	0 m
KD009-029----	Coolcarrigan/Timahoe West	Unclassified Togher	0 m
KD009-009----	Timahoe West	Castle	2 km
KD009-028----	Timahoe West	Peatland Structure	150 m
KD009-006001-	Timahoe West	Childrens burial ground	730 m
KD009-006----	Timahoe West	Trackway	730 m
KD008-037002-	Timahoe West	Road Class 2 Togher	85 m
KD009-034---	Timahoe West	Structure peatland	85 m
KD009-027---	Timahoe West	Structure peatland	90 m
KD009-030---	Timahoe West	Structure peatland	80 m
KD008-043---	Timahoe West	Structure peatland	290 m
KD008-36---	Timahoe West	Class 2 Togher	320 m
KD008-029001-	Timahoe West, Loughnacush, Parsonstown	Class 1 Togher	0 m
KD008-030----	Timahoe West, Loughnacush, Kilkeaskin	Class 1 Togher	0 m

KD008-039----	Drehid	Road	725 m
KD008-027----	Drehid	Road-unclassified	870 m
KD008-026----	Drehid	Road-unclassified	1.1 km
KD008-025----	Drehid	Road-unclassified	1.6 km
KD008-024----	Drehid	Moated Site	1.9 km
KD008-047----	Parsonstown	Moated Site	1.3 km
KD008-016----	Parsonstown	Enclosure	1.4 km
KD008-016001-	Parsonstown	House	1.4 km
KD008-023----	Parsonstown	Enclosure	1.5 km

Table 13.2: Details of Recorded Monuments with 2 km of the proposed development site.

13.3.4 Topographical Files for the National Museum of Ireland

This is the archive of all known finds recorded by the National Museum of Ireland. The archive primarily relates to artefacts but also includes references to monuments and previous excavations. The find locations of artefacts are important contributors to the knowledge of the archaeological landscape. Location information relating to finds is an important indicator of human activity. No finds are recorded from the area of the Proposed Development with closest artefacts recorded a barbed flint arrowhead (Ref. 1966:2) from the townland of Timahoe West c. 300 m to the north east. The majority of artefacts were retrieved during the harvesting of peat and while the bogs have since been harvested it is possible that further artefacts and/or features survive in the lower levels of peat.

Reg No.	Townland	Find Type
1987:72	Allenwood South	Leather Shoe
1987:71	Allenwood South	Bronze Cauldron
1942:1870	Allenwood Middle	Bronze Rapier
1937:2433	Ardkill	Stone Axehead
1937:2438-44	Ballybrack	Stone Implement
1937:2421	Ballybrack	Stone Axehead

1962:75	Ballynakill Lower/Upper	Iron Axehead
-	Ballyteague	Designed Stone
1979:7	Coolcarrig	Wooden Shovel Blade
1979:9	Coolcarrig	Wooden Keg with Bog Butter
1950:31	Demesne	Stone Object
1945:268	Downings	Stone Axehead
1972:355 A&B	Drehid	Bent Wooden Stake
1937:2420	Kileaskin	Stone Axehead
1968:438-439	Kileaskin	2 Polished Stone Axeheads
1994:72	Killinagh	Wood in Bog
1929:1298	Killinagh	Bog Butter
1980:46	Mulgeeth	Wooden Object
1991:44	Mylerstown	Stone Axehead
1987:140	Ticknevin	Leather Shoe
1943:132	Timahoe East	Portion of Wooden Wheel
1938:8560	Timahoe East	Fragment of Large Stone Axehead
1943:286	Timahoe East	Silver Bracelet
1943:130-131	Timahoe East	Wooden Yoke
1950:7	Timahoe East	Iron Axe
-	Timahoe Bog	Bog Body - human forearm
1950:4a, 4b, 4c	Timahoe	3 portions of wooden vessel

1942:409	Timahoe (Derrymahon Bog)	Wooden Object
1978:3	Timahoe East or West	Leather Shoe
1941:1120	Timahoe	Bronze Spearhead
1966:2	Timahoe Bog, Timahoe West	Flint Arrowhead (barbed)
1970:139	Timahoe West	Rough Out
-	Timahoe Bog	Human Skeletal remains
1994:62	Robertstown	Bronze Socketed Axehead

Table 13.3: Archaeological Artefacts Recorded from the townlands surrounding the proposed development site.

13.3.5 Aerial Photography

The Ordnance Survey of Ireland aerial photographs (www.osi.ie) were consulted to identify any archaeological, architectural or cultural heritage features in the landscape that may not have been previously recorded. There was no evidence of additional archaeological, architectural or cultural heritage features recorded on the aerial photographs within the area of the proposed development. Photomontages associated with the Landscape and Visual Impact as detailed in Chapter 11 of this EIAR were examined.

13.3.6 Kildare County Development Plan

The Kildare County Development Plan (2023-2029) was consulted for the schedule of buildings (Record of Protected Structures) and items of cultural, historical or archaeological interest that may be affected by the existing facility. There are no Protected Structures in the area of the existing facility. Coolcarrigan House and Church (Reg. B09-10, B09-11) are located c. 1.2 km and 1.5 km respectively to the south-east of the proposed development. Coolcarrigan House was constructed in the 1830's and was originally used as a shooting lodge. It has extensive gardens and a 19th century Hiberno-Romanesque church on the grounds. A coniferous belt along the eastern edge of the existing bog (Plate 13.5) ensures that these structures are not visually impacted by the proposed development.

The Department of Housing, Local Government and Heritage maintains a database on a county basis of National Monuments in State Care. The term National Monument is defined in Section 2 of the National Monuments Act (1930) as 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 list contains no National Monuments in State care in the area of the proposed development or within a radius of 2 km.

13.3.7 National Inventory of Architectural Heritage

The NIAH maintains a register of buildings and structures recorded on a county basis. The register records no structures in the area of the proposed development. The closest structure is a 19th century house (Reg. 11900804) in Derrinturn village, located c. 3.km to the west.

13.3.8 Previous Archaeological Work in the Area

Immediately north of the existing facility in the townlands of Loughnacush, Parsonstown and Timahoe West a wooden trackway (RMP KD008-029001) is recorded. The files of the Archaeological Survey of Ireland record that this trackway originally crossed "Timahoe Bog on an ESE-WNW orientation linking dry ground near Ardnacoolia in Timahoe West townland to the E with dry ground in Loughnacush and Parsonstown townlands to the W (est. L c. 2,275 m)". Two small sections (L 35 m and L 6 m) of 'flimsy path made of birch logs' were archaeologically excavated in 1986 (Munroe 1987, 22) and comprised small logs (max. L 2 m; diam. 0.1 m) laid end to end, in an irregular pattern. Beyond a rough trimming of the ends, there was no evidence of carpentry, nor did the track include any brushwood or thin roundwood. According to the Irish Archaeological Wetland Unit (UCD), the site was radiocarbon dated to 2466-2200 (3864±45bp; GrN14248) (Brindley & Lanting 1998, 47-8).

A second trackway (KD008-030) comprised of a narrow oak trackway (Wth 1.25 m) on a brushwood substructure (Wth 2-2.5 m) is thought to have originally traversed c. 2,600 m of Timahoe Bog (ENE-WSW) between dry ground at Drumachon 'island' to the E, and dry ground in Kilkeaskin townland to the W. This trackway, which intersected with (KD008-030) was excavated by Rynne in 1966 (SMR file) and was examined again in 1986 (Munro 1987, 22) and also in 1992 (Irish Archaeological Wetland Unit (UCD), SMR file). It consisted of a haphazard arrangement of large oak planks laid longitudinally and transversely, with occasional narrow side planks, supported upon a substructure of roundwood runners. A thick layer of brushwood, secured by pegs, underlay the main timbers and extended beyond their N-edge. Several morticed planks were recorded, one of which contained a peg in a mortice, and several other notched timbers, probably of yew, were noted extending beyond the northern edge of the structure, but were of uncertain function. Yew 'posts' recorded as projecting about 0.7 m above the level of the togher and posited as route-way markers might be explained as pegs that had risen up through the peat. Dendrochronological dating suggests a two-phase structure: the substructure is dated to 1483 BC (Q6416) and the superstructure to 1378±9BC (Q6672), (N.M.I. IA/12/66; Brindley & Lanting 1998, 47-8).

Archaeological monitoring of all excavation works associated with the existing landfill facility have been ongoing since construction commenced in 2006. The excavations for the access road and initial stage of the landfill development site were undertaken between August and September 2006 and were monitored by Sinclair Turrell and Rupert Flood (License 06E0746). Nothing of archaeological significance was recorded from the monitoring www.excavations.ie. Between 2008 and 2010 further monitoring was undertaken in advance of the construction of additional landfill cells (Phases 3, 4 & 5) at the existing facility (Turrell, 2009). In 2010-2011, archaeological monitoring associated with the construction of the composting facility and monitoring of Phase 6 of the landfill at the site was undertaken. Construction of further phases of the landfill were monitored between November 2014 and May 2015 (Jane Whitaker, License

06E0746 Ext.). Monitoring of phases 11-12 were undertaken by Tim Coughlan and Brenda Fullar and phases 13-15 completed by Tim Coughlan in 2017. All of the excavations were monitored under license 06E0746. No finds or features of archaeological significance were encountered in the course of any of the monitoring works.

In 2016, following consultation with National Monuments, Department of Culture, Heritage, and the Gaeltacht (now DoHLGH) a survey of the existing drains in the area of Proposed Development was undertaken by Fiona Rooney and Martin Fitzpatrick (License 16E0467). This work involved monitoring the cleaning down of the section face of existing drains to the south of the existing landfill facility to record the stratigraphy and identify any possible archaeological remains. The work was undertaken over a period of ten days in September-October 2016. The monitoring found that in general peat levels throughout much of the site were less than 1 m and in many places, there is between 0.3-0.5 m of peat deposit remaining above the natural. No archaeological features or artefacts were identified in any of the drains examined.

Archaeologist Martin Fitzpatrick conducted archaeological pre-development testing, peat probing and archaeological monitoring of peat removal associated with the development of a Mechanical Biological Treatment facility to the immediate south of the proposed development in 2021 (license 21E0400). The archaeological work confirmed that the harvested bog had peat levels ranging from 0 m-1.4 m in depth with the deepest peat located in the north-east of the site. Nothing of archaeological significance was encountered.

In 2002 Martin Byrne undertook archaeological testing (License 02E0790) in the townland of Timahoe West, 1 km east of the proposed development. Nothing of archaeological significance was encountered.

13.3.9 Cartographic Analysis & Ordinance Survey Maps

An examination of historical maps of the subject site revealed nothing of archaeological significance. The Down Survey was a national land survey, managed by Sir William Petty then surgeon-general of the English army. Its purpose was to measure the land that was to be forfeited by Irish Catholics, so that it could be redistributed by the Crown as payment to adventurers and soldiers of the Protestant faith for services rendered. The survey was undertaken in 1656-1658. The Down Survey generated an all-island map, and more detailed maps on a county, barony, and civil parish basis. The area of the proposed development is indicated as bogland to the north of Allenwood (Figure 13.4). The 1752 map by Noble and Keenan records the Bog of Allen with Timahoe and Drehid marked. The area of the proposed development is indicated as part of the vast bog in this mid-18th century map (Figure 13.2). Alexander Taylor's map of 1783 similarly depicts the area as a vast bog. The first edition ordnance survey map produced in the mid-19th century records Coolcarrigan Demesne to the east of the proposed development but no features are indicated in the area of the proposed development (Figure 13.5). More recent maps and aerial photographs highlight the drainage channels throughout the proposed development site and Timahoe bog.



Figure. 13.4: Extract from Down Survey Map.

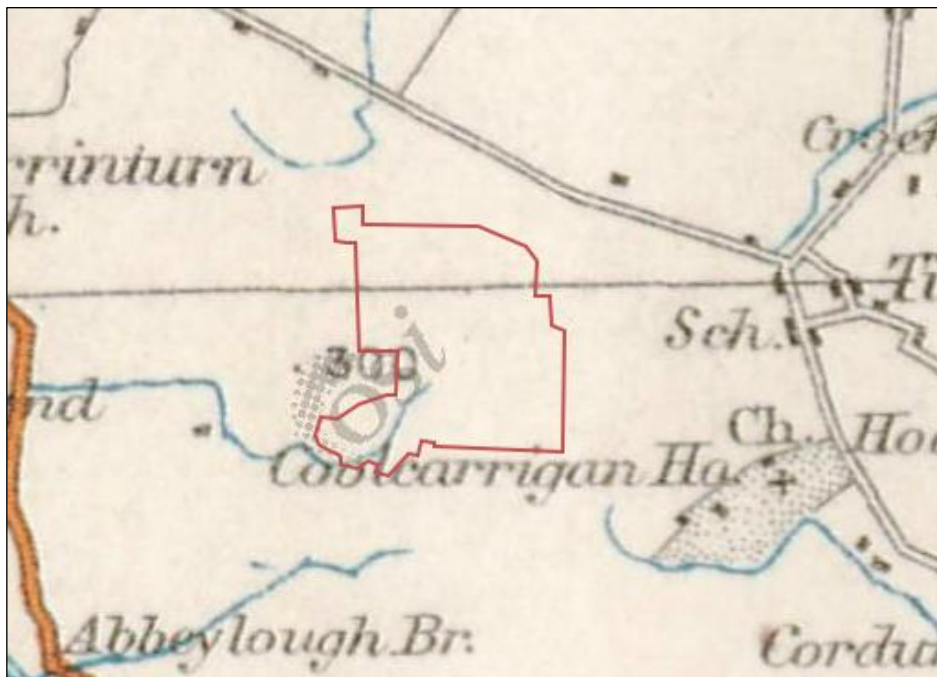


Figure. 13.5: Extract from first edition OS 6-inch Map 1837.

13.3.10 *Schools Collection*

The Schools Collection forms part of the National Folklore Collection, created in the late 1930's it is comprised of folklore and local traditions compiled by school children throughout Ireland. Documents relating to the area of the proposed development were examined in the schools of Allenwood and Derrinturn (duchas.ie) relating to details of community, placenames and folklore. The collection includes stories from the bogs and the meaning of placenames.

13.3.11 *Townland Names*

Townlands are the smallest land divisions in the Irish landscape and many may preserve early Gaelic territorial boundaries that pre-date the Anglo-Norman conquest. The layout of Irish townlands was recorded and standardised by the work of the Ordnance Survey in the 19th century. The Irish translation of townland names often refer to natural topographical features, but name elements may also give an indication of the presence of past human activities within the townland. Table 13.4 provides the possible translation of the Irish origin of the townland names within or adjacent to the existing facility. The townlands of Killinagh Upper, Killinagh Lower and Kileaskin all contain the word Kil or Kill which generally refers to a Church, Monastic Settlement, Churchyard or Graveyard being located in the area. The townland of Parsonstown refers to the place or town of the Parson while Drummond refers to a landscape feature.

Townland	Irish Translation	Possible Meaning
Timahoe West	Tigh Mochua	House of Mochua
Coolcarrigan	Cuil Charraigin	Nook of the little Rock
Ballynakill (Upper & Lower)	Baile na Coille	Town of the Church or Wood
Corduff	Cor Dubh	Black Round Hill
Killinagh (Upper & Lower)	Choill an Fheá Uachtarach	Kill- Church
Kilkeaskin	Choill Cháiscín	Kill- Church
Drummond	An Dromainn	Droim-Ridge
Loughnacush	Loch na Coise	

Parsonstown	Bhaile an Phearsúin	Town of the parson
Drehid	An Droichead	A Bridge

Table 13.4: Townlands in the vicinity of Existing Facility Site

13.4 FIELD SURVEY

Walkover surveys in the area of the proposed development have been ongoing since 2002 when the initial assessment for the existing landfill facility was completed by Martin Fitzpatrick and Fiona Rooney. The most recent field survey of the proposed development was undertaken by Martin Fitzpatrick and Fiona Rooney in April 2022.

A survey of Timahoe Bog was undertaken by The Irish Archaeological Wetland Unit in the 1990's. The survey identified a number of trackways and/or fragments of trackways to the north and east of the existing landfill facility. Two of these trackways were destroyed before they were plotted (information received from Irish Archaeological Wetland Unit in 2002). The sites have, since 2010, been updated to the Sites and Monuments Record (SMR). One of the sites recorded - an unclassified togher (KD008-038) is located at the northern end of the proposed landfill extension. It was recorded as several pieces of hazel brushwood in a haphazard arrangement (L 72 m, Wth 1 m; D 0.08 m), probably the destroyed remains of a more substantial structure. Some evidence for burning was recorded. No trace of this features survives today and the monument is not scheduled for inclusion in the next revision of the Record of Monuments and Places RMP.

Following consultation with National Monuments, Department of housing, Local Government and Heritage a detailed survey of the existing drains in the area of the proposed development was undertaken under license (License 16E0467) by Fiona Rooney and Martin Fitzpatrick in 2016. The work involved monitoring the cleaning down of the section face of existing drains within the western area of the proposed development to record the stratigraphy and identify any possible archaeological remains. The work was undertaken over a period of ten days in September-October 2016. The monitoring found that in general peat levels were less than 1 m and in many places there is between 0.3-0.5 m of peat deposit remaining above the natural. Peat levels greater than 2 m were also recorded in the north-east of the site. No archaeological features or artefacts were identified in any of the drains examined.

The most recent field inspection was undertaken in April 2022. This allowed the opportunity of first-hand observation of the terrain, which can often result in the discovery of hitherto unrecorded sites and finds.

The footprint of the proposed development is primarily located to the east of the existing private access road and south of the existing landfill infrastructure. The existing and operational waste management facility at Drehid is accessed from the R403 Regional Road via a dedicated

entrance and private 4.8 km long access road. This entrance and road will also be used to access the Proposed Development from the public road network.

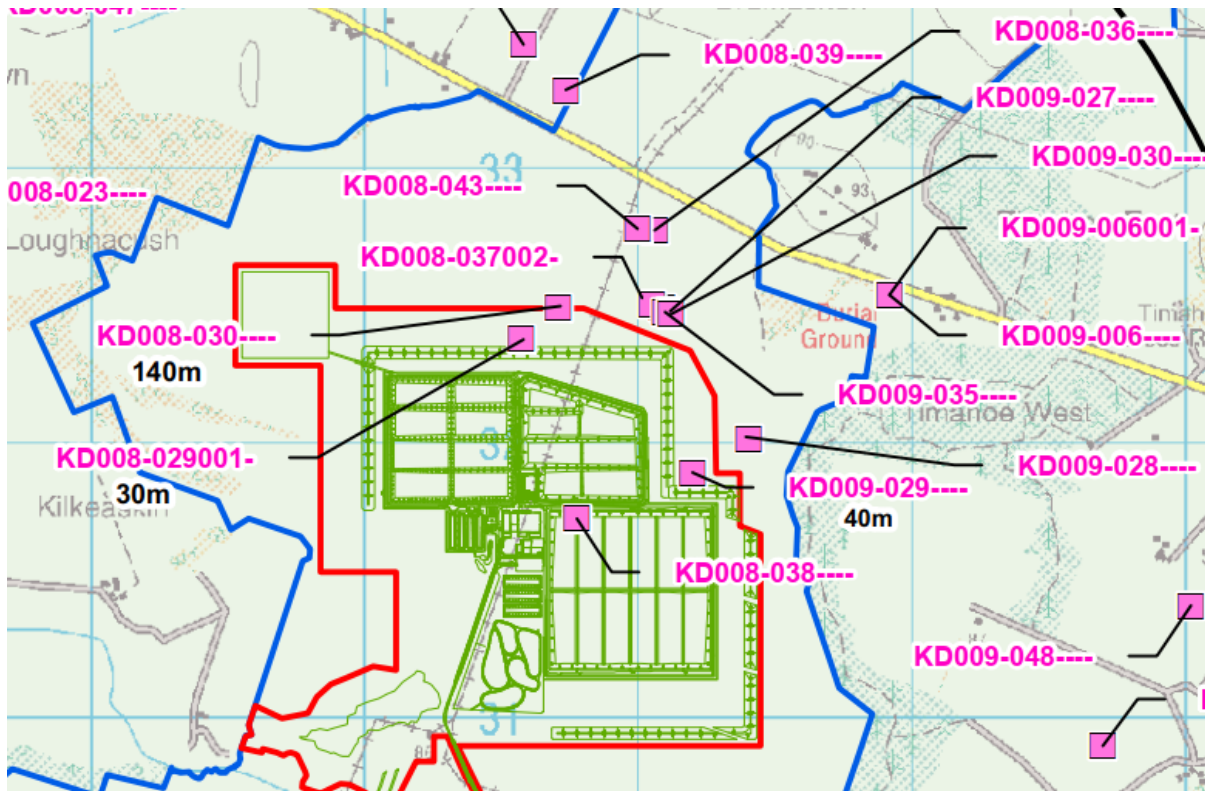


Figure 13.6: Plan of the proposed development.

The proposed development will involve additional landfill capacity (non-hazardous) as well as allowing for additional capacity for the processing of certain waste streams for materials recycling and recovery, and composting process. It also includes other associated works, buildings and roads, etc. as described in Chapter 2 of this EIAR (Description of the Proposed Development). These will include a new processing building, a new composting building, a new maintenance facility, a new bunded fuels storage area, three new water lagoons, a new integrated wetland, carparking and all associated landscaping.



Plate 13.1: Google Map Imagery 2023 indicating the existing facility and land to south.

The entire area of the proposed development is part of Bord na Móna's Allen Group of bogs that were first brought into industrial peat production in the 1950's. Peak production at Timahoe Bog was during the 1960's when the bog was in sod peat production. Industrial production at the site was gradually phased out over the last thirty plus years as most of the bog was cut away and the poor quality of the remaining peat made further peat harvesting uneconomical. The bog has been drained by the excavation of a network of east to west running drains that discharged into a central underground culvert that ran from north to south. The drainage network facilitated heavy plant and machinery to safely traverse the bog when it was being worked. As a result of the drainage channels, the entire site was divided into plots referred to as 'peat fields'. These turf plots span the length of the bog. In some areas they have been exploited to a depth of 0.5 m-1 m above the natural mineral soil. Since the peat harvesting has ceased the area of the proposed development has regenerated with grass and vegetation. A walk over survey of the proposed development site, including an inspection of the existing drain sections where possible, revealed no sites or features of archaeological significance.



Plate 13.2: View of existing facility taken from the south of the proposed development.



Plate 13.3: Typical drainage channel traversing the proposed development site.



Plate 13.4: General view of the area of the proposed infrastructure development looking E.



Plate 13.5: Drain and tree plantation that forms the E boundary of Bord na Mona holding.

Thick vegetation is confined to the edges of some drains and in some isolated pockets but in general it was possible to walk over the area of the proposed development site.

13.5 HAUL ROADS

Four proposed primary haul routes were examined as part of this EIAR (Table 13.7 and Figure 14.4 of Chapter 14 in this EIAR). All four roads are existing and it is not proposed to alter them. The following lists includes all recorded monuments, recorded protected structures, and structures recorded in the National Inventory of Architectural Heritage located within 100 m of

each of the proposed routes. A distance of 100 m was applied to indicate the types of buildings and monuments the existing roads pass by.

13.5.1 Proposed haul route along Enfield ring road

A 2 km stretch of the R148 Enfield Ring Road that will connect the permitted haul route on R148 to the permitted haul route R404 via the Enfield ring road (R148). Three recorded monuments are directly impacted by this route. All three of the monuments relate to archaeological excavations conducted in advance of the by-pass construction. These features have been excavated, recorded and removed and no longer survive below the roadway. No protected structures or structures recorded in the National Inventory of Architectural Heritage are located within 100 m of this proposed route.

RMP/SMR No.	Townland	Monument type	Distance to Route
ME048-028----	Johnstown	Flat Cemetery	0-10 m
ME048-029----	Johnstown	Excavation	0 m
ME048-030----	Johnstown	Excavation	0 m

Table 13.5: Details of Recorded Monuments within 100 m of the Proposed Haul Route

13.5.2 Proposed haul route from Kilcock to Prosperous

This route runs south along the R407 and south-west along the R408 connecting the M4 at Kilcock to Prosperous. No recorded monuments are directly impacted by the route while four recorded monuments are located within 100 m of the route. A total of 12 structures recorded in the National Inventory of Architectural Heritage are located within 100 m of the route with the majority of them in the village of Prosperous.

RMP/SMR No.	Townland	Monument type	Distance to Route
KD010-037----	Boherhole	Enclosure	25 m
KD014-001----	Ballynagappagh	Ringfort	50 m
KD013-033----	Curryhills	Excavation	85 m
KD013-014----	Curryhills	Font	10 - 15 m

Table 13.6: Details of Recorded Monuments within 100m of the Proposed Haul Route

NIAH Register No. RPS No.	Townland	Structure type	Distance to Route
11901001	Moortown	House	50 m

B10-14			
11901401 B14-36	Ballynacappagh	House	10 m
11807013	Curryhills	Water Pump	15 m
11807006 B13-039	Curryhills	House/Factory	Roadside
11807007	Curryhills	Church / Parish hall	Roadside
11807001	Curryhills	House	Roadside
11807005 B13-38	Curryhills	House	Roadside
11807004 B13-37	Curryhills	House	Roadside
11807008 B13-40	Curryhills	House	Roadside
11807002 B13-36	Curryhills	House	Roadside
11807010 B13-41	Curryhills	School	40 m
11807011 B13-41	Curryhills	Church	10 m

Table 13.7: Recorded Protected Structures and structures recorded in NIAH within 100 m of proposed route.

13.5.3 Proposed haul route from Maynooth to Clane

This proposed route travels south from the M4 along the R406 and R403 before travelling to Clane. No recorded monuments are directly impacted by the existing road as it travels from Maynooth to Clane. A total of 16 recorded monuments are located with 100 m of this route. The existing road crosses a landscape which includes pre-historic monuments such as ring ditches (KD010-066----, KD010-067---- & KD010-070----) and barrows (KD010-057----,

KD010-058---- & KD010-059----) but also late medieval monuments such as a Tower House (KD010-022----) in Barberstown townland while the town of Clane is a historic town (KD014:26001) probably originating from the early Christian monastery of Cluain Damh (KD014:26017).

No structures recorded in the Record of Protected Structures for County Kildare or the NIAH are directly impacted by this route. A rectory in Abbeylands townland is a Recorded Protected Structure (B14-42) and recorded in the National Inventory of Architectural Heritage (NIAH). It is located c. 30 m from the existing route.

RMP/SMR No.	Townland	Monument type	Distance to Route
KD010-066----	Toolestown	Ring ditch	15 m
KD010-067----	Toolestown	Ring ditch	50 m
KD010-070----	Windgates	Ring ditch	40 m
KD010-042----	Barberstown Upper	Enclosure	50 m
KD010-022----	Barberstown	Tower House	100 m
KD010-022001-	Barberstown	Bawn	90 m
KD010-057----	Barberstown	Barrow	70 m
KD010-058----	Barberstown	Barrow	80 m
KD010-059----	Barberstown	Barrow	90 m
KD014-096----	Longtown	Ringditch	90 m
KD014-020----	Capadoo Commons	Well	60 m
KD014-026005-	Abbeylands	Religious House	55 m
KD014-026010-	Abbeylands	Font	55 m
KD014-026014-	Abbeylands	Tomb	70 m
KD014-026012-	Abbeylands	Graveyard	20 m
KD014-026001-	Abbeylands	Historic Town	0 m

Table 13.8: Recorded monuments within 100 m of proposed route.

NIAH Register No. RPS No.	Townland	Structure type	Distance to Route
11808010 B14-42	Abbeylands	Rectory	30 m

Table 13.9: Recorded Protected Structures and structures recorded in NIAH within 100 m of proposed route.

13.5.4 Proposed haul route from Kildare to Milltown

This route travels north from the M7 through Kildare town and then north-east along the R415 to the village of Milltown. North of the M7 the route travels along the road east of a Graveyard (KD022:029067) and north through the historic town of Kildare (KD022:029001) before veering north-east along the road adjoining the golf course at the Curragh before heading to Milltown. A total of 32 recorded archaeological monuments are located with 100 m of the existing road. Fifteen prehistoric barrows and/or ring ditches are located in the townland of Curragh while the existing road passes by a religious house (KD022-029006-), town defence (KD022-029009) and castles (KD022-029025 & KD022-029004-) in the historic town of Kildare (KD022-029001-). A total of 30 structures recorded in the National Inventory of Architectural Heritage and/or the Record of Protected Structures for County Kildare are located along the roadside in both Kildare and Milltown. A railway bridge in Kildare (11817095) and a road bridge (11901814) over the canal in Milltown are part of the existing road and are directly impacted.

RMP/SMR No.	Townland	Monument type	Distance to Route
KD022-029067-	Kildare	Graveyard	10 m
KD022-029006-	Kildare	Religious House	60 m
KD022-029001-	Kildare, Tully East & West Greyabbey	Historic Town	0 m
KD022-029009-	Kildare	Town Defence	40 m
KD022-029070-	Kildare	Tomb	15 m
KD022-029072-	Kildare	Amorial Plaque	15 m
KD022-029071-	Kildare	Architectural feature	15 m
KD022-029025-	Kildare	Castle	90 m
KD022-029004-	Kildare	Castle-Anglo Norman	40 m

KD022-029059-	Kildare	Building	70 m
KD022-029002-	Kildare	Ecclesiastical Site	100 m
KD022-029003-	Kildare	Graveyard	100 m
KD022-029058-	Kildare	Ecclesiastical Enclosure	100 m
KD022-029003-	Kildare	Cathedral	100 m
KD022-029075-	Kildare	Shiela-na-gig	100 m
KD022-040----	Curragh	Barrow	40 m
KD022-065001-	Curragh	Barrow	55 m
KD022-065002-	Curragh	Barrow	60 m
KD022-065003-	Curragh	Barrow	65 m
KD022-065004-	Curragh	Barrow	65 m
KD022-065005-	Curragh	Barrow	85 m
KD022-065006-	Curragh	Barrow	70 m
KD022-065007-	Curragh	Barrow	88 m
KD022-065008-	Curragh	Barrow	90 m
KD022-065010-	Curragh	Barrow	90 m
KD022-072----	Curragh	Ring ditch	90 m
KD022-074----	Curragh	Ring ditch	95 m
KD022-075----	Curragh	Ring ditch	15 m
KD022-076----	Curragh	Barrow	5 m
KD022-077----	Curragh	Barrow	30 m
KD022-039----	Curragh	Wayside cross	50 m
KD022-007----	Rathbride	Burial ground	5 m

Table 13.10: Recorded monuments within 100 m of proposed route.

NIAH Register No. RPS No.	Townland	Structure type	Distance to Route
11817074 B22-32	Kildare	House	90 m
11817072 B22-24	Kildare	House	90 m
11817033	Kildare	House	35 m
11817039	Kildare	House	5 m
11817034 B22-49	Kildare	Church	35 m
11817034 B22-50	Kildare	Convent	80 m
11817043	Kildare	Factory	Roadside
11817044	Kildare	Outbuilding	Roadside
11817109	Kildare	Outbuilding	Roadside
11817045	Kildare	House	Roadside
11817002	Kildare	Monument	Roadside
11817003 B22-42	Kildare	Market House	100 m
11817004 B22-43	Kildare	Lamp Standard	15 m
11817017 B22-48	Kildare	House	15 m
11817017 B22-47	Kildare	House	20 m
11817015	Kildare	Gates/Railings	30 m
11817014	Kildare	Office	45 m

11817006 B22-30	Kildare	Rectory	50 m
11817100	Kildare	House	35 m
11817101	Kildare	Cinema	55 m
11817099	Kildare	Water Tower	40 m
11817117	Kildare	House	5 m
11817098	Kildare	House	5 m
11817095	Kildare	Bridge	0 m
11901814 B18-26	Milltown	Bridge	0 m
11901813	Milltown	House	5 m
11901812	Milltown	Water pump	Roadside
11901809	Milltown	School	10 m
11901811	Milltown	Post Box	15 m
11901810 B18-22	Milltown	House	20 m

Table 13.11: Recorded Protected Structures and structures recorded in NIAH within 100 m of proposed route

13.6 POTENTIAL IMPACTS

Following on from the identification of the baseline environment, the available data is utilised to identify and categorise potential impacts likely to affect the cultural heritage environment as a result of the proposed development. Impacts can be assessed based on the detailed information on the project, the nature of the area affected, and the range of resources potentially affected. A residual landfill facility can potentially affect the cultural heritage landscape in a number of ways (See Section 13.2.2).

13.6.1 Do Nothing Effects

If the proposed development were not to proceed, then potential effects on cultural heritage assets would not apply with no need for mitigation. The area of the proposed development continues as an area of cutaway bog.

13.6.2 Potential Effects (Direct) - Construction

The proposed development will involve the mechanical excavation of peat layers down to and through geologically deposited strata to enable ground engineering works. As identified in Section 13.3.3 26 recorded monuments are located within 2 km of the proposed development site. One recorded monument (KD008:038 – A road - Unclassified Togher) is located in the area of the proposed development infrastructure. No trace of this monument survives above ground and the monument is not scheduled for inclusion in the next revision of the Record of Monuments and Places. Archaeological monitoring of the cleaning of existing drains (License 16E0467) in the area of this monument revealed nothing of archaeological significance (Rooney & Fitzpatrick 2016). The walk over survey conducted as part of this Cultural Heritage assessment identified no trace of this archaeological monument.

No extant recorded monument will be directly impacted. As a result, the proposed development will have a long-term neutral effect of no significance on extant recorded monuments. No National Monuments are located within 2 km of the proposed development site. The proposed development will have a long-term neutral effect of no significance on National Monuments. Two Protected Structures are located within 2 km of the proposed development site. Both of these structures are located in the townland of Coolcarrigan and are at least 1.2 km from the proposed development. The proposed development will have a long-term neutral effect of no significance on Protected Structures. No structures recorded in the NIAH are located within 2 km of the proposed development site. The proposed development will have a long-term neutral effect of no significance on structures recorded in the NIAH.

Levels of peat recorded in the bog range from 0 m to approximately 3.65 m. It is possible that sub-surface wetland archaeological features and/or artefacts survive where significant peat levels exist.

13.6.2.1 Potential effects on sub-surface archaeology

The field walkover of the proposed development recorded no features and/or finds of archaeological significance on the surface of the peat or within the drains. It is possible however that hitherto unrecorded sub-surface archaeology survives below ground level, either within the peat or at the level of the underlying natural subsoil. Ground disturbance associated with the proposed development may have a potential impact on unrecorded sub-surface archaeology, however the potential impact cannot be measured.

13.6.2.2 Proposed Residual Landfill Site

Located to the immediate south-east of the existing residual landfill facility in an area of cutaway bog divided by drainage ditches

One recorded monument (KD008:038 – A road - Unclassified Togher) is located in the area of the proposed development infrastructure. No trace of this monument survives above ground and the monument is not scheduled for inclusion in the next revision of the Record of Monuments and Places. Archaeological monitoring of the cleaning of existing drains (License 16E0467) in the area of this monument revealed nothing of archaeological significance (Rooney & Fitzpatrick 2016). The walk over survey conducted as part of this Cultural Heritage assessment identified no trace of this archaeological monument.

Three recorded archaeological monuments are located within the proposed development site boundary but are not directly impacted by the proposed development infrastructure. Immediately north of the existing facility, two trackways or toghers, (KD008-029001 & KD008-030) are recorded. KD008-029001- was a wooden trackway that crossed Timahoe Bog on an ESE-WNW orientation linking dry ground near Ardnacoolia in Timahoe West townland to the E with dry ground in Loughnacush and Parsonstown townlands to the W (est. L c. 2,275 m). It intersected a second, oak, trackway (KD008-030----) mid-way across the bog, The monuments were partially excavated by E. Rynne in the 1960's and by Monroe in 1986, (O'Carroll, 2002). One of the trackways was a substantial oak plank trackway whilst the other was a less substantial birch trackway. Monroe thought that the trackways were broadly contemporary, and the oak plank trackway was dendrochronologically dated in the Middle Bronze Age (1987, 22). A walkover survey conducted in 2002 in preparation for the existing facility found no extant trace of either trackway. Subsequent monitoring of all excavations works associated with the existing facility (License 06E0746) revealed no features of archaeological significance.

The third monument located with the proposed development site boundary is an unclassified togher (KD009-029) located 40 m east of the proposed development infrastructure. It is recorded as a road-unclassified togher (L 178.4 m; Wth 3 m; D 0.12 m) that consisted of a number of transverse roundwoods lying on occasional longitudinal, with scatters of brushwood (diam. 0.02-0.06 m) nearby. Several of the timbers were burnt. No trace of this feature survives above ground or was evident in an examination of the existing drainage ditches and the monument is not scheduled for inclusion in the next revision of the RMP.

No Protected Structures are located within the proposed development site. Coolcarrigan House was constructed in the 1830's and was originally used as a shooting lodge. It has extensive gardens and a 19th century Hiberno-Romanesque church on the grounds. Coolcarrigan House and Church (Reg. B09-10, B09-11) are both Recorded Protected Structures located 1.2 km and 1.5 km to the south-east of the proposed development site. A mixed coniferous and deciduous tree belt along the eastern edge of the existing bog ensures that these structures are not visually impacted by the proposed development.

No features recorded in the National Inventory of Architectural Heritage are located within the proposed development site or surrounding area.

13.6.2.3 Proposed Soil & Stones and C&D Waste (rubble) Processing Facility

Located to the south of the existing landfill facility in an area of cutaway bog with a depth of less than 1.5 m. No significant impacts to archaeology, architectural heritage/cultural heritage are predicted as a result of the location of the new processing building.

13.6.2.4 Proposed MSW Processing & Composting facility

Located to the south of the existing landfill facility, and as an extension to the existing composting facility, in an area of cutaway bog with a depth of less than 1.5 m. No significant impacts to archaeology, architectural heritage/cultural heritage are predicted as a result of the location of the new MSW Processing & Composting facility.

13.6.2.5 Proposed Maintenance Building

Located to the south of the existing landfill facility in an area of cutaway bog with a depth of less than 1.5 m. No significant impacts to archaeology, architectural heritage/cultural heritage are predicted as a result of the location of the new maintenance facility.

13.6.2.6 Proposed Fuel Storage Area

Located to the south of the existing landfill facility in an area of cutaway bog with a depth of less than 1.5 m. No significant impacts to archaeology, architectural heritage/cultural heritage are predicted as a result of the location of the new fuel storage area.

13.6.2.7 Proposed Carpark Area

Located to the south of the existing landfill facility in an area of cutaway bog with a depth of less than 1.5 m. No significant impacts to archaeology, architectural heritage/cultural heritage are predicted as a result of the location of the new carpark area.

13.6.2.8 Proposed Lagoons

Located to the south-west of the existing landfill facility in an area of cutaway bog with a depth of less than 2-2.5 m. No significant impacts to archaeology, architectural heritage/cultural heritage are predicted as a result of the location of the new lagoons area.

13.6.2.9 Proposed Wetlands

Located to the south of the existing landfill facility in an area of cutaway bog with a depth of 2 m-2.5 m. No significant impacts to archaeology, architectural heritage/cultural heritage are predicted as a result of the location of the wetlands area.

13.6.2.10 Haul Routes

The proposed haul routes travel on existing national and regional roads. As there are no proposed changes requiring ground disturbance, the routes will have a neutral effect of no significance on cultural heritage features. The traffic associated with the development has a neutral effect of no significance on the structural integrity of all the RPS and NIAH along the haul routes (see Chapter 10 Noise & Vibration).

13.6.3. Potential Effects (Indirect)- Construction

Indirect effects are where a feature or site of archaeological, architectural heritage merit or their setting is located in close proximity to a proposed development. Indirect impacts here are mainly concerned with impacts on setting (see Chapter 11: Landscape and Visual Impact of this EIAR).

Impacts on settings of sites may arise when a development is proposed immediately adjacent to a recorded monument or cluster of monuments. While the proposed development may not physically impact on a site, it may alter the setting of a monument or group of monuments. For purposes of assessing visual impact on setting, the uniqueness of the monuments, the potential interrelationships of monuments, the inter-visibility of monuments, visual dominance and whether a setting is altered or unaltered can be used to assess impact.

There is a visual impact on the human landscape. The monuments recorded within the proposed development site boundary have no significant surface element remaining therefore there is no significant visual impact on the setting. The proposed development infrastructure may be visible from surrounding monuments; however the visual impact of the development is negated by dense vegetation surrounding the site particularly to the east and south and the existing residual facility in the north. It should still be possible to view any monument from one side or the other without the proposed development infrastructure in the background. An assessment of the visual impacts of the development on the surrounding landscape is detailed in Chapter 11 (Landscape and Visual). The proposed development will have a neutral effect of no significance on setting.

13.6.4 Cumulative

Cumulative impacts encompass the combined effects of multiple developments or activities on a range of receptors. In this case, the receptors are the cultural heritage features in the immediate vicinity of the proposed development.

The proposed Ballydermot Wind Farm will be visible to the south west of the proposed development. When the location of the proposed development is taken into consideration the overall **long-term negative effect** on the archaeological landscape will increase slightly.

It must be noted that this increase in cumulative impact does not result in any direct effects to archaeology or cultural heritage.

13.7 MITIGATION MEASURES

Mitigation measures can avoid, prevent, reduce or offset negative effect and these are achieved by preservation in situ, by design and / or by record.

13.7.1 Pre-Construction

An experienced and competent licence-eligible archaeologist will be employed to undertake archaeological probing and testing at the site of the unclassified togher (KD008:038----).

In the event of archaeological features, finds and/or deposits been encountered during the monitoring, all relevant authorities should be notified immediately. Preservation in-situ or preservation by record (excavation) may be required.

An experienced and competent licence-eligible archaeologist will be employed to undertake archaeological probing and testing in the area of the proposed development infrastructure adjacent to the unclassified togher (KD009-029), located 40 m east of the proposed development infrastructure.

In the event of archaeological features, finds and/or deposits been encountered during the monitoring, all relevant authorities should be notified immediately. Preservation in-situ or preservation by record (excavation) may be required.

Fencing will be erected, under archaeological supervision, at the boundary of the proposed development site in the vicinity of two trackways or toghers, (KD008-029001 & KD008-030) located to the north of the existing landfill facility. The fencing will be erected to ensure that no

construction traffic extends beyond the limit of the proposed development infrastructure in this area.

13.7.2 Construction

The following mitigation measures will be implemented during the construction phase:

- All ground disturbance associated with the construction of the proposed development will be monitored by a suitably qualified archaeologist working under licence as issued by the minister (DHLGH) under section 26 of the National Monuments Acts (1994-2014).
- In the event of archaeological features, finds and/or deposits been encountered during the monitoring, all relevant authorities should be notified immediately. Preservation in-situ or preservation by record (excavation) may be required.

It is not possible to mitigate against potential negative effects on setting arising during construction of the proposed development. Therefore, no mitigation measures are being proposed. In the absence of mitigation, likely indirect effects during the construction phase of the development infrastructure will have a **likely negative short-term effect** on the setting of these monuments.

13.8 RESIDUAL IMPACTS

13.8.1 Construction Phase Residual Effects

There will be **no residual effects** during construction phase on the archaeological, architectural and cultural heritage resource within the proposed development site after mitigation measures have taken place. There will be no **residual** visual effects on the archaeological, architectural and cultural heritage resource in the wider area.

13.8.2 Operational Phase Residual Effects

There will be **no residual effects** during operation on the archaeological, architectural and cultural heritage resource within the proposed development site after mitigation measures have taken place. There will be **no residual** long-term visual effects on the archaeological, architectural or cultural heritage resource.

13.8.3 Decommissioning Phase Effects

No new effects are predicted during the decommissioning phase of the project on the archaeological, architectural and cultural heritage environment. Therefore, no mitigation is required.

13.9 STATEMENT OF SIGNIFICANCE

This assessment has identified **no likely significant direct effects (negative)** from the proposed development on the receiving environment, given the layout and design of the proposed development and the mitigation measures recommended.

The proposed development will have **no likely significant indirect effects** on the surrounding archaeological, architectural and cultural heritage landscape.

In the event of new archaeology features being revealed, the proposed development will have a **Long Term Positive Significant Direct Effect**. The proposed new amenity development will increase the awareness of the cultural heritage of the area thus having a **Long Term Positive Significant Effect**.

13.9 References

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