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8.0 CULTURAL HERITAGE AND ARCHAEOLOGY

8.1 Introduction

8.1.1 This chapter of the Environmental Impact Assessment Report (EIAR) describes the likely significant impacts from the Proposed Development upon the Cultural Heritage resource, including archaeological and architectural heritage, and the resultant residual effects, in accordance with the requirements of the relevant EIA legislation and guidance as outlined in section 8.2 below.

8.1.2 The chapter aims to:

- Assess the potential impacts that the Proposed Development may have on cultural heritage features and to determine whether any further assessment/ mitigation is required;
- Ensure that the Cultural Heritage assessment is tailored to the characteristics of the Proposed Development and carried out to the appropriate level of detail; and
- Identify, describe, and assess the environmental advantages, disadvantages and constraints associated with the Proposed Development under consideration.

8.1.3 A full description of the existing Site is presented in Chapter 4: Existing Site and Conditions of this EIAR, while details of the Proposed Development are presented in Chapter 5: The Proposed Development of this EIAR.

8.2 Methodology

Sources

8.2.1 The preparation of the baseline was informed by material gathered and collated from various sources, including:

- National Monuments Service (NMS) and Archaeological Survey of Ireland (ASI);
- National Inventory of Architectural Heritage (NIAH);
- Galway County Development Plan 2022-2028, Record of Protected Structures; and
- The National Map Library, Trinity College, Dublin.

8.2.2 Online sources were also consulted, including Ordnance Survey Ireland historic mapping, toponym information and Heritage Council of Ireland mapping.

8.2.3 In addition to the gathering of comprehensive baseline information, a site visit was conducted on the 22 July 2021 in order to identify any previously unidentified cultural heritage assets that might exist within the Site, and to assess the current ground conditions and the extent of any previous ground disturbance. The visit also assessed the potential impact of the Proposed Development on the setting of selected cultural heritage assets in the settings assessment study area (refer to Figure 8.1, EIAR Volume III).

Study Area and Scope of the Assessment

8.2.4 The assessment of archaeological impact considers a study area that extends 1km from the red line planning boundary/ Proposed Development Site boundary. The extent of this study area was determined by the nature of the Proposed Development which consists of a limited surface area and therefore, is unlikely to impact upon Cultural Heritage assets located beyond this distance. The aim of this site appraisal was to inform decisions about further field survey techniques or mitigation to be applied, if necessary.

8.2.5 Additionally, an assessment of setting was made for designated heritage assets (National Monuments, Protected Structures as recorded on the Galway County Development Plan 2022-2028 and Architectural Conservation Areas) within an outer study area around the Proposed Development. No significant effects were anticipated in regard to the settings of non-designated sites. Therefore, the settings assessment focused on designated sites only. Designated heritage assets up to 5km from the Proposed Development were assessed under this methodology.

Assessment of Heritage Asset Importance

8.2.6 A Cultural Heritage asset is defined as a monument, building, group of buildings and sites which are the combined works of nature and man constituting the historic or built environment (World Heritage Convention 1972). A heritage asset's value is not solely expressed through any designated status but can also be exhibited through a series of values or special interests. These include architectural, historical, artistic, archaeological, cultural, scientific, social, or technical interests. There is the potential for non-designated assets to display special interests equivalent to a designated asset. Therefore a "designated" status does not necessarily confer a set level of importance on an asset, rather professional judgment and an assessment of the special interest displayed by that asset are examined and a level of importance is assigned.

8.2.7 Section 2 of the 1930 National Monuments Act defines a 'national monument' 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 are considered nationally important.

8.2.8 National Monuments and Record of Monuments and Places (RMP) sites/ Register of Historic Monuments (RHM) sites are not clearly differentiated in the National Monuments Act 1930 – 2004. However, not all RMP and RHM sites and associated constraint areas demonstrate the same level or degree of heritage special interest as can be found in National Monuments. Therefore, they can be of either national or regional importance. An assessment of the special interest of the asset and professional judgment is used to identify the appropriate level of importance.

8.2.9 Some archaeological and architectural heritage assets are also included on the Record of Protected Structures (RPS) of each county or city development plan, under Section 51(1) of the Planning and Development Act, 2000 (Revised). These protected structures are included in the RPS due to their special architectural, archaeological, artistic, cultural, historical, scientific, social, or technical interest. Protected structures are considered to be of international, national, or regional importance.

8.2.10 Townlands are the lowest level, officially defined geographical area in Ireland and date to before the Anglo-Norman period (12th century). The boundaries of townlands are often visible in the landscape as walls, tree-lined ditches and embankments or natural features such as streams. They provide visible physical evidence of historical territory or political boundaries and are regarded as being of local importance as historic, cultural heritage features.

Assessment Methodology

- 8.2.11 The assessment of baseline conditions was carried out in accordance with the following guidance:
- Environmental Protection Agency (EPA), 2022, Guidelines on the Information to be Contained in Environmental Impact Assessment Reports;
 - European Commission's Guidance on the preparation of the Environmental Impact Assessment Report (2017);
 - EPA, 2003, Advice Notes on Current Practice in the Preparation of Environmental Impact Statements;
 - Department of Housing, Local Government and Heritage, 2018 Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment;
 - Department of Arts, Heritage and the Gaeltacht, 1999a, Frameworks and Principles for the Protection of the Archaeological Heritage;
 - Department of Arts, Heritage and the Gaeltacht, 2004 (revised 2011), Architectural Heritage Guidelines;
 - Department of Arts, Heritage and the Gaeltacht, 2004, Architectural Heritage Guidelines;
 - National Roads Authority (NRA), 2005, Guidelines for the Assessment of Archaeological Heritage Impacts of National Road Schemes; and
 - National Roads Authority (NRA), 2005, Guidelines for the Assessment of Architectural Heritage Impacts of National Road Schemes.

Setting Assessment Methodology

- 8.2.12 This assessment has been guided by Historic England's Historic Environment Good Practice Advice in Planning: Note 3 (Second Edition) – The Setting of Heritage Assets (HE, 2017). The Setting of Heritage Assets provides guidance on setting and development management, including assessing the implications of development proposals, a counterpart to which has not yet been produced in the Republic of Ireland.
- 8.2.13 A staged approach is recommended for settings assessments, the first step of which is to identify the settings of the cultural heritage assets that may be affected. The second step is to assess whether, how and to what degree these settings make a positive contribution to the importance of the heritage asset(s), i.e., "*what matters and why*". This includes a description of the key attributes of the cultural heritage asset itself, then considers the physical surroundings of the asset, including its relationship with other heritage assets; the way the cultural heritage asset is appreciated; and the asset's associations and patterns of use. The third step (where appropriate) is to assess the effect of the proposed development on the significance of assets through the consideration of the key attributes of the proposed development in terms of its location and siting; form and appearance; additional effects; and permanence.
- 8.2.14 The assessment methodology has also been guided by the Department of the Environment, Heritage and Local Government's Architectural Heritage Protection, Guidelines for Planning Authorities which was published in 2004 and revised in 2011 (DAHG, 2011). This contains the relevant guidance which is detailed below. It is important to note that paragraph 13.8.1 of the guidance states that a proposed development outside the curtilage or grounds of a protected structure or ACA should be given similar consideration as for a proposed development within the attendant grounds.

This methodology has been combined with the Historic England methodology (Historic England, 2017) in order to conduct a similar and more robust assessment of the impacts of the proposed development on recorded archaeological monuments, in addition to architectural heritage.

- 8.2.15 Paragraph 13.7.1 from the Department of the Environment, Heritage and Local Government's Architectural Heritage Protection, Guidelines for Planning Authorities (DAHG, 2011) states:

“Development Within the Attendant Grounds

13.7.1 It is essential to understand the character of a site before development proposals can be considered. Where attendant grounds of particular significance are proposed for development, a conservation plan could be prepared in advance of any planning application which would identify the significance of the site and locate areas within the designed landscape, if any, which could accept change and development and those areas which could not without damaging the architectural heritage of the place.

13.7.2 When dealing with applications for works within the attendant grounds of a protected structure, a visit to the site should be considered an essential part of the assessment. The planning authority should consider:

- a) Would the development affect the character of the protected structure?*
- b) Would the proposed works affect the relationship of the protected structure to its surroundings and attendant grounds?*
- c) Would the protected structure remain the focus of its setting? For example, a new building erected between a structure and a feature within the attendant grounds will alter the character of both;*
- d) Do the proposed works require an alteration of the profile of the landscape, for example, the creation of a golf course? How would this affect the character of the protected structure and its attendant grounds?*
- e) Do the proposals respect important woodland and parkland? Do they conserve significant built features and landscape features?*
- f) Are there important views of or from the structure that could be damaged by the proposed development? Would important vistas be obstructed by new development?*
- g) Would distant views of important architectural or natural landmarks be blocked or changed? Would a significant skyline be altered?*
- h) Even where the proposed development is at a distance from the protected structure, could it still have an impact? This could include tall or bulky buildings interrupting views of or from the protected structure and other features of the designed landscape;*
- i) Where the new works would not be directly visible from the protected structure, would they be visible from the approaches to the structure or from other important sites or features within the attendant grounds? If so, would this be acceptable?*
- j) What effect would the scale, height, massing, alignment or materials of a proposed construction have on the protected structure and its attendant grounds?*

Other Development Affecting the Setting of a Protected Structure or an Architectural Conservation Area (ACA)

13.8.1 When dealing with applications for works outside the curtilage and attendant grounds of a protected structure or outside an ACA which have the potential to impact upon their character, similar consideration should be given as for proposed development within the attendant grounds. A visit to the site should be considered an essential part of the assessment.

13.8.2 New development both adjacent to, and at a distance from, a protected structure can affect its character and special interest and impact on it in a variety of ways. The proposed development may directly abut the protected structure, as with buildings in a terrace. Alternatively, it may take the form of a new structure within the attendant grounds of the protected structure. A new development could also have an impact even when it is detached from the protected structure outside the curtilage and attendant grounds but is visible in an important view of or from the protected structure.

13.8.3 The extent of the potential impact of proposals will depend on the location of the new works, the character and quality of the protected structure, its designed landscape and its setting, and the character and quality of the ACA. Large buildings, sometimes at a considerable distance, can alter views to or from the protected structure or ACA and thus affect their character. Proposals should not have an adverse effect on the special interest of the protected structure or the character of an ACA.”

8.2.16 In addition to the documents listed above, the setting assessment methodology has also utilised the guidance contained within *Cork County Council, 2006, Guidance Notes for the Appraisal of Historic Gardens, Demesnes, Estates and their Settings (Cork County Council, 2006)*. This document was prepared by Cork County Council in response to increasing adaptation and redevelopment of planned landscapes within the county and also has relevance to development beyond Cork. The guidance notes advise the following stepped approach:

- Identification and description of development, history, features and boundaries of the designed landscape using scoping, archival research and fieldwork;
- Evaluation and assessment of significance including Historical Landscape description, archaeological and horticultural aspects;
- Assessing development proposals through an assessment of the heritage impact; and
- Recommendations for mitigation and management including future research.

8.3 Regulatory and Policy Framework

Legislative and Policy Framework

8.3.1 This EIAR chapter has been undertaken in accordance with all relevant legislation, policies and guidelines. The documents utilised in the preparation of this study include:

- National Monuments Acts (1930 – 2004);
- The Heritage Act 1995 (as amended);
- Heritage Ireland 2030 (Department of Housing, Local Government and Heritage, 2022);
- Planning and Development Acts 2000 – 2020;

- Galway County Development Plan 2022-2028 (GCC, 2022);
- EPA's 'Guidelines on the Information to be Contained in Environmental Impact Assessment Reports' (EPA, 2022);
- Department of Housing, Local Government and Heritage, 2018 Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment;
- TII (formerly NRA)'s 'Guidelines for the Assessment of Archaeological Heritage Impacts of National Road Schemes' (TII, 2005a);
- TII's 'Guidelines for the Assessment of Architectural Heritage Impacts of National Road Schemes' (TII, 2005b);
- Department of Housing, Local Government & Heritage's (DHLGH) 'Places for People - National Policy on Architecture' (DHLGH, 2022); and
- Department of Arts, Heritage and the Gaeltacht's (DAHG) 'Architectural Heritage Guidelines, Guidelines for Planning Authorities' (DAHG, 2011).

Local and National policy Framework

- 8.3.2 The Galway County Development Plan 2022-2028 (GCC, 2022) became effective on 20 of June 2022 and sets out an overall strategy for the proper planning and sustainable development of the functional area of Galway County Council. The plan includes 10 strategic aims with regard to heritage to *"ensure that the architectural, archaeological and cultural heritage of the County is protected and developed in a sustainable manner"*.
- 8.3.3 Chapter 12 of the plan provides for a strategic context in relation to Architectural, Archaeological and Cultural Heritage. It recognises that heritage is a resource with cultural, educational, and touristic value that forms an intrinsic part of the character and attractiveness of the County. As such, the chapter sets out architectural, archaeological, and cultural heritage policy objectives as well as the legislative context to built and cultural heritage including the architectural heritage, protected structures, architectural conservation areas, vernacular architecture, energy efficiency and traditionally built structures, designed landscapes, and archaeological heritage.
- 8.3.4 In consideration of the architectural heritage of County Galway, the Council has established a number of policies to govern proposed developments in the area and to further promote the architectural heritage. The following are relevant to this assessment:
- **PO AH1 - Architectural Heritage:** Ensure the protection of the architectural heritage of County Galway which is a unique and special resource, having regard to the policy guidance contained in the Architectural Heritage Protection Guidelines 2011 (and any updated/superseding document).
 - **PO AH2 - Protected Structures:**
 - (a) *Ensure the protection and sympathetic enhancement of structures including their curtilage and attendant grounds included and proposed for inclusion in the Record of Protected Structures (RPS) that are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest, together with the integrity of their character and setting.*
 - (c) *Ensure that development proposals are appropriate in terms of architectural treatment, character, scale and form to the existing protected structure and not detrimental to the special character and integrity of the protected structure and its setting.*

(d) Ensure high quality architectural design of all new developments relating to or which may impact on structures (and their settings) included in the Record of Protected Structures.

- **PO AH3 - Protection of Structure on the NIAH:** Give regard to and consideration of all structures which are included in the NIAH for County Galway, which are not currently included in the Record of Protected Structures, in development management functions.
- **PO AH6 - Vernacular Architecture:** Recognise the importance of the contribution of vernacular architecture to the character of a place and ensure the protection, retention and appropriate revitalisation and reuse of the vernacular built heritage including structures that contribute to landscape and townscape character and resist the demolition of these structures.
- **PO AH10 - Designed Landscapes:** Protect the surviving historic designed landscapes in the County and promote the conservation of their essential character, both built and natural. Consider protection of the designed landscape by inclusion in an Architectural Conservation Area. Development proposals in designed landscape shall be accompanied by an appraisal of the contributing elements and an impact assessment.

8.3.5 In consideration of archaeological heritage, the following policy objectives were established:

- **PO ARC1 - Legislative Context:** Support and promote the preservation, conservation and appropriate management and enhancement of the County's archaeological sites and monuments, together with the settings of these monuments, having regard to the legislative, statutory and policy provisions relevant to the conservation of the archaeological heritage.
- **PO ARC2 - Archaeological Sites:** Seek to encourage and promote awareness of and access to archaeological heritage of the County for all, through the provision of information to landowners and the community generally, in co-operation with statutory and other partners.
- **PO ARC3 - Archaeological Landscapes:** To facilitate where possible the identification of important archaeological landscapes in the County.
- **PO ARC4 - Protection of Archaeological Sites:** Protect archaeological sites and monuments their settings and visual amenity and archaeological objects and underwater archaeological sites that are listed in the Record of Monuments and Places, in the ownership/guardianship of the State, or that are subject of Preservation Orders or have been registered in the Register of Historic Monuments, or that are newly discovered and seek to protect important archaeological landscapes.
- **PO ARC5 - Development Management:** All planning applications for new development, redevelopment, any ground works, refurbishment, and restoration, etc. within areas of archaeological potential or within close proximity to Recorded Monuments or within the historic towns of County Galway will take account of the archaeological heritage of the area and the need for archaeological mitigation.
- **PO ARC6 - Burial Grounds:** Protect the burial grounds, identified in the Record of Monuments and Places, in cooperation with the National Monuments Service of the Department of Housing, Local Government and Heritage. Encourage the local community to manage burial grounds in accordance with best conservation and heritage principles.

- **PO ARC9 - Recorded Monuments:** Ensure that any development in the immediate vicinity of a Recorded Monument is sensitively designed and sited and does not detract from the monument or its visual amenity.
- **PO ARC10 - Zones of Archaeological Potential:** To protect the Zones of Archaeological Potential located within both urban and rural areas and around archaeological monuments generally as identified in the Record of Monuments and Places. Any development within the ZAPs will need to take cognisance of the potential for subsurface archaeology and if archaeology is demonstrated to be present appropriate mitigation (such as preservation in situ/buffer zones) will be required.
- **PO ARC11 - Industrial and Post Medieval Archaeology:** Protect and preserve the archaeological value of industrial and post medieval archaeology such as mills, limekilns, bridges, piers, harbours, penal chapels and dwellings. Proposals for refurbishment, works to or redevelopment/conversion of these sites should be subject to careful assessment.

8.3.6 In consideration of cultural heritage, the following policy objectives relevant to this assessment were established:

- **PO CUH1 - Cultural heritage:** Protect and promote the cultural heritage assets and the intangible cultural heritage assets of County Galway as important social and economic assets.

8.3.7 **PO CUH2 - Special Places of Historic Interest:** To protect and promote where possible special places of historical interest. None of the policy objectives regarding Creativity and The Arts are relevant for the purpose of this assessment.

Determination of Sensitive Receptors

8.3.8 A heritage asset's value is not solely expressed through any designated status but can also be exhibited through a series of values or special interests. These include architectural, historical, artistic, archaeological, cultural, scientific, social, or technical interests. In order to assess the potential effects of a development upon a heritage asset, it must first be assigned a level of importance. This can be done in accordance with a four-point scale (refer to Table 8.1). This table has been derived from the following guidance, with reference to the legislation and policy, and using professional judgment:

- DAHG NIAH Handbook (2013);
- EPA's 'Guidelines on Information to be Contained in Environmental Impact Assessment Reports' (2022);
- National Roads Authority, 'Guidelines for the Assessment of Archaeological Heritage Impacts' (particularly Appendix 2, Significance Criteria); and
- National Roads Authority, 'Guidelines for the Assessment of Architectural Heritage Impacts' (particularly Table 8).

Table 8.1: Factors determining the value of heritage assets

IMPORTANCE	CRITERIA
National/ High	<p>National Monuments; Recorded Monuments deemed to be of high importance using legislation, EPA guidance, NRA Significance Criteria and professional judgment; Protected structures deemed to be of high importance using legislation, EPA guidance, NIAH rating criteria and professional judgment; Structures recorded by the NIAH Building Survey with a National Rating or deemed to be of high importance using legislation, EPA guidance, NIAH rating criteria and professional judgment; Designed landscapes recorded by the NIAH Garden survey with main features substantially present and deemed to be of high importance using legislation, EPA guidance, NIAH rating criteria and professional judgment; ACAs containing structures and/ or designed landscapes of predominantly national importance; Undesignated archaeological remains which are rare or complex in nature, and deemed to be of high importance using legislation, EPA guidance, NRA Significance Criteria and professional judgment.</p>
Regional/ Medium	<p>Recorded Monuments deemed to be of medium importance using legislation, EPA guidance, NRA Significance Criteria and professional judgment; Protected structures deemed to be of medium importance using legislation, EPA guidance, NIAH rating criteria and professional judgment; Structures recorded by the NIAH Building Survey with a Regional Rating or deemed to be of medium importance using legislation, EPA guidance, NIAH rating criteria and professional judgment; Designed landscapes recorded by the NIAH garden survey with main features substantially present and deemed to be of medium importance using legislation, EPA guidance, NIAH rating criteria and professional judgment; ACAs containing structures and/ or designed landscapes of predominantly regional importance; Undesignated architectural heritage assets which are deemed to be of medium importance using legislation, EPA guidance, NIAH rating criteria and professional judgment; Undesignated archaeological remains which are neither particularly common nor uncommon, and/ or of moderate complexity, and deemed to be of medium importance using legislation, EPA guidance, NRA Significance Criteria and professional judgment.</p>
Local/ Low	<p>Structures recorded by the NIAH Building Survey with a Local or Record Only Rating or deemed to be of low importance using legislation, EPA guidance, NIAH rating criteria and professional judgment; Designed landscapes recorded by the NIAH garden survey with only peripheral features surviving, and deemed to be of low importance using legislation, EPA guidance, NIAH rating criteria and professional judgment; Undesignated architectural heritage assets which are deemed to be of low importance using legislation, EPA guidance, NIAH rating criteria and professional judgment; Undesignated archaeological features which are particularly common or in poor condition, and deemed to be of low importance using legislation, EPA guidance, NRA Significance Criteria and professional judgment;</p>

	Parks/ Gardens/ Demesnes recorded by the NIAH Garden Survey which have poor historic legibility.
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Describing Potential Effects

- 8.3.9 Having identified the value of the heritage asset, the magnitude of the effect from the Proposed Development is assessed. Potential effects are defined as a change resulting from the Proposed Development which affects a heritage asset. These effects are considered using the following broad categories quality, extent and context, probability, significance and duration (EPA, 2022). The quality can be reported on a three-point scale:
- Positive – a change which improves the quality or the special interests of the asset, for example the removal of an element of the surrounding setting which detracts from the appreciation of an asset;
 - Neutral – a change which does not affect the quality or special interests of the asset; and
 - Negative/ adverse – a change which reduces the quality or special interest of the asset, for example the removal of a below ground archaeological deposit through construction.
- 8.3.10 The extent and context can be assessed by the following two descriptions:
- Extent – the description of the size of the area and number of assets affected; and
 - Context – the description whether the extent, duration, or frequency will conform or contrast with established baseline conditions relating to an asset.
- 8.3.11 The probability can be described by the following:
- Likely – these are effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented; and
 - Unlikely – these are effects than can reasonably be not expected to occur because of the planned project if all mitigation measures are properly implemented.
- 8.3.12 The duration can be defined by the following criteria:
- Momentary – lasting from seconds to minutes;
 - Brief – lasting for a day or less;
 - Temporary – lasting for one year or less;
 - Short-term – lasting one to seven years;
 - Medium-term – lasting seven to fifteen years; and
 - Long-term – lasting fifteen to sixty years.
- 8.3.13 Effects can also be identified as permanent, i.e. lasting over sixty years and reversible, i.e. can be reversed through remediation or restoration. Another consideration is the frequency, i.e. how often the effect will occur once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually.
- 8.3.14 These effects have been derived from the EPA's 'Guidelines for the Information to be Contained in an Environmental Impact Assessment Reports' (EPA, 2022) and as outlined in Chapter 1: Introduction. The effect upon the setting of an asset is also taken into account.

8.3.15 An overall magnitude of effect is then arrived at without reference to the value of the asset. Table 8.2 provides the magnitude of effect criteria used. The magnitude of effect takes into account control measures which have been embedded within the Proposed Development as part of the design process.

Table 8.2: Criteria for determining the magnitude of effect on heritage assets

MAGNITUDE	DESCRIPTION
High	Change such that the special interests or qualities of the asset are totally altered or destroyed. Comprehensive change to setting affecting importance of asset, resulting in a serious loss in our ability to understand and appreciate the asset.
Medium	Change such that the special interests or qualities of the asset are affected. Noticeably different change to setting affecting importance, resulting in erosion in our ability to understand and appreciate the asset.
Low	Change such that the special interests or qualities of the asset are slightly affected. Slight change to setting affecting significance resulting in a change in our ability to understand and appreciate the asset.
Negligible	Minimal change to the asset that has little effect on its special interests or qualities. Does not affect our ability to understand and appreciate the asset.

Source: EPA 2022

Significance of Impact

8.3.16 Once the magnitude of the effect has been identified, this can be cross-referenced with the importance of the asset to derive the overall significance of impact, or the consequence of the change resulting from the Proposed Development (Table 8.3). The significance can be judged on a seven-point scale:

- Imperceptible – a change capable of measurements but without significant consequences;
- Not significant – an impact which causes noticeable changes in the character of the asset but without significant consequences;
- Slight impact – an impact which causes a noticeable change without affecting the special interests or qualities of the asset to any particular degree;
- Moderate impact – a change which alters the character or special qualities of an asset in a manner that is consistent with existing and emerging baseline trends;
- Significant impact – an impact, which by its character, magnitude, duration or intensity, alters the special interests or qualities of an asset;
- Very significant – an impact which by its character, magnitude, duration or intensity significantly changed the special interests or qualities of an asset; and
- Profound impact – an impact which obliterates the special interest or qualities of an asset.

Table 8.3: Significance of Impact Matrix

MAGNITUDE OF EFFECT	IMPORTANCE OF CULTURAL HERITAGE ASSET			
	LOCAL	REGIONAL	NATIONAL	INTERNATIONAL
High	Significant	Significant	Profound	Profound
Medium	Moderate	Significant	Significant	Profound
Low	Slight	Moderate	Significant	Significant
Negligible	Imperceptible	Slight	Slight	Moderate

Source: EPA 2022

- 8.3.17 This chapter considers that moderate to profound impacts are classed as significant. Once a significant impact has been identified, additional mitigation can be used to offset, reduce, or compensate for any significant adverse effects, or to enhance positive effects. Reassessing the significance after applying additional mitigation reflects the success rating of the mitigation and allows the level of residual effect and impact to be assessed.

Construction Phase

- 8.3.18 This assesses the effects resulting from the construction of the Proposed Development up to commencement of operation and includes temporary impacts from construction activities and permanent impacts from the Proposed Development. The construction works, comprising excavations and earthworks and including temporary works such as construction compounds and storage areas have the likelihood to significantly affect heritage assets during the construction period. Permanent effects can occur either as a result of physical impacts on heritage assets or through changes to the setting of heritage assets through the presence of the Proposed Development.
- 8.3.19 The assessment of likely significant effects during construction is assessed under the criteria outlined in sections 8.3.9 – 8.3.15.

Operational Phase

- 8.3.20 This assesses the likely significant effects which could result from the operation of the Proposed Development. Such impacts could include increased noise and lighting.
- 8.3.21 The assessment considers the Proposed Development once operational, and all effects are considered to be long-term. During the operation of the Proposed Development, no further ground works are anticipated, and as such there would be no further physical impacts on any heritage assets.
- 8.3.22 Impacts on heritage assets due to changes in their settings arising from the presence of the Proposed Development are considered permanent construction effects. These are reported under the construction assessment and are not repeated as operational effects although they would continue throughout the operation of the Proposed Development.
- 8.3.23 The assessment of potential effects during operation is assessed under the criteria outlined in sections 8.3.9 – 8.3.15

Decommissioning Phase

- 8.3.24 Effects arising from the process of decommissioning of the Proposed Development are considered to be of a similar nature and duration to those arising from the construction process and therefore have not been considered separately in this chapter.

8.4 Baseline Environmental Conditions and Constraints

Site Location and Description

- 8.4.1 The Proposed Development is located to the immediate north of the existing Tynagh Power Station, 1.8km to the north-west of Tynagh and 11.5km to the east of Lough Rea. It incorporates a Brownfield site which formerly formed part of the Tynagh Mines complex. The mines operated from the 1960s to the early 1980s providing an important source of lead and zinc extracted using opencast and underground methods. The site was partially restored with some rehabilitation undertaken after this. Refer to EIAR Chapter 4: Existing Site and Conditions for a full description of the Site.
- 8.4.2 In 2003, permission was granted for a Combined Cycle Gas Turbine (CCGT) power station to be constructed on the western portion of the former mine site at a location west of the tailing pond and north of the mine lagoon. A high pressure buried gas pipeline

supplying fuel to the power station was constructed in 2004, as was a 220kV overhead line connecting the site to the National Grid at Oldstreet which is 8km to the south-east.

- 8.4.3 An application, Submitted Development Ref: 21/2192, submitted to Galway County Council in November 2021 proposed a OCGT plant on the western portion of the existing Tynagh Power Station Site and planned to demolish the existing Power Station site workshop, administration building and car park and relocate these items to the lands adjoining and to the immediate north of the power station facility. The Proposed Development, Tynagh North is a separate development (the subject of this EIAR), is for development of a OCGT facility on lands immediately to the north of the existing Tynagh Power Station Site (Photographs 8.1-8.3). These lands have been disturbed being previously the location of temporary worker's accommodation. The concrete bases for these temporary accommodations are still present. Subject to planning approval, the Applicant would intend to develop both the Submitted Development Ref: 21/2192 and Tynagh North.
- 8.4.4 The Tynagh North Proposed Development will be located to the north of the existing Tynagh Power Station site, in a brownfield area.

Geology

- 8.4.5 The Proposed Development is set on waulsortian reef limestone. It is located along a fault line with a result that the bedrock geology varies across short distances (EPA, 2011). The principal ore minerals present galena, sphalerite, arsenopyrite, tetrahedrite and bornite. The area is Brownfield, a former mine and there is no topsoil within the Site.

Archaeological Sites and Monuments within the 1km Study Area

- 8.4.6 Examination of the Record of Monuments and Places (RMP) reveals that there are no recorded archaeological sites within the Site boundary which comprises a former mine site and constructed active power station facility. There are 11 recorded archaeological sites within the 1km study area (refer to Figure 8.1, EIAR Volume III). For ease of description, these will be discussed by their respective periods.

Prehistoric

- 8.4.7 There are no archaeological sites dating to the Prehistoric recorded within the 1km study area.

Early Medieval and Medieval (5th-16th centuries)

- 8.4.8 Six of the recorded archaeological sites within the study area date to the early medieval period. The closest of these to the Site is a ringfort (GA116-049) which is located 450m to the south-west on a rise in rough pastureland. This asset is poorly preserved and is defined by a scarp. It has been disturbed by potato planting within its interior while field walls extend from it at east and west.
- 8.4.9 Another ringfort (GA116-046) is located 770m to the south-west of the Site on a rise in undulating pastureland. It is sub-circular and defined by two banks with an intervening ditch. The inner bank survives from north to east with traces of internal stone facing evident and is formed by a scarp elsewhere. The ditch is apparent at the west of the asset while the exterior bank survives from south through west to north-north-east.
- 8.4.10 A partially collapsed souterrain (GA0116-046001) is located within the western half of the interior. It is T-shaped in plan consisting of two passages connected by a drop-hole creep. The first passage is orientated north to south and is accessed by a breach near its northern end. The drop-hole creep has been blocked up while the second extends to the east. Surface depressions along its length suggest that this passage has collapsed.

- 8.4.11 A poorly preserved ringfort (GA106-088) is located 800m to the west of the Site in flat pastureland. This asset is circular in plan and is defined by a low scarp to the west of a field boundary which cuts across it at north and south-south-east. Only slight traces of the ringfort are apparent to the east of the field boundary.
- 8.4.12 The two remaining assets dating to the early medieval period are ringforts located to the east of the Site. The closer of these is ringfort GA107-074 which is located 880m to the east-northeast on a hillock in pastureland. This subcircular rath is defined by two banks and an intervening ditch. The banks and ditch are overgrown and some damage has been caused by quarrying.
- 8.4.13 The other ringfort (GA107-077) is located 1km to the east of the Site in low-lying marshy grassland. It is marked on the OS 1:2500 plan, surveyed 1912-16, as a subcircular enclosure defined by a bank and ditch. No visible surface traces now remain apart for a slight scarp curving from north-east to east. The location has also been disturbed by a road and trackway which cross it.
- 8.4.14 One asset dating to the late medieval period is recorded within the study area. This is a castle (GA116-050) which is located on a rise in pastureland 500m to the south-west of the Site. It is also located 80m to the west of the ringfort (GA116-049). According to Nolan (1901), this castle was controlled by Jhornick fitz Thoms in 1574.
- 8.4.15 Remains of the walls were upstanding until the 1970s although there are now no visible traces of this asset. It is shown on the 1920 edition OS map as an unroofed rectangular building measuring 12m north-west to south-east by 8m north-east to south-west suggesting that it was a tower house. An archaeological investigation took place in 1996 when a small area of subsidence to the west of the castle was investigated (Crumlish, 1996). This uncovered an earth cut passage orientated east to west although it was not determined if this was the remains of a souterrain or a natural feature. The location of the castle is now occupied by a farm.

Post-Medieval Period (16th-19th centuries)

- 8.4.16 Five assets recorded on the RMP within the study area date to the post-medieval period (Figure 8.1). A possible children's burial ground (GA106-086) is located in pastureland 780m to the north-west of the Site. There are no visible traces of this asset which was levelled during the 1960s. It is shown on the OS 6-inch mapping as a D-shaped area labelled Lisheennagranshymore. The 'Lisheen' element of this name suggests that this was a children's burial ground.
- 8.4.17 The remaining two assets dating to the post-medieval period are small quarry pits and representative of small scale local industrial activity. One of these assets, quarry (GA117-031), is located within the boundaries of the former Tynagh Mine and is located 360m to the south-east of the Site. It is marked on OS 6-inch mapping as a disused gravel pit with the location since covered over with slag material from the Tynagh mines.
- 8.4.18 The remaining quarry site comprise GA107-075. The RMP notes that this asset was marked on OS mapping as an unidentified hachured feature which may have signified that it may have been of archaeological interest. However, a subsequent site visit by the Archaeological Survey of County Galway confirmed that it was a disused quarry pit of post 1700AD date and not deemed of archaeological interest. It has been assigned an RMP number to avoid future misidentification as a possible archaeological site.

Natural Feature

- 8.4.19 One natural feature is recorded on the RMP within the study area. This is a well (GA106-062) which is located 330m to the north-west of the Site on an area of reclaimed land. It

is marked as a well on OS historic mapping and labelled *Saldoagh* on the 1st edition OS map (1840) and as *Polldoo* on subsequent map editions.

- 8.4.20 A site visit by the Archaeological Survey of County Galway in 1983 found no trace of the well as the location had been reclaimed. The local landowner stated to the Survey that the well was natural and was not a Holy Well.

Protected Structures within the 1km study area

- 8.4.21 There is one Protected Structure recorded on the Galway County Development Plan 2022-2028 within the 1km study area (Figure 8.1). This structure is not located within the Site and is modern in date. It is an attached three-bay, two storey vernacular house (RPS 3648) which is located 6600m to the south-west. This property dates to 1800 and has a distinctive pitched, scalloped thatched roof with a flush scalloped ridge and low, rendered chimney stacks at either end. This house is also recorded on the National Inventory of Architectural Heritage buildings survey as NIAH 30411605.
- 8.4.22 The adjoining property to the thatched house (RPS 3648) is a two-bay, two storey vernacular house (NIAH 30411621). It has a pitched, re-slatted roof with rendered chimney stacks. Its taller form suggests that it was formerly thatched as with the attached thatched house with its first floor raised to allow for higher headroom after the thatch was removed. This property is recorded on the National Inventory of Architectural Heritage but is not a Protected Structure.

Previous Archaeological Investigations

- 8.4.23 A previous archaeological investigation took place in 1996 in association with the former castle site (GA116-050). This has been discussed in relation to this asset. One other archaeological investigation is noted within the townland of Derryfrench where the Site is located.
- 8.4.24 This archaeological investigation related to the monitoring of groundworks associated with the construction of a 17km long natural gas transmission pipeline from New Inn to the Tynagh CCGT Power Station at Derryfrench where an Above Ground Installation (AGI) was installed (McCarthy, 2005). 32 archaeological sites were uncovered and excavated during the work including two wooden trackways and a ring-barrow dating to the Bronze Age. None of the archaeological sites uncovered were located within the townland of Derryfrench where the Site is located.

National Museum of Ireland Topographical Records

- 8.4.25 Review of the National Museum of Ireland topographical records was made using online sources (heritagemaps.ie). One artefact is recorded for the townland of Derryfrench where the Site is located. This artefact is a wooden object (1962:8) which was uncovered in 1962. The exact nature of this artefact is not given although the location of the find was within the former Tynagh Mines and the Heritage Council's Map Viewer (www.heritagemap.ie) places the location within the current Site boundary for the Proposed Development. While it is likely that this artefact was uncovered during mining operations, it cannot be definitely linked to the current Site boundary for the Proposed Development

Historic Cartographic Evidence

- 8.4.26 The 1st edition OS map (1840) shows the area of the Site towards the middle of the 19th century (Figure 8.2). This is shown as fields. These fields have straight sides that show no indications of curving around topographical or archaeological remains. A settlement is shown to the immediate west of the natural well (GA106-062) to the north-west of the location of the Site. Labelled Gortareask, it comprised approximately 14 dwellings located to the east of the road to Tynagh. A laneway extends from the Tynagh Road,

through Gortareask and continuing to the south-east where it crosses the southern extent of the location of the Site

- 8.4.27 The road to Tynagh is shown to the west with a short lane leading from it at the location of the current access to the Site. The road to Tynagh has a pronounced curve at this location. A small settlement is shown to the west of this pronounced curve. The ring-fort (GA116-049) is clearly shown but not identified, while the castle (GA116-050) is labelled as Knockaunnageeragh Castle and described as in ruins within this settlement. A schoolhouse is also marked at the south of the settlement.
- 8.4.28 The 2nd edition OS map (1894) shows the location of the Site at the end of the 19th century (Figure 8.3). The location of the Site is still agricultural ground although the fields have been amalgamated into larger fields. The settlement of Gortareask is still marked to the north-west although it is noticeably smaller with only six buildings shown. The laneway still extends to the south-east crossing the southern extent of the location of the Site.
- 8.4.29 The settlement is still shown to the west of the road to Tynagh. The settlement appears smaller than previously shown though the archaeological sites are still clearly marked. The castle (GA116-050) is identified as a rectangular structure set in a field.
- 8.4.30 The 3rd edition OS map (1917) shows the area of the Site during the second decade of the 20th century (Figure 8.4). The area of the Site is still shown as agricultural land comprising the larger fields. The trackway leading to Gortareask is still extant although sections are shown as unmaintained. There are now only three buildings associated with the settlement of Gortareask. Similarly, the settlement at Knockaunnageeragh Castle is still shown but is reduced in size.

Impact Assessment Methodology

- 8.4.31 Designated Heritage assets – (National Monuments and Protected Structures) within 5km of the Site were assessed while non-designated heritage assets including recorded monuments, structures and designed landscapes recorded by the National Inventory of Architectural Heritage (NIAH) within 1km of the Site were assessed.
- 8.4.32 One Protected Structure, 11 Recorded Monuments and 1 asset recorded on the NIAH were assessed using Google Streetview, aerial/ satellite imagery and mapping. Sites which were evidently screened by intervening modern development or dense vegetation during this review were scoped out of further assessment as their settings were not considered to extend to the Site. Other sites, which by their nature would not be impacted upon by development some distance away, such as archaeological sites discovered through archaeological excavation, or screened by intervening vegetation were also scoped out.
- 8.4.33 Following the review outlined above, a total of designated cultural heritage assets, comprising 18 Protected Structures and one National Monument were considered to be potentially sensitive to the Proposed Development and these assets were visited as closely as possible from publicly accessible locations. Their settings and the contribution of setting to their importance were assessed. The Proposed Development is screened from these assets by topography, or multiple areas of dense vegetation. Furthermore, it was concluded that the location of the Proposed Development does not contribute to the importance of these assets.

Designated Assets within the wider 5km Study Area

- 8.4.34 The wider settings Study Area assesses the impact that the Proposed Development, in particular the proposed emissions stack, will have on the settings of designated heritage assets including National Monuments and Protected Structures (see Appendix 8A, Figure 8.1, refer to EIA Volume II). The majority of these assets are also recorded on

the National Inventory of Architectural Heritage though are referenced under their higher designations.

- 8.4.35 The existing Tynagh Power Station is a visible feature within the area made noticeable by the existing 55m high emissions stack at the site. The height of the proposed emissions stack for the Proposed Development will be 40m in height as determined through a stack height determination assessment.
- 8.4.36 The closest designated heritage asset is a thatched cottage (RPS 3648) which is located 664m to the south-west and has been discussed (Para 8.4.22). This Protected Structure is considered to be of regional importance. The top of the existing 55m emissions stack is visible from this location although the majority of the stack is hidden by the high earth bund to the south of the power station and also intervening mature vegetation (see Appendix 8A, Photograph 8.4). The thatched cottage (RPS 3648) is located on the LP4310 Gurtymadden (note - some public documents refer to this road as Gortymadden) to Tynagh Road, approximately 500m to the south-east of the entrance to the Site.
- 8.4.37 The next Protected Structure is a post box (RPS 3647) which is located at the junction of the Loughrea to Tynagh Road and Duniry Road, 1.2km to the south of the Site (Photograph 8.5). This post box is cast iron and wall mounted. It was erected in 1915 and has the royal insignia of King George V and crown upon it. Post boxes with this insignia are relatively rare in Ireland as George V only reigned for a few years before Irish Independence was granted in 1921. The post box is also recorded on the National Inventory of Architectural Heritage buildings survey as NIAH 30411606 and is considered to be of regional importance. This asset is set into a low wall facing north with views to the post box from the south looking away from the direction of the Site. The Proposed Development is not visible from the location of the post box (RPS 3647) with its location screened by the intervening topography and vegetation (Photograph 8.5).
- 8.4.38 A thatched cottage (RPS 402) is located within Tynagh village 2.2km to the south-east of the Site (Photograph 8.7). This Protected Structure is considered to be of regional importance and comprises a detached three-bay single storey house. There are no views of the Proposed Development from this location (see Appendix 8A, Photograph 8.8).
- 8.4.39 Castletown Bridge (RPS 3651) is located 2.08km to the north-northwest of the Site and this late 18th century bridge originally carried the LP4310 Gurtymadden to Tynagh Road in a steep bend over a local river. This Protected Structure is considered to be of regional importance. The road has since been straightened with a new bridge added so that Castletown Bridge (RPS 3651) is now disused (see Appendix 8A, Photograph 8.9). The Proposed Development is not visible although the bridge is located adjacent to the main road with site traffic running directly past it to and from the N65.
- 8.4.40 Continuing to the north-west, 'Ryans' (RPS 332) is a Protected Structure considered to be of regional importance located on the crossroads between the LP4310 Gurtymadden to Tynagh Road and the N65 (see Appendix 8A, Photograph 8.10). The property originally dates to 1820 but has been modified over the subsequent century. There are no views to the Proposed Development although the asset is located at a busy junction with site traffic running directly past it.
- 8.4.41 The entrance gates to Rathmore House (RPS 3657) are located on the north side of the N65 3.1km to the north-east of the Site (see Appendix 8A, Photograph 8.11). This Protected Structure is considered to be of regional importance and comprises double-leaf decorative cast-iron vehicular gates which are flanked by limestone square-plan piers with plinths. There are no views to the Proposed Development from the location of the entrance gates to Rathmore House (RPS 3657) although the asset is located on the main road and may be passed by site traffic coming from to and from the south-east.

- 8.4.42 Rathmore House (RPS 3656), is located 700m to the north-east of the entrance gates (RPS 3657) along a private access and is not visible from the N65. Examination of aerial photography on Google maps shows that this property is surrounded by mature vegetation. There are no views of the Proposed Development from Rathmore House (RPS 3656).
- 8.4.43 Lisduff Mill (RPS 338) is a detached three-bay four-storey water mill located 2.6km to the east of the Site. This asset was constructed in 1790, then raised and renovated in 1855. It is described as in a derelict condition but with its mill race and machinery intact and is considered of regional importance. The location is currently completely surrounded by mature vegetation so that only the upper storeys of the mill are visible (see Appendix 8A, Photograph 8.12). There are no views of the Proposed Development from Lisduff Mill (RPS 338).
- 8.4.44 Lisduff House (RPS 3653) is located 2km to the east of the Site and is accessed by a laneway leading to the south. This Protected Structure is considered to be of Regional importance. The asset comprises a detached two-storey house with a 3-bay ground floor and a 2-bay 1st floor. It was built in 1900 to replace an earlier house. Examination of aerial photography on Google maps (www.google.com) shows that there is open farmland between this asset and the Site. Given this, the Proposed Development may be visible from Lisduff House (RPS 3653) although it will be partially screened by intervening features such as the earthen bund surrounding the former mine workings
- 8.4.45 Shangarry post-box (RPS 3650) is located 3km to the north-west of the Site. This asset is similar to the post box (RPS 3647) and was also erected in 1915 and has the royal insignia of King George V and crown upon it. This Protected Structure is considered to be of regional importance. There are no views of the Proposed Development from this asset which is located on a small country lane.
- 8.4.46 The remaining designated assets are located to the south of the Site with the closest being a cluster of four Protected Structures located 3.3km to the south-east at Quarryhill. All are considered to be of regional importance. Three of these assets are related comprising St. Lawrence's Catholic Church (RPS 404), the Old Rectory (RPS 401) and the Parochial Hall (RPS 400). These all date to the first half of the 19th century with the Parochial Hall formerly a schoolhouse. The Old Rectory and Parochial Hall have been renovated and are currently in use (Photograph 8.13). St. Lawrence's Catholic Church (RPS 404) is now used as a farm outbuilding. It is surrounded by mature vegetation and is not visible from the road.
- 8.4.47 The fourth asset is a post-box (RPS 3642). This asset is cast-iron and set into a rendered limestone wall on the western side of the road (Photograph 8.14). The post-box dates to 1880 and is decorated with the Victoria Regina insignia. The terrain to the north-west towards the Site comprises higher ground with mature vegetation and scattered buildings which screen any views of the Proposed Development.
- 8.4.48 Pallas is located 4.9km to the south-east of the Site. This comprises Pallas Castle (NM 462) which is a National Monument considered nationally important along with a later walled garden (RPS 3641) which is a Protected Structure considered to be of regional importance (see Appendix 8A, Photograph 8.15). Pallas Castle (NM 462) is a well preserved five-storey tower house dating to the late medieval period and is set within a well-preserved 16th century bawn (GA117-078001) which is accessed through a two-storey gatehouse while there are flanker towers at each corner.
- 8.4.49 Other surviving features within the bawn are later additions consisting of the remains of a large 17th century gabled house (GA117-078001) and a well-preserved 18th century malthouse (GA117-078004). The walled garden (RPS 3641) is located to the south-east of Pallas Castle and consists of rubble limestone walling dating to 1800 with an elliptical-

arched vehicular entrance to north wall, with dressed limestone voussoirs and keystone. The site was not accessible during the survey although the location was visible from the entrance gate. There are no views of the Proposed Development from these assets.

- 8.4.50 Two Protected Structures are located at the crossroads at Duniry 4km to the south-west of the Site and considered to be regionally important. These assets are a cast iron wall mounted post-box (RPS 3639) and a free-standing cast-iron water pump (RPS 3640) with both dating to the latter part of the 19th century. There are no views to the Proposed Development (see Appendix 8A, Photograph 8.16).
- 8.4.51 Tomany More road bridge (RPS 4024) is a triple arch road bridge which dates to 1800 and carries the road over the Duniry Bridge. This Protected Structure is considered to be of regional importance. It is located 4.7km to the south-west of the Site. There is higher ground to the north-east of this asset and there are no views to the Proposed Development.
- 8.4.52 The final two designated assets within the 5km settings assessment area are Protected Structures considered to be of regional importance. They are located within close proximity to each other, 3.1km to the south-west of the Site. Both assets are churches- St. Brendan's Catholic Church (RPS 393) and the Church of the Holy Family (RPS 394). The two churches are located opposite each other on either side of the road (Photograph 8.17).
- 8.4.53 St. Brendan's Catholic Church (RPS 393) is a small 'T'- plan church which dates to 1840. The church is now disused as a place of worship but is used as a funeral home. The Church of the Holy Family (RPS 394) dates to 1958 and is a detached, seven-bay, single cell church with a chancel and an attached three-storey belfry tower. There are no views of the Proposed Development from these assets with the intervening topography, buildings, and vegetation screening views.

8.5 Predicted Impacts

Do Nothing Scenario

- 8.5.1 The do-nothing scenario would not result in any significant changes to the baseline cultural heritage resource. The magnitude of impact would be **no change** leading to a significance of effect of **neutral**.

Construction Phase

- 8.5.2 Construction of the Proposed Development under consideration has the likelihood to impact heritage assets in the following ways:
- Partial or total removal of heritage assets during site clearance and construction of the Proposed Development and associated features and infrastructure adjacent to the existing Tynagh Power Station and on the site of the former mine. This includes the erection of a 40m flue gas stack which will be constructed on the land to the north of the existing Tynagh Power Station site;
 - Change to the setting of heritage assets, including visual, noise and vibration intrusion, and changes in traffic levels (construction phase only).
- 8.5.3 The Proposed Development is located primarily on brownfield land associated with the former Tynagh Mine and the western portion of the existing Tynagh Power Station site. The Site has been severely disturbed by previous development associated with the mine and construction of the adjoining Power Station with the result that any heritage assets that may have existed, including the former laneway to the settlement at Gortareask, will have been destroyed.

- 8.5.4 Given these conditions, no previously unrecorded heritage assets will be impacted by groundworks associated with the Proposed Development. The magnitude of impact is assessed as **Negligible** resulting in a significance of effect of **Imperceptible**.
- 8.5.5 There is one designated heritage asset within the 1km study area which is considered regionally important. While this asset will not be physically impacted by the Proposed Development, there is the likelihood of negative impact caused by change to the setting of the designated assets by noise, dust, vibration, and visual intrusion from the temporary construction related activity which could diminish its importance.
- 8.5.6 The thatched cottage (RPS 3648) is the closest designated asset to the Site. It is a Protected Structure considered to be of regional importance, located on the road to Tynagh to the south of the entrance to the Site, 664m to the south-west of the Site, and largely screened by the existing earthen bund which will also mitigate any potential impacts from construction noise and vibration. Construction HGV's will be directed to the north of the Proposed Development (from site entrance to N65) and will not pass this asset.
- 8.5.7 These features will lessen the effects of dust and vibration during the construction works though the setting of the thatched cottage (RPS 3648) will likely be temporarily impacted by noise from the construction works, but this will decrease with the completion of the Proposed Development. The existing emissions stack is visible on the approach towards the asset from the south however the proposed emissions stack or associated plant (i.e. proposed air intake) will not be visible.
- 8.5.8 The thatched cottage (RPS 3648) is located on the western side of the road with the result that direct views of the asset do not include the Proposed Development. Additionally, the ability to understand and appreciate the thatched cottage (RPS 3648) will not be lessened by the presence of the Proposed Development. The change to setting would be such that the special interests or qualities of the thatched cottage (RPS 3648) are slightly affected without a noticeable change leading to a magnitude of impact of **Negligible**, leading to a significance of effect of **slight**. The slight significance of effect would be **short-term** and **adverse**. Additionally, due to the distance of the thatched cottage to the Proposed Development, it is unlikely to be impacted by any potential construction or operational vibration impacts originating from the Site.
- 8.5.9 There is the likelihood for impact upon the settings of certain designated assets within the wider study area. The majority of this impact will be from noise, dust, and vibration from construction activities, in particular the movement of construction traffic to and from the Site although there is one asset which may be affected by the physical presence of the Proposed Development.
- 8.5.10 This asset is Lisduff House (RPS 3653) which is located 2km to the east of the Site. This Protected Structure is considered to be of regional importance. Examination of online aerial photographic evidence suggests that Lisduff House will be intervisible from the proposed emissions stack. Lisduff House is accessed by a laneway approaching from the south. Historic OS mapping suggests that this laneway was formerly a tree-lined avenue associated with an earlier house.
- 8.5.11 Lisduff House (RPS 3653) faces south along the former avenue/ laneway and the setting of this asset is formed by the surrounding farm complex and fields. The Site is located to the west and is not part of this setting. It will not be visible in principal views of Lisduff House from the south along the former avenue so that the ability to understand and appreciate this asset will not be lessened by the presence of the Proposed Development. There will be no change to setting and the special interests or qualities of Lisduff House (RPS 3653) will not be affected with no noticeable change leading to no impact to this asset.

- 8.5.12 Castletown Bridge (RPS 3651) is located is located 2.1km to the north-northeast of the Site and is of regional importance. This bridge is located directly adjacent to the LP4310 Gurtymadden to Tynagh Road which it formerly carried over a local river. The Proposed Development is not visible from this location and the setting of this asset will not be affected by the physical presence of the proposed emissions stack.
- 8.5.13 Castletown Bridge (RPS 3651) is located on the LP4310 Road between the Site and the N65. There will be an increase in traffic using the road during construction including commuting site workers and vehicles transporting materials and equipment. Construction and operational traffic will not pass directly over Castletown Bridge so traffic noise and vibration as well as the physical presence of traffic will not affect the ability to understand this asset. Castletown Bridge (RPS 3651) is located approximately 10m from the current trafficked bridge, and with the low number of HGV movements that will associated with the construction and operation phase of the Proposed Development, the Castletown Bridge will not be impacted by major vibrations from passing HGV traffic. Additionally, due to its distance from the Site, Castletown Bridge will not be impacted by any potential construction or operational vibration originating from the Proposed Development.
- 8.5.14 It should also be noted that the bridge is currently adjacent to a busy road with volumes of traffic already passing it. The change to setting would be such that the special interests or qualities of the bridge are slightly affected without a noticeable change leading to a magnitude of impact of **negligible** leading to a significance of effect of **slight**. The slight significance of effect would be **short-term** and **adverse**.
- 8.5.15 Ryans (RPS 332) is located on the crossroads formed by the LP4310 and the N65. It is a Protected Structure considered of regional importance. There are no views to the Proposed Development from the crossroads and the setting of this asset will not be affected by the physical presence of the proposed emissions stack.
- 8.5.16 There will be an increase in traffic using the N65 and LP4310 during construction including commuting site workers and vehicles transporting materials and equipment. This traffic will pass directly by Ryans (RPS 332) and the setting of this asset may be temporarily impacted by noise, dust and vibration from the construction related traffic but these would cease at the end of the temporary construction phase.
- 8.5.17 The N65 is a main road linking Lough Rea and Portumna. It is already used by large numbers of vehicles which pass the location of the Protected Structure. Additionally, Ryans (RPS 332) was a shop and public house deliberately sited at the crossroads where it could be accessed by passing traffic and the local community. The change to setting would be such that the special interests or qualities of Ryans would not be affected with no noticeable change. There is no impact to this asset.
- 8.5.18 The entrance gates to Rathmore House (RPS 3657) are located on the north side of the N65 and this Protected Structure is considered to be of regional importance. There are no views to the Proposed Development although the asset is located on the main road and may be passed by construction traffic coming from to and from the south-east.
- 8.5.19 As with the Ryans (RPS 332), the entrance gates to Rathmore House (RPS 3657) are located on the busy N65 and are already passed by large numbers of vehicles. The setting of this asset may be temporarily impacted by noise, dust, and vibration from the construction related traffic, but these would cease at the end of the construction phase. The change to setting would be such that the special interests or qualities of the entrance gates would not be affected. There would be no impact to this asset.
- 8.5.20 Notwithstanding all the above, should Galway County Council consider vibration monitoring at heritage assets to be required at the expense of the developer, the

Applicant would be agreeable to this being implemented through an appropriately worded planning condition.

Operational Phase

- 8.5.21 Significant effects for the operation of the Proposed Development derive from changes to the setting of heritage assets. These largely mirror the effects assessed for the permanent presence of the Proposed Development as detailed above in the assessment of the construction phase. There would be no change to the effects assessed for the designated assets within the wider study area due to the permanent presence of the Proposed Development during the operational phase. Additionally, the level of traffic associated with the construction phase will not be present during the operational phase also reducing impact. Given this, there is no need to reassess each designated heritage asset as the significance of effect will remain as determined for the Construction Phase.
- 8.5.22 While the settings of the highlighted designated assets located on the LP4310 and N65 within the 5km study area will be improved during the operational phase by the removal of construction-related personnel and items, this could be off-set by visual, noise and dust intrusion arising from the operational Proposed Development. In particular, the OCGT will have the functionality to fire on locally stored diesel distillate during emergency scenarios. While this will not lead to additional visual, noise or dust issues, the OCGT will require a supply of distillate to fuel it during emergency scenarios.
- 8.5.23 This distillate will be delivered to the Site by road with vehicles passing the Protected Structures located on the LP4310 and N65. However, such trips will be infrequent and only as and when required. Given this, the settings of the Protected Structures will not be noticeably affected especially given the existing traffic on the roads. No operational impacts related to traffic, noise, dust, and vibration are therefore anticipated.

Decommissioning Phase

- 8.5.24 Full details of the decommissioning works would be presented in a Decommissioning Plan (including a Decommissioning Environmental Management Plan) to be produced and agreed with the EPA as part of the Industrial Emissions Licence (IEL) and site surrender process for the facility at the end of the design life.
- 8.5.25 Temporary effects arising from the process of decommissioning of the Proposed Development are considered to be of a similar nature and duration to those temporary effects arising from the construction process and therefore have not been considered separately in this chapter.

8.6 Mitigation and Enhancement Measures

Construction Phase

- 8.6.1 The assessment has determined that the Proposed Development is located within a Brownfield site and industrial setting which has been previously disturbed by the construction of the existing Tynagh Power Station and the historic and now closed Tynagh Mines on which the Proposed Development will be constructed. Any archaeological remains which may have been present will have been destroyed during these historic works associated with the construction of the power station and mining prior to that.
- 8.6.2 The Proposed Development will not physically impact upon previously unknown archaeological remains. Given this, no archaeological mitigation is required during the construction phase.

- 8.6.3 The Proposed Development will have an impact upon the settings of designated heritage assets during Construction. Consideration of visual intrusion and noise impacts are addressed in EIA Chapter 10: Landscape and Visual Effects, Chapter 11: Noise and Vibration, and Chapter 14: Traffic, while embedded mitigation measures are included within the scheme design.

Embedded Mitigation to be adopted during Scheme Construction

- 8.6.4 During the construction phase procedures would be adopted, as described in the Outline Construction Environmental Management Plan (oCEMP – refer to EIA Volume I Chapter 5: The Proposed Development and EIA Volume II, Appendix 5A), to reduce the impact of noise, dust, and vibration during construction. Toolbox talks would be undertaken when necessary to inform construction supervision staff and site operatives of the requirements.

Mitigation Measures to avoid/ reduce adverse impacts on Designated Assets

- 8.6.5 During development of the Proposed Development design, no planting or screening mitigation measures have been required to avoid or reduce adverse impacts from the Proposed Development creating a visual impact. The Proposed Development colour scheme is however designed and coloured (a neutral grey palette) to match the existing adjoining Power Station buildings.

Operational Phase

- 8.6.6 Appropriate measures will have been implemented at construction phase to avoid or reduce adverse visual impacts (Paragraph 8.6.3). No further mitigation will be required at the operational phase (including maintenance periods).

8.7 Residual Effect

- 8.7.1 This sub-section describes residual impacts and the significance of effects on cultural heritage assets following mitigation. This assessment has identified that, after mitigation, there would be minor impacts upon the settings of a number of designated heritage assets.

Assets of High Value

- 8.7.2 The assessment has identified that after mitigation, there would be impacts on the settings of two assets of high value within the 1km study area and the wider study area. These are:

- Thatched Cottage (RPS 3648); and
- Castletown Bridge (RPS 3651).

Construction Phase

- 8.7.3 No specific mitigation for setting has been proposed in this chapter, as it is noted that appropriate mitigation for the Construction Phase is already noted in Chapter 14: Traffic referenced Construction Traffic Management Plan (refer to Appendix 14E, EIA Volume II). The residual effect would remain **short term** and **slight**.

Operational Phase

- 8.7.4 Appropriate measures will have been implemented at construction phase and no further mitigation will be required at the operational phase (including maintenance periods). The residual effect would remain **short term** and **slight**.

8.8 Cumulative Effects

- 8.8.1 There are other developments within the area. The Proposed Development is located within the vicinity of these which are (note the existing Tynagh Power Station is part of the baseline):
- ‘Submitted Development Ref: 21/2192’ - relates to planning application Ref. 21/2192 (submitted as an application to Galway County Council in November 2021, and currently awaiting determination by ABP under Ref. PL07.313538);
 - Planning Application 19633 to extend workshop and to complete all associated site works at Sperrin Galvanisers (IRE) Ltd. Permission is also sought to erect acoustic fencing along a section of the existing site boundary. The site is located within the confines of a Major Accident Site under the Seveso Directive. Gross floor space of proposed works: 600m². Conditionally granted 29/07/2019; and
 - Planning Application 18221 to extend workshop and complete all associated site works at Sperrin Galvanisers (IRE) Ltd. Permission is also sought to erect acoustic fencing along a section of the existing site boundary. Gross floor space of proposed works 600m². The proposed site is located at Derryfrench, Tynagh, Co. Galway and is within the confines of a Major Accident Site as determined by the Seveso Directive. Conditionally granted 20/04/2018.
- 8.8.2 These developments could have the likelihood to cause cumulative impact to the identified cultural heritage resource by combining with the Proposed Development to affect the settings of the regionally important heritage asset within the 1km study area during the construction and operation phases. This asset is the thatched house (RPS 3648).
- 8.8.3 The ‘Submitted Development Ref: 21/2192’ - relates to planning application Ref. 21/2192 (submitted as an application to Galway County Council in November 2021, and currently awaiting determination by ABP under Ref. PL07.313538) – that is a separate 299MW OCGT development and project to that of the Proposed Development which is for a 350MW facility. Submitted Development Ref: 21/2192 is to be located to the south of the Proposed Development, primarily to the west of the existing Tynagh Power Station. Subject to planning approval being obtained for the Submitted Development Ref: 21/2192, the Applicant intends to build out and operate both Submitted Development Ref: 21/2192 and the Tynagh North OCGT. The Submitted Development has been included in the assessment (and the landscape assessment EiAR Chapter 10 including photomontages – refer to Appendix 10A, EiAR Volume II).
- 8.8.4 The thatched house (RPS 3648) is largely screened by the existing earthen bund and construction and operational traffic will not pass this asset. Additionally, noise assessments found no significant impacts on sensible receptors located closer or similar distances from the Proposed Development as the thatched house. Therefore, its distance from the above-mentioned developments and the Proposed Development will mitigate any potential impacts from construction noise.

Table 8.4: Residual Impacts

ASSET REF	IMPORTANCE	DESCRIPTION OF IMPACT (TYPE, DURATION) DURING CONSTRUCTION AND OPERATION	MAGNITUDE OF IMPACT	SIGNIFICANCE OF EFFECT	MITIGATION	RESIDUAL EFFECT
Thatched Cottage (RPS 3648);	Regional	Impact to setting during construction and operation	Low	Slight, short-term and adverse	None proposed	Slight, short-term and adverse
Castletown Bridge (RPS 3651);	Regional	Impact to setting during construction from traffic	Negligible	Slight, short-term and adverse	None proposed	Slight, short-term and adverse

8.9 References

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Online Sources

Archaeological Survey of Ireland at

<http://webgis.archaeology.ie/NationalMonuments/FlexViewer/>

Excavations.ie Database of Irish Excavation Reports at <https://www.excavations.ie/>

Heritage Council Map Viewer at www.heritagemaps.ie

National Inventory of Architectural Heritage at <http://buildingsofireland.ie/>

Ordnance Survey Ireland at <http://osi.ie/Home.aspx>

Ordnance Survey Ireland at <https://www.osi.ie>

Cartographic Sources

1840 1st Edition Ordnance Survey map

1894 2nd Edition Ordnance Survey map

1917 3rd Edition Ordnance Survey map