Tynagh North OCGT

Environmental Impact Assessment Report

Non-Technical Summary

Applicant: EP Energy Developments Limited.

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Prepared for: EP Energy Developments Limited

Prepared by: AECOM

AECOM
9th Floor, The Clarence West Building
2 Clarence Street West
Belfast
BT2 7GP

T: +44 28 9060 7200

aecom.com

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*[**Note**: Figure Numbers for NTS are identical to numbering for Environmental Impact Assessment Report Figures (Volume III) to assist with cross referencing].*

1.0 INTRODUCTION

1.1 Structure of the Documents

1.1.1 This document presents a Non-Technical Summary (NTS) of the Environmental Impact Assessment Report (EIAR) that has been prepared in relation to a planning application ('the Application') for for an Open Cycle Gas Turbine (OCGT) plant, acoustic barriers, secondary fuel storage and unloading facility, distillate fuel gantry, water storage tanks, surface water drainage system and all associated ancillary development, site works and services ('the Proposed Development') on land to the north of Tynagh Power Station in Derryfrench, Loughrea, Co. Galway. This EIAR relates solely to the Proposed Development which is called Tynagh North, and is a separate and discrete application from other power related applications on and adjacent the Tynagh Power Station facility.

1.1.2 The Proposed Development is situated in Derryfrench, Tynagh, Loughrea, Co. Galway, Ireland (Irish Grid Reference X: 174450; Y: 213165). The entire Site is located within the administrative area of Galway County Council (GCC). The Site on which the Proposed Development will be located is on brownfield land to the immediate north of the existing Tynagh Power Station Site.

1.1.3 The EIAR is presented as three volumes:

- Volume I: Environmental Impact Assessment Report (Main Text);
- Volume II: Appendices; and,
- Volume III: Figures.

1.1.4 This specific document is the NTS provided as a standalone document. For the purposes of cross referencing, the figures supplied within the NTS are numbered as per the main EIAR.

1.2 Summary of the Proposals

1.2.1 The Proposed Development consists of a 350MW gas turbine operating in open cycle gas turbine (OCGT) mode primarily fuelled by natural gas, secondary fuel storage and unloading area, water storage tanks, and all associated ancillary development, site works and services. The plant will operate as a 'peaking plant', spending most of its time on standby, and will be run to complement renewable power generation technology.

1.2.2 An OCGT has been selected for the development as it is able to respond to changes in electricity demand by starting up quickly and achieving full output within a short period of time.

1.2.3 The Proposed Development will include the following components:

- Open Cycle Gas Turbine (OCGT) unit, 40m emissions stack and balance of plant;
- Acoustic barriers;
- Secondary fuel storage and unloading facility;
- Distillate fuel gantry;
- Water Storage Tanks; and

- Surface Water Drainage system.

1.2.4 The objective of the project is to facilitate the continued expansion of Ireland's renewable generation capacity. The project will provide support to the electricity network during periods when there is a gap between renewable power generation and power demand.

1.2.5 The Existing Site is described in Section 3 of this NTS and the Proposed Development is described in Section 4 of this NTS.

1.2.6 The purpose of this NTS is to describe the Proposed Development and provide a summary of the key findings of the EIAR in non-technical language for the benefit of consultees and stakeholders.

1.2.7 The EIAR is a document that enables stakeholders to understand the likely significant environmental effects of the Proposed Development identified through the Environmental Impact Assessment (EIA) process. EIA is a systematic process used to predict the adverse and beneficial effects of a proposed development.

1.2.8 The EIAR is provided in accordance with the EU EIA Directive 2011/92/EU and EIA Directive 2014/52/EU and the European Union (Planning and Development) (EIA) Regulations 2018, in order to inform the consideration of the Application and provide An Bord Pleanála (ABP) (the 'planning authority') with environmental information that must be taken into account when determining the Application.

1.3 The Applicant

1.3.1 The applicant, EP Energy Developments Ltd., is a subsidiary of EP UK Investments Ltd. (EPUKI), which owns and operates a number of power stations in Ireland and the UK. These include the existing Tynagh CCGT Power Station (run by Tynagh Energy Limited, of which EPUKI hold a majority stake) in the Republic of Ireland, Kilroot Power Station and Ballylumford Power Station in Northern Ireland, Langage Power Station and South Humber Power Station, which are gas-fired power stations located near Plymouth and Immingham and Lynemouth Power Station, a biomass fuelled power plant in Northumberland. EPUKI also owns sites with consent for new power stations in Norfolk, North East Lincolnshire and North Yorkshire.

1.3.2 EPUKI is a subsidiary of Energetický A Prumyslový Holding ('EPH'). EPH owns and operates energy generation assets in the Czech Republic, Slovak Republic, Germany, Italy, Hungary, Poland, Republic of Ireland and the United Kingdom.

1.4 Requirement for an Environmental Impact Assessment Report

1.4.1 The EIAR complies with the requirements of the EU EIA Directive 2011/92/EU and EIA Directive 2014/52/EU and the European Union (Planning and Development) (EIA) Regulations 2018. The EIAR has been prepared to satisfy the requirements of Schedule 6 of the Planning and Development Regulations – 'Information to be contained in Environmental Impact Assessment Report'.

1.4.2 The classes of development where an EIA is mandatory are set down in Regulations made pursuant to Section 176 of the Planning and Development Act 2000. In addition, Schedule 5 sets out thresholds for projects, and if that threshold is exceeded an EIA must be carried out. These are mandatory requirements. Where a project is of a type listed in the regulations but does not meet or exceed the applicable threshold then the

likelihood of the project having significant effects on the environment – as considered against a range of prescribed criteria - must be assessed.

1.4.3 The Proposed Development, which includes a 350MW open cycle gas turbine plant, falls within the descriptions of development in the Planning and Development Regulations, 2001, Schedule 5, Development for the purposes of Part 10, as per below:

2. (a) A thermal power station or other combustion installation with a heat output of 300 megawatts or more.

1.4.4 An EIA for the Proposed Development is therefore mandatory. A Pre-Application SID consultation was held with An Bord Pleanala (ABP) on the 18 January 2023 and the scope and format of the EIAR was presented.

1.4.5 It was presented to ABP that the Applicant would be submitting an Environmental Impact Assessment Report (EIAR) with the planning application, as required for Strategic Infrastructure Development (SID).

1.4.6 The EIAR complies with the requirements of the EU EIA Directive 2011/92/EU, as amended by EIA Directive 2014/52/EU and Part X of the Planning and Development Act 2000 and Part 10 of the Planning and Development Regulations 2001, as amended by the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018.

1.4.7 EIA provides a system of sharing information about the environment which enables effects to be foreseen and prevented during the design and consenting stages. This protects the environment and informs and improves decision-making. The EIAR presents an objective and concise record of the process and the determination of significant environmental effects.

1.4.8 Scoping is integral to the EIA process, designed to focus the subsequent EIAR in order to identify potentially significant issues for detailed examination and those that can be 'scoped out' of future assessments

1.4.9 Detailed assessment has involved impact analysis according to accepted methodologies and site visits, leading to the evaluation of the significance and magnitude of any direct, indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects on the environment from the Proposed Development.

1.4.10 In summary, this EIAR has compiled, evaluated and presented the significant environmental effects of the Proposed Development. The assessment is designed to take into account environmental factors by detecting likely significant adverse effects, thus leading to the identification and incorporation of appropriate mitigation measures into the development of the design. The main steps in the assessment procedure are summarised in EIAR Chapter 1: Introduction (refer to EIAR Volume I).

1.5 Consultation and Liaison

1.5.1 Formal consultations have not been undertaken prior to the submission of this EIAR, however lands in the immediate vicinity of the Proposed Development Site have been the subject of other separate power related development proposals in recent years which have resulted in submission of a planning application and EIAR to GCC. In the preparation of this EIAR, cognisance has been undertaken of relevant formal consultation, consultee responses and third party comments in relation to separate proposed power projects adjacent the Site.

1.5.2 The Strategic Infrastructure Development (SID) provisions of the Planning and Development Act 2000, as amended, have been considered in making this application, with a formal Pre-Application Consultation carried out between the Applicant and ABP prior to the finalisation and submission of this application.

1.5.3 A request was submitted to ABP on 22 November 2022 to enter into pre-application consultation and the request provided an overview of the Proposed Development. Following the submission of the request, a meeting was held with representatives from EP Energy Developments Limited, their consultants and An Bord Pleanála on the 18 January 2023. Following the meeting a written record of it was issued to the applicant on 24 January 2023. Formal closure of the Pre-Application Consultation process was then requested by the applicant on 25 January 2023.

1.5.4 In accordance with the requirements of An Bord Pleanála and Section 214 of the Planning and Development Regulations 2001, as amended, the applicant has notified the public of this application by means of:

- Site Notices:

  Site notices have been erected on the relevant lands. The locations of these notices are shown on the submitted planning application drawings. A copy of the notice is included in the planning application pack.

- Newspaper Notices:

  A newspaper notice has been published in a newspaper in circulation in the area of the application site. A copy of the newspaper notice is included in the planning application pack.

1.5.5 In addition, an application website has been set up, which is referenced in the public notices and contains a full set of the submitted application documents for ease of inspection by members of the public.

2.0 ENVIRONMENTAL IMPACT ASSESSMENT REPORT ASSESSMENT METHODOLOGY

2.1 Environmental Impact Assessment Report Methodology

2.1.1 The assessment of impacts has been conducted with reference to the following general approach as presented in this section. The specific methodology adopted for each assessment is contained in the individual technical chapters.

2.1.2 The objective of the assessment process is to anticipate the potential changes (or 'impacts') that may occur to the environment as a result of a proposed development, such as increases in traffic and changes to air quality or noise. The changes are compared to the environmental conditions that would have occurred without a proposed development (defined as 'the baseline').

2.1.3 Likely significant impacts arising from the Proposed Development have been identified and described, and an assessment of the level of significance for each effect determined. Determination of the significance of the effects is a key stage in assessment and has been defined using a combination of the sensitivity (e.g., high, medium and low) of the environmental receptor and the magnitude of impact (e.g., major, moderate, slight and negligible).

2.1.4 The overall significance of an effect, taking the relationship between sensitivity and the magnitude level of impact into consideration, is also defined for each environmental subject.

2.1.5 Where possible, the assessment uses best practice defined methods, based on legislation, published standards, and accepted industry criteria. This is set out in detail in each technical chapter within the EIAR.

2.1.6 For the purpose of the EIAR, adverse and beneficial effects arising from the Proposed Development are categorised in significance categories (e.g., Neutral, Slight, Moderate, Large, Very Large). Where the assessment predicts a significant adverse effect on one or more receptors, proposed mitigation measures are identified where possible to avoid or minimise the effect, or to reduce the likelihood of it happening. The use of such mitigation will be secured through the planning consent or through other legislation and consenting regimes.

2.1.7 There were no significant difficulties encountered during the preparation of the EIAR, however where difficulties were encountered for the specialist EIAR Volume I chapters, they have been identified and discussed in the relevant sections.

2.1.8 Full details of the Assessment Method are provided within the Chapter 1: Introduction, of EIAR Volume I.

Scoping & Pre-Application Discussions

2.1.9 The purpose of the Scoping process is to determine which topics should be included in the Environmental Impact Assessment Report, and the level of detail to which they should be assessed. For this Proposed Development, AECOM have undertaken a Scoping Review to enable the scope of the assessment to be defined.

2.1.10 The Pre-Application process included an EIAR Review process comprising of formal SID Pre Application discussions ABP as the Planning Authority/ Details of this are available within the EIAR Volume I Chapter 6: Consultation.

Other Development

2.1.11 '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.

2.1.12 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 (a 299MW OCGT) and the Tynagh North 350MW OCGT. As such, to ensure the Submitted Development Ref: 21/2192' is adequately considered cumulatively in the EIAR, a 'future baseline' scenario is assessed where appropriate rather than an existing baseline scenario.

2.1.13 In order to ensure the EIAR is robust in considering the likely significant effects of the Proposed Development while taking into account 'other developments', appropriate assessment scenarios have been identified which take the development (construction and operation) of the Submitted Development and existing Tynagh Power Station into account in the assessments.

2.2 Environmental Topics

2.2.1 The assessment and the EIAR include the following environmental topics:

- Air Quality and Climate;
- Cultural Heritage and Archaeology;
- Biodiversity;
- Landscape and Visual Effects;
- Noise and Vibration;
- Water Environment;
- Soils and Geology;
- Traffic;
- Land Use;
- Population and Human Health;
- Material Assets;
- Major Accidents and Disasters; and,
- Cumulative and combined effects; and
- Summary and Conclusions.

3.0 THE EXISTING SITE

3.1 Introduction

3.1.1 The Site on which the Proposed Development is situated in Derryfrench, Tynagh, Loughrea, Co. Galway, Ireland (Irish Grid Reference X: 174450; Y: 213165). The Site is bordered to the east by the former Tynagh Mine complex and to the immediate south by the existing Tynagh Power Station. Sperrin Galvanisers Ltd., an Integrated Pollution Prevention Control (IPPC) licensed facility, is located adjacent to the south-western boundary of the Site.

3.1.2 The Site is located within the administrative area of GCC.

3.1.3 For the purposes of the NTS, the following terms are used to describe the Proposed Development:

- **'the Proposed Development'** – relates to the 1 no. Open Cycle Gas Turbine (OCGT) plant, acoustic barriers, secondary fuel storage and unloading facility, distillate fuel gantry, water storage tanks, surface water drainage system and all associated ancillary development site works and services for which planning permission is being sought;
- **'the Site'** – relates to the area where the Proposed Development is located (the red line/ planning application boundary);
- **'the Overall Project Site'** – relates to the Proposed Development (i.e. the components for which planning permission is being sought) and, to ensure a robust environmental assessment, includes the wider power station context including the required Above Ground Installation ('AGI') to provide connection to the existing subsurface high pressure gas pipeline to the west, a new bay in the existing electricity substation and associated connections (assessed in this EIAR but not included in the planning application – refer to Section 1.1.7 below), the existing built infrastructure of Tynagh Power Station and the Submitted Development Ref 21/2192 (defined below);
- '**the Power Station Site'** – relates to the built infrastructure of the existing Tynagh CCGT Power Station site (Planning Ref: 03/02943); and
- **'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.

3.2 The Proposed Development Site

3.2.1 The Proposed Development is located within the administrative area of GCC. The Site on which the Proposed Development will be located is predominantly to the north of the existing generation building at the Tynagh CCGT Power Station. The area available for the Proposed Development (the 'red line' planning application area) is 5.53ha.

3.2.2 Access to the Site is from the existing site access located to the west of the existing site, from the LP4310 Gurtymadden (note - some public documents refer to this road as 'Gortymadden') to Tynagh Road.

3.3 Existing Site History

3.3.1 Tynagh mines opened in the 1960s and were an important source of lead and zinc concentrates. From 1965 to 1981 the mines were managed by the Northgate Group subsidiary Irish Base Metals Ltd. For almost twenty years Irish Base Metals Tynagh Ltd was a major source of employment for east Galway and the mines were worked on an opencast and underground basis until closure in the early 1980s after which a period of partial restoration and site rehabilitation was undertaken.

3.3.2 In 2003 planning consent (Ref: 03/2943) was granted (following submission of an Environmental Impact Statement – April 2003) for a 400MW CCGT at the power station site to be located on the western portion of the former mine site (west of the tailing pond and north of the mine lagoon). A number of amendments and additions to the permitted development were approved in 2004, under planning Ref. 04/2511, including the construction of a gate house, a gas cylinder storage shed, feed pump building, emergency generator and liquid fuel unloading station. In addition to the CCGT generating plant, planning consent was also secured in 2004 for a natural gas pressure reducing station (Ref: 04/2193) and for a 220kV overhead line to connect the power station to the National Grid at Oldstreet, 8km to the south-east of the site (Ref: 04/1974).

3.3.3 In November 2021, a planning application and EIAR were submitted to GCC for an 299MW OCGT plant on the western portion of the existing Tynagh Power Station site. Submitted Development Ref: 21/2192 proposed to demolish the existing Tynagh Power Station site workshop, administration building and car park, relocate these items to the brownfield lands to the immediate north of the Tynagh Power Station facility and develop an OCGT plant to the west of the existing power station. Submitted Development Ref: 21/2192, a separate project from the Proposed Development, was submitted as an application to Galway County Council in November 2021, and is currently awaiting determination by ABP under Ref. PL07.313538.

3.4 The Surrounding Area and Potential Environmental Receptors

3.4.1 The location of the Site is shown in NTS Figure 1.1 and the general surroundings on NTS Figure 4.1 and Figure 4.2 (refer to Section 8 of this NTS). Within the wider area the Site is surrounded by the following features:

- Within– Former mine brownfield, disused galvanised shed, electricity pylon and existing woodland;
- North-west – Existing woodland (0m) and residential properties with outbuildings (440m);
- North-east – Milchem Equestrian Centre (330m);
- East – Mine tailing pond (40m);

- West – LP4310 Gurtymadden (note - some public documents refer to this road as Gortymadden) to Tynagh Road (300m) and residential property west of LP4310 (330m);
- South-west – Industrial buildings of Sperrin Galvanisers (100m) and residential properties at Derryfench (420m); and
- South – Tynagh Power Station (0m), Submitted Development Ref: 21/2192 (0m), Mine lagoon (280m), residential property (700m), industrial buildings (1.4km), and village of Tynagh (1.8km).

3.4.2 Lands surrounding the Site are typically rural in nature, principally historic mining brownfield land, agricultural pastureland with hedgerows, stone walls, and undulating terrain. The existing Tynagh Power Station buildings, workshop and staff facilities, electrical substation, Gas Above Ground Installation (AGI), internal roads, car parking and fencing are located to the south of the Site. A tailing pond associated with the historic mine is located to the east and the flooded mine pit/ lagoon is positioned south-east of the Site. Sperrin Galvanisers Ltd. (IPPC) licensed facility is located to the south-west.

3.4.3 Details of the Site and surrounding environment are available within the EIAR Volume I Chapter 4: Existing Conditions; this is supported by topic-specific considerations in Chapters 7 to 18 of the EIAR Volume I.

4.0 THE PROPOSED DEVELOPMENT

4.1 Introduction

4.1.1 This chapter of the NTS provides a detailed description of the Proposed Development which is a new OCGT plant and all associated ancillary development, site works and services ('the Proposed Development') on land to the north of Tynagh CCGT Power Station in Derryfrench, Loughrea, Co. Galway.

4.1.2 Details of the reasonable alternatives considered and how the layout was selected to avoid sensitive environmental receptors and infrastructure are presented in Chapter 3: Need and Alternatives of the EIAR Volume I.

4.1.3 In order to ensure a robust assessment of the likely significant environmental effects of the Proposed Development, an EIAR has been prepared. This involved assessing the maximum/ worst case (or where relevant, minimum) impacts for the various elements of the proposal.

4.2 Need for the Proposed Development

4.2.1 Ireland is in the process of transitioning from a centralised, fossil fuel based electrical power generation network to a more distributed, renewable energy based generation network. To facilitate the continued expansion of Ireland's renewable generation capacity, and support security of supply, modes of supporting the electricity network during periods when there is a gap between renewable power generation and power demand will be needed. This project is designed specifically for this purpose, being able to respond quickly to shortfalls in power generation at times of high demand.

4.2.2 As a responsive power generator, the proposed OCGT plant will facilitate the integration of more renewable generation into the electricity network, helping to maintain security of supply and supporting Ireland in its transition to a low carbon economy.

4.2.3 The objective of the project is to help maintain security of supply and facilitate the continued expansion of Ireland's renewable generation capacity, by providing support to the electricity network during periods when there is a gap between renewable power generation and power demand.

4.3 Components of the Proposed Development

4.3.1 All of the various components which make up the Proposed Development are contained within the application area shown on the Proposed Development Plan (refer to Figure TYN-TOD-ZZ-ZZ-DR-A-1004 - Proposed Site plan – refer to Section 8 of this NTS document) and are described or encompassed within the description of the Proposed Development in the accompanying planning application documents and Planning Supporting Statement.

4.3.2 The Proposed Development will include the following main components:

- Open Cycle Gas Turbine (OCGT) unit, 40m emissions stack and balance of plant;
- Acoustic barriers;
- Secondary fuel storage and unloading facility;
- Distillate fuel gantry;

- Water Storage Tanks; and
- Surface Water Drainage system.

4.3.3 The construction phase of the Proposed Development will comprise:

- Temporary construction and laydown areas within the Overall Project Site comprising hardstanding, laydown, and open storage areas;
- Temporary facilities and stores;
- Materials and plant storage;
- Contractor compounds and construction staff office and welfare facilities;
- Temporary vehicle parking facilities;
- Security fencing and gates;
- External lighting; and
- Signage.

4.3.4 In connection with and in addition to the above, the following infrastructure will be included:

- Internal roads;
- External lighting, including lighting columns;
- Security fencing and gates; and
- Utilities, pipes, cables and connection to existing surface water drainage systems, oil-water separators, including channelling, culverting, crossings and works to existing drainage ditches and systems.

4.3.5 The proposed plant will be required under the Grid Code to maintain a secondary fuel supply of approximately 5,200t (6,100m^3) of distillate (diesel) fuel which will be contained in a tank within a bunded area. The purpose of this secondary fuel is to ensure that power can still be supplied to the electricity network in the event of an interruption to supply from the gas connection. The secondary fuel will only be used in the unlikely event that both the gas connection is unavailable and other generation sources on the transmission grid cannot meet demand.

4.4 Construction Phase

4.4.1 The Applicant will appoint an Engineering and Construction (E&C) Contractor for the main works. The contractor will appoint subcontractors to undertake all of the specific construction works and the civil works. The Applicant is committed to ensure a safe working environment for all employees and contractors.

Community Consultation and Liaison

4.4.2 There shall be an ongoing commitment by the Applicant to maintain community consultation and liaison throughout the construction period. Signage will be provided at the Site entrance which shall have a Project contact telephone number where the public will be able to leave messages in relation to the Proposed Development construction phase. A liaison officer will be appointed to manage the calls/ messages and any subsequent actions pertaining to these. Further information on community consultation and liaison is outlined in Appendix 5A (refer to EIAR Volume II) in the oCEMP.

Construction Programme

4.4.3 The construction phase will be to be 18 – 24 months, the final details of which will be determined by the E&C Contractor and presented in a Construction Environmental Management Plan (CEMP) which will be agreed by Galway County Council (GCC). An Outline CEMP is presented in Appendix 5A (refer to EIAR Volume II).

Construction Programme Overlap

4.4.4 In November 2021, a planning application and EIAR were submitted to Galway County Council (GCC) for a separate development project, a 299MW OCGT plant on the western portion of the existing Tynagh Power Station site. Submitted Development Ref: 21/2192 proposes to demolish the existing Tynagh Power Station site workshop, administration building and car park, relocate these items to the brownfield lands to the immediate north of the Tynagh Power Station facility and develop a separate OCGT plant on the western part of the Power Station Site.

4.4.5 Submitted Development Ref: 21/2192 is currently awaiting determination by An Bord Pleanála (PL 07.313538) following a Third Party appeal against Galway County Council's decision to grant permission.

4.4.6 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 Ref: 21/2192 within Tynagh Power Station is expected to begin development at the start of Q2 2023. The construction period of the Submitted Development would therefore potentially overlap for three months with the construction period of the Proposed Development, Tynagh North. In the event of an overlap of the 3 months the total daily traffic is assessed in the EIAR, is within road capacity and considered acceptable and therefore no significant cumulative impact is expected.

Construction Site Management

4.4.7 Construction works would typically take place during the hours of 0700hrs to 1900hrs (Monday to Friday) and 0700hrs to 1300hrs (Saturday) with the exception of commissioning and specific engineering works (e.g. concrete pours) which could take place outside these hours, as and when agreed with the planning authority.

4.4.8 The earthwork stage of the Proposed Development will not require significant excavation. There will be a fill requirement (21,000m3) for the Site of the Proposed Development, however this material will be imported. The engineering requirements result in no export of soils or material from Site.

4.4.9 It is likely that some construction activities will be required to continue for 24 hours for limited durations. The facility may be operational at any point during a 24-hour period during commissioning (and operation). Commissioning will take place in the final six months of the programme.

4.4.10 Where on-site works are to be conducted outside the core hours, they will comply with any restrictions agreed with the planning authorities, in particular regarding control of noise and traffic. 24 hour working or quiet working for certain activities has been assessed in EIAR Volume I Chapter 11: Noise and Vibration, which sets out specific mitigation and control measures required to prevent disturbance from night-time construction activities.

Construction Site Access

4.4.11 It is expected that the extent of HGV movements will vary at different stages of the construction works in response to the activities taking place at any given time. The peak HGV movements are expected in Months 01 to Month 03 with a maximum of 59 HGV arrivals trips per day.

4.4.12 Levels of employment will vary throughout the construction period however the peak staffing occurs in Month 05 to Month 16 when 200 staff will be required. Based on a 1.5 car occupancy, it is expected that there will be a maximum of 133 staff vehicle arrivals per day during this month. Parking will be made available at the Overall Project Site to allow all construction staff vehicles to park at once.

Construction Site Compound

4.4.13 At the outset, the construction area will be secured with temporary fencing and the E&C contractor will set up the initial site accommodation and welfare facilities, including temporary services on the site. To ensure site security, there will be a single point of entry to the Overall Project Site for all construction personnel. The compound will not be for long term storage of materials and storage will be for the duration of the construction phase only.

4.4.14 At the end of each shift, mobile plant will be returned to a secure overnight plant storage area within one of the proposed construction compounds where drip trays will be utilised under the various types of plant.

4.4.15 Storage areas for flammable/ toxic/ corrosive materials will be located in a separate, locked, impermeable bunded and fenced off area. Material data sheets will be available for all these materials and the COSHH (Control of Substances Hazardous to Health) assessments kept within the relevant Risk Assessment for the task, all subject to the Applicant's approval.

4.4.16 Construction temporary site lighting is proposed to enable safe working on the construction site in hours of darkness. Construction temporary lighting will be arranged so that glare is minimised outside the construction site.

4.4.17 A Detailed CEMP will be prepared by the contractor prior to construction works commencing in accordance with standard planning condition requirements. The oCEMP which frames the contents of the final CEMP is included in Appendix 5A (refer to EIAR Volume II).

4.5 Commissioning & Operational Phase

Environmental Licence

4.5.1 The Proposed Development will comply with the requirements of the European Union (Large Combustion Plants) Regulations 2012 S. I. No. 566 of 2012 under its IE Licence (to be applied for) so that any impacts of emissions to air, soil, surface and groundwater, and effects on the environment and human health, will be minimised and avoided where possible.

4.5.2 The Site will be operated in line with the IE Licence (to be applied for) and appropriate standards, and the operator will implement and maintain an Environment Management System (EMS) which will be certified to International Standards Organisation (ISO) 14001. The EMS will establish the requirements and procedures required to ensure that the Site is operating to the appropriate standard.

4.5.3 Sampling and analysis of pollutants will be carried out where required including monitoring of exhaust emissions levels using Continuous Emission Monitoring Systems (CEMS) prior to discharge from the stack, in accordance with the IE Licence.

Hazard Prevention and Emergency Planning

4.5.4 Measures to prevent the risks of fire, flooding, spillages, or other potentially major incidents will be embedded in the design of the Proposed Development.

4.5.5 Measures to prevent potentially major incidents include:

- Compliance with all relevant health, safety and environmental legislation;
- Design, build and operation in accordance with good industry practice;
- Regular maintenance and inspections to reduce the risk of equipment failures;
- Bunded or double-skinned storage areas for liquid chemicals;
- Regular maintenance and Site housekeeping to reduce the likelihood of leakages and improve leakage detection; and
- Spill kits stored on Site.

4.5.6 A site-specific Health and Safety Plan covering the works, commissioning and operation will be prepared to ensure compliance with relevant health and safety legislation.

4.5.7 Procedures will be in place to clearly outline the responsibilities, actions and communication channels for operational staff and personnel on how to deal with emergencies should they occur. Staff will also receive the level of training required for their role and position. This will include dealing with events such as fires, spillages, flooding, etc. Such measures will be included in the site operating and management system and regulated by Environmental Protection Agency (EPA) through the IE Licence for the site.

Start-Up and Shut-Down

4.5.8 The Proposed Development will be started and stopped automatically, under the supervision of trained operators. This will be in response to the requirements of the electricity grid operator, EirGrid's, request for power. The plant is specifically designed to start-up, shut-down and ramp (change its output) rapidly in response to the requirement for power from the electricity grid.

Fuel

4.5.9 The OCGT will fire primarily natural gas to generate power, however the turbine will also have the functionality to fire on locally stored distillate fuel or Hydrotreated Vegetable Oil (HVO).

4.5.10 Operation using distillate fuel is only expected to occur during an emergency scenario (such as loss of natural gas transmission pipeline pressure during a period of high electricity demand) and during short grid code compliance tests to confirm the readiness of the turbines to respond to a call to fire on locally stored distillate fuel as a backup.

Commissioning Stage

4.5.11 The commissioning stage is similar to the operational stage but may have a greater number of start-ups and shut-downs. Commissioning takes place in two stages: construction completion and commissioning.

4.5.12 Construction completion includes pipe work testing, electrical testing, and checking of safety systems. Commissioning takes place once gas is available to the site and involves operating the OCGT facility with fuel and verifying that the technology functions correctly. There will be a campaign of performance testing at the end of this period, verifying that the facility meets its contractual performance guarantees. The facility can then be presented for independent certification.

4.5.13 Once tests are complete and the certificates are issued, the facility will be deemed ready for commercial operation.

Maintenance

4.5.14 Routine maintenance will be undertaken in accordance with maintenance manuals provided by the E&C contractor.

4.5.15 The OCGT will be subject to one inspection by the manufacturer per annum. During this time the OCGT will be shut down and manufacturer personnel will be deployed to site to complete the works. The annual inspection may take between three days (most years) and 17 days (every five years) for the OCGT unit. These works are likely to take place during the summer months when the units are least likely to be operated. During this maintenance period, maintenance on balance of plant will also be undertaken.

4.6 Decommissioning Phase

4.6.1 It is envisaged that the Proposed Development will have a design life of at least 25 years. The operational requirements of the Proposed Development will inevitably change during its design life, and it will be subject to regular reviews to identify potential modifications and amendments that would allow the asset to have a future sustainable use beyond 25 years.

4.6.2 Decommissioning working hours would be generally similar to those of the construction stage, typically Monday to Friday 0700hrs to 1900hrs and Saturday 0700hrs to 1300hrs.

4.6.3 Full details of the decommissioning stage would be presented in a Decommissioning Plan (including a Decommissioning Environmental Management Plan (DEMP)) to be produced and agreed with the planning authority as part of the Environmental Permitting and site surrender process.

5.0 SUMMARY OF ENVIRONMENTAL EFFECTS

5.1 Introduction

5.1.1 An assessment of the environmental effects of the Proposed Development during its construction, operation (including maintenance), and decommissioning has been completed for each of the environmental topics identified in the EIAR.

5.1.2 The likely significant environmental effects are fully described within EIAR Volume I. This section of the NTS provides a summary of the findings of the EIAR in non-technical language.

5.2 Air Quality

5.2.1 The air quality assessment of construction impacts assumes that the impact avoidance measures outlined within EIAR Volume I Chapter 7: Air Quality and Climate will be incorporated into the design of the Proposed Development, as they are standard good practice measures that are routinely applied across large construction sites. No specific additional mitigation has been identified as necessary for the construction phase of the Proposed Development. No significant effects have been identified.

5.2.2 An air quality dispersion modelling assessment was carried out to evaluate the impact on local air quality of the operation of the Proposed Development. It concluded that there would be a small increase in ground-level concentrations of nitrogen dioxide (NO_2) and carbon monoxide (CO) and that operational concentrations of the modelled pollutants would be well within current Environmental Standards. Modelling of the cumulative impact of emissions from the Proposed Development, the existing CCGT Power Station and the Submitted Development (Ref 21/2192) also showed that the combined impact on local pollutant concentrations would result in no significant effects.

5.2.3 The Proposed Development will comply with the requirements of the European Union (Large Combustion Plants) Regulations 2012 S. I. No. 566 of 2012 under an Industrial Emissions (IE) Licence (which is to be applied for) so that any impacts of emissions to air, soil, surface and groundwater, and effects on the environment and human health, will be minimised and avoided where possible. Sampling and analysis of pollutants will be carried out where required including monitoring of exhaust emissions levels using Continuous Emission Monitoring Systems (CEMS) prior to discharge from the emissions stack, in accordance with the Industrial Emission (IE) Licence.

5.2.4 The air quality assessment of impacts at the start of the Proposed Development's operations has assumed that the Emissions Limit Values (ELVs) will be met for the operational plant as required and in accordance with use of Best Available Techniques (BAT) under the EPA's environmental permitting regime. No specific additional mitigation has been identified as necessary for the operational phase of the Proposed Development. No significant effects have been identified.

5.2.5 Consistent with construction mitigation, it has been assumed that relevant best practice mitigation measures would be in place during any decommissioning works. No significant effects are anticipated.

5.3 Climate

5.3.1 The Greenhouse Gases (GHGs) from constructing the Proposed Development are estimated to be 8,749tCO_2 (metric tonnes in carbon dioxide equivalent).

5.3.2 The net GHGs (including all GHG avoidance deductions) from operating the Proposed Development over its (at least) 25-year life are estimated to be 9,167,918 tCO_2e.

5.3.3 The Proposed Development is intended to be operated as a peaking plant which is anticipated to operate for a limited number of hours per year. The Proposed Development would thus provide additional peak power generation capacity, which would contribute to providing a secure energy supply to the national grid. A key component of the RoI's decarbonisation strategy is to aim for up to 80% of its electricity supply to be generated from renewable sources by 2030, with no generation from peat and coal. To allow this uptake of renewable energy to happen it is necessary to have in place sources of energy generation that can be quickly dispatched to cover any imbalances in supply and demand. As the use of coal and peat for electricity generation is reduced, natural gas has been identified as a relatively lower-carbon option to provide security of supply.

5.3.4 The Proposed Development can be defined as 'moderate adverse' effect. The plant will continue to operate beyond 2050 and therefore falls short of fully contributing to ROI's net zero trajectory

5.3.5 However, it is also acknowledged that whilst the ROI is moving towards decarbonising the grid, gas-fired peaking plant power stations are required as an important part of the overall transition fuel mix in order to ensure the ROI's energy security. The operational requirements of the Proposed Development will inevitably change during its design life and it will be subject to regular reviews to identify potential modifications and amendments to enable continued alignment with ROI climate goals.

5.4 Cultural Heritage and Archaeology

5.4.1 There is one designated heritage asset within the 1km study area which is considered regionally important. Impacts to the thatched cottage (RPS 3648) would be of slight significance of effect would be short-term and adverse.

5.4.2 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 N65 and LP4310 during construction including commuting site workers and vehicles transporting materials and equipment, however construction traffic will not pass directly over Castletown Bridge. Therefore, traffic noise and vibration as well as the physical presence of traffic will not impact to this asset.

5.4.3 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.

5.4.4 The distillate fuel 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.

5.4.5 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.

5.5 Biodiversity

5.5.1 There are thirteen European sites within 15km of the Site, the closest of which is Slieve Aughty Mountains SPA, 6.1km south-west of the Site. A Habitats Regulations Assessment (HRA) Screening for Appropriate Assessment has been prepared in parallel by AECOM on behalf of the Applicant to inform the competent authority when determining whether the Proposed Development will have likely significant effects on any European sites, considering the Proposed Development alone and in-combination with other plans and projects. It concluded there will be no likely significant effects to any European site as a result of the construction phase of the Proposed Development.

5.5.2 Potential impacts to breeding birds during construction include habitat loss (i.e., removal of buildings) and injury or mortality. Likely potential impacts include disturbance and injury to adults and their eggs, young and nests, and could be significant at Local (higher) geographic scale in the absence of mitigation. 24 species of birds were observed within or adjacent to the site, including four species of conservation concern for breeding in Ireland displaying breeding behaviour, namely meadow pipit, goldcrest, greenfinch and willow warbler.

5.5.3 During construction, there will potentially be an increase of lighting, noise, and visual disturbance. A temporary increase of such impacts during the breeding season could cause abandonment of territories or nests and is considered to constitute a significant effect. Subject to population-level impacts which are difficult to predict, duration of these likely impacts could last from being temporary (i.e., during construction phase) or permanent if breeding birds are lost from the Site.

5.5.4 Common lizard is potentially present on Site but was not recorded incidentally during surveys. Impacts to lizard during the construction phase are minor habitat loss, and injury or mortality of hibernating lizards and these could be significant at Local (higher) geographic scale in the absence of mitigation.

5.5.5 Two notable butterfly species, including Marsh fritillary, were recorded within the survey area to the west of the Site boundary. Potential impacts of the construction phase of the Proposed Development on these butterflies include loss of habitat and potential injury or mortality of larvae which may be present within the grassland. For marsh fritillary butterfly, construction impacts could be significant at County (medium) geographic scale in the absence of mitigation, but no operational phase impacts are predicted.

5.5.6 A medium-sized breeding population of smooth newt was found in a small pond within the Site, approximately 50m north of the Proposed Development footprint. Construction of the Proposed Development may impact this nationally protected species through loss of terrestrial and breeding habitat, injury or mortality of breeding newts and hibernating newts in the grassland to be removed, and pollution of the waterbody (if retained) via contaminated surface run-off resulting in the potential loss of the site population. Impacts could be significant at the County geographic scale in the absence of mitigation.

5.5.7 With the implementation of mitigation measures, residual impacts to protected mammals, breeding birds, smooth newt, lizard, and marsh fritillary are not significant.

5.5.8 Air quality modelling has concluded that the Proposed Development will not give rise to significant adverse air quality effects on sensitive habitats or species within European sites.

5.5.9 The Screening for Appropriate Assessment also concluded there will be no likely significant effects to any European site as a result of the construction phase the Proposed Development, either alone or in combination with any other plans or projects.

5.5.10 There are no operational phase impacts predicted that would impact breeding birds.

5.5.11 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.

5.5.12 A Decommissioning Plan (including a DEMP) would be prepared and agreed with the relevant authority at that time. The DEMP will consider in detail all likely environmental risks on the Site and contain guidance on how risks can be removed or mitigated. Decommissioning activities will be conducted in accordance with the appropriate guidance and legislation at the time of the Proposed Development's closure.

5.6 Landscape and Visual Effects

5.6.1 Landscape and visual effects and their significance at construction stage will be temporary adverse and will result in:

- Likely effects to landscape character or visual amenity within the locality or the wider study area as a result of the visibility of construction activities such as, scaffolding, cranes, the movement of construction vehicles along local roads, and other tall equipment such as machinery on site;
- Effects of temporary site infrastructure such as site traffic and temporary site construction compounds; and
- Likely direct effects arising from construction of the development will be confined to the Site.

5.6.2 The highest landscape and visual effects during the construction stage will be experienced in the vicinity of the Site, from locations with open or partial views of the Proposed Development. Principal views of construction works will likely be experienced within a radius of up to approximately 500m from the boundary of the Site all directions. Construction works will also be visible beyond 500m and the 5km study area in views at elevation, particularly to the north where there is little vegetation screening. While discernible, the construction effects in long distance views are not considered significant as they form part of a wide panoramic view in which they form one visible component of many.

5.6.3 The main landscape effects of the Proposed Development will be associated with the introduction of an air intake structure and emissions stack, integrating with the established industrial character of the site and its immediate surroundings. It is anticipated that the Proposed Development will not significantly change the existing prevailing industrial landscape character within the core and wider study area; however, the industrial character within the overall landscape character area will intensify further with its introduction.

5.6.4 The landscape and visual effects of the Proposed Development have been assessed with the use of photomontages which haveb been prepared and are presented in Appendix 10A of the EIAR (refer to EIAR Volume II).

5.6.5 Direct and long-term change or modification will occur locally where the Proposed Development will be physically located, in particular the introduction of plant infrastructure on an area adjacent to the existing Tynagh Power Station.

5.6.6 Indirect change will occur outside of the Site boundary, where the visibility of the Proposed Development has an influence on the perception of the character of the landscape. The indirect change in landscape character is greatest in its immediate and close surroundings where open and partial views are possible within approximately 500m radius from the Site boundary in views from the north, south and west. Views from the south-west and east are largely screened by vegetation and landform. A significant bund associated with the former mine screens views from the south-western section of the study area. The magnitude of change in these areas is considered Medium. The significance of landscape effects on the landscape character is therefore considered to be Moderate Adverse.

5.6.7 Indirect change and the significance of landscape effects will reduce with increasing distance from the Site in the remaining study area (between approximately 3km and 5km from the Site boundary) to Moderate and Slight Adverse. Given the prominence of the existing 55m emissions stack associated with the existing Tynagh CCGT Power Station, the intensification of the industrial character can be recognised over long distances throughout the wider study area in available views.

5.6.8 The main visual receptor groups are local residents, vehicle travellers, and pedestrians.

5.6.9 The Proposed Development will add to the existing industrial building complex within the Tynagh CCGT Power Station Site. Depending on weather conditions, the proposed 40m emissions stack will be visible from elevated locations to the north, beyond 3km. It will introduce another industrial feature, with additional buildings, such as the air intake building becoming more prominent within available views. However, the existing CCGT Power Station with its 55m high emissions stack will remain the most prominent industrial feature particularly in views west from the immediate local road.

5.6.10 The highest visual effects will be experienced within approximately 500m radius from locations with open or partial views of the proposed emissions stack and sections of the plant.

5.6.11 Views beyond approximately 500m will concentrate mainly on the upper sections of the emissions stack and air intake plant, which will be apparent but, as for the entire Proposed Development, it will be seen in conjunction with the existing already prominent Tynagh CCGT Power Station structures including the existing 55m emissions stack as well as Submitted Development Ref: 21/2192, as seen in Viewpoint/ Photomontage 03. The magnitude of visual change is considered Low - Medium and the significance Slight Neutral - Moderate Adverse.

5.6.12 In long distance views, ranging between approximately 1km – 3km, particularly from the N65 to the north and Tynagh Village to the south, effects will vary Low to Medium and their significance from Moderate Adverse to Slight Neutral. While the Proposed Development will intensify and extend the perceived industrial character within the receiving landscape and become a new feature within the existing view, the change will be additional elements seen in conjunction with the existing prominent elements and will likely be perceived as one development. The magnitude of visual effects is considered Medium and its significance Moderate Adverse.

5.6.13 The Proposed Development will be decommissioned when it reaches the end of its useful life at some point after 2052. At that time detailed decommissioning procedures will be produced in line with prevailing best practice to ensure that there will be no significant,

negative environmental effects from the decommissioning of the Proposed Development.

5.7 Noise and Vibration

5.7.1 No significant adverse impact is expected at the residential receptor positions assessed in Chapter 11: Noise and Vibration of the EIAR Volume I with regards to construction phase sound levels generated by onsite activities.

5.7.2 A negligible impact is predicted on the N65 as a result of the change in road traffic noise during construction and a minor impact is predicted on LP4310 Gurtymadden to Tynagh Road.

5.7.3 No significant adverse impact is expected at residential receptor positions with regards to construction phase sound levels generated by additional traffic flows on existing roads.

5.7.4 Sound emissions from the Proposed Development would, without design mitigation, exceed the nominated criteria at all receptor locations. However, the predicted residual operational noise levels are below the relevant assessment criteria at all receptors and therefore considered acceptable. This will be achieved through procurement of appropriate plant and provision of acoustic barriers. The residual effects of noise emissions from the operation of the Proposed Development are assessed to be not significant.

5.7.5 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 EIAR Volume I Chapter 11. Where this assessment refers to potential construction effects, these are also representative of predicted decommissioning effects.

5.8 Water Environment

5.8.1 Surface water and sediment within the area have been impacted by the site's historic use for mining. The status of the river sub-basin has been assessed under the WFD 2016-2021 as 'Poor'. Given the 'Poor' quality assigned to the sub-basin and the known impact on local surface waters from historical contamination, the sensitivity of the surface water environment to contamination is considered to be medium. Based on the groundwater vulnerability, its sensitivity is considered to be high.

5.8.2 During construction, fuel, hydraulic fluids, solvents, grouts, paints and detergents and other potentially polluting substances will be stored and/ or used on the Site. There may also be substantial volumes of stagnant water or other liquid/ chemical substances within the existing drainage network and other redundant process infrastructure on the Site. Leaks and spillages of the aforementioned substances (the source in the source-pathway-receptor approach) would pollute the nearby surface watercourses if their use or removal is not carefully controlled and if spillages enter the existing drainage network or waterbodies directly (the pathway in the source-pathway-receptor approach).

5.8.3 With mitigation measures outlined in place, the magnitude of impact to groundwater quality through the mobilisation of existing contaminants in soil and the migration of introduced contaminants in soil as a result of spillages into groundwater receptors is likely to be negligible. This would result in an imperceptible effect on a high sensitivity receptor.

5.8.4 There are no direct works to watercourses required for the Proposed Development such as new culverts or structures. The surface water drainage network will use an existing outfall to the former open pit mine. As such, there is no impact on the hydromorphology of watercourses during construction.

5.8.5 The construction phase of the Proposed Development would not involve works in a fluvial flood plain.

5.8.6 The Site would in general be at a low risk from surface water flooding. During the works, existing surface flow paths may be disrupted and altered due to site clearance, earthworks, and excavation work. The exposure and compaction of bare ground and the construction of impermeable surfaces would alter the rates and volume of runoff and increase the risk from surface water flooding. However, with the implementation of standard construction methods and mitigation measures, this risk will be effectively minimised. As such, the magnitude of flooding impact from these sources during construction is considered to be negligible, resulting in an imperceptible effect.

5.8.7 Any excavations on the Site have the likelihood to liberate groundwater in some areas. With the implementation of the measures outlined in the oCEMP this risk will be effectively minimised, giving a negligible magnitude of impact, resulting in an imperceptible effect.

5.8.8 During operation, the proposed surface water drainage system for the Proposed Development will tie into the existing on-site water treatment plant, which outfalls to the former open pit mine under the conditions set out in the existing Tynagh Power Station IE Licence.

5.8.9 Given that the Drainage Strategy will have to meet standards required by the IE Licence and policy requirements, and that measures will be in place for dealing with spillages and firewater then a negligible impact is predicted to surface water receptors from surface water drainage. Given that this is a high sensitivity receptor, this would result in an imperceptible effect. Through implementation of the mitigation measures the impact magnitude of spillages in soil migrating into groundwater receptors is negligible. This would give an imperceptible effect for the aquifer.

5.8.10 The Flood Risk Assessment (Appendix 12A, EIAR Volume II) concluded the Proposed Development is not at risk from fluvial flooding and is at a very low risk from groundwater flooding.

5.8.11 There is no process effluent drainage discharge to watercourses associated with the Proposed Development, and surface water runoff will be discharged at the greenfield runoff rate to the former enclosed mine lagoon under conditions of an IE Licence. As such, there will be negligible impact on surface water flooding.

5.8.12 Based on the above it is concluded that the operational Proposed Development is not at risk from any external sources of flooding and nor do the proposals cause an increase in upstream or downstream flood risk. As such the flood risk during operation is imperceptible.

5.8.13 A Decommissioning Plan will be produced and agreed with the EPA as part of the Environmental Permitting and site surrender process.

5.9 Soils and Geology

5.9.1 No impact to or removal of agricultural land or soil resources is envisaged and all works are on unvegetated Made Ground. During construction, given the implementation of the

mitigation measures as described in EIAR Volume I Chapters 12 and 13 (plus the CEMP) and that there are no direct works to watercourses, the impact magnitude of existing or introduced contaminants in the subsurface migrating into surface water receptors would be negligible on Lough Derg and/ or the River Shannon and the Lisduff (Kilcrow) river (Poor quality) or its tributaries (Poor quality). This would give a negligible effect for all of the waterbodies. As a medium importance receptor, this would give an imperceptible effect.

5.9.2 For groundwater impacts, with the embedded mitigation measures outlined in EIAR Volume I Chapters 12 and 13, including implementation of the CEMP, the magnitude of impact to groundwater is likely to be negligible. This would result in an Imperceptible effect on a high sensitivity receptor (Bedrock Aquifer).

5.9.3 The impact magnitude on construction workers (high importance), off-site residential receptors (very high importance) and off-site urban/ industrial land users (medium importance) is likely to be negligible due to the lack of extensive excavations, with no further requirements for control measures, including the CEMP, reducing risks to human health/ make land suitable for intended use.

5.9.4 The earthwork stage of the Proposed Development will not require significant excavation. There will be a fill requirement (21,000m3) for the Site of the Proposed Development, however this material will be imported. The engineering requirements result in no export of soils or material from Site.

5.9.5 During operation, the Proposed Development will not result in a loss of agricultural land or change in land use classification. However, there is a possibility that contaminants could be introduced to the subsurface and soil resources as a result of accidental leakages from fuel storage areas. This would result in a small adverse impact, resulting in a small adverse effect on Urban grade land. These effects are considered to be Imperceptible.

5.9.6 The impact magnitude of existing or introduced contaminants in the subsurface migrating into surface water receptors would be negligible. Overall, this gives a slight adverse effect. These effects are considered to be Imperceptible and therefore no additional mitigation is required, over and above that set in EIAR Volume I Chapters 12 and 13.

5.9.7 The impact magnitude of spillages in soil migrating into groundwater receptors is negligible, with a very low risk of pollution leakages. This would give a small adverse effect for the superficial deposits and Limestone bedrock aquifers. These effects are considered to be Imperceptible and therefore no additional mitigation is required, over and above that set out in Chapters 12 and 13.

5.9.8 Given the restricted nature of the decommissioning works in comparison to construction, as well as the prior uses of the site to any decommissioning, a Decommissioning Plan will be produced and agreed with the EPA as part of the Licencing and licence surrender process. An environmental Baseline Assessment report at the time of commencement of operations will be referred to and updated to determine if any additional contamination has occurred and what, if any, rehabilitation is required prior to IE Licence surrender.

5.10 Traffic

5.10.1 All HGVs will be directed to only use the section of LP4310 Tynagh Road north of the Site to travel to/ from the Site. This is the shortest and most efficient connection to the N65 and the wider National Road Network. Staff will also be encouraged to travel in this

direction. It is proposed that this haulage route restriction (travelling north on LP4310) will be a requirement within the Construction Traffic Management Plan (CTMP).

5.10.2 The construction phase of the development is 18-24 months in duration. Peak HGV traffic is expected during Months 1-3. During these months, a maximum of 39 HGVS will arrive to the site each day (78 two-way trips).

5.10.3 Staff trips have been calculated based on a car occupancy rate of 1.5. Therefore, 200 staff equates to 133 vehicles (or 266 LGV two-way trips).

5.10.4 A link capacity assessment verified that LP4310 Tynagh Road will continue to operate with ample spare capacity even in a worst-case scenario where all staff and HGV traffic is on the network during peak periods.

5.10.5 All links assessed were also able to run within capacity even in situations where existing traffic, development traffic and outage traffic associated with the existing Tynagh CCGT Power Station were on the network.

5.10.6 The peak hour traffic impact and daily traffic impact on the site access junction on LP4310 Tynagh Road will exceed the 10% threshold. This threshold is only minorly exceeded and is likely to be due to the low background traffic flows. It should also be reminded that the 12 trips assessed were doubled to allow for a robust assessment. In reality, if HGVs were to arrive uniformly throughout the day, the percentage impacts would be halved..

5.10.7 It should also be noted that this traffic impact is temporary, i.e., HGV peak for 12 weeks. It is therefore considered that this impact is not of concern and will not have a detrimental effect on the road network.

5.10.8 Additionally, it is also considered that the existing Tynagh CCGT Power Station will experience outages during the construction phase of the Proposed Development. During these outages, approximately 180 no. staff will be arriving to the site (120 no. vehicles based on 1.5 car occupancy).

5.10.9 Due to the high traffic impact, a pavement (road surface) assessment has been completed on the LP4310 Tynagh Road to identify the current state of the local road network. The overall impact on road pavements and below ground infrastructure on the N65 (National Network Road) from construction vehicles associated with the Proposed Development, in comparison with current traffic, is considered negligible.

5.10.10 Three abnormal loads are expected to arrive to the Site during the construction phase. These are expected to travel from either Dublin or Shannon Foynes Port to the Site. The abnormal loads route along the LP4310 Tynagh Road and into the existing site has already been auto-tracked for a previous application in 2003 (reference 042193) for the Tynagh CCGT Power Station facility. Once appointed, the E&C Contractor will be required to provide a detailed report on these routes and inform the relevant authorities before travel.

5.10.11 The operational phase of the development has been determined to be neglibibledue to the small daily traffic flow generation (5 -10 daily arrivals). This generation is expected to be LGVs and is not believed to have any major impact on the local road network.

5.10.12 During the operational stage, the gas generation plant will fire primarily natural gas to generate power. Natural gas is currently piped to the Site (through an existing pipe) and there will be no vehicle movements associated with the Proposed Development in this respect.

5.10.13 During emergency scenarios (when operating with distillate fuel) up to 60 No. HGV vehicles could arrive to the Site over a day. However, these are not expected to be a frequent or regular occurrence and generate fewer daily trips than were assessed for the construction phase. Therefore, no further assessment has been undertaken.

5.10.14 Operation using back up fuel is only expected to occur during an emergency scenario and during compliance tests. Therefore, it is not expected that the delivery of back up fuel would be frequent. An emergency scenario has never occurred at the existing CCGT Power Station site and back-up fuel has only been required for testing purposes.

5.10.15 Routine maintenance operations will be scheduled to take place during the daytime (delivery) hours and will only extend into the night-time and/ or weekends should this prove necessary to maintaining the continuity of the process during emergency situations. Any non-routine maintenance and repair operations will be undertaken as and when they arise.

5.10.16 All operational trips will access the Site via the existing access with adequate parking provision available on Site to accommodate the staff vehicles.

5.10.17 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 decommissioning has not been considered.

5.11 Land Use

5.11.1 The assessment has determined that the Landscape Character Type (LCT) in which the Site lies is the Central Galway Complex, within an area classified as having Low Landscape Sensitivity, thus being unlikely to be adversely affected by change.

5.11.2 The Proposed Development will be located adjacent to the existing CCGT Power Station which has been operational since 2006 and is regulated as a Lower Tier COMAH/ Seveso Installation. The impact will be neutral during construction.

5.11.3 It is determined that there will be no direct or indirect impact to residential land uses during the construction period. There are no private residential land uses due for demolition or due to be vested as a result of the Proposed Development.

5.11.4 The existing businesses located within proximity to the Site will not be directly impacted by the construction phase. Sperrin Galvanisers Ltd is the only business within 500m from the Site. The sensitivity of the area can be considered “low” both for dust soiling impacts and for human health impacts from PM10 releases from all activities, on account of the distance from the activity source to the receptors, and the existing low background concentration particulates (<24µg/m^3). The magnitude of impact during construction is unchanged (no impact) resulting in a Neutral significance of impact. There will be no indirect impact to industry and business development land during construction.

5.11.5 During the construction period of the Proposed Development, there will be no direct or indirect impact on the permitted planning application by Sperrin Galvanisers Ltd (Reference Number: 19633).

5.11.6 There are no residential land use areas directly or indirectly impacted by the operational phase of the Proposed Development.

5.11.7 The existing businesses located within proximity to the Site will remain unaffected directly and indirectly by the operational phase of the Proposed Development.

5.11.8 There are no lands zoned for industry or business which are directly impacted by the Site. There will be no indirect impacts to industry and business development land. The magnitude of impact during operation is unchanged (no impact) resulting in Neutral significance of impact.

5.11.9 No other planning applications (received or approved within the last five years) will be impacted directly or indirectly within the operational phase.

5.11.10 The relevant best practice mitigation measures will be in place during any decommissioning and demolition works, and the surrounding environment and receptors at the time of decommissioning. The decommissioning works will be similar in impacts to the construction phase and have been assessed accordingly. The Significance of impact is Neutral or Slight Adverse.

5.12 Population and Human Health

5.12.1 This chapter assessed the potential population and human health impacts with reference to the following EIAR Volume I chapters: Chapter 7: Air Quality and Climate, Chapter 11: Noise and Vibration, Chapter 12: Water Environment and Chapter 13: Soils and Geology. The conclusions were as follows:

Air Quality

5.12.2 The risk of impact from dust and particulates upon human receptors during construction has been classed as Low for the following activities: demolition; earthworks; construction; and track-out. This is due to the distance from the activity source to the receptors, and the existing low background concentration of particulates.

5.12.3 For operational impacts, the impact upon human receptors from NO_2 or CO from the Proposed Development emissions has been assessed. The impacts have been identified as Negligible due to not exceeding any Air Quality Standards.

Noise and Vibration

5.12.4 The impacts on residential (human) receptors from construction noise and vibration are assessed to be Negligible due to the Predicted Construction Sound Pressure Level being below the assessment criteria. Impacts on human health from the Construction Phase Traffic on the LP4310 Gurtymadden to Tynagh Road have been found to be Minor due to a 1.5dB increase in noise from road traffic. The N65 would experience a Negligible impact due to it only having a 0.3dB increase.

5.12.5 Mitigation has therefore been incorporated into the design so that no significant adverse impact is expected at residential receptor positions with regards to operational phase sound levels.

Water Environment

5.12.6 No direct construction adverse impacts to human health were identified in EIAR Volume I Chapter 12: Water Environment. Without mitigation during construction, adverse impacts could exist such as: spillages; contaminated and sediment laden site runoff; groundwater flooding; and changes to overland flow. However, the oCEMP details mitigation measures which will be employed before, during and after works. These measures include spill kits, installation of drainage system (which will include oil interceptors), and monitoring of surface water features.

5.12.7 Adverse impacts that could indirectly impact human health during the operational phase were identified, in particular, contamination of ground water (through sub-surface

contaminant migration), surface water from spills and flooding due to a change in impermeable surfaces. However, with the implementation of standard construction methods and mitigation measures, this risk will be effectively minimised.

Soils and Geology

5.12.8 In terms of adverse human health construction impacts related to soils and geology, temporary impacts could exist for off-site receptors, such as urban/ industrial land users, residents, and construction workers, through the inhalation of contaminated dust and dermal contact with contaminated soil following ground disturbance.

5.12.9 Adverse operational impacts relating to contamination of groundwater which could indirectly impact human receptors has been identified in EIAR Volume I Chapter 12: Water Environment. These would only occur in the event that standard construction practices were not adhered to or if mitigation was not implemented.

Employment

5.12.10 With regard to the construction phase, levels of employment will vary throughout the construction period. Local businesses will also benefit from the opportunity to supply materials and plant and equipment during the construction phase which will represent a significant capital investment. The impact would therefore likely be Moderate Beneficial during construction.

Population

5.12.11 The Proposed Development would have a Negligible impact upon the regional population of Galway during construction. However, a temporary increase in the number of workers during construction phase (potentially up to 200 at peak time) may require employees to stay in the local area. It is not expected this would have adverse impact, rather it may have a beneficial impact in terms of goods and services providers.

5.12.12 Once operational, the Proposed Development would not have an impact upon the local or regional population. Due to a projected increase in population, the Proposed Development would likely bring beneficial impacts in terms of a reliable power supply during periods of high demand in the future. This is pertinent due to the Regional Spatial and Economic Strategy Plan for compact growth in urbanised areas of Galway and the wider towns in the Northern and Western Regional Area.

5.13 Material Assets

5.13.1 The estimates of waste generated for the Proposed Development during construction demonstrate that the estimated tonnage produced for the Proposed Development would be Negligible (Not Significant).

5.13.2 Based on the topographical data of the existing Site and the Proposed Development layout and floor levels it is calculated that the site clearance and levelling of the site layout will require a fill importation requirement of 21,000m^3. The volume of excavation and cut on the brownfield site will be limited and it is proposed to export any excavated material off site.

5.13.3 In terms of significance, there will be a low sensitivity associated with these material assets. The magnitude of impact will be ‘no change’ as there will be no measurable change in utilities required. As a result, for this material asset, the significance of impact without mitigation will be Neutral.

5.13.4 During operation, the Proposed Development is required under the Grid Code to maintain a secondary fuel supply of approximately 5,200 tonnes (6,100m³) of distillate fuel which will be contained in tanks within a bunded area. The purpose of this secondary fuel is to ensure that power can still be supplied to the electricity network in the event of an interruption to supply from the gas connection. The secondary fuel will only be used in the unlikely event that both the gas connection is unavailable and the other generation on the transmission grid cannot meet demand.

5.13.5 A fuel treatment system will be included to remove any contaminants from the secondary fuel that may accumulate during storage, which will be collected in a tank contained within the bunded area prior to its safe disposal. The tank would be emptied when necessary, approximately twice per annum.

5.13.6 A fuel forwarding pump will forward the secondary fuel from the storage area to the plant when required.

5.13.7 The safe disposal of contaminants from the secondary fuel supply will not be significant in terms of amount or frequency.

5.13.8 As a result, and in line with the stated methodology presented in Chapter 17 this would represent a Negligible impact (no waste arisings) and thus is considered not significant.

5.13.9 In terms of other waste used as part of the operation and running of the Proposed Development, small quantities of other chemicals (i.e., lubrication oils, propane, CO_2, cleaning agents and glycol/ antifreeze) will also delivered to and from the Proposed Development. They are expected to be low and thus not considered significant.

5.13.10 In a worst-case scenario for a development of this type, the consumable wastes produced are considered Negligible when compared to the methodology outlined in Chapter 17. This is due to the fact that chemicals and effluents will increase in amount by less than 0.1% of current annual waste arisings in the region.

5.13.11 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. The majority of materials produced during decommissioning are likely to be concrete and steel, which are both likely to be recycled rather than disposed of.

5.14 Major Accidents and Disasters

5.14.1 The assessment of major accidents and disasters has concluded that a loss of containment of dangerous substances and subsequent fire and/ or explosion is the most credible potential accident which could occur at the Proposed Development.

5.14.2 Small quantities of these substances may be present during construction and their use will be controlled by the contractors' health, safety, and environmental management procedures.

5.14.3 The likelihood of a loss of containment of natural gas or distillate fuel which results in a fire and/ or explosion is low, however the consequences of such an event can be significant.

5.14.4 Fires and explosions can cause significant harm to people and the environment as a result of the direct effects of thermal radiation and overpressure, plumes containing harmful materials and firewater runoff containing distillate fuel and products of combustion. The Proposed Development will therefore be developed with installed

safety systems to prevent a loss of containment and subsequent fire and/ or explosion including:

- The design and construction of process equipment, structural assets and pipework systems to internationally recognised engineering standards and best practice;
- Use of welded pipework to minimise joints, installation of flange guards and routing pipework sections below ground to minimise the risk of accidental damage;
- Introduction of a planned, preventative maintenance and asset inspection regime to minimise the potential for failures and defects; and
- Site surfacing will be impervious in all areas where distillate fuel could be present and routed to process drainage systems where oil can be contained and removed should a release occur. Where distillate fuel pipes are routed underground, containment systems with leak detection are standard industrial practice. However, below ground sections should be avoided and minimised wherever practicable.

5.14.5 The inventory of substances including natural gas and distillate fuel present within equipment and pipework will be safely isolated and removed prior to dismantling and decommissioning.

5.14.6 The potential impact of natural disasters including climate change effects, such as rising temperatures, storms and flooding, has been considered with an assessment that the overall residual risk from these events causing a major accident as neutral or slight.

5.15 Cumulative Effects and Interactions

5.15.1 Other proposed developments that are also likely to be constructed and operated in the future, and that have the likelihood to generate cumulative environmental effects together with the Proposed Development, have been identified and are presented Table 5.1. Significant cumulative effects may be possible due to the nature of these developments (e.g., the potential to release emissions to air in the vicinity of the same receptors) or their location (e.g., close enough to the Proposed Development to affect the same receptors). Developments which have already been constructed are taken into account in each of the above topic-specific assessments.

5.15.2 The likelihood for cumulative effects with these other developments has been considered for all of the environmental topics by a review of the available information (including this EIAR and any detailed environmental modelling information where available). Through the consideration of the information available (at the time of assessment), it is concluded that there is no potential for any significant residual cumulative effects of the planning applications.

5.15.3 All other assessment topics have concluded that there is no likelihood for significant cumulative effects to arise as a result of the construction or operational phases of the Proposed Development when considered alongside the other identified developments.

5.15.4 Combined effects are defined as those resulting from a single development, in these circumstances the Proposed Development, on any one receptor that may collectively cause a greater effect (such as the combined effects of noise and air quality/ dust impacts during construction on local residents). Mitigation of combined effects is best achieved through management and control measures to prevent the individual impacts in the first instance or reduce the impacts themselves and therefore reduce the likelihood of such interactions occurring. On the basis of the findings in EIAR Volume I Chapter 19: Cumulative Effects and Interactions, it was considered that human/ residential and

ecological receptors will experience no significant combined effects as a result of dust, noise, water, road traffic, and visual during the construction, operational and decommissioning phases.

Table 5.1: Study Area –Relevant Planning Applications within the vicinity of the Proposed Development

PLANNING APPLICATION	DATE SUBMITTED	SUMMARY DETAILS	ADDRESS/ APPLICANT	STATUS
201972	18/12/2020	For the construction of a Dwelling House, Domestic garage, Treatment Unit, Percolation area and all associated site services. Gross floor space of proposed works: 270m^2.	C/o OPC Design & Planning, Main Street, Loughrea, Co. Galway	Granted (Conditional) 07/06/2021
212192	24/11/2021	For the construction of an OCGT plant (299MW) and associated infrastructure and buildings, to the west of the existing Tynagh Power Station site.	EP Energy Developments Ltd.	Approved by GCC (April 2022). Currently under appeal to An Bord Pleanála (ABP-313538-22)
19633	26/04/2019	To extend workshop and to complete all associated site works.	Sperrin Galvanisers (IRE) Ltd. Derryfrench	Granted (Conditional) 29/07/2019
18221	26/02/2018	To extend workshop and to complete all associated site works.	Sperrin Galvanisers (IRE) Ltd. Derryfrench	Granted (Conditional) 20/04/2018

Source: Galway County Council Online Planning System and An Bord Pleanála Online Planning System – dated 25th January 2023.

6.0 SUMMARY AND CONCLUSIONS

6.1.1 The EIAR explains the findings of the EIA process that has been undertaken for the Proposed Development. Table 6.1 below provides a summary of the significant environmental effects.

6.1.2 A number of environmental impact avoidance, design, and mitigation measures have been identified to mitigate and control environmental effects during construction and operation of the Proposed Development. These will be secured through appropriate requirements and other controls within the planning consent for the Proposed Development. Table 6.1 provides a summary of the residual impacts.

Table 6.1: Summary of Significant Environmental Effects

ENVIRONMENTAL TOPIC	RESIDUAL EFFECT
Air Quality and Climate	No significant effects identified for Air Quality. Moderate Adverse effects associated with GHG emissions during construction and operation phases *(refer to Section 5.3 of NTS)*
Cultural Heritage	No significant effects identified.
Biodiversity	No significant effects identified.
Landscape and Visual	Landscape effects will range from Slight to Moderate Adverse. Visual effects will range from Slight to Moderate Adverse.
Noise and Vibration	No significant effects identified.
Water and Environment	No significant effects identified.
Soils and Geology	No significant effects identified.
Traffic	Minor Adverse impacts associated with HGV construction traffic during construction phase. No significant effects identified during operational phase.
Land Use	No significant effects identified.
Population and Human Health	No significant effects identified.
Material Assets	No significant effects identified.
Major Accidents and Disasters	No significant effects identified.

7.0 GLOSSARY OF ABBREVIATIONS AND DEFINITIONS

7.1.1 The Glossary of Abbreviations and Definitions provided within the NTS to inform the reader is identical to the full Glossary of Abbreviations and Definitions provided in the EIAR Volume I - Table of Contents.

AADT	Annual Average Daily Traffic
ABP	An Bord Pleanála
AC	Alternating Current
ACA	Architectural Conservation Area
AGI	Above Ground Installation
AIRO	All-Island Research Observatory
AOD	Above Ordnance Datum
AQLV	Air Quality Limit Values
AQS	Air Quality Strategy
ASI	Archaeological Survey of Ireland
ASSI	Areas of Special Scientific Interest
ATC	Automated Traffic Count
BAT	Best available techniques
BCT	Bat Conservation Trust
BGL	Below Ground Level
BREF	Best Available Technique Reference
BS	British Standard
BTEX	Benzene, Toluene, Ethylbenzene and Xylene Compounds
BTO	British Trust for Ornithology
Building Standards Institute (BSI)	A non-profit organisation established for the purpose of providing consumer education in the field of residential construction.
CAFE	Clean Air For Europe Programme
CBD	Convention on Biological Diversity
CCGT	Combined Cycle Gas Turbine
CCTV	Close Circuit Television
CDP	County Development Plan
CEMP	Construction Environmental Management Plan
CEMS	Continuous Emission Monitoring Systems
CERC	Cambridge Environmental Research Consultants
CFRAM	Catchment Flood Risk Assessment and Management
CIBSE	Chartered Institution Building Services Engineers
CIEEM	Chartered Institute of Ecology and Environmental Management
CIRIA	Construction Industry Research and Information Association
CLP	Classification, Labelling and Packaging
CO	Carbon Monoxide
CO_2	Carbon Dioxide
COMAH	Control of Major Accident Hazards
COSHH	Control of Substances Hazardous to Health
CRTN	Calculation of Road Traffic Noise
CSE	Cable Sealing Ends

CSM	Conceptual Site Model
CTMP	Construction Traffic Management Plan
CUR	Connacht – Ulster Region
DAHG	Department of Arts, Heritage and the Gaeltacht's
DMP	Dust Management Plan
DMRB	Design Manual for Roads and Bridges
E&C Contractor	Engineering and Construction Contractor
EcIA	Ecological Impact Assessment
ECoW	Ecological Clerk of Works
ELV	Emissions Limit Value
EMS	Environment Management System
Environmental Impact Assessment (EIA)	The assessment of the environmental consequences of a plan, policy, program, or actual projects prior to the decision to move forward with the proposed action.
Environmental Impact Assessment Report (EIAR)	A publicly available document. It sets out the developer's own assessment of the likely environmental effects of his/her proposed development. It is prepared by the developer and submitted with his planning application.
EPA	Environmental Protection Agency
EPC	Engineering Procurement and Construction
EPH	Energetický A Prumyslový Holding
EPUKI	EP UK Investments
ERP	Emergency Response Plan
ESD	Emergency Shutdown
European Union (EU)	A political and economic union of Member States that are located primarily in Europe.
FRA	Flood Risk Assessment
Galway County Council (GCC)	A council body in Ireland
GCDP	Galway County Development Plan
GHG	Greenhouse gases
GLCA	Galway Landscape Character Assessment
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GNI	Gas Network Ireland
GPP	Guidance for Pollution Prevention
GQRA	Generic Quantitative Risk Assessment
GSI	Geological Survey Ireland
GSU	Grid step-up
GTS	Galway Transport Strategy
GWh	Gigawatt hours
HAZID	Hazard Identification
HAZOP	Hazard and Operability
Hectare	A unit measurement of area (100m x 100m).
Hectad	A hectad is an area 10 km x 10 km square
HGV	Heavy goods vehicle
HRA	Habitats Regulations Assessment
HSA	Health and Safety Authority
IAQM	Institute of Air Quality Management
IBC	Intermediate Bulk Containers
ICT	Information and Communications Technology

IEC	International Electrotechnical Commission
IED	Industrial Emissions Directive
IE License	Industrial Emissions License
IEMA	Institute of Environmental Management and Assessment
IGI	Institute of Geologists of Ireland
INSN	Irish National Seismic Network
ISO	International Standards Organisation
JTC	Junction Turning Count
LAN	Local Area Network
LARES	Local Authority Renewable Energy Strategy
LCA	Landscape Character Assessment
LDV	Low Duty Vehicle
LGV	Large Goods Vehicle
LOPA	Layers of Protection Analysis
LPG	Liquefied Petroleum Gas
LVIA	Landscape and Visual Impact Assessment
mAOD	Metres Above Ordnance Datum
$MtCO_2eq$	Million tons of CO_2 equivalent
MW	Mega Watt
NAC	Noise Advisory Council
NBDC	National Biodiversity Data Centre
NDP	National Development Plan
Nitrogen Dioxide (NO_2)	A chemical compound released through the combustion of fuel, often used as a proxy for air pollution.
NIAH	National Inventory of Architectural Heritage
NHA	National Heritage Areas
NLS	National Landscape Strategy
NMP	National Mitigation Plan
NMS	National Monuments Service
NO_x	Nitrogen oxides
NPF	National Planning Framework
NPWS	National Parks and Wildlife Service
NRA	National Roads Authority
NRMM	Non Road Mobile Machinery
NTS	Non – Technical Summary
OCGT	Open Cycle Gas Turbine
oCEMP	Outline Construction Environmental Management Plan
OS	Ordinance Survey
OSi	Ordnance Survey Ireland
PAH	Polyaromatic Hydrocarbons
Particulate Matter (PM_{10})	Atmospheric aerosol particles with a diameter of 10 micrometres or less.
Particulate Matter ($PM_{2.5}$)	Atmospheric aerosol particles with a diameter of 2.5 micrometres or less.
PC	Process Contribution
PCB	Polychlorinated biphenyls
PEA	Preliminary Ecological Appraisal
PEC	Predicted Environmental Concentration
PIR	Planning Issues Report

pNHA	Proposed National Heritage Areas
PPE	Personal Protective Equipment
PRF	Potential Roost Features
PSS	Planning Supporting Statement
RHM	Register of Historic Monuments
RMP	Record of Monuments and Places
RPE	Respiratory protective equipment
RPS	Record of Protected Structures
RSES	Regional Spatial and Economic Strategy
SAC	Special Area of Conservation
SFRA	Strategic Flood Risk Assessment
SID	Strategic Infrastructure Development
SO_2	Sulphur Dioxide
SPA	Special Protection Area
Square Metre (m^2)	A unit measurement of area.
tCO2e	Stands for tonnes (t) of carbon dioxide (CO2) equivalent (e)
TII	Transport Infrastructure Ireland
TPH	Total Petroleum Hydrocarbons
UK	United Kingdom
UPS	Uninterruptible Power Supplies
VOC	Volatile Organic Compounds
VT	Voltage Transformer
Water Framework Directive (WFD)	European Union directive which commits member states to achieve good qualitative and quantitative status of all water bodies.
WMA	Waste Management Act
ZoI	Zone of influence
ZTV	Zone of Theoretical Visibility

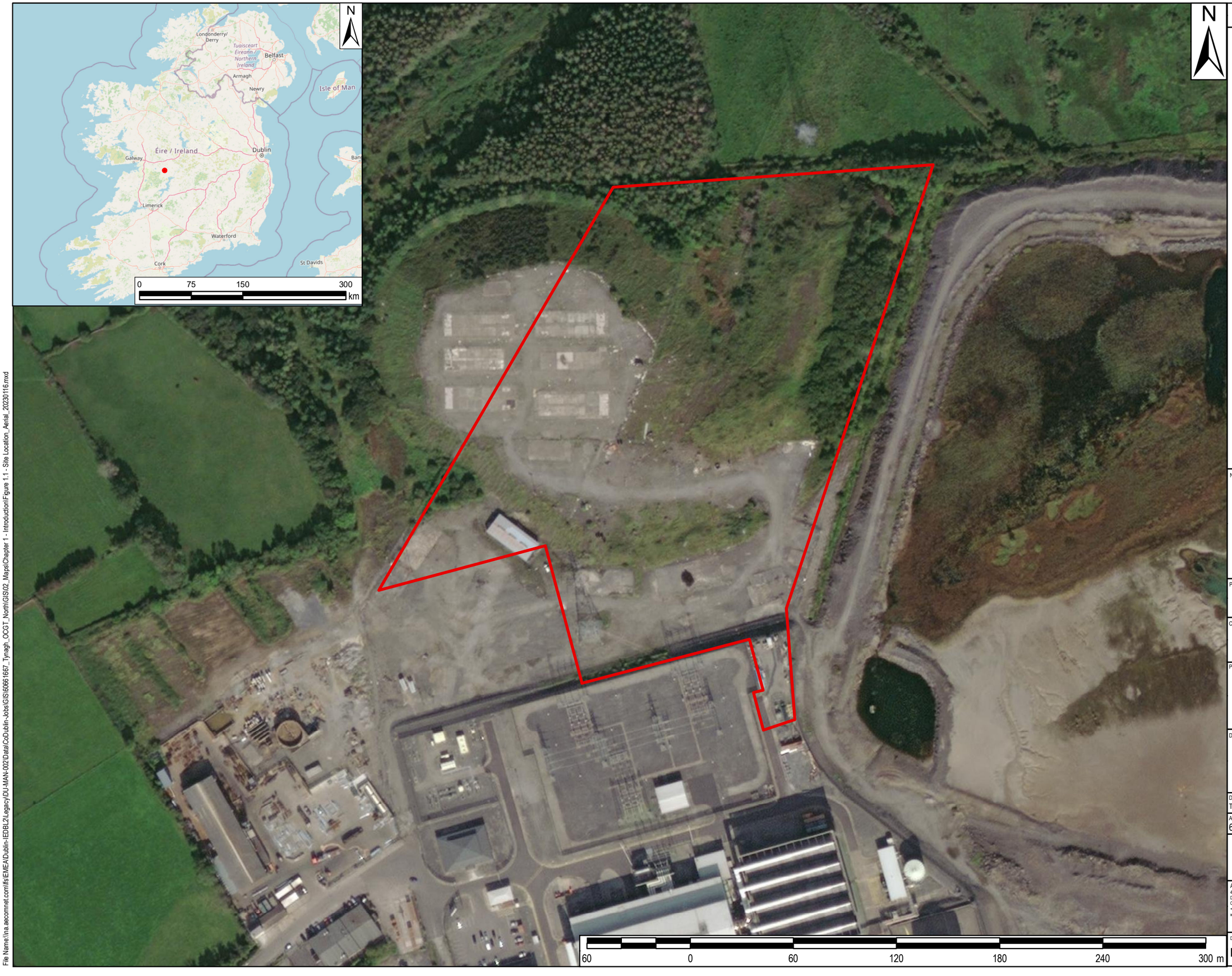
8.0 FIGURES

Figure 1.1 Site Location

Figure 4.1 Site Setting
Figure 4.2 Site Aerial
Figure 4.3 Residential Receptors
Figure 4.4 Overall Constraint Plan

TYN-TOD-ZZ-ZZ-DR-A-1004 Proposed Site Plan
S3577-8310-0004 OCGT Plan
TYN-TOD-ZZ-ZZ-DR-A-3001 Existing & Proposed Site Elevations (West & North)
TYN-TOD-ZZ-ZZ-DR-A-3002 Existing & Proposed Site Elevations (East & South)

*[**Note**: Figure Numbers for NTS are identical to numbering for Environmental Impact Assessment Report Figures (Volume III) to assist with cross referencing].*



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LEGEND

Proposed Development Site

Notes:

Purpose of Issue:
ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIAR)

Client:
EP **Energy Developments**

Project Title:
TYNAGH NORTH OCGT

Drawing Title:
SITE LOCATION

Drawn:	Chk'd:	App'd:	Issue:
TS	SM	POC	Jan 2023

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FIGURE 1.1	**0**

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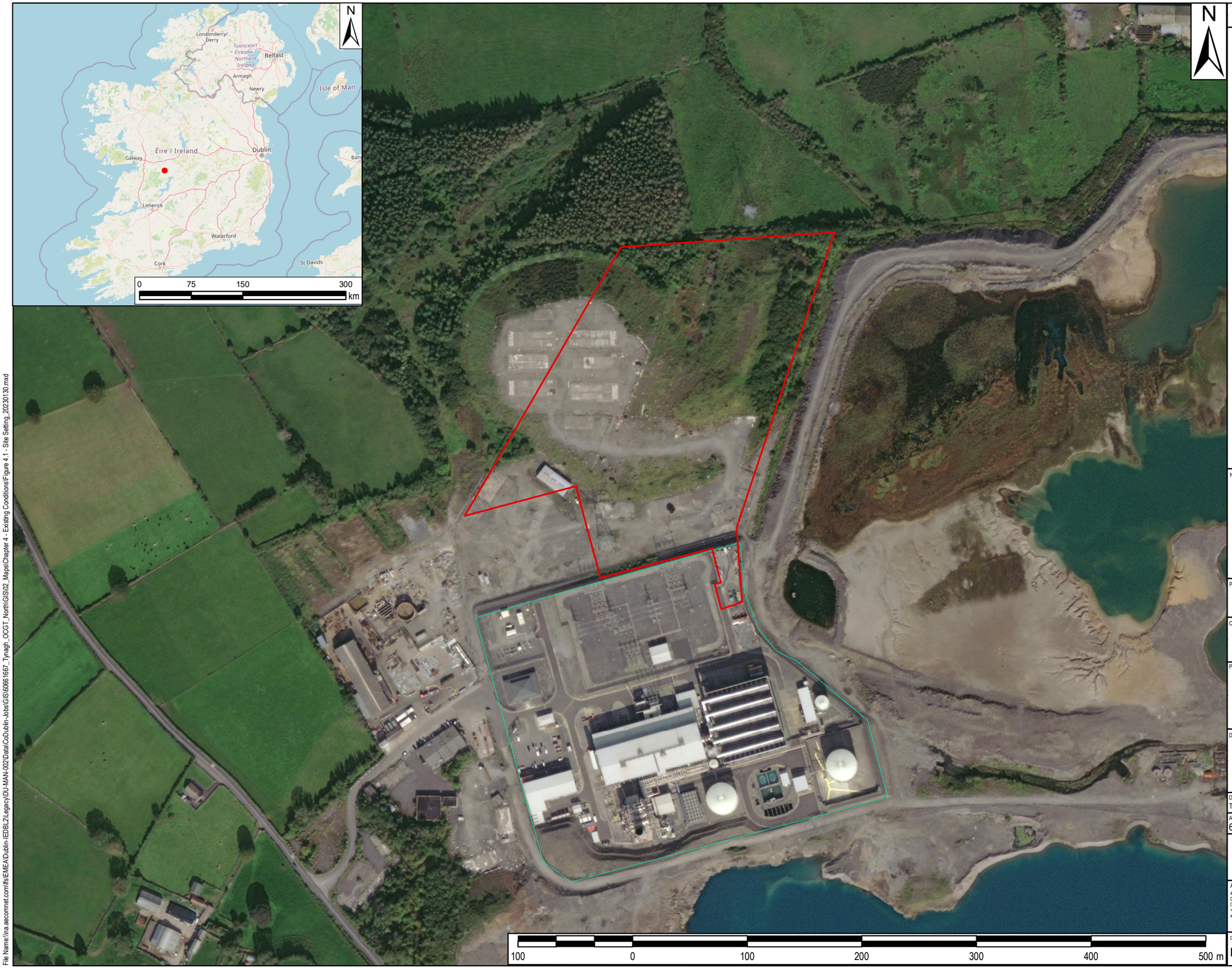

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LEGEND

- Proposed Development Site
- Tynagh Power Station

Notes:

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Purpose of Issue:
ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIAR)

Client:
EP **Energy Developments**

Project Title:
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Drawing Title:
SITE SETTING

Drawn:	Chk'd:	App'd:	Issue:
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FIGURE 4.1	**0**

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LEGEND

- Proposed Development Site
- Existing Tynagh Power Station Site
- Offsets

Notes:
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Purpose of Issue:
ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIAR)

Client:
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Project Title:
TYNAGH NORTH OCGT

Drawing Title:
SITE AERIAL

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LEGEND

- Proposed Development Site
- Existing Tynagh Power Station Site
- Offsets
- Residential Receptors

Notes:
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Purpose of Issue:
ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIAR)

Client:
EP **Energy Developments**

Project Title:
TYNAGH NORTH OCGT

Drawing Title:
RESIDENTIAL RECEPTORS

Drawn:	Chk'd:	App'd:	Issue:
TS	SM	POC	Jan 2023

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Rev: **0**

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LEGEND

- Proposed Development Site
- 5 km Site Buffer- Study
- Ancient Woodland
- River Network

Notes:

Purpose of Issue:
ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIAR)

Client:
EP **Energy Developments**

Project Title:
TYNAGH NORTH OCGT

Drawing Title:
OVERALL CONSTRAINT PLAN

Drawn:	Chk'd:	App'd:	Issue:
TS	SM	POC	Jan 2023

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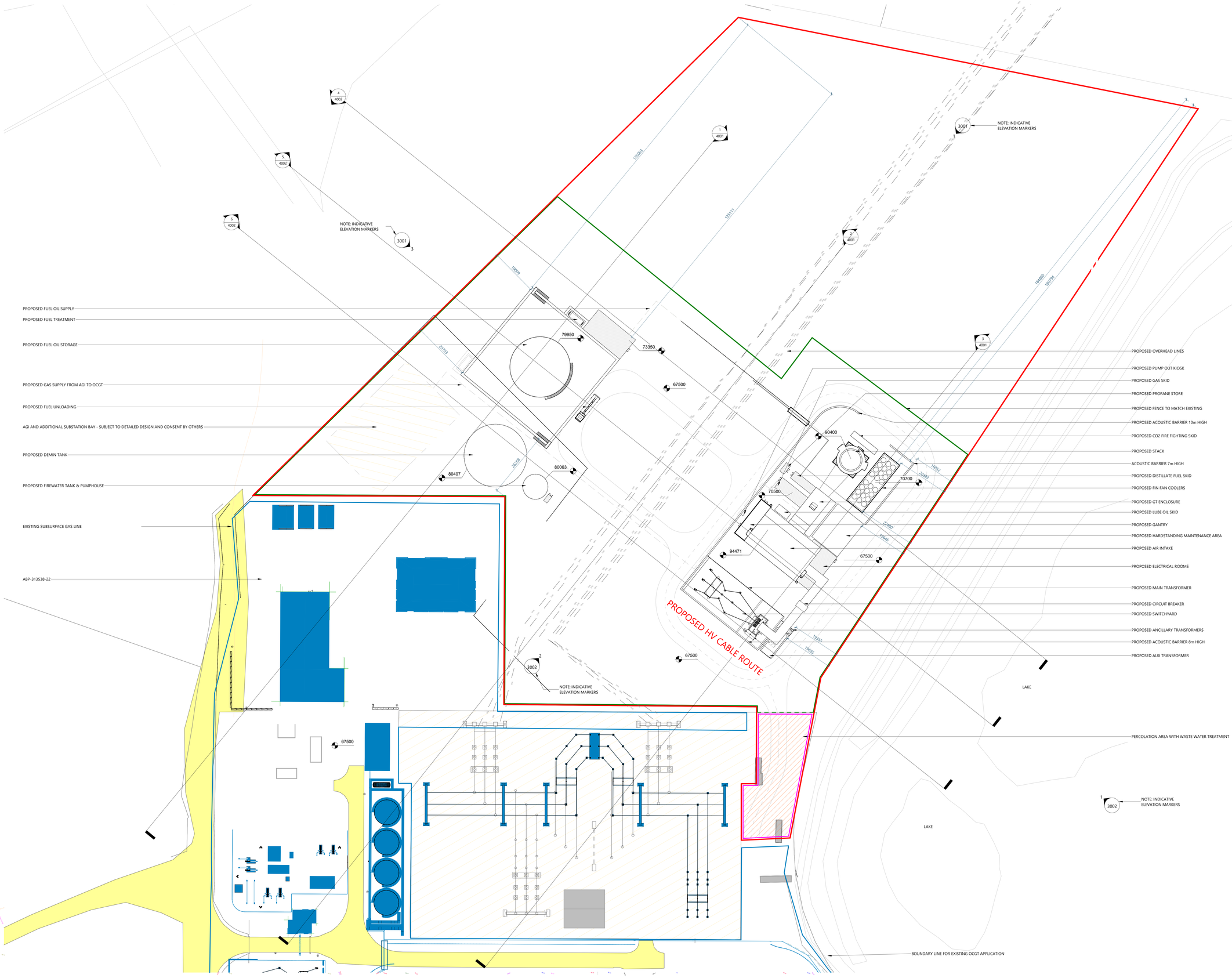
Co. Dublin, A96 T927
+353 (1) 238 3100
www.aecom.com

Drawing No: **FIGURE 4.4**

Rev: **0**

1 0 1 2 3 4 5 km

File Name:\\na.aecomnet.com\IfS\EMEA\Dublin-IEDBL2\Legacy\DU-MAN-0022\Data\CoDublin-Jobs\GIS\60661667_Tynagh_OCGT_North\GIS\02_Maps\Chapter 4 - Existing Conditions\Figure 4.4 - Overall Constraint Plan_20230110.mxd



1 **Proposed Site Plan Tynagh OCGT**
1 : 500

SCALE: 1:500 (0, 6.3 m, 12.5 m, 25.0 m)

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Do not scale from this drawing.

Use figured dimensions only.

NORTH SYMBOL

LEGEND:

- **SITE BOUNDARY TOTAL AREA 13.630Acre (55162.092sqm)**
- OHL — **OVERHEAD LINES**
- **EXISTING GAS LINE**
- **BLUE LINE BOUNDARY FOR EXISTING OCGT APPLICATION ABP APPEAL REF: 313538-22**
- **AGI & SUBSTATION - Subject To Detailed Design And Consent By Others**
- **PROPOSED FENCING TO MATCH EXISTING**
- **LOCATION OF PROPOSED ACCESS GATE**
- **PERCOLATION AREA WITH WASTE WATER TREATMENT**

Rev.	Date:	Description:	Drwn by:	Chkd by:
P04	010223	Revision based on comments 30.01.23		TODD
P02	230120	Tynagh North Revision		TODD
P01	231122	Issued for Coordination		TODD

Client:
EP ENERGY DEVELOPMENTS Ltd.

Project Name:
TYNAGH NORTH OCGT

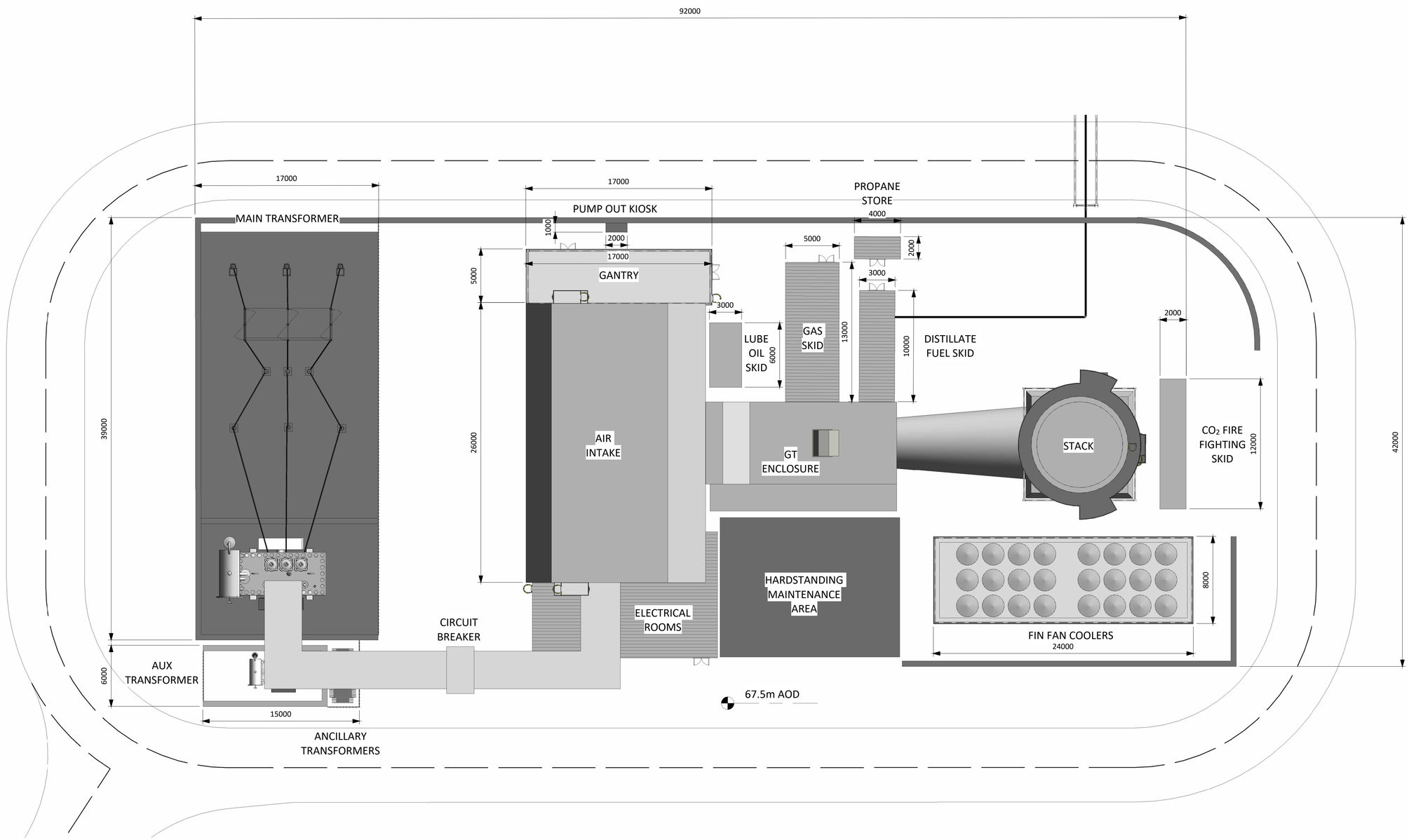
Drawing Title:
PROPOSED SITE PLAN

TODD Architects
2nd Floor Titanic House,
6 Queens Road, Belfast,
BT3 9DT
T: +44 (0) 28 9024 5587
E: info@toddarch.co.uk

Date:	Drwn by:	Chkd by:	Scale:	Page:
10/24/22	BS	PL	As indicated	A0

Project No:	Status:	Revision:
21024	FOR INFORMATION	P04

Drawing Number:
TYN-TOD-ZZ-ZZ-DR-A-1004



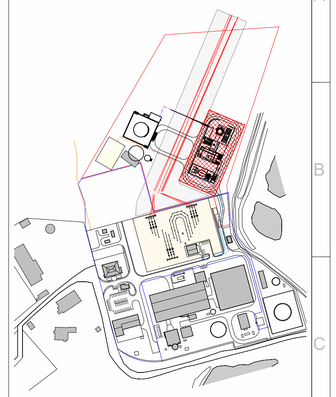
1 **OCGT Plan**
1 : 200

North

ALL INFORMATION ON THIS DRAWING IS SUBJECT TO REVISION AT DETAILED DESIGN

DO NOT SCALE

NOTES:



OCGT Key Plan
1 : 5000

GRAPHIC SCALE: 1:200

REV.	DETAILS OF REVISION	DRAWN	CHKD	APR	DATE
R3.0	PRELIMINARY	DTW	AO1	HHE	25.01.23
R2.0	PRELIMINARY	DTW	AO1	HHE	05.01.23
R1.0	PRELIMINARY	DTW	AO1	HHE	22.12.22

FICHTNER
CONSULTING ENGINEERS LIMITED
92 George's Street Lower
Dun Laoghaire
Co Dublin, A96 VR66
Tel: +353 (1)506 0632
Website: www.fichtner.ie

CLIENT: EPED

SITE: TYNAGH NORTH

PROJECT: TYNAGH NORTH

TITLE: OCGT PLAN

TODDS DRAWING No.:

DRAWING STATUS:	FOR PLANNING	
DRAWN BY:	DTW	DATE:21.12.22
CHECKED BY:	AO1	DATE:21.12.22
APPROVED BY:	HHE	DATE:21.12.22
FILENAME:	S3577-8910-0001DW Tynagh North OCGT R1.0	
OFFICE OF ISSUE:	DUBLIN	
SHEET SIZE:	A1	SCALE: 1:200

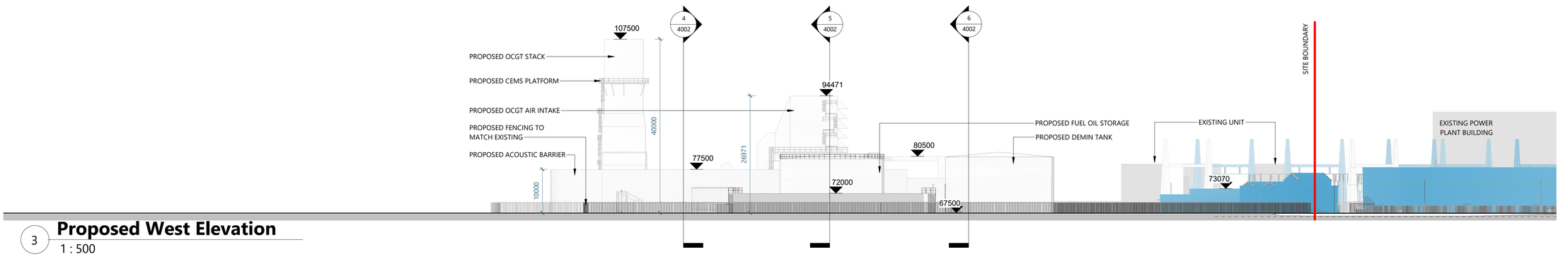
FICHTNER DRAWING No.: S3577-8310-0004
Sheet 1 of 1
REVISION: R3.0

0 6.3 m 12.5 m 25.0 m

SCALE: 1:500

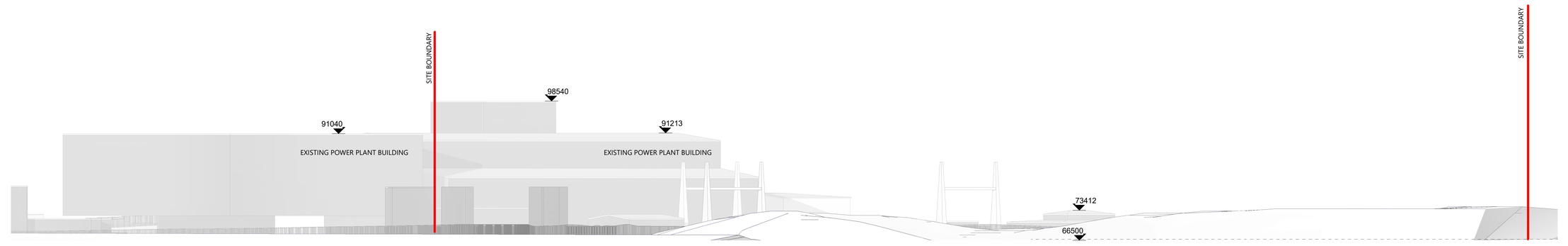
2 Existing West Elevation

1 : 500



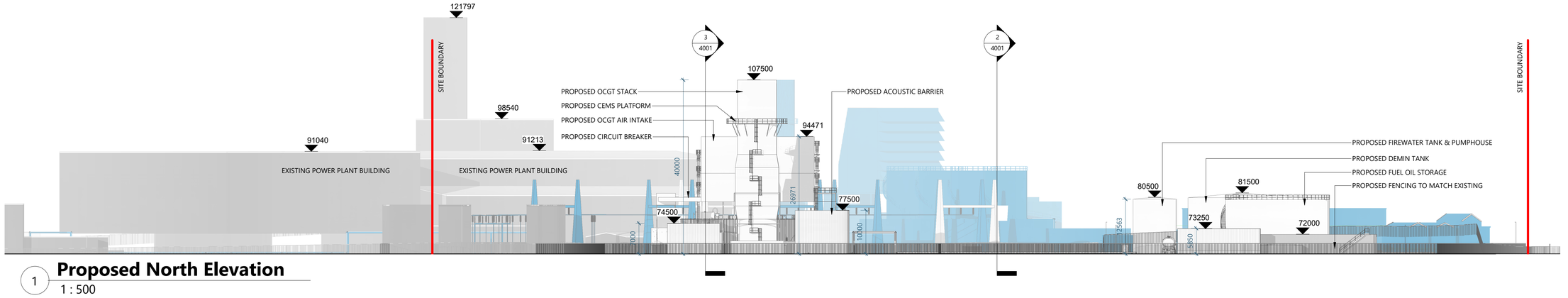
3 Proposed West Elevation

1 : 500



4 Existing North Elevation

1 : 500



1 Proposed North Elevation

1 : 500

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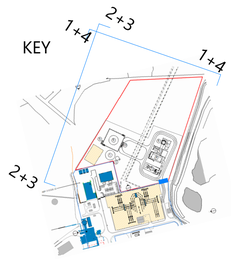
LEGEND:

SITE BOUNDARY

DELINIATES THE PROPOSED EXTENT OF FILL



Rev.	Date:	Description:	Drwn by:	Chkd by:
P04	010223	Revision based on comments 30.01.23		TODD

Client:

EP ENERGY DEVELOPMENTS Ltd.

Project Name:

TYNAGH NORTH OCGT

Drawing Title:

Existing + Proposed Site Elevations

TODD Architects
2nd Floor Titanic House,
6 Queens Road, Belfast,
BT3 9DT
T: +44 (0) 28 9024 5587
E: info@toddarch.co.uk

Date:	Dwn by:	Ckd by:	Scale:	Page:
12/11/21	AS	PL	As indicated	A1

Project No:	Status:	Revision:
21024	PLANNING	P04

Drawing Number:

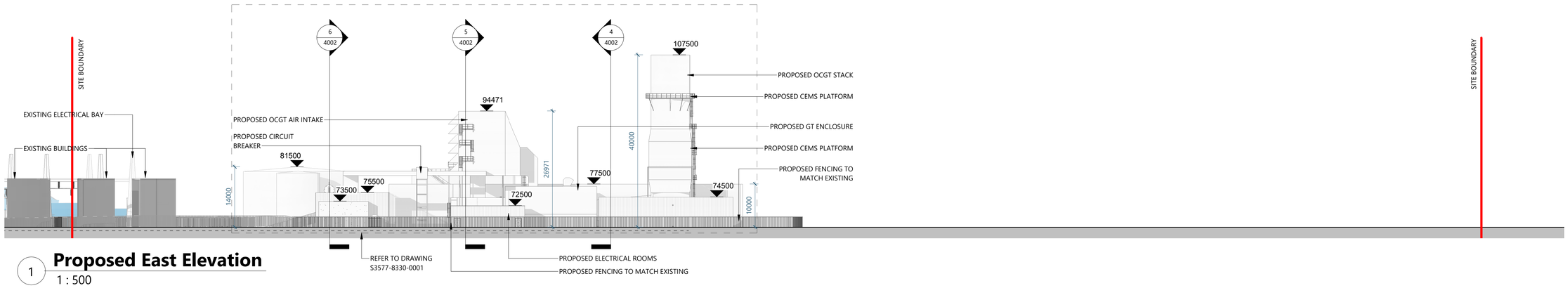
TYN-TOD-ZZ-ZZ-DR-A-3001

0 6.3 m 12.5 m 25.0 m

SCALE: 1:500

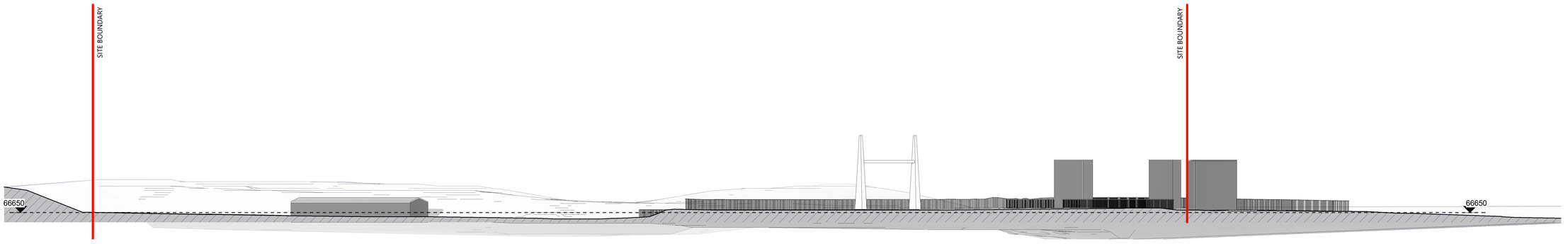
3 Existing East Elevation

1 : 500



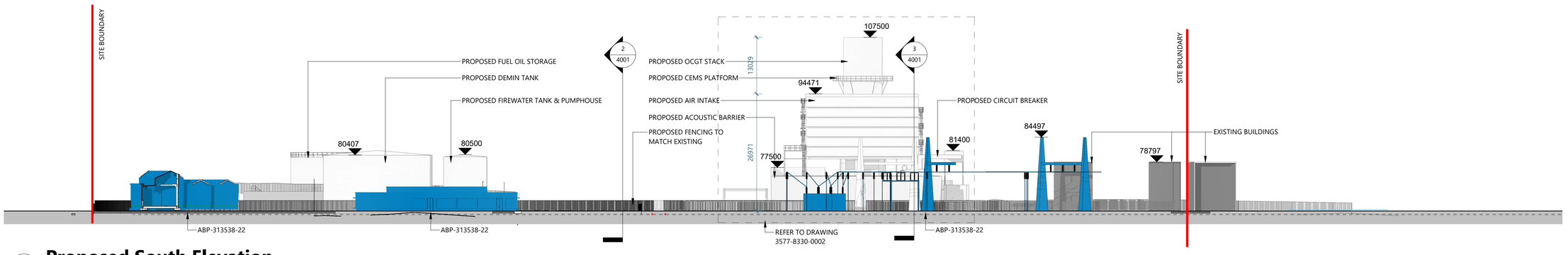
1 Proposed East Elevation

1 : 500



4 Existing South Elevation

1 : 500



2 Proposed South Elevation

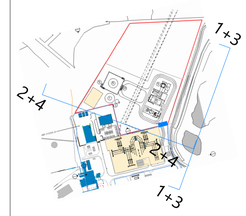
1 : 500

LEGEND:

SITE BOUNDARY

DELINIATES THE PROPOSED EXTENT OF FILL

KEY



Rev.	Date:	Description:	Drwn by:	Chkd by:
P04	010223	Revision based on comments 30.01.23		TODD
P03	260123	Revision based on 230123 Comments		TODD
P01	231122	Issued for Coordination		TODD

Client:
EP ENERGY DEVELOPMENTS Ltd.

Project Name:
TYNAGH NORTH OCGT

Drawing Title:
Existing + Proposed Site Elevations

TODD Architects
2nd Floor Titanic House,
6 Queens Road, Belfast,
BT3 9DT
T: +44 (0) 28 9024 5587
E: info@toddarch.co.uk

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Project No:	Status:	Revision:
21024	PLANNING	P04

Drawing Number:
TYN-TOD-ZZ-ZZ-DR-A-3002