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EIAR Addendum

Nua Bioenergy, Lisheen

Volume 2: Main Body

Prepared for: Nua Bioenergy Limited

March 2025

Document Control

Document:	EIAR Addendum - Volume 2
Project:	Nua Bioenergy, Lisheen
Client:	Nua Bioenergy
Project Reference:	P-2024-35-59

Document Issue and Check				
Issue	**Date**	**Status**	**Issued to:**	**Checked by:**
P_01_R1	21.02.2025	Draft Issue	DM	SD
P_01_R2	05.03.2025	Final Issue	DM	SD

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Volume 2:

01

Introduction

1.0 Introduction

1.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 1: Introduction** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 1 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

1.1.1 Details of Competent Experts

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Seamus Donohoe – Purser**
  MRUP, BAgrSc (Hons) Landscape Architecture, MRTPI, MIPI, MILI

- **Elizabeth Shannon – Purser**
  BA (mod) Geog, MRUP MRTPI

1.2 Request for Further Information

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 1 of the EIAR. RFI Item No. 7 states:

> *"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum..."*

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

1.3 Clarifications and Amendments

The requests for clarification and necessary amendments in relation to Chapter 1 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Volume 2, Chapter 1 remains unchanged.

1.3.1 Correction to Section 1.1, Paragraph Seven (Page No. 1-1 of the original EIAR)

The title of **'Chapter 2'** was incorrectly referenced in the original submission. This has been amended as follows:

> *"The approach to EIAR preparation, structure, and methodology is presented in **Volume 2, Chapter 2: EIA Process and Methodology** for the preparation of an EIAR (hereafter referred to as EIA and Methodology for the preparation of an EIAR chapter)."*

1.3.2 Correction to Section 1.3, Paragraph Three (Page No. 1-2 of the original EIAR)

The acronym **SuDS** was incorrectly formatted. The revised text is as follows:

> *"Supporting infrastructure includes a single-storey office building housing administration and welfare facilities, nine car parking spaces, EV charging infrastructure, bicycle parking, two weighbridges, a vehicle wash area, a fuel storage tank, an emergency flare, and site drainage with **sustainable urban drainage systems (SuDS)**. Additional site elements include a process area runoff lagoon, attenuation pond, boundary fencing, site lighting, hard and soft landscaping, and associated utility connections and site development works."*

1.4 Implications for the EIAR

The amendments outlined above do not materially change the assessment made in the EIAR or its conclusions.

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RECEIVED: 05/03/2025

Volume 2:

02

EIA Process and Methodology

EIAR Addendum: Nua Bioenergy, Lisheen
P-2024-35-59

2.0 EIA Process and Methodology

2.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 2: EIA Process and Methodology** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 2 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

2.1.1 Details of Competent Experts

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Seamus Donohoe – Purser**
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- **Elizabeth Shannon – Purser**
  2BA (mod) Geog, MRUP, MRTPI

2.2 Request for Further Information

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 2 of the EIAR. RFI Item No. 7 states:

> *"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum."*

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

2.3 Clarifications and Amendments

The requests for clarification and necessary amendments in relation to Chapter 2 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Volume 2, Chapter 2 remains unchanged.

2.3.1 Correction to Section 2.2.1, Paragraph Four (Page No. 2-1 of the original EIAR)

A duplicate instance of the word 'of' was mistakenly included in the first sentence. This has been corrected as follows:

> *"Accordingly, this EIAR contains all of the information prescribed by the relevant provisions of Article 5 and Annex IV to the EIA Directive, and Schedule 6 of the Planning Regulations. This EIAR has also been prepared with due regard to the guidance set out in Section 2.2.2 below."*

2.3.2 Correction to Section 2.2.2, Paragraph Two (Page No. 2-2 of the Original EIAR)

Information was duplicated in bullet point list and fourth bullet point was incorrectly formatted. This is amended as follows:

> *"This EIAR has also been prepared with due regard to the following guidance:*
>
> - *Department of Housing, Planning, Community and Local Government (2018) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018).*
> - *Department of Housing, Planning, Community and Local Government (2017) Circular PL 1/2017 – Implementation of Directive 2014/52/EU on the effects of certain public and private projects on the environment (EIA Directive): Advice on the Administrative Provisions in Advance of Transposition. (2017).*
> - *Department of Housing, Planning, Community and Local Government (2017) Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licensing Systems.*
> - *European Commission (1999) Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions."*

2.3.3 Correction to Section 2.3, Paragraph Eight (Page No. 2-5 of the Original EIAR)

Under the fourth bullet point, the word 'as' was included rather than 'an'. This is amended as follows:

> ***"Impact assessment**: The primary purpose of the EIAR is to identify, describe and present **an** assessment of the likely significant direct and/or indirect effects of a proposed project on the environment."*

2.3.4 Correction to Section 2.4, Paragraph Two (Page No. 2-5 of the Original EIAR)

The word 'an' was missing from the second sentence and has been added. The revised version is as follows:

> *"Annex I to 'EIA Directive' 2014/52/EU, as amended, requires as mandatory the preparation of an EIA for all developments listed therein. Projects listed in Annex II to the Directive are not automatically subjected to **an** EIA. However, Member States can decide to subject such developments to an assessment on a case-by-case basis or according to thresholds and/or criteria, for example size, location and potential impact."*

2.3.5 Correction to Section 2.10, Paragraph Three (Page No. 2-16 of the Original EIAR)

The term 'offshore wind farm development' was included in the final sentence but was not relevant to the project or text. It has been removed, as follows:

> *"Embedded mitigation measures are those that are identified and adopted as part of the evolution of the proposed development's design and operation of the project. Such measures are considered in the significance of effect assessment (i.e. they are assumed to form part of the design of the proposed development prior to any assessment). Embedded measures also include industry best practice that would be incorporated into most **biomethane and bio-based fertiliser production developments**."*

2.3.6 Correction to Section 2.13, Paragraph One (Page No. 2-17 of the Original EIAR)

The first sentence of the paragraph contained omitted words, resulting in unclear sentence structure. It has been revised as follows:

> ***"The inter-related effects (or interactions) between different environmental effects have been considered throughout the individual assessment chapters, referred to in the section titled 'Potential Effects' within the chapter**. The 'Potential Effects' section describes all direct, indirect and inter-related effects for the construction, operation and decommissioning phase as relevant*

throughout the EIAR as per Section 3.7.6 of the EPA 2022 guidelines EPA EIA guidance (2022), which states:"

2.4 Implications for the EIAR

The amendments outlined above do not materially change the assessment made in the EIAR or its conclusions.

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Volume 2:

03

Site Location and Context

EIAR Addendum: Nua Bioenergy, Lisheen
P-2024-35-59

3.0 Site Location and Context

3.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 3: Site Location and Context** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 3 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

3.1.1 Details of Competent Experts

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Seamus Donohoe – Purser**
  MRUP, BAgrSc (Hons) Landscape Architecture, MRTPI, MIPI, MILI

- **Elizabeth Shannon – Purser**
  BA (mod) Geog, MRUP, MRTPI

3.2 Request for Further Information

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 3 of the EIAR. RFI Item No. 7 states:

> *"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum:"*

RFI Item No. 7 (i) is applicable in relation to Volume 2, Chapter 3 of the EIAR. RFI Item No. 7 (i) states:

(i) *Chapter 3 of the EIAR references the nearest residence as 750 metres to the west. This appears an error, is not consistent with the information shown on the Site Separation Distances drawing and requires clarification"*.

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

3.3 Clarification and Amendments

The requests for clarification and necessary amendments in relation to Chapter 3 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Volume 2, Chapter 3 remains unchanged.

3.3.1 Correction to Section 3.2, Paragraph Two (Page No. 3-3 of the Original EIAR)

The quoted distance between the site boundary and the Cooleeny Stream was incorrect. This has been corrected as follows:

> *"The sealed historic mine entrance is located on the western portion of the site, and the Cooleeny Stream flows* ***approximately 20 metres to the south of the main application site area. However, the application site (redline boundary) extends via a narrow strip of land to the Cooleeny Stream to enable the provision of a surface water discharge point for surface water runoff. Prior to construction, a headwall will be installed at this interaction point to anchor the drainage pipe and prevent bank erosion****."*

3.3.2 Correction to Section 3.2, Paragraph Five (Page No. 3-3 of the Original EIAR)

The quoted distance between the nearby Revive Environmental development and the site boundary was incorrect. This has been corrected as follows:

> *"Revive Environmental is constructing a facility (permitted under TCC Reg. Ref. 21709) near the main site entrance, approximately* ***1.3km*** *to the southeast."*

3.3.3 Correction to Section 3.2.1, Paragraph Two (Page No. 3-4 of the Original EIAR)

The quoted distance between the nearest residence to the west and the site boundary was incorrect. This has been corrected as follows:

> *"The nearest residence is situated approximately **373 metres** to the west."*

Clarification regarding measurement: The revised measurement between the site boundary and the nearest residential property was taken using the measurement tool on Google Earth Pro. The measurement was taken from the centre of the western boundary which was deemed to be the closest point.

EIAR Item 7(i) notes that the distance quoted between the nearest residence and the site boundary in Volume 2, Chapter 3 of the EIAR is inconsistent with the distance shown on the Site Separation Drawing (Ref: 2429-DOB-XX-SI-DR-C-003) submitted as part of the planning application.

For clarification, the Site Separation Drawing (Ref: 2429-DOB-XX-SI-DR-C-003) illustrates the distance between the gas upgrading and filling area and the nearest residential dwelling, whereas the measurement cited in Section 3.2.1 refers to the distance between the site boundary and the nearest residential dwelling.

3.3.4 Correction to Section 3.4, Bullet Point (d) (Page 3-6 of the Original EIAR)

The quoted distance between the nearby Revive Environmental development and the site boundary was incorrect. This has been corrected as follows:

> *"(d) Revive Environmental Facility (Tipperary Co. Co. Reg. Ref. 21709): This facility, approximately 1.3 km from the application site, includes a large industrial building for mechanical assembly and administration, with supporting infrastructure for water, solar power, and emergency storage."*

3.3.5 Correction to Section 3.5.1, Paragraph One (Page 3-7 of the Original EIAR)

The published date for the Infrastructure Design Report was noted inaccurately. This has been corrected as follows:

> *"The site is relatively flat with a gentle slope south-eastward towards the Cooleney Stream. Ground elevations range from approximately 131.10 meters above Ordnance Datum (mOD) along the northwest boundary to around 125.8 mOD at the southernmost extent near the Cooleney Stream (DOBA, 2024). (Please refer to **Drawing No. 2429-DOB-XX-XX-DR-C-0010 Rev P01** and the **Infrastructure Design Report** Ref. 2429-DOB-XX-SI-RP-C-0001 **dated October 2024** enclosed as part of the Application.)"*

3.3.6 Correction to Section 3.5.4, Paragraph One (Page 3-8 of the Original EIAR)

The published date for the Infrastructure Design Report was noted inaccurately. This is amended as follows:

> *"There is no public surface water network near the site. Runoff currently drains through infiltration into the aquifer and overland flow into the Cooleeny Stream, approximately 20 meters to the south of the principal application site. (DOBA, 2024). As noted above, the application site boundary extends southwards here for the purposes of providing an outfall connection to the Cooleeny Stream. (Please refer to the* ***Infrastructure Design Report*** *Ref. 2429-DOB-XX-SI-RP-C-0001 dated* ***October 2024*** *enclosed as part of the Application.)"*

3.3.7 Correction to Section 3.5.5, Paragraph One (Page 3-8 of the Original EIAR)

The published date for the Infrastructure Design Report was noted inaccurately. This is amended as follows:

> *"A private 75mm water main, managed by the Moyne Group Water Scheme, runs along the southern boundary of the site, providing water access as part of existing infrastructure (DOBA, 2024). Please refer to the* ***Infrastructure Design Report*** *Ref. 2429-DOB-XX-SI-RP-C-0001 dated* ***October 2024*** *enclosed as part of the Application.)"*

3.4 Implications for the EIAR

The amendments outlined above do not materially change the assessment made in the EIAR or its conclusions.

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Volume 2:

04

Legal and Policy Framework

EIAR Addendum: Nua Bioenergy, Lisheen
P-2024-35-59

4.0 Legal and Policy Framework

4.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 4: Legal and Policy Framework** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 4 of the original EIAR, as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

4.1.1 Details of Competent Experts

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Seamus Donohoe – Purser**
  MRUP, BAgrSc (Hons) Landscape Architecture, MRTPI, MIPI, MILI

- **Elizabeth Shannon – Purser**
  BA (mod) Geog, MRUP, MRTPI

4.2 Request for Further Information

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 4 of the EIAR. RIF Item No. 7 states:

> *"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum."*

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

4.3 Clarifications and Amendments

The requests for clarification and necessary amendments in relation to Chapter 4 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Volume 2, Chapter 4 remains unchanged.

4.3.1 Correction to Section 4.3.1, Paragraph One (Page 4-6 of the Original EIAR)

The timeline regarding the publication of the Draft First Revision to the National Planning Framework was not clear. This is amended as follows:

> *"The National Planning Framework (NPF)[2] was adopted in 2018 and is the overarching policy and planning strategy for the social, economic, and cultural development of Ireland. In June 2023, work began to prepare a first revision of the NPF, initially scheduled for completion in April 2024 but later deferred to June 2024. A Draft First Revision to the National Planning Framework was published in July 2024 for public consultation, which took place from 10 July 2024 to 12 September 2024."*

4.3.2 Correction to Section 4.3.6, Paragraph Four (Page 4-14 of the Original EIAR)

The word 'form' was used in the first sentence rather than 'farm'. This was amended as follows:

> *"The Plan acknowledges the role of the circular economy and particularly the bioeconomy, and opportunities for residues and agriculture residues such as **farm** crops, animal, and dairy by products to be used to produce biomaterials and biochemicals through biorefining or to produce heat and/or power through combustion or AD. The NMP identifies the role that anaerobic digestion can play in contributing to the bioeconomy in particular, and the circular economy in general:"*

4.3.3. Correction to Section 4.3.9, Paragraph One (Page 4-17 of the Original EIAR)

The acronym 'GNI' was used instead of the full title 'Gas Networks Ireland.' This has been corrected as follows:

> *"While not a policy or guidance document, the Biomethane Energy Report was published by **Gas Networks Ireland**, who are the public body responsible for connecting customers to the gas network and for connecting developments such as the proposed development to the grid. The*

[2] Government of Ireland (2020) National Planning Framework: www.gov.ie/pdf/?file=https://assets.gov.ie/246231/39baaa8c-48dc-4f24-83bd-84bbcf8ff328.pdf#page=null

Energy Report provides a detailed insight into the potential for biomethane production in Ireland. The Gas Networks Ireland (GNI) Biomethane Report 21 provides a rationale for accelerating biomethane production in Ireland and states the following:"

4.4 Implications for the EIAR

The amendments outlined above do not materially change the assessment made in the EIAR or its conclusions.

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Volume 2:

05

Consideration of Reasonable Alternatives

EIAR Addendum: Nua Bioenergy, Lisheen
P-2024-35-59

5.0 Consideration of Reasonable Alternatives

5.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 5: Consideration of Reasonable Alternatives** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 5 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

5.1.1 Details of Competent Experts

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

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- **Elizabeth Shannon – Purser**
  BA (mod) Geog, MRUP MRTPI

5.2 Request for Further Information

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 5 of the EIAR. RFI Item No. 7 states:

> *"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum."*

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

5.3 Clarifications and Amendments

The requests for clarification and necessary amendments in relation to Chapter 5 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Volume 2, Chapter 5 remains unchanged.

5.3.1 Correction to Section 5.5.2.3, Bullet Point (m) (Page 5-12 of the Original EIAR)

The incorrect distance between the Cooleny Stream and the site was listed. This is amended as follows:

> ***"(m) Proximity to Suitable Water Course or Sewer***
> *The Cooleney Stream is located approximately 20 metres south of the site, providing proximity to a watercourse for drainage purposes without risk of contamination due to distance and containment measures."*

Clarification regarding distance: Section 5.5.2.3, within the Rationale to Support Site Selection, outlines the reasoning behind the identification of the proposed development site at the former Lisheen Mine. The stated distance between the site (under consideration) and the Cooleeny Stream is a factual reference. It refers to the main site area available for the construction of the biomethane plant, rather than the application site boundary.

(However, as noted above, the application site (redline boundary) extends via a narrow strip of land to the Cooleeny Stream to enable the provision of a surface water discharge point for surface water runoff. Prior to construction, a headwall will be installed at this interaction point to anchor the drainage pipe and prevent bank erosion.)

5.4 Implications for the EIAR

The amendments outlined above do not materially change the assessment made in the EIAR or its conclusions.

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Volume 2:

06

Description of the Proposed Development

6.0 Description of Proposed Development

6.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 6: Description of Proposed Development** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 6 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

6.1.1 Details of Competent Experts

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

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- **Elizabeth Shannon – Purser**
  BA (mod) Geog, MRUP MRTPI

6.2 Request for Further Information

RFI Item No. 6 is applicable in relation to Volume 2, Chapter 6 of the EIAR. RFI Item No. 6 states:

> *"Notwithstanding the intermittent references to decommissioning throughout the Environmental Impact Assessment Report (EIAR), it is noted that no proposals have been submitted for this phase. The applicant is requested to confirm the intended operational lifespan of the development and to address the requirement for proposals for decommissioning as appropriate.*
>
> *In the event that a decommissioning phase is to be included, the applicant is requested to update all sections of the EIAR and appropriate supporting documentation to take account of this phase."*

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 6 of the EIAR. RFI Item No. 7 states:

> *"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum."*

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

6.3 Clarifications and Amendments

The requests for clarification and necessary amendments in relation to Chapter 6 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Volume 2, Chapter 6 remains unchanged.

6.3.1 Correction to Section 6.2, Paragraph Two (Page 6-1 of the Original EIAR)

The stated distance between the site boundary and the Cooleeny Stream was incorrect. This has been corrected as follows:

> *"Spanning approximately 5.5 hectares, the application site is classified as 'brownfield', having previously operated as a lead-zinc-silver mine until mining ceased in 2015. Since rehabilitation and levelling, which occurred between 2016 and 2018, the application site has remained largely vacant and is characterised by recolonised scrub and ground vegetation, with a mature hedgerow along its western boundary. The historic mine entrance, now sealed with concrete, is situated in the western part of the site,* ***while the Cooleney Stream flows approximately 20 metres to the south of the main application site area. However, the application site (redline boundary) extends via a narrow strip of land to the Cooleeny Stream to enable the provision of a surface water discharge point for surface water runoff. Prior to construction, a headwall will be installed at this interaction point to anchor the drainage pipe and prevent bank erosion."***

6.3.2 Correction to Section 6.2, Paragraph Five (Page 6-2 of the Original EIAR)

The quoted distance between the nearest residence to the west and the site boundary was incorrect. This has been corrected as follows:

> *"The surrounding area includes a mix of agricultural, residential, and industrial features. The Bruckana and Lisheen Mine wind farms are large-scale renewable energy projects situated on former industrial and boglands in County Tipperary, featuring a combined 42 wind turbines. The site is surrounded by extensive farmland, with low-density residential properties along nearby roads. The nearest residence is located approximately **373 metres** to the west."*

Clarification regarding distance: The revised measurement between the site boundary and the nearest residential property was taken using the measurement tool on Google Earth Pro. The measurement was taken from the centre of the western boundary which was deemed to be the closest point.

EIAR Item 7(i) notes that the distance quoted between the nearest residence and the site boundary in Volume 2, Chapter 3 of the EIAR is inconsistent with the distance shown on the Site Separation Drawing (Ref: 2429-DOB-XX-SI-DR-C-003) submitted as part of the planning application.

For clarification, the Site Separation Drawing (Ref: 2429-DOB-XX-SI-DR-C-003) illustrates the distance between the gas upgrading and filling area and the nearest residential dwelling, whereas the measurement cited in Section 3.2.1 refers to the distance between the site boundary and the nearest residential dwelling.

6.3.3 Corrections to Section 6.7.5.1, Paragraph One, bullet point two (Page 6-13 of the Original EIAR)

The listed road on the construction traffic route was incorrect. This has been corrected as follows:

> *"The site is strategically positioned to ensure construction traffic can access it via well-suited routes. The nearest primary road infrastructure includes direct access from the M8 at Junctions 4, 5, and 6. All HGV construction traffic shall follow the same designated routes in place for all other construction traffic. The proposed Routes are:*
>
> - *To / from the north-east via the L4115, L3201, R639 and M8 J4; and*
> - *To / from the south-west via the L4115, L3201, **R639** and M8 J6."*

6.3.4 Corrections to Section 6.8.2.15, Paragraph Two (Page 6-30 of the Original EIAR)

The word 'litres' was misspelled. This has been corrected as follows:

"A 50mm connection from the 75mm Group Water Scheme main will supply the site office and administration building, supporting an estimated daily use of c. 360 ***litres*** *for up to six permanent staff. Firefighting water will be supplied separately via rainwater harvesting."*

6.3.5 Corrections to Section 6.8.2.15, Paragraph Four (Page 6-30 of the Original EIAR)

The word 'litres' was misspelled. This has been corrected as follows:

"The facility must maintain a firefighting water supply capable of delivering 35 ***litres*** *per second for 120 minutes. Since no public hydrant system is available, a 310 m^3 permanent water storage volume, filled by rainwater runoff, will serve firefighting needs. This volume will be retained within the site's attenuation basin, which can be used directly for firefighting draw-down during emergencies."*

6.3.6 Corrections to Section 6.8.2.16, Paragraph Three (Page 6-30 of the Original EIAR)

The word 'litres' was misspelled. This has been corrected as follows:

"The proposed pumping station will be a custom-designed package plant sized to handle daily wastewater loads for six staff, with a total estimated load of 360 ***litres*** *per day. The system will also include a sump or tank providing 24-hour emergency storage of 0.36 m^3. With the biomethane process reusing all wastewater produced, no external wastewater discharge is required."*

6.3.7 Additional Text – New Section 6.9 (to be inserted as below on Page 6-33 of the Original EIAR)

To address RFI Item No. 6, a **Decommissioning Plan (Ref: 2429-DOB-XX-SI-RP-C-0005), dated February 2025**, has been prepared by Donnachadh O'Brien & Associates Consulting Engineers (DOBA) (please refer to **Volume 3, Appendix 6.1**). This plan outlines the decommissioning strategy for the proposed biomethane and bio-based fertiliser production facility at Lisheen.

As a result of the Decommissioning Plan being prepared, Chapter 6 – Description of Proposed Development has been updated to include a new section:

- **Section 6.9 – Decommissioning Phase**

This addition has led to the re-numbering of subsequent sections in the original EIAR (see Section 6.3.7.1 - Clarification of Revised Section Numbering – below). The Decommissioning Plan prepared by DOBA and submitted as part of the Response to Request for Further Information enclosed at **Volume 3, Appendix 6.1** should be referenced for a detailed explanation of the decommissioning process.

The text below in **'green'** forms the **new Section 6.9** and is being added as further information for Chapter 6: Description of Proposed Development, specifically outlining the Decommissioning Phase. This new content should be read alongside the original EIAR Chapter, which was submitted in November 2024, and follows the existing sections leading up to Section 6.9. (The previous Section 6.9, along with all subsequent sections, has been renumbered to accommodate the addition of the new Section 6.9 – Decommissioning Phase (see Section 6.3.7.1 below).)

"6.9 Decommissioning Phase

*The Decommissioning Plan (Ref: 2429-DOB-XX-SI-RP-C-0005), prepared by Donnachadh O'Brien & Associates Consulting Engineers and dated February 2025, (enclosed in **Volume 3, Appendix 6.1)** outlines the approach to decommissioning the proposed biomethane and bio-based fertiliser production facility at Lisheen and sets out measures to mitigate potential environmental impacts during this phase.*

The Decommissioning Plan is an outline plan, reflecting the current understanding of best practice, legislation, and environmental controls. As the decommissioning phase is expected to occur in approximately 30 years' time, it is acknowledged that environmental standards, regulatory requirements, and best practice may evolve significantly. For this reason, the plan is designed as a live document, which will be reviewed, updated, and finalised by the appointed contractor prior to decommissioning. This update will ensure the plan reflects the contemporary legislation, guidelines, and environmental controls applicable at that future date.

6.9.1 Objectives of the Decommissioning Phase

The key objectives of the Decommissioning Plan are inter alia to:

- *Ensure that all decommissioning works comply with the mitigation measures set out in the Environmental Impact Assessment Report (EIAR) and Natura Impact Statement (NIS).*
- *Minimise disruption and inconvenience to local landowners and the surrounding community.*
- *Use appropriately qualified decommissioning contractors with trained personnel.*
- *Maximise the reuse and recycling of materials where possible.*
- *Avoid any pollution of the environment, with a particular focus on watercourses and the adjacent Cooleeny Stream.*

The Decommissioning Plan outlines that a qualified contractor will be employed for the duration of the decommissioning of the site. The approved contractor will adhere to the principles of the Construction and Environmental Management Plan (CEMP) which was established for the construction phase. This will ensure that that all mitigation measures set out within the CEMP and Decommissioning Plan will be rigorously implemented as a result there will be minimal disruption

for the local community; reuse of materials where possible; and health and safety will be of the utmost importance.

6.9.2 Decommissioning Approach and Methodology

The decommissioning process is planned to occur in nine key stages, as summarised below:

1. Decommissioning Transport Route

The proposed vehicular route for the decommissioning HGVs will be the same as used for the construction phase.

2. Disconnecting Existing Utilities

Before any decommissioning or demolition work can commence on site, all live site services will be disconnected. Any live pressurised mains, such as gas pipework, will be purged in such a manner that the environment is not impacted adversely. The surface water element of the site will remain in place until later in the decommissioning process. However, care will be taken to ensure there are no impacts on the adjacent Cooleeny Stream. Items such as underground cabling will be removed but the ducting will remain in-situ.

3. Emptying digestors and storage facilities of all stored materials/products

All Digestors and storage facilities will be emptied out with any raw materials removed from the site and disposed of in a safe and appropriate manner at a licenced waste facility. The structures located within the bund will be emptied by an enclosed tanker and transported to a licenced waste facility prior to the demolition of all structures on site.

4. Removal of specialist equipment and plant

Specialist equipment, such as the gas upgrading units, CHP, Feed hoppers and other ancillary plant will be fully purged (where gas is applicable) and sprayed down to remove any possible debris. These will be disassembled and parts will be carted off-site to a licensed scrap metal, waste or recycling facility as required.

5. Demolition and removal of buildings

All buildings, sub-structures and foundations will be completely removed from the ground. This will include excavation of deeper foundations and bund walls and concrete crushing. There is potential for the soil stored on site in mounds post construction phase to be used during the decommissioning phase.

6. Removal of internal access roads and concrete yards

All of the internal access roads will be utilised during the demolition and decommissioning stage of the project. At the end of the decommissioning period, these roads will be fully reinstated and levelled as required.

7. Grubbing up underground drainage and services

The removal of the site drainage will be a phased removal, closely following the removal schedule of the buildings and yards. The phased process will ensure that the areas yet to be demolished will have live drainage and primary filtering prior to outfalling into the stream to the south. Once the full site drainage has been removed, the ponds can be filled and levels brought to the original pre development condition. The site-wide drainage pipes and manholes will be disposed of at a licensed waste facility.

8. Backfilling and levelling of surfaces

As part of the decommissioning works, existing landscaped berms will be levelled and the fill re-used for reinstatement and filling of the bund and deep storage ponds. Following the levelling of the subject site to the pre-development condition, the full site is proposed to be reinstated and reseeded to match the natural growth of the local environs of the larger Lisheen area. In order to assist the subject site in reverting to pre-development conditions some imported soil will be required for seeding purposes.

9. Re-seeding of final surface

The proposed final condition of the site is to be grass-seeded with ground levels reflecting the pre development arrangement, essentially re-creating a green field condition. It is therefore considered that formal drainage of the final post-decommissioned site will not be required as the site will return to greenfield runoff conditions.

6.9.3 Environmental Management During Decommissioning

To ensure that the decommissioning phase does not cause any adverse environmental impacts, all works will be carried out in accordance with the Construction and Environmental Management Plan (CEMP) and the mitigation measures set out in the EIAR and Natura Impact Statement (NIS). Key environmental controls include:

- ***Site Drainage***

Site drainage infrastructure will remain on site and be removed in phases. The phases will be set out within the final Decommissioning Plan as agreed with the Local Authority.

- ***Refuelling, Fuel and Storage of Hazardous Materials***

All fuel storage areas will be clearly marked. Fuel required for plant and equipment will be transported to the site on a need basis. Dedicated re-fuelling areas will be marked out, and spill kits will be available on site. An emergency plan will be put in place to ensure any accidental spillages will be dealt with safely and correctly.

- ***Dust Control***

Dust may be produced as a result of the decommissioning process. Dust generation will be minimised as much as possible through the introduction of measures such as water suppression, maintenance of a tidy site, wheel wash facilities etc.

- ***Noise Control***

The contractor will ensure that all best practice noise and vibration control methods will be used during the decommissioning process to ensure that any potential impacts at off-site sensitive locations are minimised.

- ***Traffic Management***

A Traffic Management Plan will be developed prior to the start of any decommissioning activities. The traffic management arrangements will be agreed upon with the competent authority.

- ***Waste Management***

Material reuse and recycling will be facilitated as much as possible during the decommissioning phase. Any waste that cannot be reused or recycled will be brought to an appropriate waste disposal location. During the decommissioning works the contractor will prevent and minimise waste where possible.

The Decommissioning Plan sets out a clear, phased process that ensures decommissioning is carried out in a controlled and environmentally responsible manner, fully in accordance with the EIAR mitigation measures, relevant legislation, and best practice environmental management guidelines in Ireland.

(For full details, please refer to the Decommissioning Plan (Ref: 2429-DOB-XX-SI-RP-C-0005), dated February 2025, prepared by Donnachadh O'Brien & Associates Consulting Engineers, provided in ***Volume 3, Appendix 6.1*** *to this EIAR Addendum.)"*

6.3.7.1 Clarification of Revised Section Numbering

Following the insertion of the new Section 6.9 – Decommissioning Phase (above), which outlines the decommissioning process, the numbering of the subsequent sections has been revised accordingly:

Section Numbering in the Original EIAR	Revised Section Numbering proposed by the Addendum
6.9: Licensing Requirements and Other Controls	6.10: Licencing Requirements and Other Controls
6.9.1: Environmental Protection Agency (EPA)	6.10.1: Environmental Protection Agency (EPA)
6.9.2: Department of Agriculture, Food and Marine (DAFM)	6.10.2: Department of Agriculture, Food and Marine (DAFM)

6.9.3: SEVESO III Directive / Control of Major Accident Hazards (COMAH) Regulations	6.10.3: SEVESO III Directive / Control of Major Accident Hazards (COMAH) Regulations
6.9.3.1: SEVSO / COMAH Assessment Summary	6.10.3.1: SEVSO / COMAH Assessment Summary
6.10: References	6.11: References

Table 6.1: Revised Section Numbering.

6.4 Implications for the EIAR

With the exception of the inclusion of a new Section 6.9, as outlined in Section 6.3.7 above, the amendments set out in this chapter of the EIAR Addendum do not materially alter the findings or conclusions of the original EIAR.

As requested in the Request for Further Information (RFI), additional text has been provided to describe the Decommissioning Phase of the proposed development. The new Section 6.9 ensures that the EIAR fully considers the Decommissioning Phase as part of the overall project lifecycle, in line with best practice and the EIA Guidelines (EPA, 2022). This phase has been assessed in accordance with the methodology set out in Volume 2, Chapter 2 of the EIAR.

In preparing this EIAR Addendum, the competent experts responsible for Chapters 8 to 19 of Volume 2 have reviewed the additional text and the Decommissioning Plan (as provided at **Volume 3, Appendix 6.1**) in detail. Each specialist has ensured that their assessment fully considers the Decommissioning Phase, and that the overall EIAR remains comprehensive, robust, and in accordance with EIA best practice guidance in Ireland.

PURSER

RECEIVED: 05/03/2025

Volume 2:

07

Population and Human Health

EIAR Addendum: Nua Bioenergy, Lisheen
P-2024-35-59

7.0 Population and Human Health

7.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 7: Population and Human Health** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 7 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

7.1.1 Details of Competent Experts

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Seamus Donohoe – Purser**
  MRUP, BAgrSc (Hons) Landscape Architecture, MRTPI, MIPI, MILI

- **Elizabeth Shannon – Purser**
  BA (mod) Geog, MRUP MRTPI

7.2 Request for Further Information

RFI Item No. 6 is applicable in relation to Volume 2, Chapter 7 of the EIAR. RFI Item No. 6 states:

> *"Notwithstanding the intermittent references to decommissioning throughout the Environmental Impact Assessment Report (EIAR), it is noted that no proposals have been submitted for this phase. The applicant is requested to confirm the intended operational lifespan of the development and to address the requirement for proposals for decommissioning as appropriate.*
>
> *In the event that a decommissioning phase is to be included, the applicant is requested to update all sections of the EIAR and appropriate supporting documentation to take account of this phase."*

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 7 of the EIAR. RFI Item No. 7 states:

> *"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum...."*

RFI Item No. 7 (viii) is applicable in relation to Volume 2, Chapter 7 of the EIAR. RFI Item No. 7 states:

> *"The EIAR does not assess the impact of the development on land and land use in the context of the development being a 'Lower Tier' COMAH establishment. The EIAR to be updated to address this matter."*

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

7.3 Clarifications and Amendments

The requests for clarification and necessary amendments in relation to Chapter 7 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Volume 2, Chapter 7 remains unchanged.

7.3.1 Correction to Section 7.2.5.2, Paragraph Three (Page 7-6 of the Original EIAR)

The list of receptor populations in the original text omitted reference to two relevant roads. This has been corrected as follows:

"The receptor populations considered in the human health assessment include:

- *The population in the surrounding townlands of Killoran and Moyne*
- *Residents along the L4115*
- *Residents along the R502*
- *Residents along the L5612*
- *Residents along the L3201*
- *Residents along the L3202-0."*

Note: Although two roads were not specifically listed in the original text, the EIAR assessment fully considered all relevant receptor populations, including those along these roads, when assessing potential human health impacts.

7.3.2 Correction to Section 7.2.5.2, Paragraph Six (Page No. 7-6 of the Original EIAR)

Paragraph six includes a sentence not relevant to the report. Paragraph 6 is amended as follows:

> *"Consistent with standard practice, potential impacts on health determinants have been assessed based on the residual effects identified in other chapters of the EIAR, with due consideration given to the mitigation measures committed to under each relevant topic."*

7.3.3 Correction to Section 7.2.7.4, Title (Page No. 7-12 of the Original EIAR)

The title of Section 7.2.7.4 has been amended as follows:

> *"Human Health Risk Assessment"*

The term 'On-site' has been removed, as it was not relevant to the scope of the section. The paragraph outlines the methodology and assessment headings used to evaluate the potential effects of the proposed development on the surrounding population. This assessment considers both on-site and off-site factors, and is not limited to on-site effects. Therefore, the original reference to 'on-site' in the title was incorrect and has now been amended.

7.3.4 Correction to Section 7.3.2, Paragraph Three (Page 7-14 of the Original EIAR)

The distance between the village of Moyne and the subject site was incorrectly stated. This has been corrected as follows:

> *"The area is considered to be a low population density rural area, with much of the settlement laid out in a linear fashion along main and tertiary roads. There is a small concentration of dwellings situated **2.4km** to the **south-west** known as Moyne. This consists of a single street containing a pub and a church alongside residential dwellings."*

Clarification regarding measurement: The revised measurement was taken using the measurement tool on Google Earth Pro. The measurement was taken from the central point of the western boundary to what was deemed to the centre of Moyne Village.

7.3.5 Correction to Section 7.3.5.1, Paragraph Three (Page 7-14 of the Original EIAR)

The incorrect distance between the nearest residence to the west and the site boundary is quoted. This is amended as follows:

> *"The closest residential property is located **373m** to the west of the subject site. There are also further residential units sparsely located to the south, along the L5612. The wider area is characterised by single residential units located in a linear fashion along the road network."*

Clarification regarding measurement: The revised measurement was taken using the measurement tool on Google Earth Pro. The measurement was taken from the centre of the western boundary which was deemed to be the closest point.

EIAR Item 7(i) notes that the distance quoted between the nearest residence and the site boundary in Volume 2, Chapter 3 of the EIAR is inconsistent with the distance shown on the Site Separation Drawing (Ref: 2429-DOB-XX-SI-DR-C-003) submitted as part of the planning application.

For clarification, the Site Separation Drawing (Ref: 2429-DOB-XX-SI-DR-C-003) illustrates the distance between the gas upgrading and filling area and the nearest residential dwelling, whereas the measurement cited in Section 7.3.5.1 refers to the distance between the site boundary and the nearest residential dwelling.

7.3.6 Revision to Section 7.3.7 – Pest Control (Page 7-26 of the Original EIAR)

Section 7.3.7 has been updated to provide a revised section on 'Pest Control'. The revised text, set out below, replaces the corresponding 'Pest Control' section in the original EIAR.

> ***Pest Control***
>
> *Rodents can be harmful since they may transfer viruses, micro-organisms, parasites etc. and may, therefore, represent an important factor for the spreading of various diseases. Control of rodents is a mandatory prerequisite for any waste management facility. Flies and birds can also pose a problem, where they are attracted to raw waste.*
>
> *Due to the nature of wastes being accepted at the site, feral animals, flies and other vermin may be attracted to the site. Vermin maybe attracted to the facility in search of food sources. Pests such as rodents and flies can not only be a nuisance to users and neighbours, but they can also transfer germs and disease and affect the ecological balance of an area.*
>
> *Sources of potential public health risks associated with vermin and other pest animals include:*
>
> *•transmission of disease.*

•threat to native flora and fauna.
•threat to livestock.

The proposed development has been designed to minimise the risk of attracting pests and vermin. Incoming feedstocks will be carefully inspected on arrival and stored appropriately to prevent access by pests. Whole crop feedstocks will be stored in concrete-walled and floored clamps, where they will be compacted and securely covered. Equine, farmyard, and broiler manure will be stored within enclosed storage sheds, and liquid feedstocks will be pumped directly into dedicated liquid feedstock tanks within a bunded area, preventing any uncontrolled exposure.

Waste generated within the site office and control building will be segregated into recyclable and non-recyclable waste and collected by a licensed waste contractor once the facility is operational. All waste materials on-site will be managed in accordance with best practice, ensuring appropriate storage, handling, and disposal to prevent the attraction of pests and vermin.

To provide further assurance, a specialist pest control contractor can be engaged to implement regular monitoring and pest control measures, particularly during construction activities, when existing habitats may be disturbed. This proactive approach will ensure that the risk of pest issues is effectively managed throughout the lifecycle of the development."

7.3.7 Amended Section 7.4 (Page 7-28 of the Original EIAR)

A revised Section 7.4, set out below, replaces the corresponding section in the original EIAR, specifically replacing both Section 7.4 and Section 7.4.1.

The revised text is to be inserted immediately after Section 7.5.7 Human Health and before Section 7.5.

"7.4 Characteristics of the Proposed Development

The proposed development by Nua Bioenergy involves the construction of a biomethane and bio-based fertiliser production facility on a 5.5-hectare brownfield site within the former Lisheen Mine complex in Killoran, Moyne, Thurles, Co. Tipperary.

The development will process up to 98,000 tonnes of feedstock per year, including agricultural manures, food processing sludges, and crop-based feedstocks. It will produce renewable biomethane for injection into the gas grid or transport, and bio-based fertiliser for use on local farms.

The facility will consist of anaerobic digestion tanks, feedstock storage areas, a biogas upgrading plant, a fertiliser processing unit, site offices, and supporting infrastructure. The design ensures safe operations, environmental protection, and efficient circulation of vehicles.

The development supports national climate targets, promotes the circular economy, and contributes to the local bioeconomy and energy transition, aligning with the Tipperary County Development Plan and the strategic designation of the Lisheen site as part of the National Bioeconomy Campus.

Please refer to Volume 2: Chapter 6 for a comprehensive Description of the Proposed Development."

7.3.8 Amended Section 7.5.1 and removal of Section 7.5.1.1 (Page No. 7-28 of the Original EIAR)

The entirety of Section 7.5.1.1 is to be removed.

The content previously included in Table 7.9 was found to be not relevant to the surrounding narrative in the original EIAR. To address this, Section 7.5.1 has been amended to incorporate a revised Table 7.9 (see below in '**green**' text), which provides a clear and concise summary of the potential effects under the 'Do Nothing Scenario'.

The revised Table 7.9 does not introduce any new information; instead, it summarises information already presented in Section 7.5.1 of the original EIAR, presenting it in a clearer and more accessible table format.

For clarity, the table has been retitled as: 'Table 7.9: Summary of Effects under the Do Nothing Scenario'.

Receptor	*Sensitivity Rating*	*Potential Environmental Effects*	*Quality*	*Significance*	*Duration*
Local Population Employment	*Low to moderate*	*Loss of opportunity to provide additional employment to the local area.*	*Negative*	*Slight*	*Permanent*
Community	*Low to moderate*	*No impact on the existing community, however loss of potential economic investment into the area*	*Negative*	*Slight*	*Permanent*
Land Use	*Low to moderate*	*No environmental effects on the existing land*	*Positive*	*Low*	*Permanent*
Human Health (off-site)	*Low to moderate*	*No environmental effects on the surrounding area*	*Positive*	*Low*	*Permanent*

Human Health (on-site)	*Low to moderate*	*No environmental effects on the surrounding area*	*Positive*	*Low*	*Permanent*

Table 7.9: Summary of Effects under the Do Nothing Scenario

7.3.9 Correction to Section 7.5.2.3, Paragraph One (Page 7-31 of the Original EIAR)

The phrase 'air quality' was omitted from the list of effects in paragraph one of Section 7.5.2.3. This is amended as follows:

> *"It is acknowledged that the construction phase of the project may have some short-term negative effects on local residents. Such effects are likely to be associated with construction traffic, noise associated with construction requirements and potential impacts on air quality. These effects are dealt with separately and assessed in* ***Chapter 11 Air Quality (including Odour)****, Chapter 12: Climate, Chapter 13: Noise and Vibration, Chapter 14: Traffic and Transportation and Chapter 15: Waste of the EIAR."*

7.3.10 Insertion of Section 7.5.2.5 (Page No. 7-31 of the Original EIAR)

A new section, 7.5.2.5 Human Health (Off-site), is to be added to distinguish between off-site and on-site human health impacts, ensuring that the potential effects on each receptor group are clearly presented and easily understood. The revised text is to be inserted immediately after Section 7.5.2.4 and before Section 7.5.3. The addition of Section 7.5.2.5 does not alter the numbering of any preceding or subsequent sections within the original EIAR.

> ***7.5.2.5 Human Health (Off-site)***
>
> *All new developments will consist of associated short-term effects and disturbances to the surrounding areas. The construction methods employed and the hours of work proposed will be designed to minimise potential effects.*
>
> *There is the potential for impacts relating to air quality during the construction period, particularly during periods of dry weather. Impacts on the surrounding road network can be caused by an increase of HGV traffic on smaller local roads. There is also the potential for periods of noisy activity particularly at the early stage of the construction process relating to drilling etc.*
>
> *There are no likely impacts on the project or to off-site receptors during the construction phase in relation to major accidents and disasters.*

7.3.11 Amendment to Table 7.10 (Page No. 7-32 of the Original EIAR)

Table 7.10 'Construction Phase Effects Summary' has been updated to include an additional row titled 'Human Health (on-site)'. This amendment ensures that potential construction phase effects on on-site human health are clearly identified and distinguished from off-site human health effects.

For clarity, the full revised table is reproduced below. The original text is presented in black, while the new text is shown in **'green'** to highlight the amendment.

Receptor	Sensitivity Rating	Potential Environmental Effects	Quality	Significance	Duration
Local Population	Low to Moderate	Potential minor increase in population during construction.	Positive	Imperceptible	Temporary
Community	Low to Moderate	Wear and tear on the infrastructure. Construction traffic. Risk to air/noise	Negative	Slight	Temporary
Employment	Low to moderate	Will provide jobs during the construction phase. May attract other sources of employment to the area	Positive	Slight	Temporary
Human Health (off-site)	Low to moderate	Risk to health from construction methods. Impact of disturbance, air and noise impacts during construction	Negative	Slight	Temporary
Human Health (on-site)	*Low to moderate*	*Risk from emissions during the construction stage, use of chemicals and hazardous substances. Risk of potential accidents relating to the construction process. Disturbance of pests or vermin during site preparation.*	*Negative*	*Slight*	*Temporary*

Table 7.10: Construction Phase Effects Summary

7.3.12 Clarification to Section 7.5.3.4 Human Health, Paragraph 21 (Page 7-36 of the Original EIAR)

Additional text has been added to the paragraph titled 'Major Accidents' in Section 7.5.3.4 of the original EIAR to provide further clarification.

For ease of review, the original text from the EIAR is shown in 'black', and the newly added text is shown in **'green'.**

> *"Under the Control of Major Accident Hazards Involving Dangerous Substances (COMAH)Regulations 2015 (S. L No. 209 of 2015), P2 Flammable gases (methane) are subject to a threshold quantity of 10 tonnes meaning that any biogas facility storing less than 10 tonnes of 6-30 methane will fall outside of the COMAH Regulations.*
>
> *The site is classified as a Lower Tier COMAH site. At full operation, the proposed development will store 6.6 tonnes of flammable gas and 32 tonnes of natural gas (upgraded biogas). The site is still well below the thresholds of 10 tonnes and 50 tonnes respectively.*
>
> *Major industrial accidents involving dangerous substances pose a significant threat to humans and the environment; such accidents can give rise to serious injury to people or serious damage to the environment, both on and off the site of the accident.*
>
> *The following scenarios were assessed in Chapter 19 – Major Accidents and Disasters which could impact the operation phase of the project:*
>
> *Release of biogas at bay trailer*
> *Release of biogas at the anaerobic digestors, biogas compressors and energy centre*
> *Extreme heat or cold weather resulting in structural damage and/or pollution to soils, groundwater or surface water*
> *Storm events resulting in structural damage and/or pollution to groundwater and surface waters*
> *Flooding*
>
> *Chapter 19 advises that there are no likely impacts to off-site receptors as a result of the proposed development during the operation phase in relation to major accidents and disasters.*
>
> *The proposed development will comply with the requirements of all relevant health, safety and environmental legislation including COMAH, which will ensure that all necessary measures will be taken to prevent major accidents."*

7.3.13 Provision of New Section 7.5.3.5 Land Use Planning (Page No. 7-36)

The text below has been prepared in response to RFI Item No. 7 (viii). This information is additional to the content already provided in the original EIAR, which was submitted with the Planning Application on 06 November 2024.

A new section, presented in green, is to be inserted immediately after Section 7.5.3.4 Human Health and before Table 7.11 of the original EIAR.

"7.5.3.5 Land Use Planning

A Land Use Planning Assessment (LUP) was prepared by AWN and submitted as part of the Planning Application dated November 2024. The Land Use Planning Assessment identifies risk-based land use planning contours for the Proposed Development. A revised Land Use Planning Report (Ref: 247501.0417RR01a) was prepared in response to the RFI request issued by Tipperary County Council on 03 January 2025. The revised document is submitted as part of the RFI response (please refer to ***Volume 3: Appendix 7.2****).*

The Proposed Development is classified as a 'lower tier' COMAH establishment and as such is subject to the provisions of the Chemicals Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations, S.I. No. 209 of 2015. The Land Use Planning Assessment was completed in accordance with guidance published by the HSA (HSA, 2023).

As part of the assessment 6 No. major accident scenarios were assessed including :

- *Indoor equipment (energy centre)*
- *Indoor equipment (compressor)*
- *Indoor equipment (bay trailer)*
- *Biogas pipeline*
- *Anaerobic Digestor Tanks*
- *Bay Trailer refilling*

The Land Use Planning Assessment concluded that the location-based risk contours do not extend to an area where the public would be present. It is also concluded that the Land Use Planning zones do not extend to sensitive receptors.

The consultation zone approved by the HSA extends a maximum distance of approximately 165m from the western site boundary, 110m from the northern site boundary, and 50m from the eastern site boundary. Any proposed development within this area must undergo a Land Use Planning (LUP) assessment to determine whether the level of individual risk is acceptable.

The Land Use Planning Assessment confirms the following:

- *"The individual risk contours corresponding to the inner, middle and outer zone extends over the proposed development boundary. There are no occupied buildings in these areas.*
- *The land use planning contours do not extend to the nearest residential development and do not extend to the Irish Bioeconomy and Acorn Recycling Building.*
- *The individual risk contour corresponding to the outer zone extends to the Substation Access road. Personnel are only present at the Substation for routine maintenance; therefore, this road is not commonly used. Therefore, the level of individual risk at this location is acceptable."*

Any lands outside the Consultation Distance of the proposed COMAH facility are not subject to land use restrictions related to the COMAH establishment and can be developed without additional planning constraints.

The information provided by AWN Consulting as part of the RFI response and the original planning application date 06 November 2024 confirms that the establishment of the proposed COMAH (Control of Major Accident Hazards) facility at Lisheen does not prohibit future development on adjacent land including the National Bioeconomy Campus. It should be noted that future development will need to comply with HSA land use planning guidelines. The purpose of the land use restrictions is to ensure health and safety regulations are met while allowing compatible development within designated risk zones.

7.3.14 Addition of Text to Table 9-6 (Page No. 9-41 of the Original EIAR)

The text in **'green'** below forms an additional row to **Table 7.11** of the original EIAR**.** The additional text provides further information assessing the potential effects relating to the land use planning assessment. The text is to be inserted at the end of Table 7.11.

Receptor	*Sensitivity Rating*	*Potential Environmental Effects*	*Quality*	*Significance*	*Duration*
Land Use Planning	*Low to Moderate*	*Requirement for HSA land use planning guidelines to be implemented on adjacent land to ensure health and safety guidelines are met.*	*Negative*	*Moderate*	*Long-term*

Table 7.11 Operation Phase Effects Summary

7.3.15 Provision of New Section 7.5.4

In response to RFI Item No. 6 and following the preparation of the Decommissioning Plan (provided at **Volume 3, Appendix 6.1** of this EIAR Addendum), Chapter 7 – Population and Human Health has been updated to include a new section as follows:

- **Section 7.5.4 – Decommissioning Phase**

The new text, presented in **'green'** below, forms Section 7.5.4 and is provided to specifically addresses the Decommissioning Phase. (Note: Section 7.5.4 includes Table 7.12 also set out below.) This new content should be read alongside Chapter 7 of the original EIAR. The text is to be inserted immediately after Section 7.5.3.4 and before Section 7.6.

> ***"7.5.4 Decommissioning Phase***
>
> *Once the proposed development comes to the end of its operational life (30 years after operations commence) it will be decommissioned. It is anticipated that the decommissioning process will involve similar activities to the construction process. However, decommissioning will be undertaken in reverse with the removal of above ground structures first and structures within the bund second. Potential decommissioning phase effects are considered in detail below and summarised in Table 7.12.*
>
> ***7.5.4.1 Population***
>
> *The decommissioning phase is not considered to have any significant effect on the population of the surrounding area, as it is expected that the workforce will primarily travel from their existing place of residence to the construction site, rather than reside in the area during the decommissioning phase of the development.*
>
> *Activities associated with the decommissioning phase are anticipated to have positive, slight, temporary effects on the local population.*
>
> ***7.5.4.2 Employment***
>
> *The proposed development will provide important employment opportunities for the area during the decommissioning phase. As with the construction phase a suitably qualified contractor will be employed for the duration of the decommissioning of the site. The decommissioning phase will also have secondary and indirect 'spin-off' effects on ancillary support services in the area of the proposed development, such as retail services, together with wider benefits in the professional and technical professions, dellvery and haulage sectors and machinery hire/maintenance sector.*

These beneficial effects on economic activity will be largely temporary but will contribute to the overall future viability of the construction/demolition sector and any related tertiary services over the decommissioning period.
Activities associated with the decommissioning phase are anticipated to have positive, slight, temporary effects on employment within the area

7.5.4.3 Community

It is acknowledged that the decommissioning phase of the project may have some short-term negative effects on local residents. Such effects are likely to be associated with HGV traffic' noise associated with decommissioning requirements, management of waste products from the removal of building and structure components as well as any waste products remaining on site and potential impacts on air quality. These effects are dealt with separately and assessed in Chapter 11 Air Quality (including Odour), Chapter 13: Noise and Vibration, Chapter 14: Traffic and Transportation and Chapter 15: Waste of the EIAR.

Given the overall scale of the proposed facility, some potential effects may occur locally during the decommissioning phase. It is expected that these short term temporary localised effects may be experienced by those residing, working, and visiting the area. Such effects would include an increase in daytime noise levels in the area as a result of the machinery being used for decommissioning purposes and also by HGV traffic accessing the proposed facility for removal of waste from the breakdown of the various structures and buildings on site. There is also the potential for a reduction in air quality during the building/structure breakdown and removal phase and during the soil movement phase when the site is being regraded. Activities associated with the decommissioning phase are anticipated to have negative, slight, temporary effects on the local community

7.5.4.4 Human Health (On site)

The decommissioning methods employed and the hours of work proposed will be designed to minimise potential effects. The proposed facility will comply with all Health and Safety Regulations during the decommissioning of the project.

The Health and Safety policy, procedures and work practices of the proposed development will conform to all relevant health and safety legislation during the decommissioning stage of the site. The contractor will be suitably qualified and work to best industry standards, with an emphasis being placed on the health and safety of employees, visitors, local residents and the community at large.

7.5.4.5 Human Health (Off-site)

There is the potential for impacts to receptors off-site during the decommissioning phase. During particular stages of the decommissioning process there is the potential for impacts to air quality due to the creation of dust emissions from demolition and soil movement during regrading; impacts to the local road network due to HGV movements; and an increase in noise resulting from the demolition of structures. Work practices on-site will ensure that any disruption resulting from the decommissioning phase will be minimised. The qualified contractor will follow all up to date policies and procedures to ensure there is no impact on the surrounding area.

7.5.4.5 Major Accidents and Disasters

A Closure, Restoration and Aftercare Management Plan (CRAMP) will be implemented in the event that the site will be decommissioned. The CRAMP will reflect relevant legislation and guidance available at the time of decommissioning. Mitigation measures against the risk of major accidents and disasters will be embedded in the CRAMP.

Activities associated with the decommissioning phase as summarised in Table 7.12 are anticipated to have negative, slight and temporary effects on health and safety in the area."

Receptor	Sensitivity Rating	Potential Environmental Effects	Quality	Significance	Duration
Local Population	Low to Moderate	No increase to the population for the duration as most employees will travel to the site.	Positive	Imperceptible	Temporary
Community	Low to Moderate	Wear and tear on the local infrastructure such as roads through HGV traffic and commuter traffic.	Negative	Slight	Temporary
Employment	Low to moderate	Potential for some jobs to be created within local haulage companies.	Positive	Slight	Temporary
Human Health (off-site)	Low to moderate	Impacts on the road network, potential for increased noise at particular times in the	Negative	Slight	Temporary

		decommissioning process, risk of reduced air quality during the demolition of structures/buildings and regarding of the site.			
Human Health (on-site)	*Low to moderate*	*Impacts to workers relating to the decommissioning process such as heavy machinery, removal of waste both biological and non-biological, increase in noise and dust during certain periods.*	*Negative*	*Moderate*	*Temporary*

Table 7.12: Decommissioning Phase Effects Summary."

7.3.16 Clarification of Numbering in Section 7.6

The numbering sequence within Section 7.6 – Mitigation Measures has been corrected to ensure consistency and accuracy. The following amendments have been made:

Under the Construction Phase, the section previously numbered 7.6.2.3 has been corrected to **7.6.1.3**, and the section previously numbered 7.6.2.4 has been corrected to **7.6.1.4**.

The Operational Phase section, previously numbered 7.6.3, has been corrected to **7.6.2**. As part of this correction, the section previously numbered 7.6.3.1 Human Health has been corrected to **7.6.2.1 - Human Health**.

All subsequent sections have been renumbered accordingly to reflect these changes.

7.3.17 Additional Text – New Section 7.6.4

The following additional text, shown in '**green**' comprises a **new Section 7.6.4**. It is to be inserted after Section 7.6.3.1 and before Section 7.7 of the original EIAR.

This amendment is made to reflect the provision of a Decommissioning Plan (Ref: 2429-DOB-XX-SI-RP-C-0005), dated February 2025, specifically outlining mitigation measures associated with the Decommissioning Phase (please refer to **Volume 3, Appendix 6.1** of this EIAR Addendum).

The below additional text does not alter any of the preceding paragraphs in Section 7.6, nor does it require re-numbering of any sections before or after it within the original EIAR.

"7.6.3 Decommissioning Phase

Mitigation measures proposed in the Air Quality, Noise and Vibration, Traffic and Transportation, Landscape and Visual Chapters will help to avoid or minimise adverse population and human health effects during the decommissioning phase of the proposed development. This mitigation is embedded within the residual assessments on which the population and human health assessment is based

7.6.3.1 Population

It is considered that the proposed development is unlikely to generate any significant adverse effects on the demographics of the area during the decommissioning phase. The contractor employed to undertake the decommissioning will be required to comply with legislation and good industry practice with regard to the health and safety of both workers and the public. No increase in population will occur during this phase therefore there is no mitigation required in this regard.

7.6.3.2 Employment

The decommissioning phase will be undertaken by a suitably qualified contractor. There is scope for local haulage firms to be employed during this time to remove elements of the scheme once disassembled. Waste contractors will be required in order to dispose of waste products. These firms will be properly licenced. It is considered that the decommissioning phase will have a positive impact on local employment therefore, no mitigation measure are required.

7.6.3.3 Community

It is considered that the proposed development is unlikely to generate any adverse effect on the community of the area during the decommissioning phase. Therefore, no further mitigation measures are required.

7.6.3.4 Human Health (off-site)

Adverse health and safety effects during the decommissioning phase will be minimised as the qualified lead contractor will follow good industry practice and implement the Decommissioning Plan as prepared by Donnachadh O'Brien & Associates (please refer to ***Volume 3, Appendix 6.1*** *of*

this EIAR Addendum). The measures contained within the Plan will be in accordance with the mitigation measures set out within the Environmental Impact Assessment Report and Natura Impact Statement. These mitigation measures cover the following topics:

Site Drainage
Site drainage infrastructure will remain on site and be removed in phases. The phases will be set out within the final Decommissioning Plan as agreed with the Local Authority.

Refuelling, Fuel and Storage of Hazardous Materials
All fuel storage areas will be clearly marked. Fuel required for plant and equipment will be transported to the site on a need basis. Dedicated re-fuelling areas will be marked out, and spill kits will be available on site. An emergency plan will be put in place to ensure any accidental spillages will be dealt with safely and correctly.

Dust Control
Dust may be produced as a result of the decommissioning process. Dust generation will be minimised as much as possible through the introduction of measures such as water suppression, maintenance of a tidy site, wheel wash facilities etc.

Noise Control
The contractor will ensure that all best practice noise and vibration control methods will be used during the decommissioning process to ensure that any potential impacts at off-site sensitive locations are minimised.

Traffic Management
A Traffic Management Plan will be developed prior to the start of any decommissioning activities. The traffic management arrangements will be agreed upon with the competent authority.

Waste Management
Material reuse and recycling will be facilitated as much as possible during the decommissioning phase. Any waste that cannot be reused or recycled will be brought to an appropriate waste disposal location. During the decommissioning works the contractor will prevent and minimise waste where possible.

7.6.3.5 Human Health (on-site)

Health and Safety on-site will be followed to ensure best practice and industry standards are maintained. Any biological waste remaining on site once the plant has ceased operation, will be removed by a licenced waste removal firm. Any potentially hazardous liquids or fuels will be stored in specific compounds and only ordered on an as required basis. Various protocols will be followed to ensure noise and dust levels are managed and correct PPE will be provided to all workers."

7.3.18 Clarification of Numbering in Section 7.7 Cumulative Effects (Page No. 7-47 of the Original EIAR)

The numbering within Section 7.7 – Cumulative Effects in the original EIAR has been corrected to reflect the proper sequencing.

Specifically, the section entitled 'Construction Phase' on page 7-47 was originally numbered 7.7.1, which was incorrect. It has now been renumbered as 7.7.4.

The section entitled 'Operational Phase' on page 7-47 was originally numbered 7.7.2, which was incorrect. It has now been renumbered as 7.7.5.

The corrected numbering is set out in the table below for clarity:

Original Numbering	Revised Numbering
7.7.1 Construction Phase (page 7-47)	**7.7.4 Construction Phase**
7.7.2 Operational Phase (page 7-47)	**7.7.5 Operational Phase**

7.3.19 Additional Text to Section 7.7.2, Section Major Accidents and Disasters (Page No. 7-48 of the Original EIAR).

An additional sentence has been added to Section 7.7.2 of the original EIAR (Note this section has now been re-numbered as Section 7.75 -see above) to confirm that there are no expected cumulative effects from a major accidents and disasters perspective. The new text is set out in **'green'**. The original text has been included in 'black' for context.

> *"All developments outside a 500m cumulative zone of influence were scoped out of the cumulative assessment.*
>
> *The Land Use Planning assessment carried out as part of Chapter 19: Major Accidents and Disasters concluded that the level of individual risk to persons off-site is acceptable.* ***There are no expected impacts from these projects from a major accidents and disasters perspective, as such there are not significant cumulative effects with the proposed development from a major accidents and disasters perspective.*** *Therefore, the effects of the interactions between major accidents and disasters and human health not significant."*

7.3.20 Provision of New Section 7.7.6 (Page No. 7-48 of the Original EIAR)

The following additional text, presented in green, is to be inserted into the original EIAR immediately after the renumbered Section 7.7.5 – Operational Phase, located on page 7-48 of the original EIAR. (This section was originally numbered 7.7.2 but has been renumbered as part of this Response to Further Information.)

This new Section 7.7.6 is additional content and does not alter or affect the content or numbering of any subsequent paragraphs within Section 7.7 – Cumulative Effects.

> ***"7.7.6 Decommissioning Phase***
>
> *The mitigation measures outlined in the CMP (please refer to **Volume 3, Appendix 7.1**) and the Decommissioning Plan (please refer to **Volume 3, Appendix 6.1**) should be applied throughout the decommissioning phase of the proposed development. This will ensure any significant cumulative effects on the local population and the greater environment are prevented.*
>
> ***Traffic and Transportation***
>
> *It is expected that the decommissioning phase will have a similar number of vehicle trips to that modelled for under the construction phase. Any future developments on the wider Bioeconomy Campus or nearby during the time that the site is being decommissioned will be taken into consideration. When scheduling deliveries and preparing HGV routes the contractor will be mindful of nearby development and try and minimise clashing with deliveries arriving at other sites.*
>
> ***Air Quality***
>
> *The mitigation measures set out in the Air Quality (including Odour) chapter addendum (Chapter 11) and the Construction Management Plan (please refer to **Volume 3, Appendix 7.1**) will ensure that the creation of dust will be minimised during the construction phase. This will ensure that there is no cumulative effects on the local population. Management of the wheel washing / dust damping will ensure that water runoff is minimised and will not impact on nearby water sources.*
>
> ***Noise and Vibration***
>
> *The site specific mitigation measures set out for the Decommissioning Phase in the Noise and Vibration EIAR chapter addendum (Chapter 13) will ensure that it minimises and/or removes any noise impacts on adjacent noise sensitive receptors. The mitigation measures will ensure that any construction noise associated the removal of buildings or structures will be limited to the short term with only a slight/limited effect. Any future developments surrounding the subject site when it is being decommissioned will be assessed for suitable construction noise levels to ensure there are no cumulative impacts on local residents.*

Major Accidents and Disasters

All developments outside a 500m cumulative zone of influence were scoped out of the cumulative assessment.

The Land Use Planning assessment carried out as part of Chapter 19: Major Accidents and Disasters concluded that the level of individual risk to persons off-site is acceptable (please refer to ***Volume 3, Appendix 7.2****). There are no expected impacts from these projects from a major accidents and disasters perspective, as such there are not significant cumulative effects with the proposed development from a major accidents and disasters perspective. Therefore, the effects of the interactions between major accidents and disasters and human health not significant."*

7.3.21 Additional Text to Section 7.9 (Page No. 7-52 of the Original EIAR)

An additional paragraph, addressing the interactions between Accidents and Disasters and Population and Human Health, is provided below in green.

This new paragraph is to be inserted at the end of Section 7.9, immediately following the existing paragraph titled 'Major Accidents and Disasters (Chapter 19)'. For context, the original text is presented in 'black', with the new text shown in **'green'**.

This amendment does not alter any of the preceding paragraphs within Section 7.9, nor does it require the renumbering of any sections before or after it within the original EIAR.

7.9 Interactions

Major Accidents and Disasters (Chapter 19)

The mitigation measures that will be put in place by the proposed development during the construction phase means the interaction between major accidents and disasters and human health are not significant. There are no expected impacts from these projects from a major accidents and disasters perspective, as such, there are no significant cumulative effects with the proposed development from a major accidents and disasters perspective. The Land Use Planning assessment concluded that the level of individual risk to persons off-site is acceptable. Therefore, the effects of the interactions between major accidents and disasters and human health is not significant.

7.4 Implications for the EIAR

The amendments set out above do not materially alter the findings, conclusions, or overall assessment presented in the original EIAR.

The additional information provided, specifically relating to the Decommissioning Phase and the assessment of potential impacts on adjacent lands arising from the development's classification as a 'Lower Tier' COMAH establishment, has been included in direct response to the Request for Further Information issued by the Local Authority.

This additional information supplements the original assessment but does not result in any change to the conclusions reached in the EIAR regarding Population and Human Health.

PURSER

Volume 2:

08

Biodiversity

8.0 Biodiversity

8.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 8: Biodiversity** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 8 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

8.1.1 Details of Competent Experts

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Donnachadh Powell – Veon Ltd**
  BSc (Hons) Ecology and Environmental Biology, QCIEEM

8.2 Request for Further Information

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 8 of the EIAR. RFI Item No. 7 states:

> *"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum."*

RFI Item No. 7 (ii) is applicable in relation to Volume 2, Chapter 8 of the EIAR. RFI Item No. 7 (ii) states:

> *"Section 8.4. of the EIAR notes the there are no watercourses within the proposed development site. The Cooleeny Stream is located approximately 20 metres south of the site. The site intersects with the Cooleney Stream and the proposal includes a surface water drain and headwall adjoining/intersection with the stream. Figure 8.4 of the EIAR illustrates a site boundary which is not consistent with the application site boundary. The EIAR shall be updated to include for reference to*

the correct site area and to account for impacts associated with the development of the surface water drainage infrastructure and outfall on the ecology / biodiversity of the Cooleeny stream."

RFI Item No. 7 (iii) is applicable in relation to Volume 2, Chapter 8 of the EIAR. RFI Item No. 7 (iii) states:

"Section 8.2.3 of the EIAR makes reference to the "linear nature of the onshore infrastructure". Clarification is sought on what this statement refers to."

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

8.3 Response to Request for Further Information

The requests for clarification and necessary amendments in relation to Chapter 8 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Volume 2, Chapter 8 remains unchanged.

8.3.1 Correction to Section 8.2.3, Paragraph One (Page 8-4 of the Original EIAR)

The second sentence within the paragraph, is not relevant to the application site. The paragraph has been amended as follows:

"The assessment had regard to the following guidance documents:..."

8.3.2 Replacement of Figure 8.1 (Page 8-20 of the Original EIAR)

Clarification: In response to RFI Item No. 7(ii), it is noted that Figure 8.4 in the original EIAR illustrated a boundary that was not fully consistent with the application site redline boundary.

As part of this review, Chapter 8 has been examined in full, and all relevant figures have now been updated to illustrate the correct application site boundary. The updated Figure 8.1 is provided below.

It is important to note that, notwithstanding the replacement of Figures 8.1 and 8.4, the original assessment set out in Volume 2, Chapter 8 of the EIAR submitted with the planning application assessed the full application site,

based on the correct site boundary and development particulars as set out in the planning application drawings and accompanying documents.

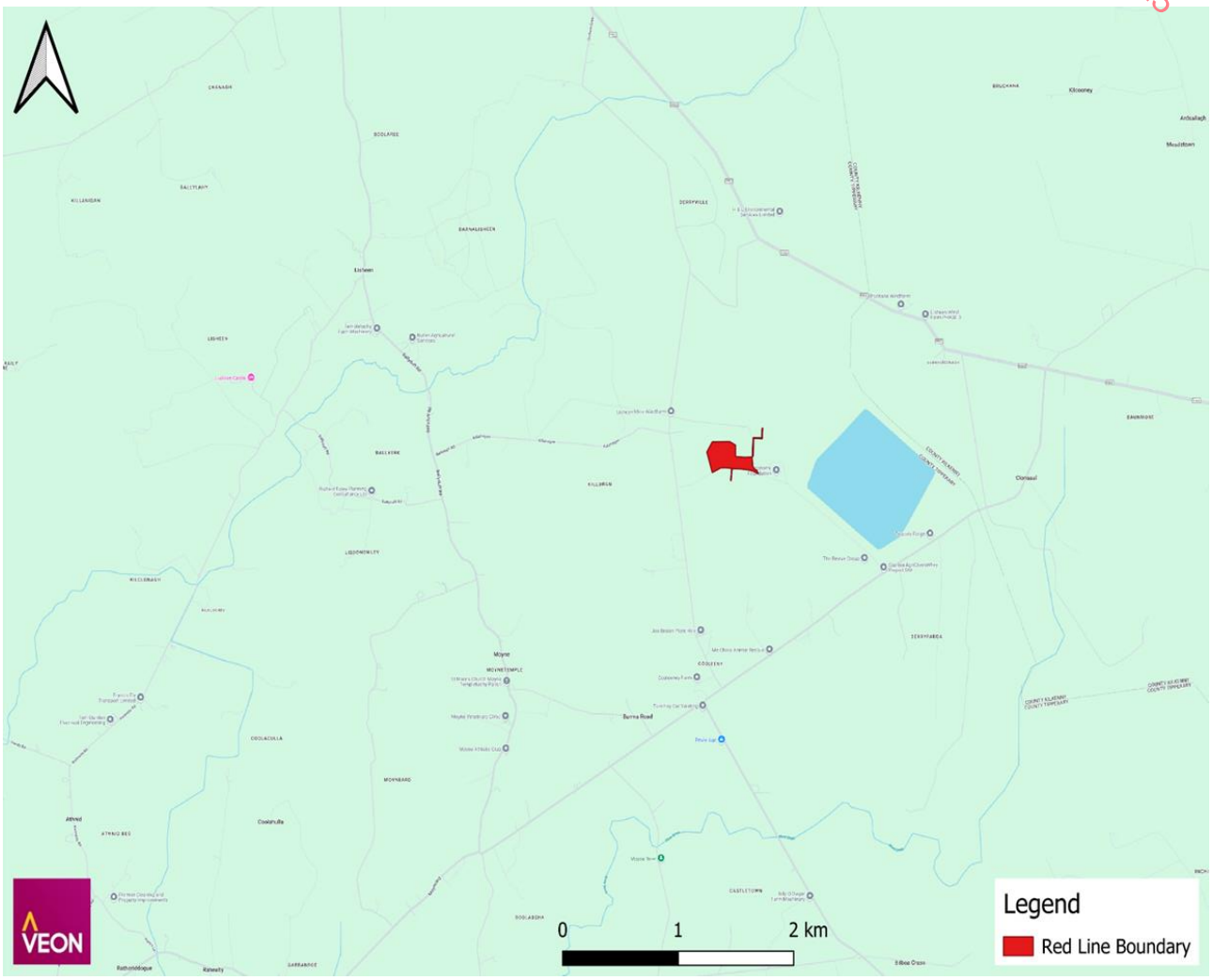

Figure 8.1: Proposed Development Site Location (updated to show correct redline boundary).

The figure above supersedes Figure. 8.1 contained in the original EIAR submitted as part of the Planning Application.

8.3.3 Correction to Section 8.4.2.1, Paragraph Two (Page 8-21 of the Original EIAR)

It was incorrectly noted that there are no watercourses within the proposed development site. Paragraph two of Section 8.4.2.1 is amended as follows:

"There are no European sites within or directly adjacent to the boundaries of the proposed development site; therefore, it does not form part of any European site. There are 5 no. SACs and no SPAs within c. 15km of the proposed development site. The closest European site to the proposed development is Galmoy Fen SAC (Site code: 001858), situated c. 9.8km to the north-east at its nearest point. See Figure 8.2 a map of European Sites located within the vicinity of the proposed development. The proposed development site is located within the Suir catchment and the Suir_SC_040 sub-catchment. ***The Cooleeny Stream flows approximately 20 metres to the south of the main application site area. However, the application site (redline boundary) extends via a narrow strip of land to the Cooleeny Stream, and interacts with the stream to enable the provision of a surface water discharge point."***

8.3.4 Replacement of Figure 8.4 (Page 8-24 of the Original EIAR)

Clarification: RFI Item No. 7 (ii) highlights that Figure 8.4 illustrates a boundary that is not consistent with the application site redline boundary. Chapter 8 has been reviewed and all relevant figures have been updated to illustrate the correct application site boundary. (See Figure 8.4 set out below).

In response to RFI Item No. 7(ii), it is noted that Figure 8.4 in the original EIAR illustrated a boundary that was not fully consistent with the application site redline boundary.

As part of this review, Chapter 8 has been examined in full, and all relevant figures have now been updated to illustrate the correct application site boundary. The updated Figure 8.4 is provided below.

It is important to note that, notwithstanding the replacement of Figures 8.1 and 8.4, the original assessment set out in Volume 2, Chapter 8 of the EIAR submitted with the planning application assessed the full application site, based on the correct site boundary and development particulars as set out in the planning application drawings and accompanying documents.

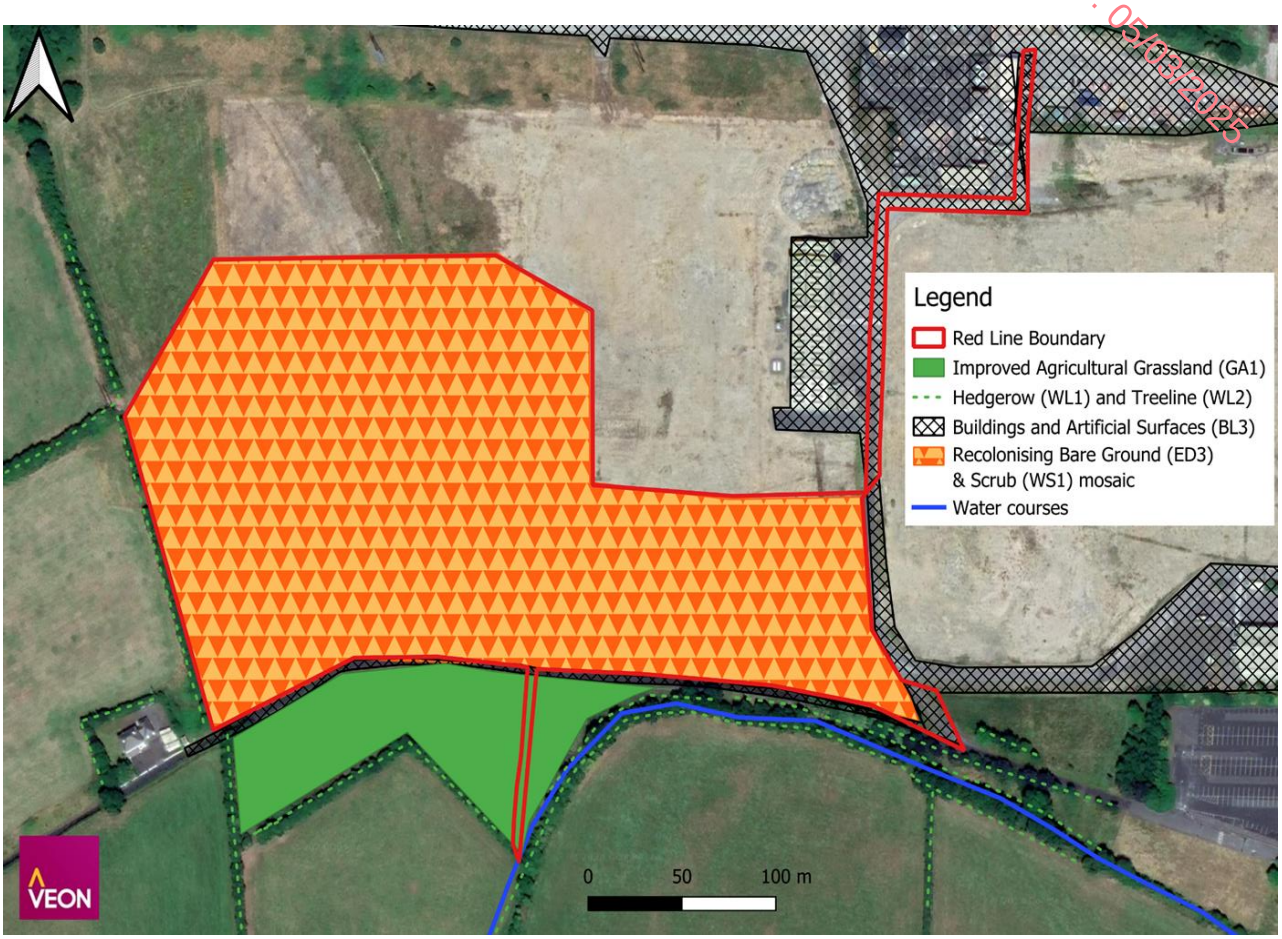

Figure 8.4: Habitats recorded on site. **(updated to show correct redline boundary).**

The figure above supersedes Figure. 8.4 contained in the original EIAR submitted as part of the Planning Application.

8.3.5 Additional Text to Section 8.7.2.2, Paragraph Four (Page 8-55 of the Original EIAR)

The following additional text, shown in '**green**', is to be inserted into Section 8.7.2.2, Paragraph Four of the original EIAR. For context, part of the original paragraph is provided in 'black'.

This amendment is made to reflect the provisions of the updated Construction Management Plan (Ref: 2429-DOB-X-SI-RP-C-003), prepared by Donnachadh O'Brien & Associates and dated February 2025, which is submitted as part of the Response to the Request for Further Information (please refer to **Volume 3, Appendix 7.1**).

The inclusion of this text ensures that the mitigation measures in the EIAR align fully with those set out in the updated Construction Management Plan, in line with the requirements of RFI Item No. 7(vi).

This change does not alter any of the preceding paragraphs in Section 8.7.2.2, nor does it require re-numbering of any sections before or after it within the original EIAR.

"The following measures will protect soil, surface waters and groundwater during the construction phase of the proposed development as per the CEMP:

- *Earthworks operations shall be carried out such that surfaces shall be designed with adequate falls, profiling and drainage to promote safe run-off and prevent ponding and flooding;*
- *Run-off will be controlled to minimise the water effects in outfall areas;*
- *All topsoil stripping close to sensitive areas will be scheduled to be carried out during dry weather and all stockpiling will be kept a minimum of 20 metres from drains and streams.*
- *Where required, silt fencing / bunding will be installed around stockpiles to ensure no soils and sediments are washed out overland to the existing surface water networks, or directly into the Cooleeny Stream. The silt fencing / bunding will be monitored daily by the appointed contractor and silt will be removed as required.*
- *The construction of new surface water drainage designed in accordance with the principles and objectives of Sustainable Drainage Systems (SuDS) and the requirements of Tipperary County Council.*
- *The surface water drainage for the Proposed Development has been designed to adequately accommodate the 1 in 100 year rainfall event plus 20% to account for the effects of climate change (DOBA, 2024a).*
- *All surface water runoff originating from Non-Process Areas (roofs, entrance roads) of the Proposed Development will be free of any process wastewater. This will also be routed through SuDS and an oil/fuel separator so that water quality is further improved. Only this process free surface water will discharge into the Cooleeny Stream.*
- *Bioretention Swales will be utilised as a SUDS measure to collect rainwater from internal roadways and hardstanding areas where possible.*
- *Onsite storage using a above ground lagoon/basin will be used in conjunction with a flow control device to detain excess runoff on site during rainfall events.*
- *A rainwater harvesting lagoon will be included to collect surface water runoff from hardstanding areas for use in the biomethane process.*
- *A class 1 bypass petrol interceptor is proposed before outfalling into the surface water basin.*
- *During construction, surface water from the proposed development will be treated and attenuated prior to discharging to the Cooleeny Stream. Further protection measures will include the use of silt buster/silt socks between the attenuation tank and Cooleeny stream.*
- *Desilting and petrochemical interception of all surface runoff/pumped water will take place for the length of the construction project.*
- *A head wall will be installed prior to construction, where the red line boundary intersects the Cooleeny Stream this will anchor the drainage pipe and prevent erosion of the bank.*

- *All concrete mixing and batching activities will be located in areas away from watercourses and drains;*
- *Good housekeeping (site clean-ups, use of disposal bins, etc.) will be implemented on the site."*

8.3.6 Additional Text to Section 8.5 (Page 8-37 of the Original EIAR)

The following additional text, shown in '**green**', is to be inserted into Section 8.5, of the original EIAR. The text is to be inserted at the end of Section 8.5 (i.e. after the section entitled 'Summary of SuDS Measures for Proposed Development') and before Section 8.6.

This amendment is made to reflect the provision of a Decommissioning Plan (Ref: 2429-DOB-XX-SI-RP-C-0005), dated February 2025, prepared by Donnachadh O'Brien & Associates Consulting Engineers (DOBA) (please refer to **Volume 3, Appendix 6.1**) and submitted as part of the Response to Request for Further Information.

The below additional text does not alter any of the preceding paragraphs in Section 8.5, nor does it require re-numbering of any sections before or after it within the original EIAR:

> ***"Summary of the Decommissioning Phase***
>
> *The biomethane production facility at Lisheen, Co. Tipperary, is proposed to be refitted after 15 years and has an intended operational lifespan of 30 years. A comprehensive Decommissioning Plan, prepared by Donnachadh O'Brien & Associates Consulting Engineers (Ref: 2429-DOB-XX-SI-RP-C-0005), outlines the strategy to decommission the 5.5-hectare site and restore it to pre-development conditions (enclosed as **Volume 3, Appendix 6.1**). The process involves disconnecting utilities, emptying digestors and storage facilities, removing specialist equipment (e.g., biogas conditioning units, CHP plant), demolishing buildings (e.g., digester tanks, processing units), removing internal access roads and concrete yards, grubbing up underground drainage and services, backfilling and levelling surfaces using stored fill, and reseeding to a greenfield state. These activities will be managed by a qualified contractor adhering to the Construction and Environmental Management Plan (CEMP) principles established for the construction phase, as detailed in the Decommissioning Plan and CMP (please refer to **Volume 3, Appendix 7.1**). A pre-decommissioning ecological survey, conducted no later than 6 months prior to works, will update the 2024 baseline to confirm the presence of Key Ecological Receptors (KERs) such as mammals or bats.*
>
> *(Please refer to the EIAR Addendum prepared in relation to Volume 2, Chapter 6 of the EIAR.)"*

8.3.7 Additional Text – A New Section 8.6.3.3.2 (Page 8-49 of the Original EIAR)

Following the preparation of the Decommissioning Plan (Ref: 2429-DOB-XX-SI-RP-C-0005), dated February 2025 (enclosed at Volume 3, Appendix 6.1), Section 8.6 has been updated to include a new subsection:

- **Section 8.6.3.3.2 – Potential Effects during the Decommissioning Phase**

This new section is to be inserted immediately after Section 8.6.3.3.1 and before Section 8.4 in the original EIAR.

The text for the new section is presented below in green and should be read in conjunction with the original content of Chapter 8, which was submitted with the planning application. The addition of this new section does not alter the numbering of any subsequent sections within Chapter 8:

> ***"8.6.3.3.2 Potential Effects during the Decommissioning Phase***
>
> *Decommissioning impacts are expected to be similar to those during the construction phase due to analogous activities. Temporary effects include noise and vibration from demolition (e.g., concrete crushing), dust from backfilling and vehicle movements, traffic disturbances from HGVs along the L3201/L4115 routes, and soil disturbance during drainage removal and levelling across the east-to-west slope (+126.65 mOD to +131.0 mOD). For mammals, a KER including badgers, hedgehogs, and rabbits recorded or likely present, demolition noise and vibration could disrupt foraging, resting, or breeding, particularly near scrub and hedgerows used as cover or commuting routes. Heavy machinery operations (e.g., equipment removal) may displace small mammals like hedgehogs or pygmy shrews from recolonising bare ground, while traffic noise along access routes could deter movement. Soil disturbance risks collapsing shallow burrows, and handling potentially contaminated digestate poses a localized pollution risk to foraging areas. These short-term, localized impacts are confined to the 2 km Zone of Influence (ZoI), with effects on other KERs like birds and bats also possible."*

8.3.8 Additional Text to Section 8.6.4.2 (Page 8-51 of the Original EIAR)

The following additional text, shown in '**green**', is to be inserted into Section 8.6.4.2, of the original EIAR. The text is to be inserted at the end of the passage entitled 'Operational Phase' within Section 8.6.4.2 and before Section 8.6.4.3. The below additional text does not alter any of the preceding paragraphs in Section 8.5, nor does it require re-numbering of any sections before or after it within the original EIAR:

> ***"Cumulative Effects -Decommissioning Phase***
>
> *Cumulative effects may occur if decommissioning overlaps with activities at the former Lisheen Mine or nearby agricultural operations. Combined noise, dust, and traffic from HGVs exiting via the southern private road could temporarily amplify disturbances along the lightly trafficked*

L3201/L4115. Over the 30-year lifespan, future plans within the 15 km ZoI (e.g., mine redevelopment) may emerge, requiring reassessment prior to decommissioning to ensure no in-combination impacts. Given the rural context, low baseline traffic, and temporary duration, significant long-term cumulative effects are unlikely with effective mitigation. No hydrological pathways to European sites like Lower River Suir SAC (14.8 km downstream) are anticipated, consistent with the Natura Impact Statement (NIS).”

8.3.9 Provision of a New Section 8.7.5 (Page 8-68 of the Original EIAR)

The following additional text, shown in ‘**green**’, is to be inserted as a new Section 8.7.5 to the original EIAR. The text is to be inserted after Section 8.7.4 and before Section 8.8.

The below additional text does not alter any of the preceding paragraphs in Section 8.7, nor does it require re-numbering of any sections before or after it within the original EIAR:

“8.7.5 Decommissioning Phase Mitigation

Mitigation aligns with construction-phase measures under the CEMP, with enhanced noise control to protect mammals. Noise and vibration control, critical for minimizing mammal disturbance, includes:

Standards and Equipment: *Adherence to BS 5228 standards, selecting quiet plant (e.g., low-noise generators, silenced compressors) and fitting effective exhaust silencers or acoustic canopies to diesel engines, reducing steady-state noise from demolition and equipment removal.*

Timing and Scheduling: *Works restricted to 08:00-18:00 Monday-Friday, avoiding nocturnal mammal activity (e.g., hedgehog foraging), with sequential plant startups to prevent sudden noise spikes startling fauna.*

Physical Barriers: *Construction hoarding (mass >7 kg/m^2) and demountable enclosures around operatives using noisy tools (e.g., breakers) to contain sound near mammal habitats like scrub and hedgerows, relocated as works progress.*

Monitoring: *Noise monitoring at periodic intervals at nearest sensitive locations (e.g., western hedgerow), targeting construction noise limits (e.g., 65 dB LAeq daytime), with immediate adjustments (e.g., silencing, rescheduling) if exceeded, conducted per ISO 1996 standards. Dust suppression uses water sprays, 20 kmph speed limits, and wheel washing, with dust monitoring at 350 mg/m^2/day. Traffic will follow a Traffic Management Plan using existing HGV route, agreed with Tipperary County Council. Contaminated materials will be transported in enclosed tankers to licensed facilities, with bunded fuel storage and spill kits preventing runoff. Drainage will remain operational with silt traps until phased removal, protecting the Cooleeny Stream. Vehicles and*

equipment will be cleaned pre-entry to prevent invasive species introduction, confirmed by the pre-decommissioning survey. Restoration involves backfilling with stored fill and reseeding with native species to stabilize soils and enhance mammal habitats. An Ecological Clerk of Works (ECoW) will oversee works, monitoring mammal activity and noise impacts, ensuring compliance as during construction."

8.3.10 Provision of a New Section 8.8.1 (Page 8-69 of the Original EIAR)

The following additional text, shown in '**green**', is to be inserted as a new Section 8.8.1 to the original EIAR. The text is to be inserted after Section 8.8 and before Section 8.9.

The below additional text does not alter any of the preceding paragraphs in Section 8.7, nor does it require re-numbering of any sections before or after it within the original EIAR:

"8.8.1 Residual Impacts

Post-mitigation, residual impacts are expected to be imperceptible. The complete removal of infrastructure, levelling to pre-development contours (+126.65 mOD to +131.0 mOD), and reseeding to a greenfield state will restore baseline conditions, supporting recolonising bare ground and local fauna. For mammals, temporary displacement from noise will cease as works end, with enhanced noise control ensuring minimal disruption to foraging or resting. Post-reseeding monitoring for 1-2 years will ensure habitat recovery matches pre-development ecology, benefiting mammal populations. Waste reuse and disposal at licensed facilities minimize environmental footprints, resulting in no significant long-term impacts on biodiversity within the ZoI."

8.4 Implications for the EIAR

Chapter 8 of the EIAR has been updated by way of this Addendum to ensure appropriate consideration of the Decommissioning Plan (Ref: 2429-DOB-XX-SI-RP-C-0005), dated February 2025 (please refer to **Volume 3, Appendix 6.1**). In addition, a number of clarifications have been made to enhance the accuracy and clarity of the chapter.

The amendments listed above do not fundamentally alter the assessment made in the EIAR, or its conclusions.

PURSER

Volume 2:

09

Land, Soils and Geology

EIAR Addendum: Nua Bioenergy, Lisheen
P-2024-35-59

9.0 Land Soils and Geology

9.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 9: Land, Soils and Geology** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 9 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

9.1.1 Consultant that carried out the work

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Gareth Carroll - Enviroguide**
  BA, BEng, MIEnvSc, CEnv

9.2 Request for Further Information Item

RFI Item No. 6 is applicable in relation to Volume 2, Chapter 9 of the EIAR. RFI Item No. 6 states:

> *"Notwithstanding the intermittent references to decommissioning throughout the Environmental Impact Assessment Report (EIAR), it is noted that no proposals have been submitted for this phase. The applicant is requested to confirm the intended operational lifespan of the development and to address the requirement for proposals for decommissioning as appropriate. In the event that a decommissioning phase is to be included, the applicant is requested to update all sections of the EIAR and appropriate supporting documentation to take account of this phase."*

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 9 of the EIAR. RFI Item No. 7 states:

> *"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum."*

RFI Item No. 7 (vi) is applicable in relation to Volume 2, Chapter 9 of the EIAR. RFI Item No. 7 (vi) states:

> *"The EIAR cites the undertaking of measures in accordance with a Construction Management Plan (CMP) as a mitigation measure. While the mitigation measures in the CMP are noted the full range of mitigation measures must be contained in the EIAR and any supporting document must be consistent with same. The Planning Authority note the CMP references demolition and asbestos removal which are not features of the development and the references to the construction compound location contained in the CMP is at variance with the compound location identified in the NIS. Consistency is required across all primary and supporting documents and the documents to be revised to address this."*

RFI Item No. 7 (viii) is applicable in relation to Volume 2, Chapter 9 of the EIAR. RFI Item No. 7 (viii) states:

> *"The EIAR does not assess the impact of the development on land and land use in the context of the development being a 'Lower Tier' COMAH establishment. The EIAR to be updated to address this matter."*

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

9.3 Clarifications and Amendments

The requests for clarification and necessary amendments in relation to Chapter 9 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Volume 2, Chapter 9 remains unchanged.

9.3.1 Additional Information to Section 9.5.2, Paragraph 7 (Page No. 9-25 of the Original EIAR)

The text below, shown in **'green'**, replaces Paragraph 7 of Section 9.5.2 and introduces five additional paragraphs providing further clarification regarding the site's 'lower tier' COMAH designation and the assessment carried out in the Land Use Planning Assessment (please refer to **Volume 3, Appendix 7.2**).

To aid readability and provide context, the original paragraphs immediately before and after the revised text are included in black.

This insertion does not alter the content or numbering of any preceding or subsequent paragraphs within Section 9.5.2, nor does it result in the renumbering of any sections in the original EIAR:

> *"The digestate produced will meet the quality and end-of-waste requirements of an agreed quality standard, such as Article 28 End of Waste, PAS110, or a standard agreed with the regulator. It will comply with DAFM transformation parameters and testing requirements as per CN 11: Approval and Operation of Biogas Plants Transforming Animal By-Products and Derived Products in Ireland (DAFM, 2014). Digestate liquid and fibre will be classified as bio-based fertilisers for use on agricultural lands, serving as direct replacements for chemical/mineral fertilisers. These digestates will primarily be returned to lands associated with feedstock supplies of crops and/or slurry, thereby promoting a local circular bioeconomy. Digestate receivers will manage the storage and application of bio-based fertilisers on their lands, subject to controls set out in S.I. No. 113 of the 2022 European Union (Good Agricultural Practice for Protection of Waters) Regulations 2022.*
>
> *Methane, the combustible component of biogas, is classified as a P2 flammable gas under Regulation (EC) No. 1272/2008 on the classification, labelling, and packaging of substances and mixtures. According to the Control of Major Accident Hazards (COMAH) regulations, P2 flammable gases are subject to a threshold quantity of 10 tonnes. As per the Land Use Planning Assessment by AWN Consulting, the proposed development is classified as a "lower tier" COMAH establishment under the Chemicals Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations, S.I. No. 209 of 2015.*
>
> *As documented a COMAH Land Use Planning Assessment has been prepared for the Proposed Development by AWN Consulting Ltd. (AWN) (AWN, 2025) (please refer to **Volume 3, Appendix 7.2**)*
>
> *There are no substances stored on site that have environmental hazard phrases and therefore there is no potential impact on the receiving land, soil and geology associated with the Proposed Development in the context of the development being a 'Lower Tier' COMAH establishment.*
>
> *Furthermore, the AWN (AWN, 2025) COMAH Land Use Planning Assessment (enclosed as part of the RFI response in **Volume 3, Appendix 7.2**) concludes that the individual location-based risk contours do not extend to an off-site work location or to an area where the public are present.*
>
> *It is also concluded that the Land Use Planning zones do not extend to sensitive receptors. Therefore, it is concluded that the criteria in Table 1 of the Guidance on Technical Land Use Planning advice (HSA, 2023) is met and level of off-site risk at the proposed development is acceptable. Human health is assessed in Chapter 4 of the EIAR.*

This classification means that the facility must comply with specific safety and reporting requirements to manage and mitigate risks associated with hazardous substances.

The Proposed Development will be subject to an Industrial Emissions (IE) licence under the provisions of the Environmental Protection Agency Act 1992, as amended. An application for this licence will be made to the EPA. The operator will comply with the environmental control and mitigation requirements as per the conditions of the IE licence to ensure there will be no effect on the receiving land, soil, and geological environment."

9.3.2 Provision of New Section 9.5.3 (Page No. 9-26 of the Original EIAR)

The text in **'green'** below forms the **new Section 9.5.3** to the original EIAR. The text is to be inserted after Section 9.5.2 and before Section 9.6.

The below additional text does not alter any of the preceding paragraphs in Section 9.5, nor does it require re-numbering of any sections before or after it within the original EIAR:

"9.5.3 Characteristics of the Decommissioning Phase

As documented in the Decommissioning Plan (EIAR Addendum - **Volume 3, Appendix 6.1**) prepared by Donnachadh O'Brien & Associates Consulting Engineers Ltd. (DOBA) (DOBA, 2025) in response to a Request for Further Information *(Reg. Ref. 2460936), the decommissioning phase of the proposed development will comprise the following:*

- *Disconnecting existing utilities*
- *Emptying digestors and storage facilities of all stored materials/products*
- *Removal of specialist equipment and plant*
- *Demolition and removal of buildings*
- *Removal of internal access roads and concrete yards*
- *Grubbing up underground drainage and services*
- *Backfilling and levelling of surfaces*
- *Re-Seeding of final surface*

(Please refer to the Decommissioning Plan (Ref: 2429-DOB-XX-SI-RP-C-0005), dated February 2025 enclosed in EIAR Volume 3, Appendix 6.1.)"

9.3.3 Provision of a New Section 9.6.2.1 (Page No. 9-29 of the Original EIAR)

The following additional text, shown in '**green**', is to be inserted as a **new Section 9.6.2.1** to the original EIAR. The text is to be inserted after Section 9.6.2 - Operational Phase (Page No. 9-29) and before Section 9.6.3 - Potential Cumulative Effects Assessment.

The below additional text does not alter any of the preceding paragraphs in Section 9.6, nor does it require re-numbering of any sections before or after it within the original EIAR.

"9.6.2.1 Decommissioning Phase

9.6.2.1.1 Land Take and Land Use

The proposed development will require approximately 5.5 hectares of land, changing it from undeveloped brownfield to industrial use. As documented in the Decommissioning Plan (DOBA, 2025), (enclosed in ***Volume 3, Appendix 6.1****) the Proposed Development has been carefully designed to balance the cut and fill. During the construction phase, the excess fill generated during excavations for the construction of the anaerobic digestion plant and other infrastructure, will be stored and used as landscaped berms. As part of the decommissioning works, these landscaped berms will be levelled and the fill re-used for reinstatement and filling of the bund and deep storage ponds. Following the levelling of the site to the pre-development condition, the full site will be reinstated and reseeded to match the natural growth of the local environs of the larger Lisheen area. Consequently, there will be an unavoidable land take, resulting in a 'neutral', 'moderate', and 'permanent' effect on land and soil which would be returned to brownfield land with ground levels reflecting the predevelopment arrangement.*

9.6.2.1.2 Excavation of Soil and Subsoil

The soils underlying the site are considered to be of 'Very High' importance due to it being located within the Lisheen Mine geological heritage site (Site Code: TY044) (refer to Chapter 9 Section 9.4.14 of the EIAR). The decommissioning phase of the Proposed development will require some limited excavation of soil and subsoil during the demolition and removal of buildings, internal access roads, concrete yards, underground drainage and services. It is noted that it is not intended to remove the foundations of the structures from the ground. The pre-construction ground conditions at the site of the Proposed Development comprise open undeveloped brownfield lands. During the decommissioning phase, the site will have been subsequently developed and therefore given the limited and shallow nature of the excavations further effects on undisturbed geological features are unlikely. Overall, the effect on the Lisheen Mine geological heritage site is considered to be 'neutral', 'imperceptible', and 'permanent'.

9.6.2.1.3 Soil Structure

During the construction phase excavated soil and subsoil will be retained onsite and incorporated into the landscape design for the Proposed Development. As mentioned above, during the decommissioning works the landscaped berms will be levelled and the fill re-used for reinstatement and filling of the bund and deep storage ponds. Therefore, there will be potentially

an unavoidable 'negative', 'slight' and 'permanent' impact to structure of excavated soils that will be used in the restoration of the site.

9.6.2.1.4 Soil Quality

The digestors and storage facilities may contain contaminated matter as part of the AD Processing. Similarly, all of the equipment/structures within the bund may contain process material. The potential accidental release of process waste residues during decommissioning through a materials' handling accident could potentially result in a 'negative', 'moderate to significant', 'long-term' effect on the receiving soil and geology depending on the nature of the incident.

The potential accidental release of deleterious materials including fuels and other materials being used onsite, through the failure of secondary containment or a materials' handling accident on the Proposed development could potentially result in a 'negative', 'moderate to significant', 'long-term' effect on the receiving soil and geology depending on the nature of the incident.

9.6.2.1.5 Dust Generation

There is a potential for creation of windblown dust generation from the use of excavators, HGVs (heavy goods vehicles) and vibrating rollers during the decommissioning phase of the Proposed Development. An assessment of the potential effect of the Proposed development with regard to the generation of dust is addressed in Chapter 11 of the EIAR.

9.6.2.1.6 Importation of Materials

The decommissioning phase of the Proposed development will require the importation of clean, inert topsoil. In the unlikely event of the importation of contaminated materials are inadvertently infilled on the site there would be a 'negative', moderate' and medium term' impact on the receiving environment.

9.3.4 Additional Paragraphs to Section 9.6.3.1 (Page No. 9-30 of the Original EIAR)

The following additional text, shown in **'green'**, is to be inserted as new paragraphs within Section 9.6.3.1 of the original EIAR.

This additional text provides further information regarding potential cumulative effects associated with the Decommissioning Phase. For clarity and ease of reference, the original paragraphs from Section 9.6.3.1 are included in 'black' to provide context. This addition does not change the content or numbering of any preceding paragraphs within Section 9.6.3.1, nor does it require renumbering of any sections before or after it within the original EIAR.

*"**9.6.3.1 Screening***

During the operational phase of the Proposed Development, no significant cumulative effects on land, soils, and geology are anticipated. However, during the construction phase of the Proposed Development, while there is no requirement to remove excavated soils from the site, where potentially unsuitable material is identified through engineering and environmental assessment, it could potentially be directed to the same receiving waste facilities for recovery or disposal as excavated materials from other developments. Furthermore, the importation of aggregates to the Proposed Development may be sourced from the same borrow site as other permitted developments. Therefore, there may be potential cumulative effects on land, soils, and geology due to the combined effect of waste management activities and material importation from this and other nearby developments.

Contract and procurement procedures will ensure that all infill materials imported to the site during the decommissioning phase are coming from known sources which have previously been inspected and will be in accordance with all relevant statutory consents for both the source sites and the Proposed Development. The potential effects may include loss of attributes and changes in the geological regime at the source site. It is anticipated that the required aggregates identified for importation onsite will be 'indirect' and have a 'neutral,' 'imperceptible' and 'permanent' effect on the source site taking account of the fact that the statutory consent process would have required the necessary environmental effects to be assessed and mitigated as appropriate at the source site.

Furthermore, the import of topsoil that may otherwise be diverted to landfill in the absence of the Proposed development with loss of soil and stone resources will result in an overall 'positive', 'slight to moderate' and 'long term' impact by preventing loss of soil and geological resource to landfill and using this material for restoration purposes.

All projects included in the long list of "other existing and/or approved projects", including the permitted but not yet constructed Biorefinery proposed by Glanbia (now Tírlán) at the former Lisheen Mine site, have been screened in for further assessment to evaluate their cumulative effects comprehensively."

9.3.5 Provision of additional text to Section 9.7.1 (Page No. 9-32 of the Original EIAR)

The following additional text, shown in '**green**', is inserted as additional text to Section 9.7.1 of the original EIAR. It is to be inserted after the existing text within Section 9.7.1 and before Section 9.7.1.1.

This amendment is made to reflect the provisions of the updated Construction Management Plan (Ref: 2429-DOB-X-SI-RP-C-003), prepared by Donnachadh O'Brien & Associates and dated February 2025, which is submitted as part of the Response to the Request for Further Information (Please refer to **Volume 3, Appendix 7.1**).

The inclusion of this text ensures that the mitigation measures in the EIAR align fully with those set out in the updated Construction Management Plan (please refer to **Volume 3, Appendix 7.1**), in line with the requirements of RFI Item No. 7(vi) and specifically relate to the protection of land, soil and geology.

This change does not alter any of the preceding or subsequent paragraphs in Section 9.7.1 of the original EIAR, nor does it require re-numbering of any sections before or after it within the original EIAR.

"Clarification of the Construction Management Plan (CMP) Mitigation Measures

The full range of mitigation measures detailed in the CMP in relation to the protection of land, soil and geology are detailed in Chapter 9 of the EIAR. However, in the interest of clarity, the relevant measures detailed in the CMP are summarised below:

- *"Stockpiling of loose materials will be a minimum of 20m from drains.*
- *Stockpiles and runoff areas following clearance will have suitable silt barriers to prevent runoff of fines into the drainage system*
- *Fuel, oil and chemical storage will be sited within a bunded area. The bund will be at least 50m away from drains, excavations and other locations where it may cause pollution.*
- *All hazardous materials will be stored within secondary containment designed to retain at least 110% of the storage contents and temporary bunds for oil/diesel storage tanks will be used on the site. Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination.*
- *Site layout during excavation works will be designed to ensure vehicles do not enter the works area unless necessary for the excavation and soil removal processes. All machinery leaving the works area will be thoroughly cleaned before being allowed on to public roads. A road sweeper (including vacuum) will be in place (as required) to unsure cleanliness of nearby and haul roads (where necessary), particularly during enabling works.*
- *Dust may deposit on surrounding roads thus entering into the surface water network. Effective site management regarding dust emissions will be carried out.*
- *Good housekeeping (site clean-ups, use of disposal bins, etc.) will be implemented on the site.*
- *Provide adequate security to potential pollutants against vandalism.*
- *Provide procedures to ensure that any spillages will be immediately contained, and contaminated soil shall be removed from the proposed development and properly disposed of in an appropriately licensed facility.*
- *Minimise dust generation by wetting down haul roads.*
- *Store stockpiles of earthworks and site clearance material on impermeable surfaces and covered with appropriate materials.*
- *Place silt traps in road gullies to capture any excess silt in the run-off from working areas.*
- *Carry out earthworks operations such that surfaces shall be designed with adequate falls, profiling and drainage to promote safe runoff and prevent ponding and flooding.*

The Contractor shall employ a suitably qualified person to monitor excavations in made ground to ensure that any contaminated material is identified, segregated and disposed of appropriately. The Contractor shall monitor excavations to ensure consistency with the descriptions and classifications according to waste acceptance criteria testing carried out as part of the site investigations. Any identified hotspots shall be segregated and stored in an area where there is no possibility of runoff generation or infiltration to ground or surface water drainage. In addition, care shall be taken to ensure that the hotspots do not cross contaminate clean soils elsewhere.

The Contractors CEMP will include a plan for responding to emergencies and shall include actions for dealing with potential pollution incidents such as:

- *Containment measures.*
- *Emergency discharge routes.*
- *List of appropriate equipment and clean-up materials.*
- *Maintenance schedule for equipment.*
- *Details of trained staff, location and provision for 24-hour cover.*
- *Details of staff responsibilities.*
- *Notification procedures to inform the EPA or Environmental Department of Tipperary County Council Audit and review schedule.*
- *Telephone numbers of statutory water consultees.*
- *List of specialist pollution clean-up companies and their telephone numbers.*

The Contractor will be required to produce a Construction & Demolition Waste Management Plan (CDWMP) for approval by Tipperary County Council prior to commencing the construction phase of the proposed development.

Prior to commencement of the works on site, a RILTA Suite of Geo-Environmental Tests will be carried out and compared with the European limits for inert landfills as set out in the European Council Decision 2003/33/EC Establishing Criteria and Procedures for the Acceptance of Waste at Landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC. The results of the WAC analyses will determine compliance with the inert landfill limits as stipulated in the European Landfill Directive and the excavated soils will be classified prior to removal from site.

Any potentially contaminated material encountered during construction, will require testing and classification as either non-hazardous or hazardous in accordance with the EPA publication entitled 'Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous' 13 using the HazWasteOnline application. The material will then need to be classified as clean, inert, non-hazardous or hazardous in accordance with the EC Council Decision 2003/33/EC. The Contractor will be responsible for determining how excavation material from the proposed development will be managed and a full list of all facilities to which hazardous and non-hazardous waste excavation soil and stones will be sent will be provided in the detailed CMP prepared by the Contractor.

The re-use of clean, inert / non-hazardous excavation material as landscaping or engineering fill will also be considered following appropriate material testing and risk assessment to ensure the material is suitable for its proposed end use. Where excavation material may not be re-used within the proposed works the Contractor will endeavour to send material for recovery or recycling so far as is reasonably practicable or disposal to an appropriate licensed landfill in accordance with the Landfill Decretive.

The reuse of excavated material must be certain. There must be no intention or requirement for it to be discarded. In addition, there must be no further processing required in order for it to be reused. Soil, rock and naturally occurring material excavated in the course of construction activities can be reused within the proposed development where feasible, subject to further testing to determine if materials meet the specific engineering standards for their proposed end-use. Where naturally occurring, material is used for the purpose of construction in its natural state within the proposed development this material is not deemed to be a Waste in accordance with Article 2 of the Waste Directive 2008/98/EC, the European Communities (Waste Directive) Regulations, 2011 and Section 3 of the Waste Management Act 1996, as amended. Where a certificate of registration, Waste facility permit or Waste licence is required by the Contractor in order to reuse excavation material within the proposed development this will be obtained from either the local authority or the EPA.

Article 27 of the EC Waste Directive Regulations 2011 permits surplus excavation material to be declared as a by-product for use in one of more known construction projects. An Article 27 notification to the EPA under Article 27 of the EC Waste Directive Regulations 2011 is required to achieve by-product status for soil and stones. By-product notifications to the EPA provide an opportunity for reuse of surplus clean soil & stone material arising from construction activity which bring significant economic benefits while facilitating beneficial re-use of byproducts.

Prior to the commencement of construction, the CMP will be updated to reflect specific measures to minimise waste generation and resource consumption during construction, including providing details of proposed waste contractors and destinations of each waste stream while the CMP will be fully implemented during the proposed construction phase. This may include the importation/exportation of topsoil and subsoil while the Site Investigation (SI), Waste Acceptance Criteria Testing (WAC testing) and Soil Analysis will be used to classify and determine the suitability of soil. Furthermore, a layer of approx. 200mm of granular material, currently being used to facilitate the construction compound for the adjacent development, will need to be removed from site to facilitate the proposed development. Any soil (topsoil and subsoil) identified as 'contaminated' or not equivalent to virgin greenfield for by-product soil and stone, will be treated as waste and will be segregated on-site, stored in skips or other suitable receptacles in designated areas and will be removed from site to a suitable waste facility by a registered waste contractor. All waste leaving the site will be transported by suitably permitted contractors and taken to suitably registered, permitted or licensed facilities. Where soil and stone can be re-used as fill, and is

considered to be a By-Product, it will be imported/ exported under notification of Article 27 to the EPA, in accordance with Article 27 of the EC (Waste Directive) Regulations (2011). EPA approval will be obtained prior to moving material as a By-Product. Finally, a log of all By-Product material movements will be recorded and maintained."

9.3.6 Provision of New Section 9.7.3 (Page No. 9-38 of the Original EIAR)

The following additional text, shown in '**green**', is to be inserted as a new Section 9.7.3 to the original EIAR. The text is to be inserted after Section 9.7.2 and before Section 9.8.

The below additional text does not alter any of the preceding paragraphs in Section 9.7, nor does it require re-numbering of any sections before or after it within the original EIAR.

9.7.3 Decommissioning Phase

*During the decommissioning phase of the Proposed Development, all works will be undertaken in accordance with the Decommissioning Plan (DOBA, 2025) (please refer to **Volume 3, Appendix 6.1**). Following appointment, the contractor will be required to further develop the Decommissioning Plan to provide detailed construction phasing and methods to manage and prevent any potential emissions to ground and surface water with regard to the relevant industry standards (e.g., C532 Control of Water Pollution from Construction Sites, C692 Environmental Good Practice on Site, ICE Earthworks and TII Specification for Road Works Series 600 - Earthworks).*

The Decommissioning Plan identifies the minimum requirements with regard to the appropriate mitigation, monitoring, inspection and reporting mechanisms that need to be implemented throughout construction. Compliance with the Decommissioning Plan does not absolve the appointed contractor or its sub-contractors from compliance with all legislation and bylaws relating to their decommissioning activities. The Decommissioning Plan will be implemented for the duration of the decommissioning phase, covering construction and waste management activities that will take place during the decommissioning phase of the Proposed Development.

Re-use of Soils

The re-use of existing soils onsite will be carefully managed and maintained in order to minimise potential impact on soil quality. Double handling of the soils will be minimised. Dedicated internal haul routes will be established and maintained by the contractor to prevent tracking over unprotected soils. Exclusion zones will be established where soft landscaping is proposed in particular along site boundaries which are outside of the excavation areas to ensure soil structure is maintained.

Importation of Materials

Contract and procurement procedures will ensure that all imported topsoil required for the decommissioning phase of the Proposed development will be sourced from reputable suppliers operating in a sustainable manner and in accordance with industry conformity/compliance standards and statutory obligations. The importation of topsoil will be subject to management and control procedures which will include testing for contaminants, invasive species and other anthropogenic inclusions and assessment of the suitaaility for use in accordance with engineering and environmental specifications for the Proposed Development. Therefore, any unsuitable material will be identified prior to unloading / placement onsite. a

Reinstatement

The re-profiling of the surface will be carried out to allow for the planting of native grassland as recommended by Teagasc. The re-profiling works will be supervised by a qualified landscape architect to ensure that the filling is carried out in a manner that will derive maximum benefit from this.

Airborne Dust

Decommissioning activities on-site, including the handling of soils, will be undertaken in accordance with the documented procedures outlined in the Decommissioning Plan (DOBA, 2025) (please refer to ***Volume 3, Appendix 6.1****) in order to protect ground and minimise airborne dust. The measures required to prevent airborne dust emissions and associated nuisance arising from site work will be in place including measures to prevent uncovered soil drying out leading to wind pick up of dust and mud being spread onto the local road network and adjoining properties. This may require additional wetting at the point of dust release, dampening down during dry weather and wheel cleaning for any vehicles leaving the site. Potential effects and avoidance and mitigation measures associated with generation of dust are addressed in Chapter 11 of this EIAR Addendum.*

Emptying Digestors and Storage Facilities of All Stored Materials / Products

The emptying of digestors, storage facilities and equipment/structures within the bund will be undertaken in accordance with the measures outlined in the Decommissioning Plan (DOBA, 2025) (please refer to ***Volume 3, Appendix 6.1****). Prior decommissioning and demolition works, it will be the decommissioning contractor's responsibility to ensure that the digestors, storage facilities and equipment/structures are emptied out and raw materials removed offsite and disposed of in a safe and appropriate manner to a licensed waste facility in accordance with all relevant waste management legislation. Furthermore, an emergency response plan for the decommissioning phase to deal with accidental spillages will be prepared prior to works commencing.*

Waste Management

Any waste generated from decommissioning activities will be managed in accordance with the procedures outlined in the Dust Management Plan (DOBA, 2025) and will be stored onsite in such a manner as to:

Prevent environmental pollution (bunded and/or covered storage, minimise noise generation and implement dust/odour control measures, as may be required).
Maximise waste segregation to minimise potential cross contamination of waste streams and facilitate subsequent re-use, recycling and recovery.
Prevent hazards to Site workers and the general public during Construction Phase (largely noise, vibration and dust.

The management of waste generated during the decommissioning phase of the Proposed development is assessed in Chapter 15 of this EIAR Addendum.

Handling of Fuels, Chemicals and Materials

During the decommissioning phase of the Proposed Development, site vehicles will be required to be refuelled. As documented in the Decommissioning Plan (DOBA, 2025) (please refer to ***Volume 3, Appendix 6.1****), all fuel storage areas will be bunded in the compound and will be clearly marked. Fuel will be transported from the offsite compound to the plant and equipment in mobile units based on need. A dedicated fuel filling point will be set up on-site with all plant brought to this point for filling. Only designated and trained personnel will be authorised to refuel vehicles. An emergency plan for the decommissioning phase to deal with accidental spillages will be developed. Spill kits will be available to deal with and accidental spillage in and outside the refuelling area. Storage of fuel, or any other hazardous materials will be kept to a minimum.*

Welfare Facilities

Welfare facilities have the potential, if not managed appropriately, to release organic and other contaminants to ground or surface water courses. Foul drainage from temporary welfare facilities during the decommissioning phase of the Proposed development will be discharged to temporary holding tank(s) the contents of which will periodically be tankered off site to a licensed facility. All waste from welfare facilities will be managed in accordance with the relevant statutory obligations by tankering of wwater offsite by an appropriately authorised contractor. w

9.3.7 Addition of Text to Section 9.8 (Page No. 9-39 of the Original EIAR)

The text in **'green'** below forms an additional paragraph to **Section 9.8.** The additional text provides further information regarding the "worst case" scenario taking the decommissioning phase into consideration. The text is to be inserted after the existing text within Section 9.8 and before Section 9.9.

> *"...During the decommissioning phase of the proposed development, the potential accidental release of hazardous materials, including fuels, waste materials and process waste residues, could effect the receiving land, soil, and geology environment. Such an event would only occur through the failure of secondary containment or a major incident on the site. However, this worst-case scenario is considered unlikely due to the emergency procedures developed for the existing facility in accordance with the Decommissioning Management Plan which will be strictly enforced to prevent any accidental releases, further minimising potential risks."*

9.3.8 Addition of Text to Section 9.9 (Page No. 9-39 of the Original EIAR)

The text in **'green'** below forms an additional paragraph to **Section 9.9.** The additional text provides further information assessing the residual effects of the decommissioning phase. The text is to be inserted after the existing text within Section 9.9 and before Table 9-6. Residual Effects.

> *"...The predicted effects of the decommissioning phase of the proposed development are described in Table 9-7 in terms of quality, significance, extent, likelihood, and duration. The relevant mitigation measures are detailed, and the residual effects are determined which take account of the avoidance, remedial and mitigation measures.*
>
> *Overall, there is no significant residual effects on land, soils and geology anticipated regarding the decommissioning phase of the proposed development."*

9.3.9 Addition of Text to Table 9-6 (Page No. 9-41 of the Original EIAR)

The text in **'green'** below forms additional rows to **Table 9-6** of the original EIAR**.** The additional text provides further information assessing the residual effects of the decommissioning phase. The text is to be inserted after the existing text within Table 9-6 and before Section 9.10.

Activity	Attribute	Predicted Effect	Quality	Significance	Duration	Type	Mitigation	Residual Effect
Decommissioning Phase								
Decommissioning of the Proposed Development	Land Take and Land Use	As part of the decommissioning works, the landscaped berms will be levelled and the fill re-used for reinstatement and filling of the bund and deep storage ponds. Following the levelling of the site to the pre-development condition.	Neutral	Moderate	Permanent	Direct	Unavoidable and no mitigation. The full site will be reinstated and reseeded to match the natural growth of the local environs of the larger Lisheen area.	Moderate
Accidental Release of Process Waste Residues	Soils, Subsoils and Bedrock	Potential (albeit low) for uncontrolled release of process waste residues during decommissioning of digestors, storage facilities, equipment and structures through	Negative	Moderate to Significant	Long Term	Direct / Worst Case	The emptying of digestors, storage facilities and equipment/structures within the bund will be undertaken in accordance with the measures outlined in	Imperceptible

Activity	Attribute	Predicted Effect	Quality	Significance	Duration	Type	Mitigation	Residual Effect
Decommissioning Phase								
		a materials handling accident, to the land, soil, and geological environment					the Decommissioning Plan.	
Accidental Release of Deleterious Materials (e.g., Fuels or Other Hazardous Materials Being Used Onsite).	Soils, Subsoils and Bedrock	Potential (albeit low) for uncontrolled release of deleterious materials including fuels and other materials being used onsite, through the failure of secondary and tertiary containment or a materials handling accident, to the land, soil, and geological environment.	Negative	Moderate to Significant	Long Term	Direct / Worst Case	Refuelling of plant and storage of any deleterious materials including fuels will be undertaken in accordance with the requirements and procedures outlined in the Decommissioning Plan.	Imperceptible

Additional Rows to be added to Table 9-6: Residual Effects of the original EIAR.

9.3.10 Provision of New Section 9.10.3 (Page No. 9-42 of the Original EIAR)

The following additional text, shown in '**green'**, is to be inserted as a new Section 9.10.3 to the original EIAR. The text is to be inserted after Section 9.10.2 and before Section 9.11.

The below additional text does not alter any of the preceding paragraphs in Section 9.10, nor does it require re-numbering of any sections before or after it within the original EIAR.

> ***"9.10.3 Decommissioning Phase***
>
> *During the decommissioning phase the following monitoring measures will be considered:*
>
> - *Routine monitoring and inspections during refuelling and emptying digestors and storage facilities of all stored materials / products to ensure no effects and compliance with avoidance, remedial and mitigation measures.*
> - *Inspections and monitoring will be undertaken during demolition works, excavations and other groundworks to ensure that measure that are protective of soil and water quality are fully implemented and effective.*
> - *Materials management and waste audits will be carried out at regular intervals to monitor the following:*
>   - *Management of soils on-site and for removal offsite.*
>   - *Record keeping.*
>   - *Traceability of all materials, surplus soil, process waste residues and other waste removed from the site.*
>   - *Ensure records are maintained of material acceptance at the end destination."*

9.3.11 Additional Text to Section 9.11 (Page No. 9-42 of the Original EIAR)

The following additional text, shown in '**green'**, is to be inserted as additional text to Section 9.11 of the original EIAR.

For clarity and ease of reading, the full text of Section 9.11 is reproduced below. Within this, the original text from the Original EIAR is shown in black for context, while the new additional text relating to the Decommissioning Phase is presented in '**green'.**

(A full revision of Section 9.11 is not required; the decommissioning phase can be appropriately addressed by way of this additional text, ensuring all relevant interactions are fully considered.)

"9.11 Interactions – Decommissioning Phase

9.11.1 Population and Human Health

"An assessment of the potential effect of the Proposed Development on human health is included in Chapter 7 of this volume.

There is a potential risk of dust generated from excavation and stockpiling of soil during the construction phase of the Proposed Development posing a human health risk in the absence of standard avoidance and mitigation measures which will be implemented to be protective of human health. Appropriate industry standard and health and safety legislative requirements will be implemented during the construction phase of the Proposed Development that will be protective of site workers.
The geophysical survey undertaken for the site (Minerex, 2024) indicated the potential presence of karstified rock. In karst-prone areas, alterations in groundwater flow, exacerbated by additional water such as rainfall infiltration, can lead to increased rock erosion and the formation of voids. The design and specification for all buildings will be in accordance with current Building Regulations and therefore avoiding any potential risks associated with karst features

An assessment of the potential effect of the Proposed Development during the decommissioning phase on human health is included in Chapter 7 of the EIAR Addendum.

There is a potential risk of dust generated from demolition works, excavations and temporary stockpiling of soil during the decommissioning phase of the proposed development posing a human health risk in the absence of standard avoidance and mitigation measures which will be implemented to be protective of human health. Appropriate industry standard and health and safety legislative requirements will be implemented during the decommissioning phase of the proposed development that will be protective of site workers."

9.11.2 Biodiversity

An assessment of the potential effects of the proposed development on the biodiversity of the site, with emphasis on habitats, flora and fauna which may be effected a result of the decommissioning phase are included in Chapter 8 of the EIAR addendum. *It also provides an assessment of the effects of the decommissioning phase of the proposed development on habitats and species, particularly those protected by national and international legislation or considered to be of particular conservation importance and proposes measures for the mitigation of these effects.*

9.11.3 Hydrology and Hydrogeology

An assessment of the potential effect of the decommissioning phase of the proposed development on the hydrological and hydrogeological environment is included in Chapter 10 the EIAR Addendum. In the absence of avoidance, remedial, and mitigation measures, demolition works, excavations and temporary stockpiling of soils pending re-use may potentially create pathways for potential sources of contamination to enter underlying groundwater. *Activities associated with the decommissioning phase will also involve the use of potentially hazardous materials such as fuels, oils, and other substances, in addition to the handling and removal offsite of process waste residues.* An uncontrolled release of these materials, whether through containment failure or handling accidents, could effect the surrounding environment. Furthermore, it is noted that groundwater storage in karstified bedrock is low, limiting the potential for contaminant attenuation in such aquifers. Procedures for the protection of the receiving water environment during the decommissioning phase of the proposed development are set out in Chapter 10 of the EIAR Addendum.

9.11.4 Air Quality

The excavation of soils across the site and the temporary stockpiling of soils pending reuse or removal offsite has the potential to generate nuisance effects (i.e., dust) during the decommissioning phase of the proposed development. An assessment of the potential effect of the Proposed Development on air quality (including odours) is included in Chapter 11 of the EIAR Addendum.

9.11.5 Landscape and Visual

The decommissioning of the proposed development will reinstate the lands at the site to pre-development conditions. The full site will be reinstated and reseeded to match the natural growth of the local environs of the larger Lisheen area. An assessment of the potential effect of the decommissioning phase of the proposed development on the receiving landscape is included in in Chapter 18 of the EIAR Addendum.

9.11.6 Traffic, Transport and Waste

The proposed development has been carefully designed to balance the cut and fill. It is intended to retain and re-use the landscaped berms developed during the construction phase and the excavated soil and subsoil generated during decommissioning works to reinstate the site to pre-development conditions. However, where required, unsuitable material will require removal offsite. An assessment of the potential effect of the proposed development on Traffic and Transport and Material Assets (Waste) are included in Chapter 14 and Chapter 15 of the Addendum EIAR respectively."

9.4 Implications for the EIAR

Overall, there is no significant residual effects on land, soils and geology anticipated regarding the decommissioning phase of the Proposed Development.

9.4.2 Amendments – Section 9.5.2 Paragraph 7 – COMAH Designation

The AWN assessment, (Land Use Planning Report Ref: 247501.0417RR01a) submitted as part of the RFI submission is conducted in line with 2023 Health and Safety Authority (HSA) guidance, indicates that individual risk contours do not extend beyond the site boundary to any off-site workplaces or areas accessible to the public. Additionally, the Land Use Planning zones do not impact sensitive receptors, confirming that the off-site risk levels are within acceptable limits per the HSA guidance. These steps ensure adherence to safety protocols, protecting both on-site staff and the surrounding community. The Operational Phase of the Proposed development will be operated in accordance with the requirements of the IE Licence and EMS for the facility which will take account of the risk assessments, safety training, and emergency planning procedures in line with COMAH requirements.

Irrespective of the COMAH designation, all likely effects of the proposed development on the receiving land, soils and geology receiving environment have been assessed. The COMAH designation of the site does not the alter assessment undertaken as part of the EIAR.

9.4.3 Addendum - Assessment of 'Lower Tier' COMAH Designation

There is no potential impact on the receiving land, soil and geology associated with the Proposed development in the context of the development being a 'Lower Tier' COMAH establishment.

9.4.4 Clarification - *Construction Management Plan (CMP) Mitigation Measures*

The full range of mitigation measures detailed in the CMP in relation to the protection of land, soil and geology are detailed in Chapter 9 of the EIAR in revised section 9.6.3.3 Mitigation Measures. It is confirmed that the Land, Soils and Geology chapter have made reference to and follow the relevant mitigation measures as set out in the revised Construction Management Plan (Ref: 2429-DOB-X-SI-RP-C-003) prepared by Donnachadh O'Brien & Associates Consulting Engineers included in this EIAR Addendum in **Volume 3 Appendix 7.1**.

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RECEIVED: 05/03/2025

Volume 2:

10

Hydrology and Hydrogeology

EIAR Addendum: Nua Bioenergy, Lisheen
P-2024-35-59

10.0 Hydrology and Hydrogeology

10.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 10: Hydrology and Hydrogeology** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 10 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

10.1.1 Consultant that carried out the work

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Gareth Carroll – Enviroguide**
  BA, BAI, MIEnvSc, CEnv

- **Warren Vokes**
  BA, MSc MCIWEM C.WEM

10.2 Request for Further Information Item

RFI Item No. 6 is applicable in relation to Volume 2, Chapter 10 of the EIAR. RFI Item No. 6 states:

> *"Notwithstanding the intermittent references to decommissioning throughout the Environmental Impact Assessment Report (EIAR), it is noted that no proposals have been submitted for this phase. The applicant is requested to confirm the intended operational lifespan of the development and to address the requirement for proposals for decommissioning as appropriate. In the event that a decommissioning phase is to be included, the applicant is requested to update all sections of the EIAR and appropriate supporting documentation to take account of this phase."*

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 10 of the EIAR. RFI Item No. 7 states:

> *"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum."*

RFI Item No. 7 (iv) is applicable to Volume 2, Chapter 10 of the EIAR. RFI Item No. 7 (iv) states:

> *"The EIAR under Section 10.6.1.2 contains the following statement: Where dewatering of excavations is required or where water must be pumped from the excavations, water will be discharged by the contractor, following appropriate treatment (e.g., settlement or hydrocarbon interceptor), to sewer, watercourses or groundwater in accordance with the necessary discharge licences issued by UE under Section 16 of the Local Government (Water Pollution) Acts and Regulations for any water discharges to sewer or from Kildare County Council under Section 4 of the Local Government (Water Pollution) Act 1977, as amended in 1990 for discharges to surface water / groundwater. Clarification is sought on the relevance of the foregoing to the proposed project. If not relevant it should be omitted from the EIAR."*

RFI Item No. 7 (vi) is applicable to Volume 2, Chapter 10 of the EIAR. RFI Item No. 7 (vi) states:

> *"The EIAR cites the undertaking of measures in accordance with a Construction Management Plan (CMP) as a mitigation measure. While the mitigation measures in the CMP are noted the full range of mitigation measures must be contained in the EIAR and any supporting document must be consistent with same."*

RFI Item No. 7 (viii) is applicable to Volume 2, Chapter 10 of the EIAR. RFI Item No. 7 (viii) states:

> *"The EIAR does not assess the impact of the development on land and land use in the context of the development being a 'Lower Tier' COMAH establishment. The EIAR to be updated to address this matter"*

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

10.3 Clarifications and Amendments

The requests for clarification and necessary amendments in relation to Chapter 10 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Volume 2, Chapter 10 remains unchanged.

10.3.1 Amendments to Section 10.5.2 (Page No. 10-45 of the Original EIAR)

The final sentence of **Section 10.5.2, Paragraph 7 of the original EIAR** is incorrect. It has been removed and a new sentence inserted in **'green'**.

Two (2 No.) additional paragraphs also have been inserted into Section 10.5.2 providing further information regarding the Land Use Planning Assessment and COMAH designation. The additional paragraphs are inserted after paragraph 7 and before paragraph 8 (Page No. 10-45). For clarity the original paragraph 8 (which becomes paragraph 10) is inserted below in 'black' to provide context.

There are no alterations to the numbering sequence as a result of these amendments. The revised text is as follows:

> *"Methane, the combustible component of biogas, is classified as a P2 flammable gas under Regulation (EC) No. 1272/2008 on the classification, labelling, and packaging of substances and mixtures. According to the Control of Major Accident Hazards (COMAH) regulations, P2 flammable gases are subject to a threshold quantity of 10 tonnes. This means that any biogas facility storing less than 10 tonnes of methane is not subject to COMAH regulations. The proposed development will be classified as a Lower Tier COMAH establishment and therefore, falls under the requirements of the Control of Major Accident Hazards Regulations, 2015 (COMAH Regulations 2015)".*
>
> *The AWN assessment, submitted as part of this RFI response, conducted in line with 2023 Health and Safety Authority (HSA) guidance, indicates that individual risk contours do not extend beyond the site boundary to any off-site workplaces or areas accessible to the public. Additionally, the Land Use Planning zones do not impact sensitive receptors, confirming that the off-site risk levels are within acceptable limits per the HSA guidance. These steps ensure adherence to safety protocols, protecting both on-site staff and the surrounding community. The Operational Phase of the Proposed Development will be operated in accordance with the requirements of the IE Licence and EMS for the facility which will take account of the risk assessments, safety training, and emergency planning procedures in line with COMAH requirements.*
>
> *Irrespective of the COMAH designation, all likely effects of the proposed development on the receiving hydrological and hydrogeological receiving environment have been assessed. The COMAH designation of the site does not the alter assessment undertaken as part of the EIAR.*
>
> *The Proposed Development will be subject to an Industrial Emissions (IE) licence under the provisions of the Environmental Protection Agency Act 1992, as amended. An application for this*

licence will be made to the EPA. The operator will comply with the environmental control and mitigation requirements as per the conditions of the IE licence to ensure there will be no effect on the receiving hydrological and hydrogeological environment."

10.3.2 Provision of New Section 10.5.3 (Page No. 10-49 of the Original EIAR)

The text in **'green'** below forms a **new Section 10.5.3** and is being added as further information for Chapter 10, specifically outlining the Decommissioning Phase in response to RFI Item No. 6. This new content should be read alongside the original EIAR Chapter. This new section is to be inserted after Section 10.5.2 and before Section 10.6. This additional section does not result in the re-numbering of preceding or subsequent sections in the original EIAR:

"10.5.3 Characteristics of the Decommissioning Phase

*As documented in the Decommissioning Plan (please refer to **Volume 3, Appendix 6.1**) prepared by Donnachadh O'Brien & Associates Consulting Engineers Ltd. (DOBA) (DOBA, 2025) in response to a Request for Further Information Submission to Tipperary County Council (Reg. Ref. 24/60936), the decommissioning phase of the proposed development will comprise the following:*

- *Disconnecting existing utilities*
- *Emptying digestors and storage facilities of all stored materials/products.*
- *Removal of specialist equipment and plant.*
- *Demolition and removal of buildings.*
- *Removal of internal access roads and concrete yards.*
- *Grubbing up underground drainage and services.*
- *Backfilling and levelling of surfaces.*
- *Re-Seeding of final surface.*

The surface water for the subject site will be maintained until the later stages of the decommissioning phase. Care will be taken at the flow-through ponds to ensure that silt and debris settle or are removed before being discharged into the stream. Settling ponds and silt traps/fences may be used as they were during the construction works. The site's drainage system will be removed in phases, closely following the schedule for the removal of buildings and yards. This phased approach will ensure that undemolished areas will continue to have functional drainage and primary filtering before discharge into the stream to the south. After the complete removal of the site drainage system, the ponds will be filled and the levels restored to their original predevelopment condition. The site-wide drainage pipes and manholes will be disposed of at a licensed waste facility."

10.3.3 Clarification of 10.6.1.2, Paragraph 5 (Page No. 10-52 of the original EIAR)

In response to RFI Item No. 7 (iv), the fifth paragraph of Section 10.6.1.2 has been removed and replaced to provide further clarification. The original paragraph five has been deleted and replaced with the new text shown in **'green'** below.

The new paragraph five is to be inserted on Page 10-52 of the original EIAR, immediately following paragraph four and preceding paragraph six. To provide full context, part of the original text is included in black, followed by the replacement text in green.

> *"There is also potential risk associated with the cementitious materials used during the construction of deeper infrastructure where groundwater may be encountered that could result in a 'negative', 'significant' and 'medium-term' effect on the underlying groundwater quality and the WFD status of the receiving Cooleeny Stream, the Drish River and/or the Rossestown River and downstream waterbodies.*
>
> *Where dewatering of excavations is required or where water must be pumped from the excavations, water will be collected in Intermediate Bulk Containers (IBC's) for tankering offsite in accordance with all relevant statutory legislation or discharged by the contractor, following appropriate treatment (e.g., settlement or hydrocarbon interceptor), to watercourses or groundwater in accordance with the necessary discharge licences issued by Tipperary County Council under Section 4 of the Local Government (Water Pollution) Act 1977, as amended in 1990.*
>
> *Where dewatering of excavations is required or where water must be pumped from the excavations, water will be discharged by the contractor, following appropriate treatment (e.g., settlement or hydrocarbon interceptor)..."*

10.3.4 Provision of New Section 10.6.3

The text below, shown in **'green'**, forms a new section — Section 10.6.3 — and is provided as further information for Chapter 10, specifically to address the potential cumulative effects of the Decommissioning Phase. This new content should be read alongside the original Chapter 10 of the EIAR, which was submitted in November 2024. The new Section 10.6.3 is to be inserted immediately after Section 10.6.2.3 and before the section originally numbered 10.6.3, which has now been renumbered as Section 10.6.4 (see below). This change applies to Page 10-54 of the original EIAR:

"10.6.3 Potential Effect of the Proposed Development - Decommissioning Phase

In the absence of appropriate mitigation measures during the Decommissioning Phase of the Proposed Development there could be an effect on the receiving water environment including the following receptors:

- *Underlying regionally Important Karstified (diffuse) Aquifer (RKd) which is part of the Thurles GWB.*
- *Groundwater flow beneath the site is inferred to be to the west toward the Rossestown River.*
- *Downstream receiving waterbodies including the Cooleeny Stream, the Drish River, the Rossestown River and the River Suir.*
- *The GSI (GSI, 2025) have identified 79No. groundwater sources within a 2km radius of the site, 3No. of which have been recorded as agricultural and/or domestic use.*
- *There are 3No. Natura 2000 Sites and 14No. pNHAs. The Natura 2000 sites are assessed and described in further detail in Chapter 8 of the EIAR.*

10.6.3.1 Hydrological and Hydrogeological Flow Regime

During the decommissioning phase there will be no direct discharges to or abstractions from surface water or groundwater at the proposed development. During the initial phases of decommissioning, the operational phase surface water drainage network will continue to drain the site in accordance with the principles and objectives of SuDS, will be treated and attenuated prior to discharge from the site. In the later phases of decommissioning when hardstanding and the surface water drainage network are removedrainfall which will infiltrate to ground over the re-grassed land cover. Overall, the potential effect on the groundwater levels/flow regime and receiving surface water flows associated with the decommissioning works will be 'neutral', 'imperceptible' and 'permanent'.

There will be no requirement for an onsite groundwater supply for the decommissioning phase. Where required, water supply for the operational phase of the proposed development will be from the Moyne GWS's 75mm main located to the south of the site. This usage will be agreed upon with the Moyne GWS and the available capacity confirmed prior to construction works commencing. However, it is noted that other than for dust suppression this requirement will be minimal. Therefore, given the minimal water supply It is anticipated that groundwater may be encountered during excavations for the decommissioning of Proposed Development. Therefore, there may be a requirement for localised dewatering or sump pumping on a temporary basis during the excavations. Appropriate measures to enable working in the dry during excavations, and methods to minimise the volume of dewatering water generated that will require management will be considered in the contractors decommissioning methods. Where water must be pumped from the excavations, it is considered that there will be a temporary drawdown of local groundwater levels during the dewatering operations. However, the extent of the effect is considered to be localised

to the immediate area surrounding the excavations. Therefore, the potential effect on the groundwater levels and flow regime associated with the works will be 'negative', 'slight' and 'temporary'. ***10.6.3.2 Water Quality***

During the decommissioning phase of the proposed development, there will be a reduction in impermeable surfaces across the site and the groundwater vulnerability is expected to temporarily increase while excavations are open. In karstified limestone areas like the Thurles GWB, there's a high degree of interconnection between groundwater and surface water. This close interaction is reflected in their linked water quality, meaning any contamination of surface water can rapidly affect groundwater, and vice versa. Furthermore, groundwater storage in karstified bedrock is low, limiting the potential for contaminant attenuation in such aquifers. There will be no storage or handling of deleterious materials such as lubricants, oils etc. and any refuelling will be controlled to minimise the potential for release to ground. There may be the requirement for use of portable generators or similar fuel containing equipment during the decommissioning phase of the proposed development, which will be placed on suitable dri

trays. The digestors and storage facilities may contain contaminated matter as part of the AD Processing. Similarly, all of the equipment/structures within the bund may contain process material.

In the absence of standard and appropriate demolition management and mitigation measures, if the accidental release of hazardous material including fuels and oils being used onsite or process waste during decommissioning work, through the failure of secondary containment or a materials handling accident, were to occur over open ground then these materials could infiltrate to the underlying groundwater and rapidly migrate to the receiving Cooleeny Stream, the Drish River and/or the Rossestown River and downstream waterbodies. In the event of such scenarios, it is considered that this could result in 'negative', 'significant' and 'medium-term' effect on the underlying aquifer environment and the and the WFD status of the receiving Cooleeny Stream, the Drish River and/or the Rossestown River and downstream waterbodies depending on the nature of the incident.

Groundwater flow beneath the site is expected to be to the west toward the Rossestown River. Regionally groundwater within the Thurles GWB will flow to the west toward the Rossestown River and River Suir. The GSI (GSI, 2025) have identified 79No. groundwater sources within a 2km radius of the site, 3No. of which have been recorded as agricultural and/or domestic use. The closest local area and public groundwater supplies include the Baunmore GWS, the Fennor Inchorourke GWS, the Rahealty GWS and the Moyne Groundwater Supply located approximately 3.14km east, 5.94km southeast, 6.03km west and 3.94km south of the site respectively. Therefore, this is also a potential risk of contaminants which enter the groundwater to flow laterally towards the receiving water supplies. In a worst-case scenario, and the absence of mitigation, it is considered that this could result in a 'negative', 'moderate to significant' and 'medium-term' effect on the receiving water supplies and drinking water users depending on the natur

of the incident. It is noted that groundwater at the site will not be used for drinking water and therefore there will be no associated human health issues for workers at the associated with groundwater use.

There is a risk of runoff with entrained sediment or other contaminants from groundwork and demolition areas and temporarily stockpiled materials entering Cooleeny Stream located 0.02km south of the site. The appointed contractor will ensure that any run-off from the site will be managed for the duration of the decommissioning phase to ensure that surface water runoff is contained, attenuated and treated onsite prior to discharge to surface water / groundwater. However, in the absence of mitigation measure, there is a potential 'negative', 'moderate', 'medium-term' effect on the receiving waterbodies including the Cooleeny Stream and downstream waterbodies. Based on the dilution which will occur within the Cooleeny Stream and downstream Drish River, it is considered that there is no perceived risk to the River Suir. Where dewatering of excavations is required or where water must be pumped from the excavations, water will be collected in Intermediate Bulk Containers (IBC's) for tankering offsite in accordance with all relevant statutory legislation or discharged by the contractor, following appropriate treatment (e.g., settlement or hydrocarbon interceptor), to watercourses or groundwater in accordance with the necessary discharge licences issued by Tipperary County Council under Section 4 of the Local Government (Water Pollution) Act 1977, as amended in 1990. There will be no unauthorised discharge of water (groundwater / surface water runoff) to watercourses or groundwater during the decommissioning phase of the proposed development. Therefore, the potential effects will have been adequately assessed and mitigated as part of the statutory consent and there will be a 'neutral', 'imperceptible' and 'temporary' effect on the receiving water environment.

Foul water during the decommissioning phase of the proposed development will be removed by tanker in accordance with waste management legislation and managed accordingly. Therefore, the Proposed Development will not cause a potential effect at any receiving waterbody or Natura 2000 sites associated with foul water from the site. It is considered that any effect on the relating to wastewater during the construction phase will be 'neutral', 'imperceptible' and 'temporary'.

10.3.5 Clarification of Revised Section Numbering

Following the insertion of a new section (**10.6.3 Potential Effect of the Proposed Development – Decommissioning Phase**) the following numbering sequence for the sections listed below has been revised.

Previous Section Numbering	Revised Section Numbering
10.6.3 Potential Cumulative Effects Assessment	10.6.4 Potential Cumulative Effects Assessment
10.6.3.1 Screening	10.6.4.1 Screening
10.6.3.2 Cumulative Effects Assessment	10.6.4.2 Cumulative Effects Assessment
10.6.3.3 Mitigation Measures	10.6.4.3 Mitigation Measures
10.6.3.4 Overall Cumulative Residual Effects	10.6.4.4 Overall Cumulative Residual Effects
10.6.4 'Do Nothing' Effect	10.6.5 'Do Nothing' Effect

Table 10.1: Revised Section Numbering

10.3.6 Additional Paragraphs to Original Section 10.6.3.2 (Page No. 10-56 of the Original EIAR)

The text in **'green'** below forms an additional paragraph to Original **Section 10.6.3.2 Cumulative Effects Assessment.** The additional text provides further information regarding the potential cumulative effects assessment of the decommissioning phase. The additional paragraph is to be inserted after the passage relating to the 'Operational Phase' within Section 10.6.3.2, and before original Section 10.6.3.3 Mitigation Measures (renumbered as 10.6.4.3) on page 10-56 of the original EIAR.

Note: Section 10.6.3.2 has been re-numbered to Section 10.6.4.2 on foot of the insertion of a new section above.

> ***"Decommissioning Phase***
>
> *During the decommissioning phase of the proposed development, in a worst-case scenario there is potential for negative cumulative effects to hydraulicly connected waterbodies. These include effects to water quality of surface and groundwater bodies due to accumulation of excess sedimentation and mobilisation of contaminants from multiple source projects. In the absence of mitigation measures, there is a potential 'negative', 'moderate', 'medium-term' effect on the receiving waterbodies including the Cooleny Stream, River Drish, Thurles GWB and downstream waterbodies."*

10.3.7 Provision of additional text to Section 10.7.1 (Page No. 10-57 of the Original EIAR)

The following additional text, shown in **'green'**, is inserted as additional text to Section 10.7.1 of the original EIAR. It is to be inserted after the existing text within Section 10.7.1 and before Section 10.7.1.1.

This amendment is made to reflect the provisions of the updated Construction Management Plan (Ref. 2429-DOB-X-SI-RP-C-003), prepared by Donnachadh O'Brien & Associates and dated February 2025, which is submitted as part of the Response to the Request for Further Information (Please refer to **Volume 3, Appendix 7.1**).

The inclusion of this text ensures that the mitigation measures in the EIAR align fully with those set out in the updated Construction Management Plan, in line with the requirements of RFI Item No. 7(vi) and to ensure consistency in the wording between the CMP and the EIAR document.

This change does not alter any of the preceding or subsequent paragraphs in Section 10.7.1 of the original EIAR, nor does it require re-numbering of any sections before or after it within the original EIAR.

"Clarification of the Construction Management Plan (CMP) Mitigation Measures

The following mitigation measures (as detailed in the CMP) have been reproduced to ensure consistency in wording between the CMP and EIAR mitigation measures:

- *All water leaving the site during construction will be desilted using standard techniques including silt*
- *buster/silt socks etc.*
- *During demolition and enabling works all surface water from site will go to the adjacent drainage channel only following desilting. All surface/pumped water will go to foul until the surface water infrastructure is complete, flow controls installed and inspected.*
- *Desilting and petrochemical interception of all surface runoff/pumped water will take place for the length of the construction project.*
- *A petrochemical interceptor will be placed on the surface water network prior to discharge.*
- *Local silt traps established throughout site.*
- *Mitigation measures on site include dust control, stockpiling away from watercourse and drains*
- *Stockpiling of loose materials will be a minimum of 20m from drains.*
- *Stockpiles and runoff areas following clearance will have suitable silt barriers to prevent runoff of fines into the drainage system.*
- *Fuel, oil and chemical storage will be sited within a bunded area. The bund will be at least 50m away from drains, excavations and other locations where it may cause pollution.*
- *Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. Any water-filled excavations, including the attenuation tank during construction, that require pumping will not directly discharge to the surface water network. Prior to discharge of water from excavations adequ*
- *te filtration and petrochemical interception will be provided to ensure no deterioration of water quality and ensure compliance with the Water Pollution Acts.*
- *Site layout during excavation works will be designed to ensure vehicles do not enter the works area unless necessary for the excavation and soil removal processes. All machinery*

leaving the works area will be thoroughly cleaned before being allowed on to public roads. A road sweeper (including vacuum) will be in place (as required) to unsure cleanlin

- *ss of nearby and haul roads (where necessary), particularly during enabling works.*
- *Dust may deposit on surrounding roads thus entering into the surface water network. Effective site management regarding dust emissions will be carried out.*
- *The Contractor shall implement the following to minimise the risk of pollution of soil, surface water and groundwater:-*
    - *Earthworks operations shall be carried out such that surfaces shall be designed with adequate falls, profiling and drainage to promote safe run-off and prevent ponding and flooding;*
    - *Run-off will be controlled to minimise the water effects in outfall areas;*
    - *All concrete mixing and batching activities will be located in areas away from watercourses and drains; and*
    - *Good housekeeping (site clean-ups, use of disposal bins, etc.) will be implemented on the site.*
    - *All hazardous materials will be stored within secondary containment designed to retain at least 110% of the storage contents and temporary bunds for oil/diesel storage tanks will be used on the site.*
- *The Contractor shall apply best practice standards which will follow the guidance set out in the following CIRIA documents:-*
    - *C532 Control of Water Pollution from Construction Sites*
    - *C692 Environmental Good Practice on Site*
    - *ICE Earthworks, A Guide*
    - *TII Specification for Road Works Series 600 – Earthworks.*
- *The Contractor's CEMP will take account of the recommendations of the CIRIA guidance Control of water Pollution from Construction Sites – Guidance for Consultants and Contractors to minimise the risk of soil, groundwater and surface water contamination. The Contractor shall implement the following measures to minimise the risk of spills and contamination of soils and waters: -*
    - *Treat all excavated spoil to remove excess fluid prior to stockpiling and transportation where possible.*
    - *Transfer excess soil materials from stockpile areas off-site during dry periods where feasible.*
    - *Restrict stockpile and transfer of excess soil material to specified and impermeable areas that are isolated from the surrounding environment.*
    - *Provide wheel washes at site entrances and exit points.*
    - *Train staff to follow vehicle cleaning procedures.*
    - *Train site managers, foremen and workforce, including all subcontractors, in pollution risks and preventative measures.*
    - *Bund all fuel storage facilities away.*
    - *Implement a regular vehicle inspection plan for fuel, oil and hydraulic fluid leaks.*
    - *Provide suitable equipment to deal with spills on site.*

- *Minimise the use of cleaning chemicals.*

10.3.8 Provision of New Section 10.7.3 (Page No. 10-63 of the Original EIAR)

The text in **'green'** below forms the **new Section 10.7.3** and is being added as further information for Chapter 10, specifically outlining the avoidance, remedial and mitigation measures relating to the Decommissioning Phase. This new section should be read alongside the original EIAR Chapter. The new section is to be inserted after Section 10.7.2 and before Section 10.8 'Worst Case' Scenario

This additional section does not result in the re-numbering of preceding or subsequent sections in the original EIAR.

"10.7.3 Avoidance, Remedial and Mitigation Measures – Decommissioning Phase

"During the decommissioning phase of the proposed development, all works will be undertaken in accordance with the Decommissioning Plan (DOBA, 2025) (please refer to ***Volume 3, Appendix 6.1****). Following appointment, the contractor will be required to further develop the Decommissioning Plan to provide detailed phasing and methods to manage and prevent any potential emissions to ground and surface water with regard to the relevant industry standards (e.g., C532 Control of Water Pollution from Construction Sites, C692 Environmental Good Practice on Site, ICE Earthworks and TII Specification for Road Works Series 600 - Earthworks). The Decommissioning Plan will be implemented for the duration of the Decommissioning Phase, covering demolition and waste management activities that will take place during the Decommissioning Phase of the Proposed Development.*

Mitigation works will be adopted as part of the demolition works for the decommissioning phase of the proposed development. These measures will address the main activities of potential effect which include:

- *Control and Management of surface water runoff.*
- *Control and management of shallow groundwater during excavation and dewatering.*
- *Management and control of soil and materials.*
- *Appropriate fuel, chemical and process waste handling, transport and storage.*
- *Management of accidental release of contaminants including process waste at the site.*

The demolition works will be managed in accordance with all statutory obligations and regulations and with standard international best practice. Good demolition management practices will minimise the risk of pollution from demolition activities at the Site including but not limited to:

- *Construction Industry Research and Information Association (CIRIA), 2001. Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors.*

- *CIRIA, 2015. Environmental Good Practice on Site (C741).*
- *Enterprise Ireland Oil Storage Guidelines (BPGCS005).*
- *Environmental Protection Agency (EPA), 2013. IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities.*
- *CIRIA, 2007. The SuDS Manual (C697.*
- *UK Environment Agency, 2004. UK Pollution Prevention Guidelines (PPG).*
- *CIRIA, 2006. Control of Water Pollution from Linear Construction Projects: Technical Guidance (C648).*
- *National Roads Authority (now Transport Infrastructure Ireland), 2016. Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes.*
- *Inland Fisheries Ireland (IFI, 2016). Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters.*

Control and Management of Water and Surface Water Runoff

The removal of the site drainage will be a phased removal, closely following the removal schedule of the buildings and yards. The phased process will ensure that the areas yet to be demolished will have live drainage and primary filtering prior to outfalling the stream to the south. Once the full site drainage has been removed, the ponds can be filled and levels brought to the original predevelopment condition. The site-wide drainage pipes and manholes will be disposed of at a licensed waste facility.

There will be no direct discharge to groundwater or surface water during the demolition phase of the proposed development. There may be a temporary increase in the exposure of the underlying shallow groundwater during excavation works (i.e. removal of utilities and drainage pipes). Surface water runoff will be prevented from entering open excavations with sandbags or other approved methods proposed by the appointed contractor. Furthermore, the appointed contractor will ensure that machinery does not enter he groundwater if encountered during decommissioning.

All run-off from the site or any areas of exposed soil will be managed as required with temporary pumping and following appropriate treatment as required. Surface water runoff from areas of hardstanding removal and surface water collected in excavations will be directed to onsite settlement ponds where measures will be implemented to capture and treat sediment laden runoff prior to discharge at a controlled rate.

Given the vulnerability of the underlying groundwater at the site, the shallow groundwater table, and the potential presence of karst landforms, the demolition methodology will adhere to the 'Guidance on Pollution Prevention' (EA, 2001) or similar best practices. This approach aims to minimize the risk of creating temporary conduits between potential surface contamination sources and the underlying groundwater. The demolition method will include procedures to prevent any potential effect on water quality. hen lubricants, drilling fluids, or additives are required, the

contractor will use water-based, biodegradable, and non-hazardous compounds under controlled conditions.

Where dewatering of shallow groundwater is required or where surface water runoff must be pumped from the excavations, water will be managed in accordance with best practice standards (i.e., CIRIA C750), the Decommissioning Plan and regulatory consents to minimise the potential effect on the local groundwater flow regime of the underlying aquifer.

All water leaving the site during the decommissioning phase will be desilted in onsite settlement ponds to include geotextile liners and riprapped inlets and outlets to prevent scour and erosion. The location of the settlement ponds will be reviewed and moved regularly as required. Additional measures will be implemented as required to capture and treat sediment laden surface water runoff (e.g., sediment retention ponds / tanks, surface water inlet protection, fencing and signage around specific nzones and earth bunding adjacent to open drainage ditches). Where required, the water will also be directed through a hydrocarbon interceptor prior to discharge from the site.

Unauthorised discharge of water (groundwater / surface water runoff) to ground, drains or watercourses will not be permitted. The appointed Contractor will ensure that the discharge of water to ground, drains or watercourses will be in accordance with the necessary discharge licences issued by Tipperary County Council under Section 4 of the Local Government (Water Pollution) Act 1977, as amended in 1990.

A regular review of weather forecast will take place, insofar as possible, ground excavation works will be scheduled during period of dry weather to minimise potential for silt laden runoff.

Control and Management of Stockpiles

Where required, stockpiles of loose materials pending re-use onsite will be protected for the duration of the works and not located in areas where sediment laden runoff may enter existing surface water drains. To help shed rainwater and prevent ponding and infiltration, the sides and top of the stockpiles will be regraded to form a smooth gradient with compacted sides reducing infiltration and silt runoff. Where required, silt fences will be erected at the toe of stockpiles to prevent run-off. The silt fennes will be monitored daily by the appointed contractor and silt will be removed as required. In accordance with Inland Fisheries Ireland guidelines, stockpiles will not be allowed within 30m of the open watercourses or drainage. n

Emptying Digestors and Storage Facilities of All Stored Materials / Products

The emptying of digestors, storage facilities and equipment/structures within the bund will be undertaken in accordance with the measures outlined in the Decommissioning Plan (DOBA, 2025) enclosed in ***Volume 3, Appendix 6.1****. Prior decommissioning and demolition works, it will be the decommissioning contractor's responsibility to ensure that the digestors, storage facilities and equipment/structures are emptied out and raw materials removed offsite and disposed of in a safe*

and appropriate manner to a licensed waste facility in accordance with all relevant waste management legislation. Furthermore, an emergency response plan for the decommissioning phase to deal with accidental spillages will be dssioning works commencing.

Handling of Fuels, Chemicals and Materials

The Contractor's compound for the decommissioning phase will be located on site for the duration of the project and will primarily consist of site offices and associated welfare facilities, car parking facilities, materials drop-off and storage areas and set down areas for HGVs.

Fuel will be transported to the site in dedicated mobile units based on supply requirements. Fuelling and lubrication of equipment will be conducted in accordance with the procedures outlined in the Decommissioning Plan (DOBA, 2025) (please refer to ***Volume 3, Appendix 6.1****), within a designated area of the compound, clearly marked and situated away from any watercourses and drains. A dedicated fuel filling point will be established onsite within the compound, where all equipment will be brought for refuelling.*

Fuel storage areas and refuelling points will be bunded and located away from surface water drainage and features. The bunds will comply with the Environmental Protection Agency guidelines 'Amendment to IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities' (EPA, 2013). All tank and drum storage areas will be bunded to a volume not less than the greater of the following:

- *110% of the capacity of the largest tank or drum within the bunded area; or*
- *25% of the total volume of substance that could be stored within the bunded area.*

As documented in the Decommissioning Plan, (please refer to ***Volume 3, Appendix 6.1****) the appointed contractor will maintain an emergency response action plan and emergency procedures will be developed by the appointed contractor in advance of any works commencing. Staff will be familiar with the emergency response plan.*

Strict supervision of contractors will be adhered to in order to ensure that all plant and equipment utilised on-site is in good working condition. Any equipment not meeting the required standard will not be permitted for use within the proposed development. Only emergency breakdown maintenance will be carried out on-site. Drip trays and spill kits will be available on-site to ensure that any spills from vehicles are contained and removed off-site.

Spill kits will be made available onsite and identified with signage for use in the event of an environmental spill or leak. A spill kit will be kept in close proximity to the fuel storage area for use in the event of any incident during refuelling or maintenance works. Heavy machinery used on the Site will also be equipped with its own spill kit.

There may also be the requirement for use of portable generators or similar fuel containing equipment during the construction phase of the proposed development, which will be placed on suitable drip trays. Regular monitoring of drip tray content will be undertaken to ensure sufficient capacity is maintained at all times.

Emergency Procedures

*As documented in the Decommissioning Plan (please refer to **Volume 3, Appendix 6.1**), in advance of works commencing the emergency response action plan will be developed by the appointed contractor in accordance with the site emergency plan which will cover all foreseeable risks (i.e., fire, spill, flood, etc.). Appropriate site personnel will be trained as first aiders and fire marshals and be trained in environmental issues and spill response procedures. Spillage kits will be available on-site including in vehicles operating onsite. Decommissioning staff will be familiar with emergency procedures in the event of accidental fuel spillages. Remedial action will be immediately implemented to address any potential effects in accordance with industry standards and legislative requirements.*

- *Any required emergency vehicle or equipment maintenance work will take place in a designated impermeable area within the site.*
- *Emergency response procedures will be put in place, in the unlikely event of spillages of fuels or lubricants. Such procedures will include:*
    - *Containment measures.*
    - *Emergency discharge routes.*
    - *List of appropriate equipment and clean-up materials.*
    - *Maintenance schedule for equipment.*
    - *Details of trained staff, location, and provision for 24-hour cover.*
    - *Details of staff responsibilities.*
    - *Notification procedures to inform the EPA or Environmental Department of Tipperary County Council.*
    - *Audit and review schedule.*
    - *Telephone numbers of statutory water consultees.*
    - *List of specialist pollution clean-up companies and their telephone numbers.*
- *Spill kits including oil absorbent material will be provided so that any spillage of fuels, lubricants or hydraulic oils will be immediately contained.*
- *In the event of a leak or spill from equipment in the instance of a mechanical breakdown during operation, any contaminated soil will be removed from the site and compliantly disposed of off-site. Residual soil will be tested to validate that all potentially contaminated material has been removed. This procedure will be undertaken in accordance with indust*
- *y best practice procedures and standards.*
- *All construction works staff will be familiar with emergency procedures in the event of accidental fuel spillages.*

- *All works staff on-site will be fully trained on the use of equipment.*

These procedures will be undertaken in accordance with industry best practice procedures and standards. These measures will ensure that there is minimal risk to the receiving land, soil and geological environment associated with the construction phase of the Proposed Development.

Welfare Facilities

Welfare facilities have the potential, if not managed appropriately, to release organic and other contaminants to ground or surface water courses. Foul drainage from temporary welfare facilities during the Decommissioning phase of the proposed development will be discharged to temporary holding tank(s) the contents of which will periodically be tankered off site to a licensed facility. All waste from welfare facilities will be managed in accordance with the relevant statutory obligations by tankering of waste offsite by an appropriately authorised contractor."

10.3.9 Additional Text to Section 10.8 (Page No. 10-63 of the original EIAR)

The text below, shown in 'green', constitutes an additional paragraph within Section 10.8. This additional text provides further clarification on the "worst case" scenario, specifically addressing the Decommissioning Phase. The new paragraph is to be inserted immediately after the existing paragraph in Section 10.8. For ease of reference and to provide context, the existing text from Section 10.8 is reproduced in black, followed by the new text in **'green'**.

"10.8 "Worst Case" Scenario
During the Construction Phase and Operational Phase of the Proposed Development, in a worst-case scenario, such as a fuel spill, fire or accidental unmitigated release of other hazardous compounds occurring, and in the absence of any mitigation measures it is considered that there would be a potential 'negative', 'significant', 'medium term' effect on the quality of the underlying aquifer. The groundwater within the Thurles GWB would also likely be effected and taking account of the limited attenuation within the aquifer, it is considered that there is an indirect risk to the downstream receiving waterbodies (i.e., Cooleeny Stream, the Drish River, the Rossestown River and downstream waterbodies (i.e., the River Suir) and Natura 2000 sites). However, this worst-case scenario is deemed to be unlikely scenario taking account of the embedded design avoidance measures and mitigation measures.

During the decommissioning phase of the proposed development, in a worst-case scenario, such as a fuel spill, fire or accidental unmitigated release of other hazardous compounds occurring, and in the absence of any mitigation measures it is considered that there would be a potential 'negative', 'significant', 'medium term' effect on the quality of the underlying aquifer. The groundwater within the Thurles GWB would also likely be effected and taking account of the limited attenuation within the aquifer, it is considered that there is an indirect risk to the downstream

receiving waterbodies (i.e., Cooleeny Stream, the Drish River, the Rossestown River and downstream waterbodies (i.e., the River Suir) and Natura 2000 sites). However, this worst-case scenario is deemed to be unlikely scenario taking account of the embedded design avoidance measures and mitigation measures."

10.3.10 Updated Text for Section 10.9 (Page No. 10-64 of the original EIAR)

The text below, shown in **'green'**, constitutes a replacement for Section 10.9 of the original EIAR. This revised section provides a comprehensive assessment of the Water Framework Directive, incorporating considerations for the Decommissioning Phase.

The new text fully replaces the existing content of Section 10.9 on pages 10-63 and 10-64 of the original EIAR.

This update does not affect the numbering of any preceding or subsequent sections within Chapter 10.

"10.9 Water Framework Directive

The findings of the risk-based assessment identified that in the absence of any mitigation and avoidance measures there could be a potential effect on the water quality within receiving water bodies associated with the Proposed Development, specifically within the Thurles GWB, the Cooleeny Stream, the Drish River, the Rossestown River and the River Suir and downstream waterbodies. There is no identified potential effect to transitional or coastal waterbodies attributed to the separation distances and anticipated assimilation capacity of the receiving water bodies taking account of the existing baseline conditions and WFD Status.

*The mitigation measures as outline above, including the implementation of a robust Decommissioning Plan (as submitted in **Volume 3, Appendix 6.1**) during the decommissioning phase of the proposed development, will prevent any effect on the receiving groundwater and surface water environment. Hence, the Proposed Development will not have any effect on compliance with the EU Water Framework Directive, European Communities (Environmental Objectives) Surface Water Regulations, 2009 (SI 272 of 2009, as amended 2012 (SI No 327 of 2012), and the European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. No. 9 of 2010), as amended 2012 (SI 149 of 2012) and 2016 (S.I. No. 366 of 2016).*

The decommissioning phase of the proposed development will not cause a deterioration in the status of waterbodies hydraulically connected with the proposed development, taking account of design avoidance and mitigation measures that will be implemented. The decommissioning phase of the proposed development will not jeopardise objective to achieve 'good' surface water status or good ecological potential.

There will be no effect to the existing WFD status of water bodies associated with the proposed development including the waterbodies comprising the Cooleeny Stream, the Drish River, the Rossestown River and the River Suir, downstream waterbodies, or the Thurles GWB as a result of the proposed development taking account of embedded design avoidance and mitigation measures.

The decommissioning phase of the proposed development will not hinder implementation of measures outlined in the 3rd Cycle RBMP and will progress and promote some measures. Implementing Sustainable Urban Drainage Systems (SuDS) and nature-based solutions, as recommended in the Water Action Plan 2024, will be crucial to manage this runoff and prevent flooding and water pollution. The inclusion of SuDS in the development supports the Water Action Plan's goals of integrating green infrastructure to enhance biodiversity and manage stormwater. Overall, careful planning and adherence to the Water Action Plan's measures will necessary to mitigate any potential negative effects of the proposed development on water quality and management."

10.3.11 Additional Text to Section 10.10 (Page No. 10-64 of the original EIAR)

The text in **'green'** below forms an additional paragraph to **Section 10.10.** The additional text provides further information assessing the residual effects of the decommissioning phase. The additional paragraphs are to be inserted following paragraph four of Section 10.10 on Page No. 10-64 and before Table 10-14 on Page No. 10-65.

The below additional text does not alter any of the preceding paragraphs in Section 10.10, nor does it require re-numbering of any sections before or after it within the original EIAR.

"Section 10.10 Residual Effects – Decommissioning Phase

The predicted effects of the decommissioning phase of the proposed development are described in Table 10-15 in terms of quality, significance, extent, likelihood, and duration. The relevant mitigation measures are detailed, and the residual effects are determined which take account of the avoidance, remedial and mitigation measures.

There will be no significant adverse residual effects on the receiving hydrological and hydrogeological environment associated with the Proposed Development.

There will be no effect to the existing WFD Status of water bodies associated with the Proposed Development including the Cooleeny stream, River Drish, River Suir, other downstream waterbodies and the Thurles GWB as a result of the Proposed Development taking account of design avoidance and mitigation measures where require."

10.3.12 Addition of Text to Table 10-14 (Page No. 10-65 of the Original EIAR)

The text in **'green'** below forms additional rows to **Table 10-14** of the original EIAR**.** The additional text provides further information assessing the residual effects of the decommissioning phase. The text is to be inserted after the existing text within Table 10-14 and before Section 10.11.

Activity	Attribute	Predicted Effect	Quality	Significance	Duration	Type	Mitigation	Residual Effect
Decommissioning Phase								
Potential risk of contaminants which enter the groundwater to flow laterally towards the receiving water supplies.	*Water quality / WFD Status*	*Potential for effect on Thurles GWB and associated ground water supplies*	*Negative*	*Moderate to Significant*	*Medium Term*	*Direct / Worst Case*	*Appropriate mitigation measures to prevent the worst-case scenario occurring will be implemented during the Construction and Decommissioning Phase.*	*Imperceptible*
Introduction of contaminants to karstic flow paths	*Water quality / WFD Status*	*Potential for effect on Thurles GWB exacerbated by potential karstic flow pathways within aquifer, affecting the receiving River Drish, River Suir and downstream waterbodies*	*Negative*	*Significant*	*Medium Term*	*Direct / Worst Case*	*Surface water runoff management will be required to prevent runoff entering excavations during the Construction and Decommissioning Phase.*	*Imperceptible*
Accidental release of deleterious materials including fuel, sediment and other	*Water quality / WFD Status*	*Potential for effect on Thurles GWB exacerbated by potential karstic flow*	*Negative*	*Moderate - Significant*	*Medium Term*	*Direct / Worst Case*	*Appropriate mitigation measures to prevent the worst-case scenario occurring will be*	*Imperceptible*

Activity	Attribute	Predicted Effect	Quality	Significance	Duration	Type	Mitigation	Residual Effect
materials being used on-site.		*pathways within aquifer, affecting the receiving River Drish, River Suir and downstream waterbodies*					*implemented during the Construction and Decommissioning Phase.*	

Additional Rows to be added to Table 9-6: Residual Effects of the original EIAR.

10.3.13 Provision of New Section 10.11.3 (Page No. 10-67 of the Original EIAR)

The text in **'green'** below forms a **new Section 10.11.3** and is being added as further information for Chapter 10, specifically outlining the monitoring measures of the Decommissioning Phase. This new content should be read alongside the original EIAR Chapter. The new section is to be inserted after Section 10.11.2 and before Section 10.12. This additional section does not result in the re-numbering of preceding or subsequent sections in the original EIAR:

> ***"Monitoring – Decommissioning Phase***
>
> *During the Decommissioning Phase of the Proposed Development the following monitoring measures will be considered:*
>
> - *Inspections will be undertaken during demolition works to ensure that measures that are protective of water quality outlined in this EIAR and the Decommissioning Plan (DOBA, 2025) (please refer to **Volume 3, Appendix 6.1**) are fully implemented and effective.*
> - *In advance of construction works commencing the appointed contractor will update the Decommissioning Plan to include detailed methodologies for the construction of silt management systems (e.g., settlement ponds, silt traps, silt fences) and detailed procedures for pumping water from excavations*
> - *s. The surface water control measures will be inspected twice daily based onsite and weather conditions for any signs of contamination or excessive silt deposits and records of these checks will be maintained.*
> - *Visual inspections of the Cooleeny Stream will be undertaken for siltation and hydrocarbon sheen will also be undertaken twice daily.*
> - *Discharges to groundwater or surface water will be monitored where required in accordance with statutory consents (i.e., discharge licence).*
> - *Routine monitoring and inspections during refuelling to ensure no effects and compliance with avoidance, remedial and mitigation measures.*
>
> *The Proposed Development will be subject to an IE Licence from the EPA. The operator will comply with any monitoring requirements, including monitoring of the surface water discharge, in accordance with the conditions of the IE Licence."*

10.3.14 Additional Text to Section 10.12 (Page No. 10-67 to 10-68 of the Original EIAR)

The following additional text, shown in '**green**', is to be inserted as additional text to Section 10.12 of the original EIAR.

For clarity and ease of reading, the full text of Section 10.12 is reproduced below. Within this, the original text from the Original EIAR is shown in black for context, while the new additional text relating to the Decommissioning Phase is presented in '**green'.**

(A full revision of Section 10.12 is not required; the decommissioning phase can be appropriately addressed by way of this additional text, ensuring all relevant interactions are fully considered.)

"10.12 Interactions – Decommissioning Phase

10.12.1 Population and Human Health

No public health issues associated with the water (hydrology and hydrogeology) conditions at the Proposed Development Site have been identified for the Construction Phase or Operational Phase of the Proposed Development.

Appropriate industry standard and health and safety legislative requirements will be implemented during the construction phase that will be protective of site workers. It is noted that specific issues relating to Public Heath associated with the Proposed Development are set out in Chapter 7 of this volume.

No public health issues associated with the water (hydrology and hydrogeology) conditions at the Proposed Development Site have been identified for the Decommissioning Phase of the Proposed Development. Appropriate industry standard and health and safety legislative requirements will be implemented during the construction phase that will be protective of site workers.

An assessment of the potential effect of the Proposed Development during the decommissioning phase on human health is included in Chapter 7 of the EIAR Addendum. "

10.12.2 Land, Soil, Geology and Hydrogeology

An assessment of the potential effect of the Proposed Development on the existing land, soils and geological environment during the Operational Phase of the Proposed Development is set out in Chapter 9 of this volume.

An assessment of the potential effect of the Proposed Development on the existing land, soils and geological environment during Decommissioning Phase of the Proposed Development is set out in addendum to Chapter 9 of this volume.

10.12.3 Biodiversity – no change

An assessment of the potential effects of the Proposed Development on the Biodiversity of the Site, with emphasis on habitats, flora and fauna which may be effected a result of the Proposed Development are included in Chapter 8 of this volume. It also provides an assessment of the

effects of the Proposed Development on habitats and species, particularly those protected by national and international legislation or considered to be of particular conservation importance and proposes measures for the mitigation of these effects.

10.12.4 Material Assets

An assessment of the potential effect on the Proposed Development on the material assets – Utilities including built services and infrastructure has been set out in Chapter 16 of this volume. Potabile water use will be in accordance with the volumes and rates set out in the Moyne Group Water Scheme Supply Agreement.

An assessment of the potential effect on the Proposed Development Decommissioning Phase on the Material Assets – Utilities including built services and infrastructure has been set out in the addendum to Chapter 16."

10.4 Implications for the EIAR

10.4.1 Addendum – Dewatering and Waste Water.

The clarification to the fifth paragraph of section of 10.6.1.2 does not change the assessment made as part of the original EIAR.

10.4.2 Addendum - Assessment of Decommissioning Phase

Overall, there are no significant residual effects on hydrology and hydrogeology anticipated regarding the decommissioning phase of the Proposed Development.

10.4.3 Amendment – Section 10.5.2 Paragraph 7 – COMAH Designation

The AWN assessment, (Land Use Planning Report Ref: 247501.0417RR01a) submitted as part of the RFI submission conducted in line with 2023 Health and Safety Authority (HSA) guidance, indicates that individual risk contours do not extend beyond the site boundary to any off-site workplaces or areas accessible to the public. Additionally, the Land Use Planning zones do not impact sensitive receptors, confirming that the off-site risk levels are within acceptable limits per the HSA guidance. These steps ensure adherence to safety protocols, protecting both on-site staff and the surrounding community. The Operational Phase of the Proposed Development will be operated in accordance with the requirements of the IE Licence and EMS for the facility which will take account of the risk assessments, safety training, and emergency planning procedures in line with COMAH requirements.

Irrespective of the COMAH designation, all likely effects of the proposed development on the receiving hydrological and hydrogeological receiving environment have been assessed. The COMAH designation of the site does not the alter assessment undertaken as part of the EIAR.

10.4.4 Clarification - *Construction Management Plan (CMP) Mitigation Measures*

The full range of mitigation measures detailed in the Construction Management Plan (please refer to **Volume 3, Appendix 7.1**) prepared by Donnachadh O'Brien & Associates Engineering Consultants (Ref: 2429-DOB-XX-SI-RP-C-0003 dated February 2025 in relation to the protection of hydrology and hydrogeology are detailed in Chapter 10 of the EIAR. In the interest of clarity the measures have been summarised in Section 10.3.7 above, however the assessment undertaken as part of the EIAR remains unchanged.

PURSER

Volume 2:

11

Air Quality
(including Odour)

11.0 Air Quality (Odour)

11.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 11: Air Quality (Odour)** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 11 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

11.1.1 Details of Competent Experts

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Dr. Jovanna Arndt – AWN Consulting Ltd., a Trinity Consultants Team**
  BSc. Environmental Science, Ph.D. Atmospheric Chemistry, AQMIAQM, AMIES

11.2 Request for Further Information

RFI Item No. 6 is applicable in relation to Volume 2, Chapter 11 of the EIAR. RFI Item No. 6 states:

> *"Notwithstanding the intermittent references to decommissioning throughout the Environmental Impact Assessment Report (EIAR), it is noted that no proposals have been submitted for this phase. The applicant is requested to confirm the intended operational lifespan of the development and to address the requirement for proposals for decommissioning as appropriate. In the event that a decommissioning phase is to be included, the applicant is requested to update all sections of the EIAR and appropriate supporting documentation to take account of this phase."*

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 11 of the EIAR. RFI Item No. 7 states:

> *"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum."*

RFI Item No. 7 (v) is applicable in relation to Volume 2, Chapter 11 of the EIAR. RFI Item No. 7 (v) states:

> *It is noted that the facility will be subject to IE Licence from the EPA that will include for a range of monitoring requirements for emissions. Clarification is sought on the nature and extent of monitoring that the development will be subject to under IE Licence, with the EIAR updated to account for same. Where assumptions are made in this regard same should be clearly outlined."*

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

11.3 Clarifications and Amendments

The requests for clarification and necessary amendments in relation to Chapter 11 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Volume 2, Chapter 11 remains unchanged.

The below sections and text contained within this EIAR Addendum provides additional information regarding any potential impacts the decommissioning phase may have on the air quality. The following text should be read in conjunction with Chapter 11 Air Quality (Odour) submitted as part of the original EIAR in November 2024. Where a section has been updated or revised it will be clearly stated at the start of the section below.

11.3.1 Revised Section 11.2.2 (Page 11-4 of the Original EIAR)

The text in **'green'** below comprises a revised **Section 11.2.2.** The revised text supersedes the existing text contained on page 11-4 of the original EIAR . The revised section does not impact the numbering of preceding or subsequent sections.

*"**Section 11.2.2 Dust Deposition Guidelines***

The concern from a health perspective is focused on particles of dust which are less than 10 microns [PM10] and less than 2.5 microns [PM2.5] and the EU ambient air quality standards outlined in Table 11.1 have set ambient air quality limit values for PM10 and PM2.5.

With regards to larger dust particles that can give rise to nuisance dust, there are no statutory guidelines regarding the maximum dust deposition levels that may be generated during the construction phase of a development in Ireland. Furthermore, no specific criteria have been stipulated for nuisance dust in respect of this development.

With regard to dust deposition, the German TA-Luft standard for dust deposition (non-hazardous dust) (German VDI, 2002) sets a maximum permissible emission level for dust deposition of 350 mg/m2/day averaged over a one year period at any receptors outside the site boundary. Recommendations from the Department of the Environment, Heritage & Local Government (DEHLG, 2004) apply the TA Luft limit of 350 mg/m2/day to the site boundary of quarries. This limit value can also be implemented with regard to dust effects from construction of the proposed development. This limit value can also be applied to the potential dust effects during the decommissioning phase."

11.3.2 Provision Additional Text to Section 11.3.2.2 (Page No. 11-18 of the Original EIAR)

The text in **'green'** below forms the additional text to **Section 11.3.2.2** and is being added as further information to Chapter 11, specifically in response to RFI Item No. 7 (v) which seeks clarification regarding the nature and extent of monitoring requirements for emissions.

The text, shown in **'green'**, is to be inserted after Table 11.7 and before Section11.4. The below additional text does not alter any of the preceding text in Section 11.3.2.2, nor does it require re-numbering of any sections before or after it within the original EIAR.

"IE Emissions to Air Monitoring

The EPA will determine the exact monitoring conditions as part of an Industrial Emissions licence application process. An IE licence for the proposed development will require that the Combined Heat and Power [CHP] generator comply with an Emission Limit Value [ELV] for oxides of nitrogen [NOX], set out by the Medium Combustion Plant (MCP) Regulations (S.I No. 595 of 2017), which transposed the Medium Combustion Plant Directive ((EU) 2015/2193). The IE licence will also apply a limit value to the volume flow rate (Nm3/hr) from the CHP.

Part 1 of Schedule 3 of the MCP Regulations states that:

"1. Periodic measurements shall be required at least:
— every three years for medium combustion plants with a rated thermal input equal to or greater than 1 MW and less than or equal to 20 MW,
— every year for medium combustion plants with a rated thermal input greater than 20 MW.

3. Measurements shall be required only for:
(a) pollutants for which an emission limit value is laid down in this Directive for the plant concerned;
(b) CO for all plants.

4. The first measurements shall be carried out within four months of the registration of the plant, or of the date of the start of the operation, whichever is the latest."

A review of facilities with granted IE licences, similar to the proposed development, indicates that for a CHP plant the EPA typically expect monthly measurements of NOX for the first twelve months of operations and quarterly thereafter by a flue gas analyser, as well as continuous monitoring of carbon monoxide by a flue gas analyser. This may however be varied at the EPA's discretion during the IE licence application process.

The emergency flare will not be subject to an ELV as it will operate less than 500 hours per year (therefore exempt as per the MCP Regulations), however it will be subject to the minimum monitoring requirements as per Part 1 of Schedule 3 of the MCP Regulations as stated above i.e. at least once every three years (typically by flue gas analyser).

The requirement for an ELV and monitoring of compliance with an ELV for the odour emission sources modelled in Chapter 11: Air Quality & Odour will be determined by the EPA during the IE licence application process. Should odour monitoring be required, this typically consists of daily subjective and visual assessments, however the exact methodology may vary and would be agreed by the EPA."

11.3.3 Provision of New Section 11.3.3 (Page No. 11-18 of the Original EIAR)

The following additional text, shown in **'green',** comprises a **new Section 11.3.3**, is to be inserted after Section 11.3.2.2and before Section 11.4. (Note: the below text will be inputted after the text provided by Section 11.3.2 above in relation to IE Emissions to Air Monitoring. The additional text does it require re-numbering of any sections before or after it within the original EIAR.

"11.3.3 Decommissioning Phase Methodology

11.3.3.1 Decommissioning Dust Assessment

The greatest potential impact on air quality during the decommissioning phase is from dust emissions from the demolition and removal of buildings and materials and road traffic emissions. These are expected to be of a similar or lesser magnitude to those identified during the construction phase, and have been assessed as per the construction phase methodology outlined in Section 11.3.1 of Chapter 11: Air Quality & Odour.

11.3.3.2 Decommissioning Traffic Assessment

Decommissioning phase traffic has the potential to impact air quality. The TII guidance Air Quality Assessment of Specified Infrastructure Projects – PE-ENV-01106 (TII, 2022), states that road links meeting one or more of the following criteria can be defined as being 'affected' by a proposed development and should be included in the local air quality assessment. While the guidance is specific to infrastructure projects, the approach can be applied to any development that causes a change in traffic.

- *Annual average daily traffic [AADT] changes by 1,000 or more;*
- *Heavy duty vehicle [HDV] AADT changes by 200 or more;*
- *Daily average speed change by 10 kilometres per hour (kph) or more;*
- *Peak hour speed change by 20 kph or more;*
- *A change in road alignment by 5 metres or greater.*

The decommissioning traffic is unlikely to exceed the TII scoping criteria detailed above, and a detailed air quality assessment of decommissioning stage traffic emissions has been scoped out from any further assessment as there is no potential for significant impacts to air quality."

11.3.4 Provision of New Section 11.5.3 (Page No. 11-38 of the Original EIAR)

The text in **'green'** below forms a **new Section 11.5.3** which sets out the Potential Impacts of the Proposed Development in relation to the Decommissioning Phase.

The text is to be inserted after 11.5.2 and before Section 11.6. This additional section does not result in the re-numbering of preceding or subsequent sections in the original EIAR.

"11.5.3 Decommissioning Phase

The greatest potential impact on air quality during the decommissioning phase is from dust emissions from the demolition and removal of buildings and materials and road traffic emissions. These are expected to be of a similar or lesser magnitude to those identified during the construction phase, and have been assessed as per the construction phase methodology outlined in Section

11.3.1 of Chapter 11: Air Quality & Odour. As per this methodology road traffic emissions are scoped out of this assessment.

Dust impacts during the decommissioning phase are expected to be of similar type and magnitude to those anticipated during the construction phase, but generally of a shorter duration. The same mitigation measures implemented during the construction phase will be applied during the decommissioning works and are also considered appropriate for the decommissioning demolition works. It can therefore be determined that the decommissioning phase will have a short-term, direct, localised, negative and not significant effect on air quality."

11.3.5 Revised Paragraph One of Section 11.6.1, (Page No. 11-39 of the Original EIAR)

The text in **'green'** below forms a revised paragraph one of **Section 11.6.1.** The below revised text replaces the existing paragraph one of Section 11.6.1 of the original EIAR on page 11-39 and should be inserted before the section entitled "Communications". The revised text takes the Decommissioning Phase into consideration. The revised section does not impact the numbering of preceding or subsequent sections.

"11.6.1 Construction & Decommissioning Phase

The proposed development has been assessed as having a low risk of dust soiling impacts and a low risk of dust related human health impacts during the construction phase as a result of earthworks, construction and trackout activities. Therefore, the following dust mitigation measures shall be implemented during the construction phase of the proposed development. These measures are appropriate for sites with a low risk of dust impacts and aim to ensure that no significant nuisance occurs at nearby sensitive receptors. The mitigation measures draw on best practice guidance from Ireland (DCC, 2018), the UK (IAQM (2024), BRE (2003), The Scottish Office (1996), UK ODPM (2002)) and the USA (USEPA, 1into the overall Construction Environmental Management Plan (CEMP) prepared for the site. The measures are divided into different categories for different activities.

As the dust emissions during the decommissioning phase are expected to be of a similar or lesser magnitude to those identified during the construction phase, the mitigation measures applicable to construction phase dust emissions are also considered suitable for those during the decommissioning phase."

11.3.6 Provision of a New Section 11.7.4 (Page No. 11-44 of the Original EIAR)

The following additional text, shown in **'green'**, is to be inserted after Section11.7.3 and before Section11.8.

The below additional text does not alter any of the preceding text in Section 11.7, nor does it require re-numbering of any sections before or after it within the original EIAR.

> ***"11.7.4 Residual Impacts of the Proposed Development – Decommissioning Phase***
>
> *Dust impacts during the decommissioning phase are expected to be of similar type and magnitude to those anticipated during the construction phase, but generally of a shorter duration. The same mitigation measures implemented during the construction phase will be applied during the decommissioning works and are also considered appropriate for the decommissioning demolition works. It can therefore be determined that the residual effect of the decommissioning phase on air quality will be* ***short-term, direct, localised, negative and not significant****."*

11.3.7 Additional text to Section 11.10 (Page No. 11-44 of the Original EIAR)

The following additional text, shown in '**green**', is to be inserted as additional text to Section 11.10 of the original EIAR.

For clarity and ease of reading, the full text of Section 11.10 is reproduced below. Within this, the original text from the EIAR is shown in black for context, while the new additional text relating to the Decommissioning Phase is presented in '**green'.**

(A full revision of Section 11.10 is not required; the decommissioning phase can be appropriately addressed by way of this additional text, ensuring all relevant interactions are fully considered.)

> ***"11.10 Interactions***
>
> ***11.10.1 Population and Human Health***
>
> *Air quality does not have a significant number of interactions with other topics. The most significant interactions are between population and human health (Chapter 7 – Population & Human Health) and air quality. An adverse impact due to air quality in either the construction, operational or decommissioning phase has the potential to cause health and dust nuisance issues. The mitigation measures that will be put in place by the proposed development will ensure that the effects of the proposed development complies with all ambient air quality legislative limits. Therefore, the predicted effect is direct, short-term, negative and not significant with respect to population and human health during the construction and decommissioning phases and direct, long-term, negative and not significant g, which is overall not significant in EIA terms.*
>
> ***11.10.2 Traffic and Transportation- no change***

*Interactions between air quality and traffic (Chapter 14 - Traffic and Transportation) can be significant. With increased traffic movements and reduced engine efficiency, i.e. due to congestion, the emissions of vehicles increase. The effects of the proposed development on air quality are assessed by reviewing the change in annual average daily traffic on roads close to the site. In this assessment, the effects of the interactions between traffic and air quality are considered to be direct, long-term, negaaive and imperceptible, which is overall not significant in EIA terms.*a

11.10.3 Climate

Air quality and climate have interactions due to the emissions from the burning of fossil fuels during the construction, operational and decommissioning phase generating both air quality and climate effects. Air quality modelling outputs are utilised within Chapter 12 - Climate. There is no impact on climate due to air quality however the sources of impacts on air quality and climate are strongly linked.

11.10.4 Land, Soils and Geology

Construction phase activities such as land clearing, excavations, stockpiling of materials etc and decommissioning phase activities such as demolition have the potential for interactions between air quality and land and soils in the form of dust emissions. With the appropriate mitigation measures to prevent fugitive dust emissions, it is predicted that there will be no significant interactions between air quality and land, soils and geology (Chapter 9 - Land, Soils and Geology).

11.10.5 Biodiversity

There is the potential for interactions between air quality and biodiversity (Chapter 8 - Biodiversity). Dust generation can occur during extended dry weather periods as a result of construction or decommissioning traffic. Dust suppression measures (e.g. dampening down) will be implemented as necessary during dry periods and vehicle wheel washes will be installed, for example. The construction works involve stripping of topsoil and excavations, which will remove some vegetation such as trees and scrub. The construction and decommissioning works will also generate dust and potentially effect on the air quality in the locality. However, the generation of dust will be temporary during construction and decommissioning phases and is not anticipated to have a significant effect on biodiversity. Once the mitigation measures outlined within Chapter 11 are implemented dust related effects are predicted to be direct, short-term, negative and not significant, which is overall not significant in EIA terms."

11.3.8 Provision of New Section 11.11.3 (Page No. 11-51 of the Original EIAR)

The text in **'green'** below forms a **new Section 11.11.3**. The text is to be inserted after 11.11.2 and before Section 11.12. This additional section does not result in the re-numbering of preceding or subsequent sections in the original EIAR.

> ***"11.11.3 Decommissioning Phase***
>
> *Decommissioning phase dust impacts are considered similar in type and magnitude to the construction dust impacts identified for the construction phase. Should the decommissioning phase overlap with dust generating activities from other developments (either construction or decommissioning phases), cumulative dust soiling and dust-related impacts on human health, specifically localised to the works area associated with the proposed works, could occur.*
>
> *However, the dust mitigation measures outlined in Section 11.6.1 will be applied throughout the decommissioning phase of the proposed development which will avoid significant cumulative effects on air quality. With appropriate mitigation measures in place, the predicted residual cumulative effect on air quality associated with the decommissioning phase of the proposed development are considered direct, short-term, negative and not significant, which is overall not significant in EIA terms."*

11.4 Implications for the EIAR

With the clarifications provided above and revisions included to the chapter, there have been no changes made which would fundamentally alter the assessment made in the EIAR, or its conclusions.

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Volume 2:

12

Climate

EIAR Addendum: Nua Bioenergy, Lisheen
P-2024-35-59

12.0 Climate

12.1 Introduction

This chapter of the EIAR Addendum confirms that no amendments are required to **Volume 2, Chapter 12: Climate** of the EIAR submitted as part of the planning application.

12.1.1 Competent Expert Review

Dr. Jovanna Arndt of AWN Consulting, reviewed Chapter 12 in light of the Request for Further Information (RFI) and confirmed that no changes are necessary.

(Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR.)

12.2 Response to Request for Further Information

Following review, it has been confirmed that no updates, clarifications, or modifications are required to Chapter 12 as a result of the RFI issued by Tipperary County Council. This chapter is included in the EIAR Addendum to formally confirm this position.

12.4 Implications for the EIAR

As no amendments have been made to Chapter 12, there is no change to the original assessment or conclusions set out in the EIAR.

PURSER

Volume 2:

13

Noise and Vibration

EIAR Addendum: Nua Bioenergy, Lisheen
P-2024-35-59

13.0 Noise and Vibration

13.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 13: Noise and Vibration** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 13 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

13.1.1 Details of Competent Experts

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **James Cousins – Wave Dynamics Acoustic Consultants**
  BSc (Hons) Pg Cert (Const Law) IOA Diploma (Acoustics and Noise Control) MIEI MIOA

- **Cathal Reck – Wave Dynamics Acoustic Consultants**
  BSc (Hons) Music Technology & Production, IOA Certificate of Competence in Environmental Acoustics, TechIOA

13.2 Request for Further Information Item

RFI Item No. 6 is applicable in relation to Volume 2, Chapter 13 of the EIAR. RFI Item No. 6 states:

> *"Notwithstanding the intermittent references to decommissioning throughout the Environmental Impact Assessment Report (EIAR), it is noted that no proposals have been submitted for this phase. The applicant is requested to confirm the intended operational lifespan of the development and to address the requirement for proposals for decommissioning as appropriate. In the event that a decommissioning phase is to be included, the applicant is requested to update all sections of the EIAR and appropriate supporting documentation to take account of this phase."*

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 13 of the EIAR. RFI Item No. 7 states:

> *"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum."*

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

13.3 Clarifications and Amendments

The requests for clarification and necessary amendments in relation to Chapter 13 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Volume 2, Chapter 13 remains unchanged.

13.3.1 Response to RFI Item No. 6

To assess the impacts and mitigation required for the decommissioning phase an additional noise impact assessment has been undertaken for the decommissioning phase only. The decommissioning phase will have no impact on the construction or operational phase on the development.

For the baseline environment, project criteria and development description chapter 13 of the EIAR should be referred to.

The below text has been provided as background to the additional text which has been inserted into Chapter 13 as part of this EIAR submission. The Decommissioning Plan prepared by Donnachadh O'Brien has been carefully considered by the consultants listed above as part of their review of Chapter 14 (please refer to **Volume 3, Appendix 6.1**). The paragraphs set out below are considered to be relevant to Chapter 13 Noise and Vibration.

Decommissioning Phase

The decommissioning plan for the proposed biomethane production facility at Lisheen, Co. Tipperary, outlines the strategy for returning the site to its pre-development condition. Prepared by Donnachadh O'Brien & Associates Consulting Engineers Ltd. (DOBA) for Nua Bioenergy Ltd, the plan is a response to a request for further information from Tipperary Council (please refer to **Volume 3, Appendix 6.1**)

The decommissioning methodology involves several steps:

- Disconnecting existing utilities.
- Emptying digestors and storage facilities of all stored materials/products, which will be the decommissioning contractor's responsibility to ensure that the storage structures are emptied out and raw materials carted off-site and disposed of in a safe and appropriate manner to a licensed waste facility.
- Removing specialist equipment and plant, such as gas upgrading units and feed hoppers, which will be purged, disassembled, and carted off-site to a licensed facility.
- Demolishing and removing buildings, sub-structures, and foundations, with concrete/building rubble crushed and disposed of off-site or used as recycled material.
- Removing internal access roads and concrete yards, which will be fully reinstated and levelled.
- Grubbing up underground drainage and services in a phased removal, with the ponds filled and levels brought to the original pre-development condition.
- Backfilling and levelling surfaces, re-using excess fill stored as landscaped berms for reinstatement.
- Re-seeding final surfaces to match the natural growth of the local environs, with imported soil required for seeding purposes.

13.3.2. Provision of New Section 13.4.4 (Page 13-20 of the Original EIAR)

The following section has been added to the overarching Section 13.4 to assess the Decommissioning Phase. The text in **'green'** below forms a **new Section 13.4.4**. The text is to be inserted after 13.4.3.2 and before Section 13.5. (Note: the new Section 13.4.4 includes Tables 13.i – 13.iv (inclusive) as set out below.) This additional section does not result in the re-numbering of preceding or subsequent sections in the original EIAR:

"13.4.4 Decommissioning Phase Assessment

The criteria for the project is based on the criteria outlined in Chapter 13 of the EIAR and the background noise in the area. The project criteria for construction noise are outlined below in Table 13. SEQ ***Table * ARABIC \s 1*** *i. The distance to the NSLs is based on the closest receiver for each NSL where the NSL reflects a number of dwellings/sensitive receivers at each NSL. Reference to the baseline survey results and guidance contained in BS 5228 Part 1 for construction noise levels threshold for significance affect from constriction activities is set as follows for the closest noise sensitive locations:*

Decommissioning Noise Limits			
Noise Sensitive Location	***Distance to the Centre of the Site (m)***	***Ambient Noise $L_{eq,T}$ dB(A)***	***Noise Limits $L_{eq,T}$ dB(A)***
NSL1	*430*	*43*	*65*

Decommissioning Noise Limits			
Noise Sensitive Location	Distance to the Centre of the Site (m)	Ambient Noise $L_{eq,T}$ dB(A)	Noise Limits $L_{eq,T}$ dB(A)
NSL2	550	43	65
NSL3	1050	43	65
NSL4	1560	46	65
NSL5	1970	44	65

Table 13.i: Project criteria

For the appropriate assessment period (i.e. daytime in this instance) the ambient noise level is determined and rounded to the nearest 5dB. If the noise generated by construction activities exceeds the appropriate category value, then a significant effect is deemed to occur.

13.4.4.1 Decommissioning Noise Predictions

A summary of the expected equipment, durations and operating times are provided in Table . The noise sources are assumed to be located at the centre of the site. The prediction methodology in BS5228 has been used to calculate the noise level over a typical day for the decommissioning stage.

Construction Phase	Item of Plant (BS 5228-1:2009+A1:2014 Ref)	Noise Level (L_{Aeq} at 10m dB(A))	On Time of 10 hr day
Decommissioning	Excavator	77	4 hours
	Pulveriser mounted on excavator	80	2 hours
	Handheld pneumatic breaker	83	2 hours
	Drills	89	2 hours
	Excavator loading Dumper	85	3 hours
	Dumper	81	5 hours
	Lorry idling	80	2 hours
	Telescopic handler	71	6 hours

Table 13.ii: Proposed construction equipment, noise levels and duration.

Table 13. SEQ **Table** * **ARABIC** \s **1** ii summaries the predicted construction noise levels at the noise sensitive locations. Examination of the results indicate the decommissioning noise without mitigation is predicted to exceed the noise limits at NSL's 1-3.

Location	Noise Limit	Predicted cumulative noise level (construction noise + ambient) With no mitigation L_{Aeq}, dB
		Decommissioning Stage
NSL1	65	70
NSL2	65	69
NSL3	65	66
NSL4	65	65
NSL5	66	64

Table 13.iii: Predicted noise levels without mitigation for each stage.

The calculations set out above are based on assumed site decommissioning works and a combination of the plant operating at the same time i.e. worst-case scenario on the site at the same time. In reality this will not be the case however the assessment has been based on worst case scenario.

Location	Noise Limit	Noise reduction required at each stage of works to meet criteria (dBA)
		Decommissioning Stage
NSL1	65	5
NSL2	65	4
NSL3	65	1
NSL4	65	0
NSL5	66	0

Table 13.iv: Attenuation required based on the construction noise predictions.

Noise mitigation measures will be required at the decommissioning stage. A combination of the mitigation measures outlined in Noise Mitigation Recommendations should be used to reduce the levels of construction noise by the values listed in Table 13. SEQ ***Table * ARABIC \s 1*** *iv above.*

13.4.4.2 Decommissioning Vibration Predictions

Prediction of vibration levels at receptors is complex and dependent on several variables including the nature of the used equipment, the properties of the subsoil, the heterogeneity of the soil deposit, the distance to the receptor and the dynamic characteristic of the adjacent structures. Therefore, limits or threshold criteria as set out in BS5228-2 are applied for buildings and humans.

Based on our understanding of the project and the distances to the receptors it is not anticipated that there will be a negative vibration impact from the construction works."

13.3.3 Provision of New Section 13.5.3 (Page 13-23 of the Original EIAR)

The following section has been added to the overarching Section 13.5 Avoidance, Remedial and Mitigation Measures, in order to assess the Decommissioning Phase. The text in **'green'** below forms the **new Section 13.5.3**. The text is to be inserted after 13.5.2 and before Section 13.6. (Note: the new Section 13.5.3 includes Table 13.v as set out below.) This additional section does not result in the re-numbering of preceding or subsequent sections in the original EIAR:

"13.5.3 Decommissioning Phase Mitigation

This section outlines the recommended noise mitigation measures for the decommissioning phase of the project.

13.5.3.1 Noise Mitigation Recommendations

Best practice control measures for noise from construction sites are found within BS 5228 (2009 +A1 2014) part 1. Decommissioning noise impacts are expected to vary during the construction phase of the project, this impact will depend on the distance between the construction activities and noise sensitive receptor. The contractor will ensure that all best practice noise and control methods will be used, to ensure any negative noise impacts at off-site noise sensitive locations are minimised.

The best practice measures set out in BS 5228 (2009) Part 1 includes guidance on several aspects of construction site mitigation measures, this includes the

- *selection of quiet plant and equipment;*
- *noise control at source of the noise;*
- *screening, and;*
- *public liaison.*

13.5.3.2 General Recommendations

This section of the report sets out noise mitigation options and detailed comment on each one specifically for this site.

13.5.3.3 Selection of Plant and Equipment

The noise impact of all plant and equipment should be assessed prior to selection of the plant for the project. Where an item of plant is identified as noisy with the potential to cause a negative noise impact it should be reviewed to check if there is an alternative quieter version of the same plant to undertake the same construction task.

13.5.3.4 Noise Control at Source

Where replacing a noisy item of plant is not viable or practical, consideration should be given to control that noise at source. This includes modifying the piece of plant or equipment to generate less noise, using dampening to control vibration induced noise or rattling. Example best practice mitigation measures to be considered are as follows:

- *All plant and equipment to be switched off when idling.*
- *The use of white noise reversing alarms.*
- *Restriction on the dropping and loading of materials to less sensitive hours.*
- *The use of local screening for noisy activities or works with hand tools*
- *Not dropping materials onto hard surfaces and using rubber mats etc for the dropping of materials.*
- *Ensure all plant and equipment is well maintained and cleaned, all lubrication should be in line with manufacturers guidelines.*

13.5.3.5 Screening

Screening when used correctly can be an effective method of reducing the construction noise impact on the NSL's. The use of site hoarding and careful selection of areas for noise works, using buildings on the site, site offices and the building being constructed to screen noise from the works.

Local screening of noisy works with the use of temporary acoustic barriers, examples are provided below:

- *https://ventac.com/acoustic-products/noisebreak-acoustic-barrier/*
- *https://echobarrier.com/*

Figure 13.(a): Temporary construction noise barrier © Ventac

13.5.3.6 Public Engagement

It is recommended that a public liaison officer should be put forward by the contractor to liaise with the local residents on matters relating to noise. Residents should be informed of any noise works scheduled where there is the potential to generate high levels of construction noise or if specialist works etc need to be conducted out of the working hours. This person should also be the point of contact for all complaints and be responsible for reviewing the noise monitoring results and exceedances.

13.5.3.7 Site Specific Recommendations

Table below outlines the recommended site-specific noise mitigation measures based on the attenuation required.

Construction Stage	Recommended Noise Mitigation Measure
Decommissioning	Erect a minimum 2.4m high site hoarding that blocks the line of sight between noise source and receiver. Example construction for the site hording would be as follows: • A 2.4m high and 9mm plywood (4.5 kg/m^2). Barrier must be solid and not contain gaps at the bottom or between adjacent panels Noise monitoring as above

Table 13.v: Attenuation required based on the construction noise predictions."

13.3.4 Provision of New Section 13.6.4 (Page 13-24 of the Original EIAR)

The following section has been added to the overarching Section 13.6, in order to assess the Decommissioning Phase. The text in **'green'** below forms the **new Section 13.6.4**. The text is to be inserted after 13.6.3 and before Section 13.7. (Note: the new Section 13.6.4 includes Table 13.vi as set out below.) This additional section does not result in the re-numbering of preceding or subsequent sections in the original EIAR.

"13.6.4 Decommissioning Noise

There is the potential for some decommissioning noise impact during the decommissioning phase of the developments.

During the decommissioning phase of the project there is the potential for some adverse effects on nearby noise sensitive properties due to noise emissions from site activities as summarised in Table below. Set noise limits, hours of construction and the implementation of the mitigation measures outlined in this section will ensure that construction noise and vibration is limited to short term with slight/no significant effect.

Quality	*Significance*	*Duration*
Negative	*Slight*	*Short-term*

Table 13.vi: Likely decommissioning noise impact.

13.6.3.1 Decommissioning Vibration

Given the distance to the vibration sensitive receptors, the mitigation advice and our experience of measuring similar vibration effects it is not predicted that construction vibration will have a negative impact on the sensitive receptors."

13.3.5 Provision of New Section 13.8.3 (Page 13-26 of the Original EIAR)

The following section has been added to the overarching Section 13.8.3 Monitoring, in order to assess the Decommissioning Phase. The text in **'green'** below forms the **new Section 13.8.3**. The text is to be inserted after 13.8.2.2 and before Section 13.9. (Note: the new Section 13.8.3 includes Table 13.vii as set out below.) This additional section does not result in the re-numbering of preceding or subsequent sections in the original EIAR:

"13.8.3 Decommissioning Phase

This section outlines the monitoring recommendations for the construction and decommissioning phase of the development.

13.8.3.1 Decommissioning Noise Monitoring

Decommissioning noise monitoring will be undertaken at periodic sample periods on the boundary with the nearest noise sensitive receptors by the contractor. In this case NSL1 is the closest sensitive receptor, therefore, continuous noise monitoring should be observed at the boundary of the site in the direction of NSL1 for the during the substructure, superstructure and decommissioning phases of construction.

Noise monitoring should be conducted in accordance with the International Standard ISO 1996: 2017: Acoustics – Description, measurement and assessment of environmental noise.

13.8.3.2 Decommissioning Vibration Monitoring

It is not predicted that there will be any negative vibration impact at the sensitive locations, however vibration limits have been provided in this section should monitoring be required.

The Vibration monitoring stations should continually log vibration levels using the Peak Particle Velocity parameter (PPV, mm/s) in the X, Y and Z directions, in accordance with BS ISO 4866: 2010: Mechanical vibration and shock – Vibration of fixed structures – Guidelines for the measurement of vibrations and evaluation of their effects on structures.

Vibration Limits

The recommended vibration limits to avoid cosmetic damage to buildings, as set out in:

British Standard BS7385: 1993: Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from ground borne vibration, and;
British Standard BS5228-2: 2009 + A1: 2014: Code of practice for noise and vibration control on construction and open sites – Vibration.

The standards note that minor structural damage can occur at vibration magnitudes which are greater than twice those presented in Table and major damage to a building structure is possible at vibration magnitudes greater than four times the values set out in Table 13.31. Definitions of the damage categories are presented in BS 7385-1:1990.

Vibration PPV at the closest part of sensitive property to the source of vibration		
Frequency		
4 to 15 Hz	*15 to 40Hz*	*40Hz and above*
15 mm/s	*20 mm/s*	*50 mm/s*

Table 13.vii: Transient vibration guide values for cosmetic damage

Note 1: At frequencies below 4 Hz, a maximum displacement of 0.6 mm (zero to peak) is not to be exceeded.

Note 2: It should be noted that these values are at the base of the building."

13.3.6 Provision of New Section 13.10.6 (Page 13-33 of the Original EIAR)

The following section has been added to the overarching Section 13.6 Cumulative Effects Assessment, in order to assess the Decommissioning Phase. The text in **'green'** below forms the **new Section 13.10.6**. The text is to be inserted after 13.10.5 and before Section 13.11. This additional section does not result in the re-numbering of preceding or subsequent sections in the original EIAR:

"13.10.6 Consideration of the Cumulative Effects – Decommissioning Phase

*Given that the decommissioning phase of the development will be completed after the life of the development and considering the existing committed developments it is not anticipated that the development will have a negative cumulative impact. Taking into consideration that there maybe other developments in the area at that time and the fact that some of the existing developments in the locality may be also decommissioned by the time the decommissioning phase is completed it is difficult to predict the cumuuative impact. The mitigation measures are designed to ensure that the noise levels will not be exceeded at the nearest noise sensitive locations taking this in consideration and unknown future developments in the locality it is unlikely that the cumulative impacts will have a negative effect."*u

13.4 Implications for the EIAR

One key implication is that noise and vibration levels during decommissioning are expected to be similar to those predicted for the construction phase. This is due to the likely use of similar equipment and activities, such as dismantling structures and site clearance.

Additionally, increased traffic flows are anticipated during decommissioning, which are comparable to those in the construction phase. However, this increase is expected to be less extensive, as the decommissioning process will not require the same level of material deliveries and workforce presence as the full construction phase.

All decommissioning effects are considered to be **slight and temporary** in EIAR terms.

PURSER

RECEIVED: 05/03/2025

Volume 2:

14

Traffic and Transportation

EIAR Addendum:
Nua Bioenergy, Lisheen P-2024-35-59

14.0 Traffic and Transportation

14.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 14: Traffic and Transportation** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 14 of the original EIAR, submitted aspart of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

14.1.1 Details of Competent Experts

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Glen Moon – Systra**
  MA (Hons) TTP

14.2 Request for Further Information Item

RFI Item No. 6 is applicable in relation to Volume 2, Chapter 14 of the EIAR. RFI Item No. 6 states:

> *"Notwithstanding the intermittent references to decommissioning throughout the Environmental Impact Assessment Report (EIAR), it is noted that no proposals have been submitted for this phase. The applicant is requested to confirm the intended operational lifespan of the development and to address the requirement for proposals for decommissioning as appropriate. In the event that a decommissioning phase is to be included, the applicant is requested to update all sections of the EIAR and appropriate supporting documentation to take account of this phase."*

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 14 of the EIAR. RFI Item No. 7 states:

> *"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum."*

RFI Item No. 7 (vi) is applicable in relation to Volume 2, Chapter 14 of the EIAR. RFI Item No. 7 states:

> *"The EIAR cites the undertaking of measures in accordance with a Construction Management Plan (CMP) as a mitigation measure. While the mitigation measures in the CMP are noted the full range of mitigation measures must be contained in the EIAR and any supporting document must be consistent with same. The Planning Authority note the CMP references demolition and asbestos removal which are not features of the development and the references to the construction compound location contained in the CMP is at variance with the compound location identified in the NIS. Consistency is required across all primary and supporting documents and the documents to be revised to address this."*

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

14.3 Clarifications and Amendments

The requests for clarification and necessary amendments in relation to Chapter 14 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Volume 2, Chapter 14 remains unchanged.

14.3.1 Provision of New Section 14.6.3 (Page 14-15 of the original EIAR)

The following section has been added to the overarching Section 14.6 to assess the Decommissioning Phase. The text in **'green'** below forms a **new Section 14.6.3**. The text is to be inserted after 14.6.2.4 and before Section 14.7. This additional section does not result in the re-numbering of preceding or subsequent sections in the original EIAR.

"14.6.3 Decommissioning Phase

The below text provides an overview of the outline decommissioning strategy for the proposed biomethane and bio-based fertiliser production facility at Lisheen in relation to traffic and transport. This additional text will now form part of Chapter 14 and should be read alongside the original EIAR submitted in November 2024.

Donnachadh O'Brian & Associates Consulting Engineers (DOBA) have produced a Decommissioning Plan as part of the RFI documentation (please refer to ***Volume 3, Appendix 6.1****).*

The key aims of the plan of most relevance to transport are to:

- *Ensure that decommissioning operations and activities cause minimal disruption or inconvenience to local landowners and the surrounding community; and*
- *Using suitable decommissioning contractors with trained personnel and providing training as required.*

14.6.3.1 Transport Route

The transport route that will be used for HGVs will be that proposed for the construction stage, namely:

- *To / from the north-east via the L4115, L3201, R639 and M8 J4; and*
- *To / from the south-west via the L4115, L3201, R639, R630 and M8 J6.*

The L3201 and L4115 were previously used as the HGV route between the Lisheen Mine. Both the L4115 and L3201 are of suitable width and alignment to accommodate two-way HGV traffic.

14.6.3.2 Traffic Impacts

The number of vehicles generated during the decommissioning phase will be similar to that generated during the construction phase. Chapter 14 of the EIAR concludes that impacts during construction will be modest, with a daily increase of 40 two-way trips on the L3201, an average increase of around 5 trips per hour during the working day.

14.6.3.3 Assessment of Significance

Assuming that traffic levels during the Decommissioning Phase are similar to those predicted in the Construction Phase, SYSTRA assesses the impacts as follows:

The L3201, L4115 and the majority of the R639 are assessed as being of Low sensitivity, and to experience a Minor traffic effect during the Decommissioning phase. The overall Significance of Effect on these roads is assessed as Likely, Negative, Slight, and Short-term.

The section of the R639 in Urlingford is assessed as being of Medium sensitivity, and to experience a Minor traffic effect during the Decommissioning phase. The overall Significance of Effect on this section of the R639 is assessed as Likely, Negative, Slight, and Short-term.

All of these decommissioning effects are considered to be not significant in EIAR terms."

14.3.2 Additional Text to Section 14.7 Mitigation (Page No. 14-16 of the original EIAR)

The following two additional paragraphs (shown below in **'green'**) have been inserted into Section 14.7 of the original EIAR to assess the Decommissioning Phase. The new text is presented in **'green'**, while the original text from Section 14.7 is reproduced in black for context and ease of reading. The addition of this new text does not require any renumbering of preceding or subsequent sections within Chapter 14 of the original EIAR:

"14.7 Mitigation

This assessment concludes that the proposed development will not have a significant effect on the local road network during either the construction or operational phases, or in combination with other developments.

A Mobility Management Plan has also been prepared by SYSTRA, and is included as ***Appendix 14.3****.*

The aim of the Mobility Management Plan is to minimise un-necessary vehicle trips, and to ensure that HGV deliveries to and from the site are safely and efficiently -managed.

*SYSTRA has also prepared a Framework CTMP, which forms part of the wider Construction Management Plan, which has been prepared by Donnachadh O'Brien Consulting Engineers (Ref. 2429-DOB-XX-SI-RP-C-0003), and forms part of the wider EIAR [****please refer to Volume 3, Appendix 7.1****].*

This sets out the principles by which construction traffic will be planned for, managed, and monitored, to ensure that any impacts on local communities, vulnerable users and road users, will be minimised as far as possible.

Key mitigation steps include reducing dust emissions through regular watering of exposed areas, controlling vehicle speeds, and conducting air quality monitoring to ensure minimal disruption. Additional protocols address water quality, including runoff controls and secure storage for hazardous materials, to prevent contamination of nearby water sources. Waste management practices will ensure the minimisation, reuse, and recycling of materials, with regular waste audits to track compliance. Emergency response measures are also in place to handle any accidental spills or other environmental incidents promptly.

As set out in the Decommissioning Plan, a Traffic Management Plan will be developed and submitted prior to the start of any decommissioning activities. The removal of development components from the site will be carried out by a specialist haulier, and the traffic management arrangements will be agreed upon with the competent authority before decommissioning begins.

The key measures are:

- *Limiting decommissioning activities to agreed site working hours.*
- *Ensuring that HGV deliveries to and from the site are planned and managed to ensure that vehicles are expected on site, and do not travel at sensitive times of the day.*
- *Ensuring that bankspeople are employed at the site entrance, and within the site, to over-see HGV movements.*
- *Ensuring that HGV companies sign up to a Code of Conduct, and that drivers have an in-date Driver Certificate of Professional Competence (CPC) qualification.*
- *To ensure that HGVs follow the designated routes from the M8.*
- *To ensure that all HGVs associated with decommissioning activities are fitted with compliant safety features.*
- *To ensure that the effects of dust and debris are managed by the covering of loads, employment of dust suppression measures and wheel washing facilities on site, and the regular use of a mechanical road sweeper on construction routes.*
- *To ensure that adequate signage is in place on the local road network, and within the Lisheen site.*
- *To ensure that sufficient space is available within the site to accommodate all vehicles, including workers' cars and vans."*

14.3.3 Additional Text to Section 14.10 Interactions (Page No. 14-17 of the original EIAR)

The following two additional paragraphs (shown below in **'green'**) have been inserted into Section 14.10 of the original EIAR to assess the Decommissioning Phase. The new text is presented in **'green'**, while the original text from Section 14.10 is reproduced in black for context and ease of reading. The addition of this new text does not require any renumbering of preceding or subsequent sections within Chapter 14 of the original EIAR:

"The additional traffic generated by the development will increase noise levels on the streets surrounding the development, and also affect air quality in the area. These effects are considered in the Noise and Vibration (Chapter 11) and Air Quality and Climate (Chapter 12)assessments. Both of these chapters consider the effects of additional traffic during the Construction and Operational Phases. The potential interaction of effects is summarised in Table 14.8.

The inter-related effects during the Decommissioning Phase will be the same as during the Construction stage, namely on Air Quality and Noise and Vibration. The effects will be as described in the respective Chapters of the EIAR."

14.3.4 Provision of New Section 14.11.4 (Page No. 14-29 of the original EIAR)

The following new section has been added under the overarching heading Section 14.11 – Cumulative Effects, specifically to assess potential cumulative effects during the Decommissioning Phase. The **new section 14.11.4**, is presented in **'green'** below and should be read in conjunction with Chapter 14 of the original EIAR.

The text should be inserted after Section 14.11.3.5 and before Section 14.11.3.6. The insertion of this new section requires the renumbering of Section 14.11.3.6 to 14.11.5, which is outlined below.

"14.11.4 Cumulative Effects – Decommissioning Phase

Given that the Decommissioning phase will be over 20 years in the future, it is not possible to identify any cumulative projects that may interact with the development, in terms of traffic and transport.

*The Decommissioning Plan produced by DOBA (enclosed in **Volume 3, Appendix 6.1**) is intended to be a 'live' document. This will be updated prior to the Decommissioning Phase, when a Contractor is appointed. At that point, the Contractor will identify any nearby projects that are likely to generate cumulative effects with the decommissioning traffic generated by the site, and identify if mitigation is required."*

14.3.5 Clarification of Revised Section Numbering

Following the insertion of a new section (**14.11.4**) which assesses the decommissioning phase, the following numbering sequence listed below has been revised.

Previous Section Numbering	Revised Section Numbering
14.11.3.6 Summary of Cumulative Effects	14.11.5 Summary of Cumulative Effects

14.3.6 Clarification in Response to RFI Item 7 (vi)

The information provided below should be read alongside Chapter 14 – Traffic and Transportation of the original Environmental Impact Assessment Report (EIAR), submitted in November 2024.

This text provides additional clarification regarding construction traffic mitigation measures, specifically in relation to the following documents:

- Construction Management Plan, prepared by Donnachadh O'Brien & Associates Consulting Engineers (Document Reference: 2429-DOB-XX-SI-RP-C-0003, dated February 2025), provided in **Volume 3, Appendix 7.1** of this Response to Further Information.
- Framework Construction Traffic Management Plan, submitted separately as part of the original planning application pack, which forms part of the overarching Construction Management Plan.
- Decommissioning Plan, prepared by Donnachadh O'Brien & Associates Consulting Engineers (Document Reference: 2429-DOB-XX-SI-RP-C-0005, dated February 2025), provided in **Volume 3, Appendix 6.1** of this Response to Further Information.

The mitigation measures relating to construction traffic were previously listed in the original EIAR. However, for completeness and ease of reference, these measures are reproduced below to demonstrate how the original traffic and transport assessment has been reviewed and remains robust in light of the updated Construction Management Plan and the preparation of the Decommissioning Plan.

The measures listed below are not new and do not form a new section within Chapter 14, but are instead included here to provide context and clarity as part of this Response to Further Information.

The key mitigation measures which will be employed during the construction stage are:

- Limiting construction activities to agreed site working hours.
- Ensuring that HGV deliveries to site are planned and managed to ensure that vehicles are expected on site, and do not travel at sensitive times of the day.
- Ensuring that bankspeople are employed at the site entrance, and within the site, to over-see HGV movements.
- Ensuring that delivery companies sign up to a Code of Conduct, and that drivers have an in-date Driver Certificate of Professional Competence (CPC) qualification.
- To ensure that deliveries follow the designated construction routes from the M8.
- To ensure that all HGVs associated with construction activities are fitted with compliant safety features.
- To ensure that the effects of dust and debris are managed by the covering of loads, employment of dust suppression measures and wheel washing facilities on site, and the regular use of a mechanical road sweeper on construction routes.
- To ensure that adequate signage is in place on the local road network, and within the Lisheen site.
- To ensure that sufficient space is available within the site to accommodate all construction vehicles, including workers' cars and vans.

14.4 Implications for the EIAR

The additional information above does not fundamentally change any of the findings of the EIAR. The additional information:

- Confirms that decommissioning effects are not predicted to be significant in EIAR terms.
- Confirms the traffic and transport mitigation measures that will be employed.

PURSER

Volume 2:

15

Material Assets: Waste

EIAR Addendum: Nua Bioenergy, Lisheen
P-2024-35-59

15.0 Material Assets - Waste

15.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 15: Material Assets - Waste** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 15 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

15.1.1 Details of Competent Experts

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Rachel Redmond - Enviroguide**
  BSc (Hons) Environmental Science

- **Michelle Gaffney – Enviroguide**
  BA (Hons) Earth Science

15.2 Request for Further Information

RFI Item No. 6 is applicable in relation to Volume 2, Chapter 15 of the EIAR. RFI Item No. 6 states:

> *"Notwithstanding the intermittent references to decommissioning throughout the Environmental Impact Assessment Report (EIAR), it is noted that no proposals have been submitted for this phase. The applicant is requested to confirm the intended operational lifespan of the development and to address the requirement for proposals for decommissioning as appropriate. In the event that a decommissioning phase is to be included, the applicant is requested to update all sections of the EIAR and appropriate supporting documentation to take account of this phase."*

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 15 of the EIAR. RFI Item No. 7 states:

"The applicant is requested to arrange to submit, for the consideration of the Planning Authority a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum."

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

15.3 Clarifications and Amendments

The requests for clarification and necessary amendments in relation to Chapter 15 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Volume2, Chapter 15 remains unchanged.

15.3.1 Additional Text – New Section 15.4.4 (Page 15-10 of the Original EIAR)

The text below, shown in **'green'**, forms a new section — Section 15.4.4 — within the overarching section 15.4 – Potential Impacts of the Proposed Development. (For clarity, the new Section 15.4.4 includes Tables 15-i and 15-ii, as set out below.)

This new content is provided as further information for Chapter 15, specifically to address the Decommissioning Phase.

The new Section 15.4.4 is to be inserted immediately after Section 15.4.3 and will precede Section 15.5.

This addition does not affect the numbering of any preceding or subsequent sections within Chapter 15.

This new section should be read alongside the original Chapter 15, which was submitted with the planning application in November 2024.

"15.4.4 Decommissioning Phase

The steps within the decommissioning process which have the potential to effect waste infrastructure includes:

- *Emptying digestors and storage facilities of all stored materials / products;*
- *Removal of specialist equipment and plant;*
- *Demolition and removal of buildings; and,*
- *Grubbing up underground drainage and services.*

As outlined above, the decommissioning of the Proposed Development will result in an increased volume of waste. DOBA Consulting Engineers have calculated the volumes of waste expected to arise from the decommissioning phase. The volumes of estimated concrete waste are presented in Table 15-i below.

Concrete Average	Area	Thickness	Vol (m^3)
Bundwalls	882	0.2	176.4
Digesters	328.283185	0.2	65.65663706
Secondary digesters	321.283185	0.2	64.25663706
Whole crop	2160	0.2	432
Enclosed buildings	810	0.2	162
Composting	1264.5	0.2	252.9
			1153.213274

Table 15-i: Estimated Concrete Waste Arisings

The total volume of concrete expected to be disposed of as a result of the decommissioning phase is approximately 1,153 m3.

Additionally, it is predicted that digestors and storage facility materials, specialist equipment, buildings, sub structures and foundations, and drainage pipes will be disposed of during the decommissioning phase. DOBA has estimated the volumes of waste that will arise which is presented in Table 15-ii.

Category	Material	Quantity	Unit
Steel/wire/chain fence (includes posts)	Fence	340	m
Plastic pipework (HDPE) - Average	Plastic pipework	0	m
Plastic pipework (PVC) - Average	Plastic pipework	2536	m
Plastic pipework (Polypropylene) - Average	Plastic pipework	0	m
Steel pipework - Average	Steel pipework	0	m
Filling - to structures (average)	Fill to structures	27000	m^3

Category	Material	Quantity	Unit
Filling - embankments (average)	Fill to structures	2000	m^3
Filling - other (average)	Fill to structures	0	m^3
Granular material Type 1- Average	Granular Material Type A	13000	m^2
Soil cement- Average	Soil Cement	32000	m^2
Cement bound granular material- Average	Cement Bound Granular Mixtures		m^2
Geotexiles - Average	Miscellaneous Products and Processes	750	m^2
Asphalt-Average	Hot Rolled Asphalt Products	7000	m^2
Blinding concrete-Average	Concrete-Construction General	1900	m^3
Plain round steel bar reinforcement- Average	Reinforcement- Materials	285	tonne
Grout Materials - Average	Concrete – Grouting and Duct Systems for Post-tensioned Tendons	0	tonne
Concrete- Average	Concrete-Construction General	1153 (as in Table 15-1)	m^3
Timber - hardwood component- Average	Hardwood component	150	m
Plastic cable ducting- Average	Cables	3000	m

Table 15-ii: Estimated Waste Arisings from the Decommissioning Phase

*The Decommissioning Plan (enclosed in **Volume 3, Appendix 6.1**) states that emptying the digestors and storage facilities has been flagged as potentially containing contaminated matter. It also outlines that this potentially contaminated matter will be removed from the site and disposed of in a safe and appropriate manner to a licensed waste facility.*

The specialist equipment and plant which will require removal, has the potential to be recycled or removed to a scrap metal facility, these methods should be prioritized before disposing of the materials at a waste facility. The demolition and removal of buildings will result in an increase of Construction and Demolition (C&D) waste. The demolition waste will be crushed and removed to a suitably licenced facility."

15.3.2 Provision of New Section 15.5.3

The text below, shown in **'green'**, forms a new section — Section 15.5.3 — within the overarching section 15.5 – Mitigation Measures. This new content is provided as further information for Chapter 15, specifically addressing mitigation measures for the Decommissioning Phase.

The new Section 15.5.3 is to be inserted immediately after Section 15.5.2 and will precede Section 15.6.

This addition does not affect the numbering of any preceding or subsequent sections within Chapter 15.

This new section should be read alongside the original Chapter 15, which was submitted with the planning application in November 2024.

> ***"15.5.3 Mitigation Measures***
>
> *It is expected that the Construction Environmental Management Plan (CEMP), that was prepared for the Proposed Development and submitted with the original planning application will be adhered to during the decommissioning phase. Waste mitigation measures as outlined within Chapter 15 of the EIAR and in the Construction and Environmental Management Plan are proposed. These include:*
>
> - *Waste materials will be separated at source and will follow the CEMP;*
> - *A suitably competent and fully authorised waste management company will be employed to manage waste arising for the decommissioning phase. The appointed waste contractor must have the relevant authorisations for the collection and transport of waste materials, issued by the National Waste Collection Permit Office (NWCPO);*
> - *All waste materials will be transported to an appropriately authorised facility, which must have the relevant authorisations for the acceptance and treatment of the specific waste streams*
> - *i.e., a Certificate of Registration (COR) or a Waste Facility Permit (WFP) as granted by a Local Authority, or a Waste/Industrial Emission Licence as granted by the Environmental Protection Agency; and*
> - *All waste quantities and types will be recorded and quantified, and records will be retained onsite for the duration of the decommissioning phase."*

15.3.3 Provision of New Section 15.6.3

The text below, shown in **'green'**, forms a new section — Section 15.6.3 — within the overarching section 15.6 – Residual Effects. This new content is provided as further information for Chapter 15, specifically addressing residual effects during the Decommissioning Phase.

The new Section 15.6.3 is to be inserted immediately after Section 15.6.2. This new section should be read alongside the original Chapter 15, which was submitted with the planning application in November 2024.

To accommodate this addition, the previous Section 15.6.3 – 'Worst-Case Scenario' has been renumbered 15.6.4. This renumbering is set out in Section 15.3.3.1 below.

"15.6.3 Decommissioning Phase

Following consideration, the decommissioning phase of the Proposed Development will result in an increase in waste material. With correct waste handling proposed within the CEMP and the Decommissioning Plan it is considered that the Proposed Development will have a negative slight effect on the surrounding waste infrastructure."

15.3.3.1 Clarification of Revised Section Numbering

Following the insertion of the new Section 15.6.3 – Decommissioning Phase (above), which outlines the decommissioning process, the numbering of the subsequent sections has been revised accordingly:

Section Numbering in the Original EIAR	Revised Section Numbering proposed by the Addendum
15.6.3: Worst-Case Scenario	**15.6.4: Worst-Case Scenario**

15.3.5 Provision of New Section 15.10.3

The text below, shown in green, forms a new section — **Section 15.10.3** — within the overarching section 15.10 – Potential Cumulative Effects. This new content is provided as further information for Chapter 15, specifically addressing potential cumulative effects during the Decommissioning Phase.

The new Section 15.10.3 is to be inserted immediately after Section 15.10.2 and will precede Section 15.11.

This addition does not affect the numbering of any preceding or subsequent sections within Chapter 15. This new section should be read alongside the original Chapter 15, which was submitted with the planning application in November 2024.

"15.10.3 Consideration of Cumulative Effects

The Decommissioning Phase will be completed at the end of the lifetime of the Proposed Development. It is therefore difficult to predict the cumulative effects of the decommissioning phase on any planned or permitted projects at the time of decommissioning. However, the proposed mitigation measures will aid in reducing the cumulative effects."

15.4 Implications for the EIAR

The amendments outlined above do not materially change the assessment made in the EIAR or its conclusions.

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RECEIVED: 05/03/2025

Volume 2:

16

Material Assets: Utilities

EIAR Addendum: Nua Bioenergy, Lisheen
P-2024-35-59

16.0 Material Assets - Utilities

16.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 16: Material Assets - Utilities** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 16 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

16.1.1 Details of Competent Experts

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Richard Kiernan**
  BEng, CEng MIEI, RConsEI

- **Andy Kotze**
  BEng, CEng MIEI

16.2 Request for Further Information

RFI Item No. 6 is applicable in relation to Volume 2, Chapter 16 of the EIAR. RFI Item No. 6 states:

> *"Notwithstanding the intermittent references to decommissioning throughout the Environmental Impact Assessment Report (EIAR), it is noted that no proposals have been submitted for this phase. The applicant is requested to confirm the intended operational lifespan of the development and to address the requirement for proposals for decommissioning as appropriate. In the event that a decommissioning phase is to be included, the applicant is requested to update all sections of the EIAR and appropriate supporting documentation to take account of this phase."*

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 16 of the EIAR. RFI Item No. 7 states:

"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum."

RFI Item No. 7 (vi) is applicable in relation to Volume 2, Chapter 16 of the EIAR. RFI Item No. 7 (vi) states:

"The EIAR cites the undertaking of measures in accordance with a Construction Management Plan (CMP) as a mitigation measure. While the mitigation measures in the CMP are noted the full range of mitigation measures must be contained in the EIAR and any supporting document must be consistent with same. The Planning Authority note the CMP references demolition and asbestos removal which are not features of the development and the references to the construction compound location contained in the CMP is at variance with the compound location identified in the NIS. Consistency is required across all primary and supporting documents and the documents to be revised to address this."

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

16.3 Clarifications and Amendments

The requests for clarification and necessary amendments in relation to Chapter 16 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Volume 2, Chapter 16 remains unchanged.

16.3.1 Additional Text in Response to RFI Item No. 6

To address RFI Item No. 6, a **Decommissioning Plan (Ref: 2429-DOB-XX-SI-RP-C-0005), dated February 2025**, (please refer to **Volume 3, Appendix 6.1**) has been prepared by Donnachadh O'Brien & Associates Consulting Engineers (DOBA). This plan outlines the decommissioning strategy for the proposed biomethane and bio-based fertiliser production facility at Lisheen.

As a result of the Decommissioning Plan being prepared, Chapter 16 has been updated

- **Section 6.9 – Decommissioning Phase**

16.3.2.1 Provision of New Section 16.6.4

The text below, shown in **'green'**, constitutes a new section — Section 16.6.4 — within the overarching section 16.6 – Potential Impacts of the Proposed Development.

This new content is provided as further information for Chapter 16, specifically addressing the Decommissioning Phase. It is to be inserted immediately after the existing sections within 16.6, forming Section 16.6.4, and will precede Section 16.7.

This addition does not alter the numbering of any preceding or subsequent sections within Chapter 16.

This new section should be read alongside the original Chapter 16, as submitted with the planning application in November 2024.

"16.6.4 Decommissioning Phase

The following section shall assess the effects of the receiving environment during the Decommissioning phase of the Project.

16.6.4.1 Surface Water

The following are the potential impacts of the proposed scheme during the decommissioning phase:

During the decommissioning phase, sediment and harmful substances may be mobilized due to exposed soil, earth movement, and excavations, potentially entering the watercourses serving the site.

Accidental spills of hazardous substances, such as petrol, diesel, or oil, may occur due to decommissioning machinery leaks. Additionally, materials like concrete and cement, which are alkaline and corrosive, pose a risk of watercourse pollution.

Building materials or silts could be washed into the field boundary drain south of the site, leading to contamination. Waterborne silts may originate from dewatering excavations, exposed ground, stockpiles, and site haul roads. Excessive siltation or grit in surface water runoff could result in maintenance issues, including desilting or dredging of receiving watercourses.

In the absence of mitigation measures, these potential impacts are considered to be adverse, significant and temporary.

16.6.4.2 Wastewater

During the demolition phase of the development, the contractor shall install temporary facilities on site for construction personnel. The water demands during the Demolition and Decommissioning phase arising from the contractor's welfare facilities on the existing water supply networks are considered to have a neutral and imperceptible effect with a short-term duration.

16.6.4.3 Water Supply

During the construction and demolition phase of the development, the contractor shall install temporary facilities on site for personnel. The water demands during the Demolition and Decommissioning phase arising from the contractor's welfare facilities on the existing water supply networks are considered to have a neutral and imperceptible effect with a short-term duration.

16.6.4.4 ESB Utility Services

Electricity will be required for the decommissioning activities for temporary lighting, equipment use etc. It is anticipated that a temporary connection will be taken from the existing supply which will facilitate electricity supply to the site during construction, subject to the appropriate agreements. The power demands during the phase on the existing electricity network are considered to be imperceptible, neutral and have a short-term effect."

16.3.2.2 Provision of New Section 16.7.3

The text below, shown in **'green'**, constitutes a new section — Section 16.7.3 — within the overarching section 16.7 – Mitigation.

This new content is provided as further information for Chapter 16, specifically addressing mitigation measures for the Decommissioning Phase.

The new Section 16.7.3 is to be inserted immediately after the existing sections within 16.7, forming the final part of Section 16.7, and will precede Section 16.8.

This addition does not alter the numbering of any preceding or subsequent sections within Chapter 16.

This new section should be read alongside the original Chapter 16, which was submitted with the planning application in November 2024.

"16.7.3 Decommissioning Phase

The following section shall assess the effects of the receiving environment during the Decommissioning phase of the Project.

16.7.3.1 Surface Water

The surface water for the subject site will remain in a working condition until later in the decommissioning phase, however, care shall be taken at the flow through ponds to ensure that any silt and debris settle or are removed prior to outfalling into the stream. In this instance, settling ponds and silt traps/fences can be used in a similar fashion to that mentioned for the construction works.

The removal of the site drainage will be a phased removal, closely following the removal schedule of the buildings and yards. The phased process will ensure that the areas yet to be demolished will have live drainage and primary filtering prior to outfalling the stream to the south. Once the full site drainage has been removed, the ponds can be filled and levels brought to the original pre-development condition. The site-wide drainage pipes and manholes will be disposed of at a licensed waste facility.

16.7.3.2 Process Water

*The Digestors and storage facilities may contain contaminated matter as part of the AD Processing. It will be the decommissioning contractor's responsibility to ensure that the storage structures are emptied out and raw materials carted off-site and disposed of in a safe and appropriate manner to a licensed waste facility. Similarly, all of the equipment/structures within the bund may contain process material which should be transported in an enclosed tanker to a licensed waste facility prior to the demolltion of these structures.*l

16.7.3.3 ESB Utility Services

For underground cabling, such as the electricity feed from the grid, the ducting will remain in the ground, however, the cabling within the duct will be removed/pulled by a mechanical winch and be re-rolled to be reused.

16.7.3.4 Other Utility Services

Prior to any decommissioning and demolition work commencing on-site, all live site services will be disconnected adequately. Any live pressurised mains, such as gas pipework, will be purged in such a manner that the environment is not impacted adversely."

16.4 Implications for the EIAR

With the clarifications and revisions incorporated into the chapter, there have been no fundamental changes that would alter the assessment or conclusions of the EIAR.

PURSER

RECEIVED: 05/03/2025

Volume 2:

17

Archaeology and Cultural Heritage

EIAR Addendum: Nua Bioenergy, Lisheen
P-2024-35-59

17.0 Archaeology and Cultural Heritage

17.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 17: Archaeology and Cultural Heritage** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 17 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

17.1.1 Details of Competent Experts

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Faith Bailey – IAC Archaeology**
  MA, BA (Hons), MIAI, MCIfA

- **Jackie Anderson – IAC Archaeology**
  MA, BA, MIAI

17.2 Request for Further Information

RFI Item No. 6 is applicable in relation to Volume 2, Chapter 17 of the EIAR. RFI Item No. 6 states:

> *"Notwithstanding the intermittent references to decommissioning throughout the Environmental Impact Assessment Report (EIAR), it is noted that no proposals have been submitted for this phase. The applicant is requested to confirm the intended operational lifespan of the development and to address the requirement for proposals for decommissioning as appropriate. In the event that a decommissioning phase is to be included, the applicant is requested to update all sections of the EIAR and appropriate supporting documentation to take account of this phase."*

RFI Item No. 8 (a) to (h) is applicable in relation to Volume 2, Chapter 17 of the EIAR. RFI Item No. 8 (a) to (h) states:

The Planning Authority note the measures contained in Chapter 17 of the EIAR to mitigate impacts on archaeology. Given the high potential for archaeology in the area and the lack of previous archaeological investigations within part of the site the measures proposed are considered pre-emptive. The application is therefore requested to submit for the Planning Authority, an Archaeological Impact Assessment. The report should consider and fully address items a to g hereunder;

a) *The applicant is required to engage the services of a suitably qualified Archaeologist to carry out an Archaeological Impact Assessment (AIA) which should include a programme of Archaeological Geophysical Survey and Archaeological Test Excavation. No sub-surface work shall be undertaken in the absence of the archaeologist without his/her express consent.*

b) *The archaeologist shall inspect the proposed development site (PDS) and detail the historical and archaeological background of the site (consulting appropriate documentary sources), and review all cartographic sources and aerial photographs for the area.*

c) *The Archaeological Geophysical Survey must be carried out under licence from the National Monuments Service and in accordance with an approved method statement; note a period of 2-3 weeks should be allowed to facilitate processing and approval of the licence application and method statement.*

d) *The Archaeological Test Excavation must be carried out under licence from the National Monuments Service and in accordance with an approved method statement; note a period of 5-6 weeks should be allowed to facilitate processing and approval of the licence application and method statement.*

e) *Test trenches shall be excavated at locations chosen by the archaeologist having consulted the site drawings and the results of the Archaeological Geophysical Survey. Excavation is to take place to the uppermost archaeological horizons only, where they survive. Where archaeological material is shown to be present, the archaeologist shall have works suspended pending further advice from the Department. Please note that all features/archaeological surfaces within the test trenches are to be handcleaned and clearly visible for photographic purposes.*

f) *Having completed the work, the archaeologist shall submit a written report to The Department and the Local Authority describing the findings of the AIA including the results of the geophysical survey and test excavations. The report shall comment on the degree to which the extent, location and levels of all proposed foundations, service trenches and other sub-surface works required for the development will affect the archaeological remains. This should be illustrated with appropriate plans, sections, etc.*

g) *Where archaeological material is shown to be present, further mitigation measures will be required; these may include refusal, redesign to allow for preservation in situ, excavation and/or monitoring as deemed appropriate. The Department will advise the Local Authority with regard to these matters. No decision should be made on this application until the Department and the Local Authority have had the opportunity to fully evaluate the findings of the AIA.*

h) *The applicant is requested to submit a revised EIAR and Chapter 17 to include for the results and mitigation measures following the completion of the Archaeological Impacts Assessment. This can take the form of an EIAR Addendum."*

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

17.3 Clarifications and Amendments

The requests for clarification and necessary amendments in relation to Chapter 17 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Chapter 17 remains unchanged.

17.3.1 Clarification for Volume 2, Chapter 17

The following text provides clarification of the work already presented within Chapter 17 of the original EIAR, in direct response to RFI Item No. 8 (a) to (h).

This text does not introduce new information. Instead, it serves to respond to RFI Item No. 8 by highlighting and referencing the relevant assessments and content already included in the original EIAR.

The clarification text below has been prepared by IAC:

As laid in out in Chapter 17, submitted as part of the planning application, a large majority of the development area previously contained industrial structures, which have since been demolished. Prior to this a number of archaeological sites were preserved by record, prior to the initial development of the site. The site is currently a 'brownfield' site, with the exception of a small portion of the southwest corner, which covers c. 0.5ha.

In accordance with Item 3(a) and (c) of the RFI [Purser Reference – RFI Item 8 (a) and (c)], Joanna Leigh was appointed to carry out a geophysical survey of the small remaining section of greenfield within the site. The geophysical report is submitted as part of this EIAR Addendum in ***Volume 3, Appendix 17.6****. The survey was carried out under licence 25R0042, as issued by the National Monuments Service of the Department of Housing, Local Government and Heritage.*

RFI Item 3(b) [Purser Reference – RFI Item 8 (b)] has already been completed, as detailed in Chapter 17 of the submitted planning application, which provides detailed analysis of all archaeological, architectural and cultural heritage baseline resources. Please see **Section 17.3** of the original EIAR Page No. 17-5 which sets out the Baseline Environment of the subject site. The information was compile having reference to the Assessment Methodology set out in **Section 17.2** of the original EIAR Page No. 17-2.

During the course of the geophysical survey, no definitive archaeological features were identified (please refer to ***Volume 3, Appendix 17.6****). The data is characterised by a series of linear responses and parallel trends that are indicative of former field divisions and ploughing activity. One possibly small, ditched feature was identified in the western portion of the site, which may be archaeological, but the interpretation is tentative.*

The geophysical survey has certainly confirmed that no significant archaeological remains are located within the remaining greenfield portion of the development area (please refer to ***Volume 3, Appendix 17.6****). Given this fact, further assessment in the form of test trenching (RFI Item 3(d) to (g)) [Purser Reference – RFI Item 8 9(d) to 9(g)], prior to any grant of permission that may be forthcoming, is deemed to be unnecessary. It is recommended that this work is carried out prior to construction going ahead, and as a condition of any grant of permission.*

17.3.2 Additional Text – New Section 17.2.2.1 (Page No. 17-4 of the original EIAR

A new section 17.2.2.1 is to be inserted immediately after Section 17.2.2 and before Section 17.2.3 in the original EIAR.

The text for the new section is presented below in green and should be read in conjunction with the original content of Chapter 17, which was submitted with the planning application. The addition of this new section does not alter the numbering of any subsequent sections within Chapter 17.

> *"Geophysical Survey*
>
> *In response to the RFI, Joanna Leigh was appointed to carry out a geophysical survey of the small remaining section of greenfield within the site. The geophysical report is submitted as part of the EIAR Addendum in* ***Volume 3, Appendix 17.6****. The survey was carried out under licence 25R0042, as issued by the National Monuments Service of the Department of Housing, Local Government and Heritage.*

*During the course of the geophysical survey, no definitive archaeological features were identified (please refer to **Volume 3, Appendix 17.6**). The data is characterised by a series of linear responses and parallel trends that are indicative of former field divisions and ploughing activity. One possibly small, ditched feature was identified in the western portion of the site, which may be archaeological, but the interpretation is tentative.*

The geophysical survey has certainly confirmed that no significant archaeological remains are located within the remaining greenfield portion of the development area. Given this fact, further assessment in the form of test trenching prior to any grant of permission that may be forthcoming, is deemed to be unnecessary. It is recommended that this work is carried out prior to construction, and as a condition of any planning permission."

17.3.3 Additional Text to Section 17.6 (Page No. 17-20 of the original EIAR)

The text in green below constitutes an additional paragraph to be inserted within Section 17.6 – Mitigation Measures of the original EIAR.

This additional text does not require a full revision of Section 17.6, but rather supplements the existing content.

For clarity, the original text from the EIAR is provided in black to give context, followed by the new text, which is presented in **'green'**.

"Archaeology
All topsoil stripping in the south-western corner of the development area will be subject to archaeological monitoring. If any features of archaeological potential are identified, further mitigation will be required such as preservation in-situ or by record. Any further mitigation will require agreement from the National Monuments Service of the DoHLGH.

"Prior to the commencement of development, a programme of archaeological test trenching will be carried out within the small greenfield area portion of the development area, in order to confirm the results of the geophysical survey. This will be carried out under licence, as issued by the National Monuments Service of the Department of Housing, Local Government and Heritage. Dependant on the results of the assessment, further mitigation may be required, such as preservation in-situ or by record and/or archaeological monitoring. Any further mitigation will require the agreement of the National Monuments Service".

17.4 Implications for the EIAR

The geophysical survey (enclosed as part of the EIAR Addendum in **Volume 3, Appendix 17.2**) of the remaining greenfield portion of the site has shown that there are no significant archaeological features present within this

portion of the development area. The results of the survey do not change the overall conclusions or results of the assessment as laid out in **Chapter 17** of the original EIAR, which was submitted as part of the original planning application in November 2024.

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RECEIVED: 05/03/2025

Volume 2:

18

Landscape and Visual

EIAR Addendum: Nua Bioenergy, Lisheen
P-2024-35-59

18.0 Landscape and Visual

18.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 18: Landscape and Visual** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 18 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

18.1.1 Details of Competent Experts

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Seamus Donohoe – Purser**
  MRUP, BAgrSc (Hons) Landscape Architecture, MRTPI, MIPI, MILI

18.2 Request for Further Information

RFI Item No. 6 is applicable in relation to Volume 2, Chapter 18 of the EIAR. RFI Item No. 6 states:

> *"Notwithstanding the intermittent references to decommissioning throughout the Environmental Impact Assessment Report (EIAR), it is noted that no proposals have been submitted for this phase. The applicant is requested to confirm the intended operational lifespan of the development and to address the requirement for proposals for decommissioning as appropriate. In the event that a decommissioning phase is to be included, the applicant is requested to update all sections of the EIAR and appropriate supporting documentation to take account of this phase."*

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 18 of the EIAR. RFI Item No. 7 states:

"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum."

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

18.3 Clarifications and Amendments

The requests for clarification and necessary amendments in relation to Chapter 18 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Volume2, Chapter 18 remains unchanged.

18.3.1 Provision of New Sections 18.5.5 and 18.5.6 (Page 18-24 of the original EIAR)

The following additional text, shown in '**green**', is to be inserted as a new Section 18.5.5 and a new Section 18.5.6 to the original EIAR. The text is to be inserted after Section 18.5.4 and before Section 18.6.

The below additional text does not alter any of the preceding paragraphs in Section 18.5, nor does it require re-numbering of any sections before or after it within the original EIAR.

"18.5.5 Decommissioning Phase Landscape Effects

The landscape effects during the Decommissioning Phase are anticipated to be similar in nature and extent to those identified for the Construction Phase. Works will involve the removal of structures, hardstanding areas, and internal infrastructure, followed by site reinstatement and re-seeding, ultimately returning the site to a greenfield condition.

These activities will result in temporary, low-magnitude change to the landscape, with effects contained within the existing industrial setting of the Lisheen complex. The long-term effect will be neutral, as the site will be returned to a natural state consistent with its pre-development character.

18.5.6 Decommissioning Phase Visual Effects

The visual effects during the Decommissioning Phase are expected to be negligible, mirroring the Construction Phase. Temporary visual impacts, such as the presence of machinery and stockpiles, will be screened by existing vegetation and will occur within a landscape that is already characterised by industrial and infrastructural elements.

Once decommissioning is complete, the site will be reinstated to a greenfield condition, removing any residual visual impacts. As with the Construction Phase, surrounding vegetation will further minimise visibility, and the temporary nature of these effects ensures they are short-term and not significant."

18.3.2 Provision of New Sections 18.6.3 (Page 18-25 of the original EIAR)

The following additional text, shown in '**green**', is to be inserted as new Section 18.6.3 to the original EIAR. The text is to be inserted after Section 18.6.2 and before Section 18.7.

The below additional text does not alter any of the preceding paragraphs in Section 18.5, nor does it require re-numbering of any sections before or after it within the original EIAR.

"18.6.3 Decommissioning Phase

No specific LVIA mitigation measures are proposed for the Decommissioning Phase, as the works will largely involve removal of built structures and reinstatement of the site to a greenfield condition.

*However, the Decommissioning Plan (Ref: 2429-DOB-XX-SI-RP-C-0005) (please refer to **Volume 3, Appendix 6.1**) sets out environmental management measures to ensure that temporary visual impacts (such as the presence of machinery, stockpiles, or disturbed ground) are minimised. These measures are consistent with those applied during the construction phase, including careful management of temporary works areas and adherence to the Construction Environmental Management Plan (CEMP).*

Once the site is reinstated and reseeded, it will gradually blend into the surrounding landscape, removing any long-term visual impacts."

18.3.3 Provision of New Sections 18.7.3 (Page 18-25 of the original EIAR)

The following additional text, shown in '**green**', is to be inserted as new Section 18.7.3 to the original EIAR. The text is to be inserted after Section 18.7.2 and before Section 18.8.

The below additional text does not alter any of the preceding paragraphs in Section 18.5, nor does it require re-numbering of any sections before or after it within the original EIAR.

"18.7.3 Decommissioning Phase Residual Effects

The residual effects during the Decommissioning Phase are anticipated to be similar to those identified for the Construction Phase. The Decommissioning Plan includes a range of standard environmental controls, aligned with the Construction Environmental Management Plan (CEMP), to ensure the works are carried out in a controlled and environmentally sensitive manner.

Following completion of decommissioning, the site will be fully reinstated to a greenfield condition, thereby removing all long-term environmental effects associated with the development. As such, no significant residual effects are anticipated during or following the Decommissioning Phase."

18.4 Implications for the EIAR

The amendments set out in this chapter of the EIAR Addendum do not materially alter the findings or conclusions of the original EIAR.

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RECEIVED: 05/03/2025

Volume 2:

19

Major Accidents and Disasters

EIAR Addendum: Nua Bioenergy, Lisheen
P-2024-35-59

19.0 Major Accidents and Disasters

19.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 19: Major Accidents and Disasters** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 19 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

19.1.1 Details of Competent Experts

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Matthew Michie – AWN Consulting**
  MChem MSc (Physical Chemistry)

19.2 Request for Further Information

RFI Item No. 6 is applicable in relation to Volume 2, Chapter 19 of the EIAR. RFI Item No. 6 states:

> *"Notwithstanding the intermittent references to decommissioning throughout the Environmental Impact Assessment Report (EIAR), it is noted that no proposals have been submitted for this phase. The applicant is requested to confirm the intended operational lifespan of the development and to address the requirement for proposals for decommissioning as appropriate. In the event that a decommissioning phase is to be included, the applicant is requested to update all sections of the EIAR and appropriate supporting documentation to take account of this phase."*

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 19 of the EIAR. RFI Item No. 7 states:

"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum."

RFI Item No. 7 (vi) is applicable in relation to Volume 2, Chapter 19 of the EIAR. RFI Item No. 7 (vi) states:

"The EIAR cites the undertaking of measures in accordance with a Construction Management Plan (CMP) as a mitigation measure. While the mitigation measures in the CMP are noted the full range of mitigation measures must be contained in the EIAR and any supporting document must be consistent with same. The Planning Authority note the CMP references demolition and asbestos removal which are not features of the development and the references to the construction compound location contained in the CMP is at variance with the compound location identified in the NIS. Consistency is required across all primary and supporting documents and the documents to be revised to address this."

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

19.3 Clarifications and Amendments

The requests for clarification and necessary amendments in relation to Chapter 19 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Volume 2, Chapter 19 remains unchanged.

19.3.1 Revised Text to Section 19.4.1 (Page No. 19-17 of the original EIAR)

The text in **'green'** below forms a revised **Section 19.4.1 - Construction Phase.** The revised text supersedes and replaces the existing Section 19.4.1 on page 19-17 of the original EIAR . The revised section does require re-numbering of any sections before or after it within the original EIAR.

"Section 19.4.1 - Construction Phase

A site-specific Construction Environmental Management Plan (CEMP) has been prepared by Donnachadh O'Brien, covering the construction and commissioning of the proposed development, has been prepared to ensure compliance with relevant health and safety legislation

including the Safety, Health and Welfare at Work Act. The CEMP outlines all the measures which shall be implemented by the appointed contractor to ensure that no significant effects on the environment occur during the construction phase of the proposed development. A Health and Safety Plan will also be prepared by the Engineering and Construction Contractor to ensure compliance with relevant health and safety legislation."

19.3.2 Revised Text to Section 19.4.3 (Page No. 19-24 of the original EIAR)

The text in **'green'** below forms a revised **Section 19.4.3 Decommissioning Phase.** The revised text supersedes and replaces the existing Section 19.4.3 on page 19-24 of the original EIAR. The revised section does require re-numbering of any sections before or after it within the original EIAR.

*"A Closure, Restoration & Aftercare Management Plan (CRAMP) will be implemented in the event that the site will be decommissioned. The CRAMP will reflect the relevant legislation and guidance available at the time of decommissioning. Mitigation against the risk of major accidents and disasters will be embedded in the CRAMP. A Decommissioning Plan has been completed by Donnachadh O'Brien in response to a Request for Further Information Submission to Tipperary County Council enclosed in **Volume 3, Appendix 6.1** as part of this EIAR Addendum. The plan outlines the outlines the Environmental factors that should be complied with in relation to the environment, including; site drainage, hazardous materials, dust, noise and waste management."*

19.4 Implications for the EIAR

The conclusions of the Major Accidents and Disasters Chapter are unchanged as a result of the amendments made in response to the Request for Further Information.

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RECEIVED: 05/03/2025

Volume 2:

20

Inter-Related Effects

EIAR Addendum: Nua Bioenergy, Lisheen
P-2024-35-59

20.0 Inter related Effects

20.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 20: Inter related Effects** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 20 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

20.1.1 Details of Competent Experts

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Seamus Donohoe – Purser**
  MRUP, BAgrSc (Hons) Landscape Architecture, MRTPI, MIPI, MILI

- **Elizabeth Shannon – Purser**
  BA (mod) Geog, MRUP MRTPI

20.2 Request for Further Information

RFI Item No. 7 states:

> *"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum."*

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

20.3 Clarifications and Amendments

The requests for clarification and necessary amendments in relation to Chapter 20 of the EIAR have been addressed in the following sections. Additionally, any identified oversights have been corrected.

Unless explicitly stated otherwise, the text provided below either replaces, amends, or supplements the corresponding sections within the original EIAR submitted as part of the planning application. All other content in Chapter 20 remains unchanged.

20.3.1 Additional Text to Section 20.4.1 (Page No. 20-9 of the Original EIAR)

The text in **'green'** below forms additional information within the following section (Major Accidents and Disasters Chapter 19) contained within the overarching **Section 20.4.1 Population and Human Health**. The assessment of the decommissioning phase does not require a full revision of the section but rather could be dealt with through the addition of additional text. The text supplied in 'black' is the original information contained in the EIAR submitted in November 2024 and has been supplied for context. The additional text is to be inserted after paragraph one of the section titled 'Major Accidents and Disasters (Chapter 19)'.

> **Major Accidents and Disasters (Chapter 19)**
>
> The mitigation measures that will be put in place by the proposed development during the construction phase means the interaction between major accidents and disasters and human health are not significant. There are no expected impacts from these projects from a major accidents and disasters perspective, as such, there are no significant cumulative effects with the proposed development from a major accidents and disasters perspective.
>
> *The mitigation measures that will be put in place by the proposed development during the construction phase means the interaction between major accidents and disasters and human health are not significant. There are no expected impacts from these projects from a major accidents and disasters perspective, as such, there are no significant cumulative effects with the proposed development from a major accidents and disasters perspective. The Land Use Planning assessment (please refer to* ***Volume 3, Appendix 7.2****) concluded that the level of individual risk to persons off-site is acceptable. Therefore the effects of the interactions between major accidents and disasters and human health is not significant.*

20.3.2 Additional Text to Section 20.4.3. (Page No. 20-10 to 20-11 of the Original EIAR)

The text in **'green'** below forms additional information within the following sections contained within the overarching **Section 20.4.3 Land, Soils and Geology**. The assessment of the decommissioning phase does not require a full revision of the section but rather could be dealt with through the addition of additional text. The text

supplied in 'black' is the original information contained in the EIAR submitted in November 2024 and has been supplied for context.

Population and Human Health (Chapter 7)

An assessment of the potential effect of the Proposed Development on human health is included in Chapter 7 of this volume.

There is a potential risk of dust generated from excavation and stockpiling of soil during the construction phase of the Proposed Development posing a human health risk in the absence of standard avoidance and mitigation measures which will be implemented to be protective of human health. Appropriate industry standard and health and safety legislative requirements will be implemented during the construction phase of the Proposed Development that will be protective of site workers.
The geophysical survey undertaken for the site (Minerex, 2024) indicated the potential presence of karstified rock. In karst-prone areas, alterations in groundwater flow, exacerbated by additional water such as rainfall infiltration, can lead to increased rock erosion and the formation of voids. The design and specification for all buildings will be in accordance with current Building Regulations and therefore avoiding any potential risks associated with karst features.

An assessment of the potential effect of the Proposed Development during the decommissioning phase on human health is included in Chapter 7 of the EIAR Addendum.

There is a potential risk of dust generated from demolition works, excavations and temporary stockpiling of soil during the decommissioning phase of the proposed development posing a human health risk in the absence of standard avoidance and mitigation measures which will be implemented to be protective of human health. Appropriate industry standard and health and safety legislative requirements will be implemented during the decommissioning phase of the proposed development that will be protective of site workers.

Biodiversity (Chapter 8)

An assessment of the potential effects of the Proposed Development on the Biodiversity of the site, with emphasis on habitats, flora and fauna which may be effected a result of the excavation and importation of materials to the site are included in Chapter 8 of this volume. It also provides an assessment of the effects of the Proposed Development on habitats and species, particularly those protected by national and international legislation or considered to be of particular conservation importance and proposes measures for the mitigation of these effects.

An assessment of the potential effects of the proposed development on the biodiversity of the site, with emphasis on habitats, flora and fauna which may be effected a result of the decommissioning phase are included in Chapter 8 of the EIAR addendum. It also provides an assessment of the effects of the decommissioning phase of the proposed development on habitats and species, particularly those

protected by national and international legislation or considered to be of particular conservation importance and proposes measures for the mitigation of these effects.

The below paragraph (Hydrology and Hydrogeology – Chapter 10) is new a interaction which has been assessed as part of the decommissioning phase. The text below would be inserted after Biodiversity (Chapter 8) and Air Quality (Chapter 11) on Page No.

Hydrology and Hydrogeology (Chapter 10) – new paragraph

An assessment of the potential effect of the decommissioning phase of the proposed development on the hydrological and hydrogeological environment is included in Chapter 10 the EIAR Addendum. In the absence of avoidance, remedial, and mitigation measures, demolition works, excavations and temporary stockpiling of soils pending re-use may potentially create pathways for potential sources of contamination to enter underlying groundwater. Activities associated with the decommissioning phase will also involve the use of potentially hazardous materials such as fuels, oils, and other substances, in addition to the handling and removal offsite of process waste residues. An uncontrolled release of these materials, whether through containment failure or handling accidents, could effect the surrounding environment. Furthermore, it is noted that groundwater storage in karstified bedrock is low, limiting the potential for contaminant attenuation in
such aquifers. Procedures for the protection of the receiving water environment during the decommissioning phase of the proposed development are set out in Chapter 10 of the EIAR Addendum.

Air Quality (Chapter 11)

The excavation of soils across the Site and the temporary stockpiling of soils pending reuse or removal offsite has the potential to generate nuisance effects (i.e., dust) during the Construction Phase of the Proposed Development.

The use of digestate will have a positive effect of on the receiving lands given the improved recycling of nutrients and reduction of organic pollution / microbial contamination associated with untreated organic waste sources. Compared to other organic waste management practices, such as composting or direct land application of raw manure, digestate significantly reduces odour emissions. Composting can generate odours from volatile organic compounds (VOCs) and ammonia if not properly managed. Direct land application of raw manure can also lead to strong odours and potential environmental pollution. By stabilising organic waste and reducing pathogens, digestate not only minimises odour but it also enhances the nutrient profile of the digestate.

The excavation of soils across the site and the temporary stockpiling of soils pending reuse or removal offsite has the potential to generate nuisance effects (i.e., dust) during the decommissioning phase of the proposed development.

An assessment of the potential effect of the Proposed Development on air quality (including odours) is included in Chapter 11 of the EIAR Addendum.

Landscape and Visual (Chapter 18)

During the construction phase and into the operational phase of the Proposed Development, the site landscape will undergo a change from undeveloped brownfield lands to industrial with associated landscaping. An assessment of the potential effect of the Proposed Development on the receiving landscape is included in in Chapter 18 of this volume.

The decommissioning of the proposed development will reinstate the lands at the site to pre-development conditions. The full site will be reinstated and reseeded to match the natural growth of the local environs of the larger Lisheen area. An assessment of the potential effect of the decommissioning phase of the proposed development on the receiving landscape is included in in Chapter 18 of the EIAR Addendum.

Traffic, Transport (Chapter 14) and Waste (Chapter 15)

It is intended to retain and re-use the excavated soil and subsoil on the site for engineering fill and landscaping. However, where required, unsuitable material will require removal offsite. There is also a requirement to import aggregates during the construction phase of the Proposed Development. *The proposed development has been carefully designed to balance the cut and fill. It is intended to retain and re-use the landscaped berms developed during the construction phase and the excavated soil and subsoil generated during decommissioning works to reinstate the site to pre-development conditions. However, where required, unsuitable material will require removal offsite.* An assessment of the potential effect of the proposed development on Traffic and Transport and Material Assets (Waste) are included in Chapter 14 and Chapter 15 of the Addendum EIAR respectively.

20.3.3 Additional Text to Section 20.4.4. (Page No. 20-11 to 20-12 of the Original EIAR)

The text in **'green'** below forms additional information within the following sections contained within the overarching **Section 20.4.4 Hydrology and Hydrogeology**. The assessment of the decommissioning phase does not require a full revision of the section but rather could be dealt with through the addition of additional text. The text supplied in 'black' is the original information contained in the EIAR submitted in November 2024 and has been supplied for context.

Population and Human Health (Chapter 7)

No public health issues associated with the water (hydrology and hydrogeology) conditions at the Proposed Development Site have been identified for the Construction Phase or Operational Phase of the Proposed Development.

Appropriate industry standard and health and safety legislative requirements will be implemented during the construction phase that will be protective of site workers.

No public health issues associated with the water (hydrology and hydrogeology) conditions at the Proposed Development Site have been identified for the Decommissioning Phase of the Proposed Development. Appropriate industry standard and health and safety legislative requirements will be implemented during the construction phase that will be protective of site workers.

An assessment of the potential effect of the Proposed Development during the decommissioning phase on human health is included in Chapter 7 of the EIAR Addendum.

Land, Soil, Geology (Chapter 9)

An assessment of the potential effect of the Proposed Development on the existing land, soils and geological environment during the Operational Phase of the Proposed Development is set out in Chapter 9 of this volume.

An assessment of the potential effect of the Proposed Development on the existing land, soils and geological environment during Decommissioning Phase of the Proposed Development is set out in addendum to Chapter 9 of this volume.

Biodiversity (Chapter 8) – no change

An assessment of the potential effects of the Proposed Development on the Biodiversity of the Site, with emphasis on habitats, flora and fauna which may be effected a result of the Proposed Development are included in Chapter 8 of this volume. It also provides an assessment of the effects of the Proposed Development on habitats and species, particularly those protected by national and international legislation or considered to be of particular conservation importance and proposes measures for the mitigation of these effects.

Material Assets – Utilities (Chapter 16)

An assessment of the potential effect on the Proposed Development on the material assets – Utilities including built services and infrastructure has been set out in Chapter 16 of this volume. Potable water use will be in accordance with the volumes and rates set out in the Moyne Group Water Scheme Supply Agreement.

An assessment of the potential effect on the Proposed Development Decommissioning Phase on the material assets – Utilities including built services and infrastructure has been set out in the addendum to Chapter 16.

20.3.4 Additional Text to Section 20.4.5 (Page No. 20-12 of the Original EIAR)

The text in **'green'** below forms additional information within the following sections contained within the overarching **Section 20.4.5 Air Quality (including Odour)** . The assessment of the decommissioning phase does not require a full revision of the section but rather could be dealt with through the addition of additional text. The text supplied in 'black' is the original information contained in the EIAR submitted in November 2024 and has been supplied for context.

Population and Human Health

Air quality does not have a significant number of interactions with other topics. The most significant interactions are between population and human health (Chapter 7 – Population & Human Health) and air quality. An adverse impact due to air quality in either the construction, operational or *decommissioning phase* has the potential to cause health and dust nuisance issues. The mitigation measures that will be put in place by the proposed development will ensure that the effects of the proposed development complies with all ambient air quality legislative limits. Therefore, the predicted effect is direct, short-term, negative and not significant with respect to population and human health during the construction and decommissioning phases and direct, long-term, negative and not significant during the operational phase, which is overall not significant in EIA terms.

Traffic and Transportation – no change

Interactions between air quality and traffic (Chapter 14 - Traffic and Transportation) can be significant. With increased traffic movements and reduced engine efficiency, i.e. due to congestion, the emissions of vehicles increase. The effects of the proposed development on air quality are assessed by reviewing the change in annual average daily traffic on roads close to the site. In this assessment, the effects of the interactions between traffic and air quality are considered to be direct, long-term, negative and imperceptible, which is overall not significant in EIA terms.

Climate

Air quality and climate have interactions due to the emissions from the burning of fossil fuels during the construction, operational *and decommissioning phase* generating both air quality and climate effects. Air quality modelling outputs are utilised within Chapter 12 - Climate. There is no impact on climate due to air quality however the sources of impacts on air quality and climate are strongly linked.

Land, Soils and Geology

Construction phase activities such as land clearing, excavations, stockpiling of materials etc. *and decommissioning phase activities such as demolition* have the potential for interactions between air quality and land and soils in the form of dust emissions. With the appropriate mitigation measures to

prevent fugitive dust emissions, it is predicted that there will be no significant interactions between air quality and land, soils and geology (Chapter 9 - Land, Soils and Geology).

Biodiversity Chapter 8

There is the potential for interactions between air quality and biodiversity (Chapter 8 - Biodiversity). Dust generation can occur during extended dry weather periods as a result of construction *or decommissioning traffic.* Dust suppression measures (e.g. dampening down) will be implemented as necessary during dry periods and vehicle wheel washes will be installed, for example. The construction works involve stripping of topsoil and excavations, which will remove some vegetation such as trees and scrub. The construction *and decommissioning works* will also generate dust and potentially effect on the air quality in the locality. However, the generation of dust will be temporary during construction *and decommissioning phases* and is not anticipated to have a significant effect on biodiversity. Once the mitigation measures outlined within Chapter 11 are implemented dust related effects are predicted to be direct, short-term, negative and not significant, which is overall not significant in EIA terms.

20.3.5 Additional Text to Section 20.4.8 (Page No. 20-15 of the Original EIAR)

Transportation' and the following environmental factors have been considered in this EIAR as the proposed project has the potential to create impacts during both the construction and operational stages as a result of trip generation and traffic flow: Population and Human Health (Chapter 7), Air Quality (Chapter 11), Climate (Chapter 12) and Noise and Vibration (Chapter 13).

The proposed mitigation measures set out in Chapter 14 will ensure that there are minimum impacts on the factors listed above.

The inter-related effects during the Decommissioning Phase will be the same as during the Construction stage, namely on Air Quality and Noise and Vibration. The effects will be as described in the respective Chapters of the EIAR.

20.4 Implications for the EIAR

The amendments outlined above do not materially change the assessment made in the EIAR or its conclusions.

PURSER

Volume 2:

21

Cumulative Effects

EIAR Addendum: Nua Bioenergy, Lisheen
P-2024-35-59

21.0 Cumulative Effects

21.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides clarifications and amendments to **Volume 2, Chapter 21: Cumulative Effects** of the EIAR submitted as part of the planning application.

This Addendum is intended to be read in conjunction with Chapter 21 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

21.1.1 Consultant that carried out the work

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Seamus Donohoe – Purser**
  MRUP, BAgrSc (Hons) Landscape Architecture, MRTPI, MIPI, MILI

- **Elizabeth Shannon – Purser**
  BA (mod) Geog, MRUP MRTPI

21.2 Request for Further Information Item

RFI Item No. 7 states:

> *"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum."*

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

21.3 Clarifications and Amendments

21.3.1 Additional Text to Table 21.3 (Page Nos. 21-14 to 21-20 of the Original EIAR

For clarity and ease of reference, the full text of Table 21.3 from the original EIAR is reproduced below.

- The original text from the EIAR is shown in 'black' to provide context.
- The new additional text, which specifically addresses the Decommissioning Phase, is shown in **'green.**

A complete revision of Table 21.3 is not required. The Decommissioning Phase can be fully and appropriately addressed by the inclusion of this additional text, ensuring that all relevant cumulative effects are comprehensively considered.

Environmental Topic	Screened – In Projects	Significance of Effects
Population and Human Health	Projects 1, 2, 3, 4, 5, 6, 16, 17, 18, 21, 23	During the construction phase, the residual effects of the proposed development alone on population and human health will range from negative temporary slight to negative temporary significant. During the construction phase, potential cumulative effects from the screened-in projects in-combination with the proposed development were identified in locations where cumulative traffic and transport impacts occur in conjunction with significant effects on accessibility and journey patterns. During the operational phase, the impact of the proposed development provision of employment within the area is predicted to result in in a permanent, positive, significant health and wellbeing effect at the regional level. *It is expected that the cumulative impacts arising from the decommissioning phase will be similar to that of the construction phase. The most significant cumulative effect will arise from HGV traffic movements to and from the site during waste removal causing an impact to accessibility of surrounding roads and local journey patterns.*

Biodiversity	Projects 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24	**Construction Phase** During the construction phase, in a worst-case scenario there is potential for negative cumulative impacts to hydrologically connected waterbodies. These potential impacts include the accumulation of excess sediment and the mobilisation of contaminants from multiple source projects, both of which can affect the water quality of surface and groundwater bodies. In the absence of mitigation measures, there is a potential 'negative', 'moderate', 'medium-term' impact on the receiving waterbodies including the Cooleeny Stream, River Drish, Thurles Groundwater Body (GWB) and downstream systems. Cumulative impacts on fauna primarily relate to increased noise and activity levels. In-combination impacts from noise/disturbance are likely to be most pronounced during the construction phase. This is a short-term, localised impact. **Operational Phase** During operation, all foul water from the proposed development will be directed into the anaerobic digestion process, with no discharge to surrounding waterbodies, thereby avoiding potential cumulative impacts on aquatic habitats and species dependent on them. As a result, effects on the hydrological environment are expected to be "neutral," "imperceptible," and "permanent," with no adverse impact on local biodiversity. Surface water from the proposed development will be treated and attenuated prior to discharging to the Cooleeny Stream located approximately 20m south of the site. The 2023 AER for the Lisheen Mine (EPA, 2024) recorded continued non-compliances of COD, Suspended Solids, Zinc and Ammonia at the SW1 discharge from the Cloheen Pond to the Cooleeny Stream. Based on the dilution which will occur within the Cooleeny Stream, it is considered that the discharge of treated, clean surface water runoff from the proposed development will reduce the overall pollutant load in the stream and there will be a cumulative 'positive', 'slight', and 'long term' impact of the receiving water quality. This improvement would be beneficial for aquatic biodiversity.

		During operation, a localised increase in traffic and noise is predicted. Given its setting in an active industrial area, the proposed development is not predicted to significantly increase long term noise and disturbance levels. Therefore, no significant cumulative impacts have been identified. **Decommissioning Phase** *Cumulative effects may occur if decommissioning overlaps with activities at the former Lisheen Mine or nearby agricultural operations. Combined noise, dust, and traffic from HGVs exiting via the southern private road could temporarily amplify disturbances along the lightly trafficked L3201/L4115. Over the 30-year lifespan, future plans within the 15 km ZoI (e.g., mine redevelopment) may emerge, requiring reassessment prior to decommissioning to ensure no in-combination impacts. Given the rural context, low baseline traffic, and temporary duration, significant long-term cumulative effects are unlikely with effective mitigation. No hydrological pathways to European sites like Lower River Suir SAC (14.8 km downstream) are anticipated, consistent with the Natura Impact Statement (NIS).*
Land, Soils and Geology	Projects 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24	During the operational phase of the Proposed Development, no significant cumulative effects on land, soils, and geology are anticipated. However, during the construction phase of the Proposed Development, while there is no requirement to remove excavated soils from the site, where potentially unsuitable material is identified through engineering and environmental assessment, it could potentially be directed to the same receiving waste facilities for recovery or disposal as excavated materials from other developments. Furthermore, the importation of aggregates to the Proposed Development may be sourced from the same borrow site as other permitted developments. Therefore, there may be potential cumulative effects on land, soils, and geology due to the combined effect of waste management activities and material importation from this and other nearby developments. **Decommissioning Phase** *Contract and procurement procedures will ensure that all infill materials imported to the site are coming from known sources which have previously been inspected and will be in accordance with all relevant statutory consents for both the source sites and the Proposed Development. The potential effects may include loss of*

		attributes and changes in the geological regime at the source site. It is anticipated that the required aggregates identified for importation onsite will be 'indirect' and have a 'neutral,' 'imperceptible' and 'permanent' effect on the source site taking account of the fact that the statutory consent process would have required the necessary environmental effects to be assessed and mitigated as appropriate at the source site. *Furthermore, the import of topsoil that may otherwise be diverted to landfill in the absence of the Proposed development with loss of soil and stone resources will result in an overall 'positive', 'slight to moderate' and 'long term' impact by preventing loss of soil and geological resource to landfill and using this material for restoration purposes.*
Hydrology and Hydrogeology	Projects 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23	**Construction Phase** During the construction phase of the Proposed Development, in a worst-case scenario there is potential for negative cumulative effects to hydraulicly connected waterbodies. These include effects to water quality of surface and groundwater bodies due to accumulation of excess sedimentation and mobilisation of contaminants from multiple source projects. In the absence of mitigation measures, there is a potential 'negative', 'moderate', 'medium-term' effect on the receiving waterbodies including the Cooleeny Stream, River Drish, Thurles GWB and downstream waterbodies. **Operational Phase** Water Resources - Water supply to the Proposed Development will be from the existing Moyne GWS. Correspondence dated 6 August 2024 states that the proposed water supply connection is feasible. The Moyne GWS water supply will be operated in accordance with relevant approvals therefore there will be no cumulative effects associated with the Proposed Development on the supply network and water resources. The associated cumulative effect on the hydrological and hydrogeological receiving environment will be 'neutral', 'imperceptible' and 'permanent'.

		Water Quality - Foul water from the Proposed Development will be input into the anaerobic digestion process. There will be no discharge of foul water from the site during the operational phase and therefore no other potential cumulative effects associated with the Proposed Development. The associated cumulative effect on the hydrological and hydrogeological receiving environment will be 'neutral', 'imperceptible' and 'permanent'. Surface water from the Proposed Development will be treated and attenuated prior to discharging to the Cooleeny Stream located approximately 0.02km south of the site. The 2023 AER for the Lisheen Mine (EPA,2024) recorded continued non-compliances of COD, Zinc, Suspended Solids and Ammonia at the SW1 discharge from the Cloheen Pond to the Cooleeny Stream. Based on the dilution which will occur within the Cooleeny Stream, it is considered that the discharge of treated, clean surface water runoff from the Proposed Development will reduce the overall pollutant load in the stream and there will be a cumulative 'positive', 'slight', and 'long term' effect of the receiving water quality. **Decommissioning Phase** *During the decommissioning phase of the proposed development, in a worst-case scenario, such as a fuel spill, fire or accidental unmitigated release of other hazardous compounds occurring, and in the absence of any mitigation measures it is considered that there would be a potential 'negative', 'significant', 'medium term' effect on the quality of the underlying aquifer. The groundwater within the Thurles GWB would also likely be effected and taking account of the limited attenuation within the aquifer, it is considered that there is an indirect risk to the downstream receiving waterbodies (i.e., Cooleeny Stream, the Drish River, the Rossestown River and downstream waterbodies (i.e., the River Suir) and Natura 2000 sites). However, this worst-case scenario is deemed to be unlikely scenario taking account of the embedded design avoidance measures and mitigation measures.*
Air Quality	Projects 1, 2, 3, 4, 5, 6	There is the potential for cumulative construction dust effects should the construction phases overlap with that of the proposed development. However, the dust mitigation measures outlined in **Section 11.6.1** will be

		applied throughout the construction phase of the proposed development which will avoid significant cumulative effects on air quality. With appropriate mitigation measures in place, the predicted residual cumulative effect on air quality associated with the construction phase of the proposed development are considered ***direct***, ***short-term, negative*** and ***not significant***, which is overall not significant in EIA terms. *Decommissioning phase dust impacts are considered similar in type and magnitude to the construction dust impacts identified for the construction phase. Should the decommissioning phase overlap with dust generating activities from other developments (either construction or decommissioning phases), cumulative dust soiling and dust-related impacts on human health, specifically localised to the works area associated with the proposed works, could occur.* *However, the dust mitigation measures outlined in Section 11.6.1 will be applied throughout the decommissioning phase of the proposed development which will avoid significant cumulative effects on air quality. With appropriate mitigation measures in place, the predicted residual cumulative effect on air qua ity associated with the decommissioning phase of the proposed development are considered direct, short-term, negative and not significant, which is overall not significant in EIA terms.*
Climate	All projects screened out	**No amendments or changes required.**
Noise and Vibration	Projects 1, 2, 3, 4, 5, 6	The committed developments within a 2.5 kilometre radius of the existing site have been reviewed. The potential in combination effects with the committed developments has been found to be negligible. Based on the developments that have submitted a noise impact assessment as part of an EIAR chapter or as a standalone document have all been deemed suitable developments for the area, with noise levels predicted to be in line with the existing noise climate and in line with EPA criteria. The combination of these chapters and the distances between the developments, and the predicted noise emissions of the proposed anaerobic digestion facility, lends that there will be no negative noise impact from the in-combination operation of the developments at the NSLs outlined in this chapter. **Decommissioning Phase**

		Given that the decommissioning phase of the development will be completed after the life of the development and considering the existing committed developments it is not anticipated that the development will have a negative cumulative impact. Taking into consideration that there may be other developments in the area at that time and the fact that some of the existing developments in the locality may be also decommissioned by the time the decommissioning phase is completed it is difficult to predict the cumulative impact. The mitigation measures are designed to ensure that the noise levels will not be exceeded at the nearest noise sensitive locations taking this in consideration and unknown future developments in the locality it is unlikely that the cumulative impacts will have a negative effect.
Traffic and Transportation	Projects 1, 2, 3, 4, 5, 6	The developments which were screened in will generate approximately 491 two-way vehicle movements per day along the Lisheen Mine HGV route. Across a typical 8-hour working day, this equates to 60 two-way trips per hour, or an average of 1 trip per minute. It is likely that there will be some impact on the surrounding roads during the construction period which will have negative, temporary impacts on the surrounding area. *Given that the Decommissioning phase will be over 20 years in the future, it is not possible to identify any cumulative projects that may interact with the development, in terms of traffic and transport.* *The Decommissioning Plan produced by DOBA is intended to be a 'live' document. This will be updated prior to the Decommissioning Phase, when a Contractor is appointed. At that point, the Contractor will identify any nearby projects that are likely to generate cumulative effects with the decommissioning traffic generated by the site, and identify if mitigation is required.*
Material Assets: Waste	Projects 1, 2, 3, 4, 5, 6	There will be a greater demand on existing local waste management services and on regional waste acceptance facilities

		However, the capacity of waste collection companies and waste management facilities in County Tipperary have been designed with forward planning and expansion in mind to cater for a growing population. It is necessary that all the developments provide the infrastructure and services to assist with segregating waste at source, in order to reduce the generation and disposal of non-recyclable mixed waste. The predicted cumulative effect will be short term, not significant, and negative. *The Decommissioning Phase will be completed at the end of the lifetime of the Proposed Development. It is therefore difficult to predict the cumulative effects of the decommissioning phase on any planned or permitted projects at the time of decommissioning. However, the proposed mitigation measures will aid in reducing the cumulative effects.*
Material Assets: Utilities	Projects 1, 2, 3, 4, 5, 6, 9, 10, 11	The nature of the projects identified are of such a scale that there are no largely negative residual impacts. We would note that a large feed from the ESB Grid is required for some of the projects reviewed. However, due to the source of renewable energy (existing and proposed) within the area, the overall residual effect still remains low. In general, the overall cumulative impact is considered low with a low residual impact. **No amendments or changes required.**
Archaeology and Cultural Heritage	Projects 1, 2, 3, 4, 5, 6	Within regards to projects proposed within 500m of the proposed development, potential cumulative impacts will not occur in relation to the archaeological record as these developments all occupy areas that were subject to full archaeological excavation in the late 1990s. As such none of them will impact archaeology and therefore cumulative impacts cannot occur. No cumulative impacts are predicted in relation to the operation of the proposed development and those developments within 500m, as no operational impacts are predicted as a result of the operation of the proposed development (subject to this EIAR).

		No amendments or changes required.
Landscape and Visual	Projects 1, 2, 3, 4, 6	Projects within a 2.5 km radius within this category were assessed for potential cumulative landscape and visual impacts due to their proximity to the proposed development. The results of the assessment are that no cumulative effects will arise. Please refer to baseline photographs and verified photomontages (available in Volume 3: Appendix 18.1). The assessment concluded that there are no likely significant direct or indirect cumulative effects on landscape and visual predicted during the construction, operation, or decommissioning phases of the proposed development. **No amendments or changes required.**
Risk Management – Major Accidents and Disasters	Projects 1, 2, 3, 4, 5, 6	There are no expected impacts from these projects from a major accidents and disasters perspective, as such, there are no significant cumulative effects with the proposed development from a major accidents and disasters perspective. During the construction phase, since there are no likely negative impacts on the project or to off-site receptors, the cumulative impacts, of major accidents and disasters, are considered imperceptible and neutral to the proposed development and to cumulative developments in the surrounding area. During the operational phase, since there are no likely negative impacts to off-site receptors, the cumulative impacts, of major accidents and disasters, are considered imperceptible and neutral to the proposed development and to cumulative developments in the surrounding area. **No amendments or changes required.**

21.4 Implications for the EIAR

With the clarifications provided above and revisions included to the chapter, there have been no changes made which would fundamentally alter the assessment made in the EIAR, or its conclusions.

PURSER

Volume 2:

22

Mitigation and Monitoring Proposals

EIAR Addendum: Nua Bioenergy, Lisheen
P-2024-35-59

22.0 Schedule of Mitigation and Monitoring Proposals

22.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) Addendum provides a completely revised and updated **Volume 2, Chapter 22 Schedule of Mitigation and Monitoring Proposals**. This new chapter supersedes the original **Chapter 22** of the EIAR submitted in November 2024.

This Addendum is intended to be read in conjunction with Chapter 22 of the original EIAR, submitted as part of the planning application, to ensure a comprehensive understanding of the updates provided in response to the Request for Further Information (RFI).

22.1.1 Consultant that carried out work

In accordance with Article 5(3) of the EIA Directive (2011/92/EU, as amended by 2014/52/EU), the EIAR submitted as part of the planning application, along with this EIAR Addendum, has been prepared by a multi-disciplinary team of competent experts.

Details of all competent experts involved in the preparation of the EIAR are provided in **Volume 3, Appendix 1.1** of the original EIAR. However, for ease of reference, the details of the contributor(s) to this EIAR Addendum chapter are provided below:

- **Seamus Donohoe – Purser**
  MRUP, BAgrSc (Hons) Landscape Architecture, MRTPI, MIPI, MILI

- **Elizabeth Shannon – Purser**
  BA (mod) Geog, MRUP MRTPI

22.2 Request for Further Information Item

RFI Item No. 6 is applicable in relation to Volume 2, Chapter 22 of the EIAR. RFI Item No. 6 states:

> *"Notwithstanding the intermittent references to decommissioning throughout the Environmental Impact Assessment Report (EIAR), it is noted that no proposals have been submitted for this phase. The applicant is requested to confirm the intended operational lifespan of the development and to address the requirement for proposals for decommissioning as appropriate. In the event that a decommissioning phase is to be included, the applicant is requested to update all sections of the EIAR and appropriate supporting documentation to take account of this phase."*

RFI Item No. 7 is applicable in relation to Volume 2, Chapter 22 of the EIAR. RFI Item No. 7 states:

> *"The applicant is requested to arrange to submit, for the consideration of the Planning Authority, a revised EIAR and supporting documentation that address the following matters. Revisions or updates to the EIAR can be provided by way of an EIAR Addendum."*

RFI Item No. 7 (vi) is applicable in relation to Volume 2, Chapter 22 of the EIAR. RFI Item No. 7 (vii) states:

> *(vii) In addition, the EIAR contains discrepancies between the mitigation measures outlined in Chapter 22 and the various chapters of the main EIAR."*

In response to this Request for Further Information (RFI), this EIAR Addendum has been prepared and submitted to the Planning Authority for its consideration. The original EIAR, which was submitted as part of the planning application, has been thoroughly reviewed having regard to the RFI, and any necessary amendments, clarifications, or additional are provided by this EIAR Addendum.

22.3 Response to Request for Further Information

In response to RFI Item No. 7 (vi) the following text is fully updated version of Chapter 22. For clarity and ease of reading, the numbering sequence below follows that of the original Chapter as it sits within the original EIAR document. The text below supersedes the text contained within the November 2024 EIAR document.

As part of this EIAR Addendum, the mitigation and monitoring measures for the decommissioning phase have been included where relevant for completeness.

22.1 Introduction

Following a Request for Further Information from Tipperary County Council dated 03 January 2025, Chapter 22 of the EIAR submitted as part of the wider application was reviewed, revised and updated. For completeness the whole chapter has been set out below and contains revisions, clarifications and updates.

The mitigation and monitoring measures listed below are those contained in the EIAR topic-specific chapters (Chapters 7 to 19) included in Volume 2 of the EIAR.

As noted in Chapter 2: EIA Process and Methodology, embedded mitigation measures are those that are identified and adopted as part of the evolution of the proposed development's design and operation of the project. Such measures are considered in the significance of effect assessment (i.e. they are assumed to form part of the design of the proposed development prior to any assessment). Embedded measures also include industry best practice.

As also noted in Chapter 2: EIA Process and Methodology additional mitigation measures are those that are identified during the impact assessment process specifically to reduce or eliminate any predicted significant adverse effects.

The EPA's 2022 Guidelines state that an EIAR should include the following:

> *"A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases."*

In accordance with the EPA's 2022 Guidelines, this chapter:

- collates and reproduces/ lists the relevant measures that have been prescribed in each of the specialist environmental Chapters to avoid, prevent, reduce or, if necessary, offset any potential significant adverse effects on the environment associated with the construction and operational stages of the proposed project; and
- does not seek to elaborate on the reasoning or expected effectiveness of those measures, as this is provided within the main body of each specialist Chapter.

22.2 Mitigation

Figure 3.5 of the EPA's 2022 Guidelines sets out a recommended strategy for identifying appropriate mitigation or offsetting measures for a proposed project. This strategy is reproduced below at Figure 22.1 for completeness.

The strategy contained in the EPA's 2022 Guidelines has been considered in, and has informed, each of the specialist environmental factor Chapters within this EIAR as well as the measures prescribed to address any potential significant effects associated with the construction and operation stages of the proposed project.

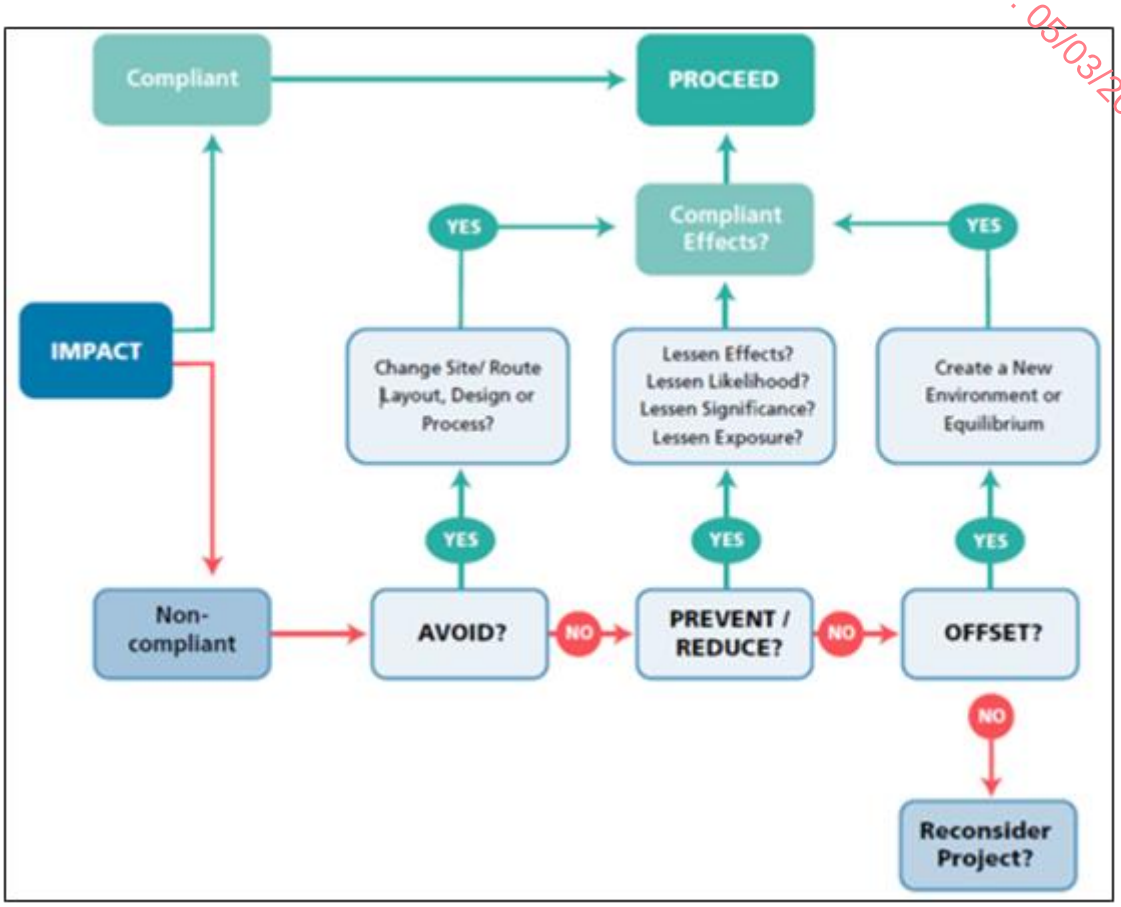

Figure 22.1: Strategies for identification of Appropriate Mitigation or Offsetting Measures Leading to a Decision to Proceed with the Project. (Source: EPA 2022 Guidelines).

22..3 Monitoring

The EPA's 2022 Guidelines advise that

> *"It may be appropriate, where relevant, to propose monitoring takes place after consent is granted in order to check that the project in practice conforms to the predictions made during the EIA and to record any unforeseen effects in order to undertake appropriate remedial action".*

The EPA's 2022 Guidelines further advise that

> *"Monitoring checks that proposed systems are operating as intended. This allows adjustments of operations to be made to ensure compliance with consent conditions such as emission limit values, conditions of operation, performance criteria indicators and detection of unexpected mitigation failures".*

22.4 Mitigation and Monitoring Measures

Table 22.1 identifies separate technical documents which accompany and have informed the environmental assessment of the proposed project and the identification of relevant mitigation and monitoring measures.

In preparing the EIAR Chapters for each specialist environmental factor, the authors have reviewed and had regard to the information contained within these technical documents, and similarly, the authors of each of the technical documents have reviewed and had regard to the information contained in each of the specialist EIAR chapters.

As a result, both the specialist EIAR chapters and the technical documents have been informed by each other to ensure that relevant mitigation and monitoring measures are identified which will reduce the potential for any significant effects associated with the construction and operation stages of the proposed project.

Appendix	Title
Appendix 1.1	List of Competent Experts
Appendix 3.1	Planning History of the Site (as a Mine)
Appendix 6.1	Decommissioning Plan (Ref: 2429-DOB-X-SI-RP-C-0005) dated February 2025
Appendix 7.1	Construction Management Plan (Ref: 2429-DOB-XX-SI-RP-C-0003) dated February 2025
Appendix 7.2	COMAH Land Use Planning Assessment of Anaerobic Digester Plant (Ref: 247501.0417RR01a) dated 28 February 2025
Appendix 9.1	Ground Investigation & Geotechnical Report and Waste Characterisation Assessment
Appendix 9.2	Lisheen Mine Closure, Restoration and Aftercare Management Plan 2016
Appendix 10.1	Ground Investigation & Geotechnical Report and Waste Characterisation Assessment
Appendix 11.1	Description of the AERMOD Model
Appendix 11.2	Meteorological Data – AERMET
Appendix 13.1	RAW Unattended Measurement Results
Appendix 14.1	Transport Assessment
Appendix 14.2	Traffic Survey Results
Appendix 14.3	Mobility Management Plan
Appendix 17.1	SMR/RMP Sites within study area
Appendix 17.2	Legislation Protecting the Archaeological Resource
Appendix 17.3	Legislation Protecting the Architectural Resource
Appendix 17.4	Impact Assessment and the Cultural Heritage Resource
Appendix 17.5	Mitigation Measures and Cultural Heritage Resource
Appendix 17.6	Geophysical Survey Report (Ref: 25003) dated 09 February 2025
Appendix 18.1	Verified Photomontages and CGIs

Appendix 21.1	Long list of "other existing and/or approved projects" which are potentially relevant

Table 22.1: Technical Documents supporting the EIAR and EIAR Addendum, contained in Volume 3 – Appendices of this EIAR. (Source: Purser).

It is important that this chapter, and the wider EIAR document, is read in conjunction with the accompanying technical documents identified in Table 21.1 as well as the other technical documents which form part of the wider planning application package, but which are not appended in Volume 3 of this EIAR.

Each specialist chapter in this EIAR makes reference to the technical documents that are relevant to, and have informed the assessment of, each respective environmental factor, and also identify/reproduce relevant mitigation and monitoring measures.

The following tables provide an updated record of the mitigation and monitoring measures prescribed for each environmental factor in the specialist chapters of this EIAR with respect to the construction and operation stages of the proposed project.

22.4.1 Population and Human Health

Construction Stage – Mitigation Measures
Population – It is considered that the proposed development is unlikely to generate any significate adverse effects on the demographics of the area dur the construction phase and will have positive economic effects. The construction strategy requires all contractors to comply with legislation and good industry practice with regard to the health and safety of both workers and the public. **Employment** – No mitigation measures are required. **Community** – No mitigation measures are required. **Human Health** – Adverse health and safety effects during the construction phase will be minimised through the implementation of the Construction Management Plan as prepared by DOBA Ltd provided in **Volume 3, Appendix 7.1**. Other measures such as having a dedicated contact point that the public can contact regarding any issues arising on site and the provision of information to local householders and the wider community in a phased approach before construction begins and when required during the construction process.
A Construction Management Plan (CMP) has been prepared in respect of the proposed project by DOBA Ltd provided in **Volume 3, Appendix 7.1**.. The CMP contains best practice mitigation measures to be implemented during the construction. phase of the proposed project to avoid/minimise any potential impacts with respect to 'Population and Human Health', such as measures in relation to site hoarding and security, site management, pollution control, traffic management, and etc.

Operation Stage – Mitigation Measures

Mitigation measures proposed with respect to 'Population and Human Health' during the operation stage of the proposed project will take note of measures already specified in each other specialist EIAR chapters and the technical documents accompanying this EIAR/planning application package.

Pest Control

Actions and Procedures

Pest control will be regularly carried out and results of bait station checks recorded. The management of the facility will be responsible for the pest programme including the chemicals uses or actions carried out by independent pest control companies. The activity records of bait stations checks are to be clear and unambiguous and must include any follow up action including preventative measures required by the management.

Chemicals

Any pest control chemicals held at the establishment shall be in a clearly designated secure cabinet or facility used only for pest control. The keys to this facility are to be controlled and limited as far as possible. Persons issued with keys are to be nominated in the standard operating procedure. Chemicals used shall be approved and used only in accordance with the instrument of approval.

Physical Barriers

Physical barriers prevent pests entering buildings or eliminate their presence. The barrier must be effective and usually a combination of deterrence is required to achieve the purpose. The effectiveness of these barriers is a key indicator of the effectiveness of the company preventative maintenance programme such as self-closing doors mounted in such a way that light cannot be seen between the rubber door seal and the floor or door jam.

Cleaning, Sanitation and Housekeeping

A broad scope cleaning and sanitation programme is necessary to control and prevent pests and vermin presence within the establishment.

The Cleaning and Sanitation standard operating procedure should include:

- Removal of food sources which attract pests and vermin in production and storage areas and operative amenities and compete with bait.
- Cleaning pools of water remaining on the floor of reception building and amenities after the cleaning operation to provide a dry environment.
- Clearing of high-traffic personnel thoroughfares during the day and at the end of shifts.
- Boot cleaning facilities associated with the reception building should be provided to prevent material being carried inside.
- Cleaning of operatives' lunchroom after each main work break and again at the end of the production shift.
- Routine cleaning of personnel lockers.

Corrective Action

Corrective action for pest and vermin control shall incorporate relevant parts of this programme and needs to be specific to each establishment. Must include what is to be done if pests or vermin are detected.

Responsibilities

The On Plant Supervisor is responsible for:

- Recommending the establishment of pest control standard operating procedures
- Monitoring the effectiveness of the pest control standard operating procedure.
- Monitoring chemical usage.

Fugitive Emissions

The following design specifications can help minimise the risks associated with the hazard of biogas escaping:

- Make all civil and process works as gas tight as possible.
- Automatic flare system (burn biogas during CHP downtime).
- Over-pressure release device.
- All digestate storage tanks gas-tight.
- Appropriate, calibrated measuring devices.
- CHP unit optimised for the combustion of biogas.

Hazardous Substances

The OSH Framework Directive (89/391/EEC) lays down the obligation of the employers to evaluate the risks to the safety and health of works which includes the following:

- General principles of prevention.
- Elimination of risks and accidents.
- Informing, consultation and balanced participation and training of site operatives.
- Permit-to-work system verifying operatives aware of SOPs.
- Material Safety Data Sheet recorded and maintained.

Biological Agents

Rigorous cleaning and controls at each step in the biogas supply chain will avoid careless contamination and the spread of disease at all stages.

Electrical Hazards

All workers coming into contact with electrical network should have to date electrical training. Training should be considered if the electrical network is being altered or upgraded. Refresher courses ensure experienced electrical operatives and professionals are on top of the latest health and safety guidelines and best practices.

Mechanical Hazards

Most of the risk related to mechanical hazards can be reduced to acceptable forces by applying a risk reduction strategy. If this is impossible, the hazards must be isolated from people by guards that maintain a safety distance between the danger zone and the people, with the main result being to reduce access to the danger zone.

Gas Hazards

The workplace exposure limit is the time weighted average concentration of a substance in air at the workplace over a specified reference period at which no acute or chronic harm to the health of employees is expected to be caused. Actions to prevent gas related illness and injuries include:

- Adequate signage demarcating potentially gaseous atmospheres, prohibiting mobile phones and naked flames.
- Permit-to-work system.
- Calibrated and functioning detection devices.
- Adequate employee education and refresher courses.
- Limited work scheduled in confined spaces.

Explosion and Fire Hazards

Explosive atmospheres are mitigated by the following forms of protection:

- Primary Explosive Protection: Prevention of formation of explosive atmosphere (i.e. maintain inert atmosphere via ventilation)
- Secondary Explosive Protection: Prevention of ignition (i.e. zones of prohibited mobile phone use/ignition)
- Tertiary Explosive Protection: Reduction of explosion consequences (i.e. PPE, explosion suppression, evacuation procedure)

Malpractice – Operative Health and Safety

Prior to commissioning of the facility detailed standard operating procedures (SOPs) will be drafted which will be implemented during operation of the facility. In accordance with the 'Safety Health and Welfare at Work Act', 2005; 'the Safety, Health and Welfare at Work (Construction) Regulations, 2001' and associated Regulations, a site-specific Safety Statement will be produced which will incorporate all operating procedures at the facility.

The following measures will be implemented at the facility to minimise the potential for emergency situations:

- All on-site personnel will be adequately trained in relevant areas of employment.
- The facility design will be regularly reviewed for potential safety hazards.
- The facility will be designed to incorporate standby/backup plant in emergency situations.
- Adequate fire detection and fire-fighting infrastructure will be incorporated into the site design.
- All staff will be supplied with appropriate personal protective equipment (PPE).

Decommissioning Stage – Mitigation Measures

Traffic and Transportation

It is expected that the decommissioning phase will have a similar number of vehicle trips to that modelled for under the construction phase. Any future developments on the wider Bioeconomy Campus or nearby during the time that the site is being decommissioned will be taken into consideration. When

scheduling deliveries and preparing HGV routes the contractor will be mindful of nearby development and try and minimise clashing with deliveries arriving at other sites.

Air Quality

The mitigation measures set out in the Air Quality (including Odour) chapter addendum (Chapter 11) and the Construction Management Plan provided in **Volume 3, Appendix 7.1** *will ensure that the creation of dust will be minimised during the construction phase. This will ensure that there is no cumulative effects on the local population. Management of the wheel washing / dust damping will ensure that water runoff is minimised and will not impact on nearby water sources.*

Noise and Vibration

The site specific mitigation measures set out for the Decommissioning Phase in the Noise and Vibration EIAR chapter addendum (Chapter 13) will ensure that it minimises and/or removes any noise impacts on adjacent noise sensitive receptors. The mitigation measures will ensure that any construction noise associated the removal of buildings or structures will be limited to the short term with only a slight/limited effect. Any future developments surrounding the subject site when it is being decommissioned will be assessed for suitable construction noise levels to ensure there are no cumulative impacts on local residents.

Major Accidents and Disasters

All developments outside a 500m cumulative zone of influence were scoped out of the cumulative assessment.

*The Land Use Planning assessment carried out as part of Chapter 19: Major Accidents and Disasters concluded that the level of individual risk to persons off-site is acceptable (please refer to **Volume 3, Appendix 7.2**). There are no expected impacts from these projects from a major accidents and disasters perspective, as such there are not significant cumulative effects with the proposed development from a major accidents and disasters perspective. Therefore, the effects of the interactions between major accidents and disasters and human health not significant."*

Construction and Operation Stages – Monitoring Measures
No specific monitoring measures are proposed with respect to 'Population and Human Health' during the construction and operation stages of the proposed project noting the measures already specified in each of the specialist EIAR chapters and the technical documents accompanying this EIAR/planning application package .
Decommissioning Stage – Monitoring Measures
There is no proposed monitoring during the decommissioning phase

22.4.2 Biodiversity

Design Stage – Mitigation Measures
As part of the proposed development, sensitive habitats will be avoided where possible to minimise ecological. disturbance. The project footprint will be kept to a minimum, ensuring that construction and operational activities are confined to the least sensitive areas. Additionally, existing trees and hedgerows outside the site will be preserved where possible through the implementation of appropriate exclusion zones. A detailed Construction and Environmental Management Plan (CEMP) has been prepared by Donnachadh O'Brien & Associates Consulting Engineers as part of this application. This plan outlines the proposed construction and operational methodologies and provide a framework for implementing mitigation measures and conducting environmental monitoring. The CEMP will ensure that the changes resulting from the proposed development comply with environmental quality standards and project objectives. It will specify responsibilities and timelines for the implementation of measures and management controls across all relevant environmental disciplines addressed in the planning application. Mitigation by Avoidance & Design The following measures are integrated into the proposed project design to reduce impacts on designated sites, flora, and fauna through avoidance and design: • Where required, silt fencing / bunding will be installed around stockpiles to ensure no soils and sediments are washed out overland to the existing surface water networks, or directly into the Cooleeny Stream located approximately 20m south of the site. The silt fencing / bunding will be monitored daily by the appointed contractor and silt will be removed as required. • Attenuation of surface water runoff will be necessary using above-ground basins/lagoons to reduce the impact of surface water discharge on downstream networks and rivers. Further details and assessment of the management of surface water at the proposed development is provided in Chapter 10 of this EIAR. • Fuel storage areas and refuelling points will be bunded and located away from surface water drainage and features. The bunds will comply with the Environmental Protection Agency guidelines 'Amendment to IPC • Guidance Note on Storage and Transfer of Materials for Scheduled Activities' (EPA, 2013). • The design of the project was carried out with cognisance to ecological features. • The project design and layout has been selected to avoid instream works and associated indirect effects, such as siltation. • Site lighting has been designed to minimise light pollution and potential disturbance to wildlife. • Stormwater and foul water management systems are included in the design to prevent runoff and protect local water quality. • Construction access routes and site layout have been planned to minimise disruption to surrounding areas and avoid impacting sensitive ecological zones.

Table 22.4 Mitigation Measures – Biodiversity

Construction Stage – Mitigation Measures
Protection of Habitats

To prevent incidental damage to trees and habitats designated for retention during the site clearance stage, these areas will be securely fenced early in the construction phase. The fencing will be made clearly visible to machine operators to ensure effective protection.

To mitigate the risk of Japanese Knotweed (Fallopia japonica) being inadvertently introduced to the site, the contractor will be required to inspect vehicles before they are used on-site, with particular attention to caterpillar tracks and areas where trucks and dumpers are stored. The supplier of any fill material will need to provide a guarantee that the fill does not contain invasive alien species. Additionally, the fill will be inspected for signs of invasive alien species before being imported to the site.

The inspection of topsoil and fill material will follow the guidelines set out in the British Standard Specification for topsoil, as detailed in BS 3882:2015, which provides requirements for the inspection and use of topsoil. Guidance from the Invasive Non-Native Specialists Association (INNSA) Code of Practice for Managing Japanese Knotweed (INNSA, 2017) should also be adhered to. In Ireland, the procedures for managing invasive species, are also informed by Ireland's Invasive Alien Species Soil and esoil and stone movements and should be adhered to ensure compliance with national regulations and best practices.

Protection of Soil, Surface Waters and Groundwater

Storm water will be managed carefully during construction. In general, stormwater will be infiltrated into the ground via silt traps and managed soakaways. Laydown areas will be suitably drained, and any areas involving the storage of fuel and refuelling will be paved and bunded. Hydrocarbon interceptors will be installed to ensure that no spillages will get into groundwater. The employment of good construction management practices will minimise the risk fer, or groundwater.

Pollution management measures will be implemented to prevent contamination by machinery pollutants, such as fuels, oils and lubricants during construction and operation activities. These measures will be informed by guidance provided in relevant documents, such as the CIRIA guides to environmental good practice on site.

To prevent any pollution incidents that might potentially cause deterioration of the aquatic environment it is proposed that a series of best practice measures are introduced throughout the construction works, in accordance with CIRIA's guideline documents C532 (CIRIA, 2001) and C741 (CIRIA, 2015), and C649 (CIRIA, 2006).

The following measures will protect soil, surface waters and groundwater during the construction phase of the proposed development as per the CEMP:

- Earthworks operations shall be carried out such that surfaces shall be designed with adequate falls, profiling and drainage to promote safe run-off and prevent ponding and flooding;
- Run-off will be controlled to minimise the water effects in outfall areas;
- All concrete mixing and batching activities will be located in areas away from watercourses and drains;
- Good housekeeping (site clean-ups, use of disposal bins, etc.) will be implemented on the site.

Dust Control

Dust control measures are outlined below:

- During the construction process, water suppression shall be used, preferably with a hand-held spray. Only the use of cutting, grinding or sawing equipment fitted or used in conjunction with a suitable dust suppression technique such as water sprays / local extraction should be used.
- Drop heights from conveyors, loading shovels, hoppers and other loading equipment shall be minimised, if necessary fine water sprays will be employed.
- Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic.
- Any road that has the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and / or windy conditions.
- Vehicles exiting the site shall make use of a wheel wash facility prior to entering public roads.
- Vehicles using site roads will have their speed restricted, and this speed restriction will be enforced rigidly. A speed limit of 20 kmph will be enforced on site roads.
- Public roads and footpaths outside the site will be regularly inspected for cleanliness and cleaned, as necessary. If sweeping using a road sweeper is not possible due to the nature of the surrounding area, then a suitable smaller scale street cleaning vacuum will be used.
- Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used, as required, if particularly dusty activities are necessary during dry or wind
- periods.
- During movement of materials both on and off-site, trucks will be stringently covered with tarpaulin at all times. Before entrance onto public roads, trucks will be adequately inspected to ensure no potential for dust emissions.
- Hoarding or screens shall be erected around works areas to reduce visual impact. This will also have an added benefit of preventing larger particles of dust from travelling off-site and impacting receptors.

Noise Control

During the construction works, the Main Contractor will adhere to current regulations, codes of practice, and guidelines for noise and vibration monitoring. Risk assessments will be undertaken to assess the potential noise levels for building operatives. Noise arising from activities on site will be controlled in accordance with the requirements of British Standard BS5228.

Noise Control at Source:

All items of plant should be subject to regular maintenance. This maintenance can prevent unnecessary increases in plant noise and help prolong the effectiveness of noise control measures. Construction activities related to the proposed development are expected to occur during normal working hours.

Wherever possible, noise should be controlled at source:

- Avoid unnecessary revving of engines and switch off equipment when not required.
- Minimise drop height of materials.
- Start-up plant and vehicles sequentially rather than all together.

Considerate Construction

Prior to construction commencing, the pollution preventative measures outlined above will be inspected and certified by the site Environmental Manager or an appropriately qualified person appointed by the client. This person shall have overall responsibility for implementation of environmental protection measures. On appointment and prior to commencement of construction works the name and contact details for this person shall be supplied to Tipperary Council.

A site Liaison Officer (LO) should be appointed for the project as part of the site management team. The LO will act as a single point of contact to engage with the local community and respond to concerns, while keeping local residents informed via email of progress and timing of particular construction activities that may impact them. The Project Manager will be charged with the responsibility of keeping people informed of progress and by setting down procedures for dealing with complaints.

The Main Contractor should promote and encourage a safe, considerate, clean and responsible construction site.

Waste Management

The Main Contractor will effectively manage, and control waste generated by the project in line with the Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects (DEHLG, 2006). The site-specific Waste Management Plan will detail the exact nature of the procedures. No material, other than inert material, will be removed from the site.

A register for all trucks entering and leaving the site, including time, date, and other relevant details, will be maintained and updated daily from waste docket records submitted by each truck.
Waste collection dockets will detail:

- Customer
- Site address
- Name of waste carrier
- Waste collection permit
- Vehicle registration number
- Excavation reference
- Time of departure
- Waste classification
- Composition and nature of waste
- Weight of waste (to be completed by waste facility)

In addition to the inherent design measures during the construction phase, the following mitigation measures are proposed:

- The Contractor will minimise waste disposal, so far as is reasonably practicable.
- Waste from the proposed project will be transported by authorised waste collectors, in accordance with the Waste Management (Collection Permit) Regulations, 2007 (as amended).

- Waste from the proposed project will be delivered to authorised waste facilities, in accordance with the Waste Management Acts 1996 (as amended).
- Where possible, metal, timber, glass and other recyclable materials will be segregated during construction works and removed off-site to a permitted/licensed facility for recycling. Colour coding and photographs of wastes to be placed in each container, as required, will be used to facilitate segregation. ie its environmental impact.
- Where reasonably practicable, materials will be delivered on a 'just-in-time' basis to minimise wastage by ensuring that materials arrive at the construction site only when they are needed, rather than being stored on-site for extended periods.
- Where reasonably practicable, the Contractor will engage with the supply chain to provide products and materials that use minimal packaging, and segregate packaging for reuse.
- The Main Contractor will record the quantity and types of waste and materials leaving site during the
- construction phase.

Refuelling

- Construction plant and equipment shall only be parked over-night within the construction compound.
- Construction plant and equipment shall be checked daily for any visual signs of oil or fuel leakage, as well as wear and tear.
- Fuels stored on-site will be minimised. Any storage areas will be bunded appropriately for the fuel storage volume for the duration of the construction phase.
- For any liquid other than water, this shall include storage in suitable tanks and containers which shall be housed in the designated area surrounded by bund walls of sufficient height and construction so as to contain 110 per cent (110%) of the total contents of all containers and associated pipework. The floor and walls of the bunded areas shall be
- impervious to both water and oil.
- All liquids, solids and powder containers will be clearly labelled and stored in sealable containers.
- Where contractors are required to refuel vehicles on-site, this will be carried out at the designated refuelling location by competent personnel. All refuelling areas will be on areas of hard standing at designated areas agreed by an appropriately qualified person. Spill kits will be provided in all areas where liquids are stored and at any refuelling areas.
- The local authority shall be informed immediately of any spillage or pollution incident that occurs onsite during the construction phase.
- All small plant, such as generators and pumps, will be stood in drip trays capable of holding 110% of their tank contents.
- All small plant will be positioned as far as practicable from the relevant watercourses.
- Waste oils, empty oil containers, and other hazardous wastes will be disposed of in accordance with requirements of the Waste Management Act, 1996.

Site Tidiness and Housekeeping

A 'good housekeeping' policy will be employed by the Main Contractor at all times. The site induction will communicate the importance of site housekeeping and tidiness. In addition to measures outlined in the previous sections, the following measures shall be implemented to maintain site tidiness.

- Construction works will be carried out according to a defined schedule agreed upon with the client andthe relevant contractors, with regard to the specified hours of work. Any delays or extensions required will be communicated to the client and contractors at the earliest opportunity.
- Contractors will ensure that road edges and footpaths are swept on a regular basis, this includes the local roadways adjacent to the proposed development site. A road sweeper will be deployed if
- required.
- All contractors shall be responsible for the clearance of their plant, equipment and any temporary buildings upon completion of construction. The site will be left in a safe condition.
- All mobile equipment brought to the site shall be thoroughly power washed and cleaned prior to arrival
- at site, to avoid transport of alien invasive species.
- Ensure general maintenance of working areas and cleanliness of welfare facilities and storage areas.
- Provide a site layout map showing key areas such as first aid posts, material storage, spill kits, material and waste storage, welfare facilities, etc.
- Display details of site managers, contact numbers (including out of hours contacts), and public information signs (including warning signs) at the boundaries of the working areas.
- Keep the construction compound, access routes and designated parking areas free of excess dirt, rubbish piles, scrap wood, etc. at all times.
- Ensure provision of adequate welfare facilities for site personnel.
- Provide appropriate waste management facilities and arrange regular collections.
- Implement effective measures to prevent infestation from pests or vermin, including arrangements for regular disposal of food and materials that may attract pests.
- Maintain public rights of way, diversions, and entry/exit areas around working sites for car users, pedestrians and cyclists where practicable, and to ensure inclusive access, as necessary.
- Material handling and/or stockpiling of materials, where permitted, will be appropriately located to minimise exposure to wind.
- Maintain self-contained wheel washing facilities at the construction compound and other contaminant measures as required.
- Open fires will be prohibited at all times.
- All flammable waste materials, such as timber, should be removed regularly to reduce risk of fire.

Protection of Flora and Fauna

The contractor will appoint a suitably qualified person to act as Ecological Clerk of Works (ECoW) to oversee the implementation of measures for the prevention of pollution to the receiving environment.

Excavated inert material may be temporarily stockpiled in a designated area for later reuse within the development. This material will be reused where possible within the development site. Stockpiled material is to be located a minimum of 50m from any drainage route off-site.

There will be on-going monitoring of wildlife in the vicinity of the construction site. Any unusual species, dead species or damaged habitats should be reported immediately to the Construction Manager and/or Environmental Officer. This will be co-ordinated with the appointed Ecologist for the project.

Good working practices concerning environmental factors affecting ecology will be maintained during the construction phase. For example, construction noise and construction phase lighting will be kept to a minimum.

The spread and introduction of invasive species and noxious weeds will be prevented by adopting mitigation measures as per guidance issued by the NRA (2010).

If unexpected ecological habitats are uncovered, site contractors must adhere to the habitat protection protocol. This protocol is designed to ensure that ALL personnel working on the construction site are fully aware of their legal obligations under the Wildlife Act 1976, as amended. This Act affords protection to a range of wildlife in Ireland, including wild birds, animals, and plants. Where a project has received permission to proceed, this does not override certain laws that prevent wilful harm to prooected species.o

The following measures are applicable to the proposed development site:

- Should the removal of scrub, hedgerow, tree felling, or delimbing be required, this will be carried out outside of the bird breeding season (1stMarch to 31st August inclusive). A pre-works check by a qualified ecologist should be undertaken to ensure nesting birds are absent.
- All birds, along with their eggs, nests and young - with the exception of certain species - are protected under the Wildlife Acts. Any areas of the site found to contain nests will be cordoned off to a distance of 20m from the nests, and all plant and construction activities will remain outside of this cordon until the young have fledged (left the nest entirely). The 20m radius will be centred on the nest site, and each nest would be protected by an equivalent circle. All other areas are safe for s
- Sufficient on-site cleaning of vehicles prior to arrival and upon leaving the site, as well as on nearby roads, will be carried out, particularly during groundworks. Contractor's vehicles and equipment will be thoroughly cleaned and then dried using high-pressure steam cleaning, with water >65 °C, in addition to the removal of all vegetative material.
- Following cleaning, all equipment and vehicles will be visually inspected to ensure that all adherent material and debris have been removed manually.
- No removed material or run-off will be allowed to enter a waterbody of any sort.
- For any material entering the Site, the supplier must provide an assurance that it is free of invasive species.
- Ensure all site users are aware of invasive species management, biosecurity and treatment methodologies. This can be achieved through 'toolbox talks' before works begin on the Site.
- Adequate site signage, hoarding and fencing will be erected in relation to the management of nonnative invasive species as required.
- Plant and equipment to be used during works, will be in good working order, fit for purpose, regularly
- serviced/maintained, and have no evidence of leaks or drips.
- Any recommendations laid out by Inland Fisheries, shall be implemented to ensure the protection of the relevant watercourses, associated aquatic fauna, and any fisheries hydrologically connected to

- the site.
- Weather conditions shall be considered during all construction operations, and no plant will enter within 100 metres of the relevant watercourses during or following heavy rain or other conditions likely to lead to large-scale or additional water flow that would carry soil or silt into the watercourses.
- Recent surveys did not identify any bat roosts within the site footprint. Contractors may discover bat roosts and if any bats are found, the Construction Manager and/or Environmental Officer are to be cont
- cted immediately.

Mammals (non-volant)

The following measures shall be implemented to prevent impacts on non-volant mammals:

- Stringent and robust mitigation measures are proposed for the avoidance of impacts affecting water quality.
- A site speed limit of 20 km/h will be strictly enforced to prevent vehicular traffic fatalities.
- Monitoring will continue throughout the construction phase.
- It is recommended that a pre-construction survey be undertaken no later than 6 months prior to construction and ideally immediately prior to the commencement of works within the study area to reconfirm the existing environment and survey results.
- Implement any mitigation and monitoring identified as being required following pre-construction mammal survey (if carried out).
- In general, works close to badger setts may only be conducted under the supervision of a qualified expert and under licence from the NPWS.
- No heavy machinery will be used within 30m of badger setts (unless carried out under licence); lighter machinery (generally wheeled vehicles) should not be used within 20m of a sett entrance; light work, such as digging by hand or scrub clearance should not take place within 10m of sett entrances. During the breeding season (December to June inclusive), none of the abo
- e works should be undertaken within 50m of active setts.
- Fencing will be maintained and regularly checked to ensure effectiveness throughout the construction phase.
- As best-practice, all construction-related rubbish on site (e.g., plastic sheeting, netting, etc.) should
- be kept in a designated area on-site and off the ground level to protect Hedgehogs and other small
- mammals (e.g., Pygmy Shrew) from entrapment and death.
- Works likely to cause disturbance during Hedgehog hibernation – for example removal of hibernation habitats such as log piles and dense scrub –should not take place from November to March.
- Vegetation will be removed in sections, working in a consistent direction to prevent entrapment of protected fauna that may be present.
- An ecologist will supervise areas where vegetation, scrub and hedgerow removal will occur prior to and during construction as appropriate (e.g., an ecologist may be required during some clearance works of areas where vegetation is too dense to check beforehand).
- Construction operations will take place during the hours of daylight to minimise disturbances to faunal species at night.

- Vehicular traffic during the construction phase along the site access roads may result in fatalities, however, this is not expected to be significant due to the mainly diurnal requirement for access and speed restrictions which will be in place.
- During construction, open trenches/excavations must incorporate facilities for badgers (and other wildlife, such as otters, foxes, hedgehogs etc.) to escape, by means of gently sloping earth inclines to be left at the end of each workday at each end of any open tr
- nches/excavations.
- An emergency response procedure must be implemented if signs of otter are discovered. All works must cease if animals or their shelters are found until appropriate measures are taken.
- In the event that an issue arises, the NPWS will be updated and consulted with, relevant guidelines
- shall be followed and any licences/amendments to licences will be sought from NPWS.

Bats

External lighting should be kept to a minimum at locations where it is likely to disturb bats, and where possible will follow the Bat Conservation Ireland's Guidance Notes for: Planners, engineers, architects and developers on bats and lighting (BCI, 2010).

Lighting for Bats

Lighting should only be installed where it is needed, illuminated during the required time period, and set to levels that enhance visibility. In order to preserve the commuting/foraging potential of all treelines and hedgerows to be retained and to minimise disturbance to bats utilising the surrounding landscape, the lighting and layout of the proposed development will be designed to minimise light-spill onto habitats potentially used by the local bat population, foraging or commuting. i by ensuring that the design of lighting is in accordance with the guidelines presented in the Bat Conservation Trust and Institute of Lighting Professionals 'Bats and Lighting in the UK'7.iiBat activity within the site was absent, and any bats observed were primarily recorded along the hedgerow to ithe northwest of the site. These areas should not be illuminated; however, where lighting is unavoidable, the
design strategy should aim to reduce the potential impact of lighting on bats by incorporating the following measures:

- The avoidance of direct lighting of existing trees or proposed areas of habitat creation/landscape planting.
- Do not provide excessive lighting. Use only the minimum amount of light needed for safety.
- Minimise light spill. Eliminate any bare bulbs and any upward pointing light. The spread of light should be kept near to or below the horizontal. Flat cut-off lanterns are best.
- Use narrow spectrum bulbs to lower the range of species affected by lighting. Use light sources that emit minimal ultra-violet light and avoid the white and blue wavelengths of the light spectrum to avoid attracting lots of insects. Lighting regimes that attract lots of insects result in a reduction of insects in other areas, like
- parks and gardens, that bats may use for foraging.
- Lights should peak higher than 550 nm9 or use glass lantern covers to filter UV light. White LED lights do not emit UV but have still been shown to disturb slow-flying bat species.

- Reduce the height of lighting columns. Light at a low level reduces impact. However, higher mounting heights allow lower main beam angles, which can assist in reducing glare.
- For pedestrian lighting, use low level lighting that is as directional as possible and below 3 lux at ground level, but preferably below 1 lux.
- Increase the spacing of lanterns.
- Use embedded lights to illuminate paths.
- Limit the times that lights are on to provide some dark periods.
- Use lighting design software and professional lighting designers to predict where light spill will occur.
- Avoid using reflective surfaces under lights.

Avifauna

The following measures shall be implemented to prevent impacts on birds:

- Any clearance of vegetation should be carried out outside the main breeding season, i.e., 1st March to 31st August, in compliance with the Wildlife Act 2000. Should any vegetation removal be required during this period, the NPWS will be consulted, and instruction taken from them.

To mitigate daytime noise disturbance, the following measures will be implemented:

- Select plant with low inherent potential for generating noise.
- Site plant as far away from sensitive receptors as permitted by site constraints.
- Avoid unnecessary revving of engines and switch off plant items when not required.
- Keep plant machinery and vehicles adequately maintained and serviced.
- Properly balance plant items with rotating parts.
- Keep internal routes well maintained and avoid steep gradients.
- Minimise drop heights for materials or ensure a resilient material underlies.
- Use alternative reversing alarm systems on plant machinery.
- Where noise originates from resonating body panels and cover plates, additional stiffening ribs or materials should be safely applied where appropriate.
- Limit the hours during which site activities likely to create high levels of noise are permitted.
- Appointing a site representative responsible for matters relating to noise.
- Monitor typical noise levels during critical periods and at sensitive locations.

Dust Control

The following general dust control measures will be followed for the duration of the construction phase of the proposed development to ensure no significant dust related impacts occur to nearby sensitive receptors, including local faunal species:

- In situations where the source of dust is within 25m of sensitive receptors, screens (permeable or semi-permeable) will be erected.
- Haulage vehicles transporting gravel and other similar materials to the site will be covered by a tarpaulin or similar.
- Access and exit of vehicles will be restricted to certain access/exit points.
- Vehicle speed restrictions of 20km/h will be in place.
- Bowsers will be available during periods of dry weather throughout the construction period.

- During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser will operate to ensure moisture content is high enough to increase the soil stability, thereby reducing the amount of dust.
- Stockpiles will be stored in sheltered areas of the site, covered, and watered regularly, or as needed if exposed during dry weather.
- Gravel should be used at site exit points to remove caked-on dirt from tyre tracks.
- Equipment will be washed at the end of each workday.
- Hard surfaced roads will be wet swept to remove any deposited materials.
- Unsurfaced roads will be restricted to essential traffic only.
- If practical, wheel-washing facilities should be located at all exits from the construction site.
- Dust production as a result of site activity will be minimised by regular cleaning of the Site access roads using vacuum road sweepers and washers. Access roads should be cleaned at least 0.5km on either side of the approach roads to the access points.
- Public roads outside the site will be regularly inspected for cleanliness, at a minimum daily, and cleaned as necessary. A road sweeper will be made available to ensure that public roads are kept free of debris.
- The frequency of cleaning will be determined by the site agent and is weather and activity dependent.
- The height of stockpiles will be kept to a minimum, and slopes should be gentle to avoid windblown
- soil dust.

The following will be dampened during dry weather:

- Unpaved areas subject to traffic and wind
- Stockpiles
- Areas where there will be loading and unloading of dust-generating materials

Under no circumstances will wastewater from equipment, wheel, or surface cleaning be allowed enter the surface water drainage network.

Biosecurity

There is a potential risk that terrestrial and/or aquatic invasive species (e.g., Japanese knotweed or Giant hogweed) or pathogens (e.g., crayfish plague) could be accidentally introduced to a location via contaminated vehicles and/or equipment, in particular tracked vehicles, which have previously been used in areas containing invasive species.

Biosecurity measures will be strictly adhered to throughout the proposed works. Measures will be in accordance with IFI (2010) Biosecurity Protocol for Field Survey Work.

The following best practice avoidance measures will help contain and/or prevent the introduction of invasive species:

- Prior to arrival on site, the contractors' vehicles and equipment will be thoroughly cleaned and then dried using high-pressure steam cleaning, with water >65°C, in addition to the removal of all vegetative

material. Items that are difficult to soak/spray will be wiped down with a suitable disinfectant (e.g., solution of 1% Virkon® Aquatic).

- Evidence that all machinery has been cleaned must be maintained and available for review by the statutory authorities. The level of evidence required of the contracto
- will be registration plates of vehicles on-site and a register detailing when, how, and where each of these were cleaned before they arrived on site.
- Visual inspections will be carried out on all machinery and equipment to check for attached plant or animal material, or adherent mud or debris. Any attached or adherent material will be removed before entering or leaving the site and securely stored (away from traffic) for removal to an appropriate waste storage area at the end of the workday.
- No removed material or run-off will be allowed to enter a waterbody of any sort.
- Following cleaning, all equipment and vehicles will be visually inspected to ensure that all adherent material and debris has been removed manually.
- Each field vehicle must carry a 'disinfection box' as appropriate. This will contain Virkon Aquatic or another proprietary disinfectant, a spraying mechanism, cloths or sponges, a scrubbing brush and protective gloves. Protective gloves must be worn when using any disinfectant solution.
- Spot checks on the adequacy of cleaning will be carried out by the ECoW.
- Disinfectants must be used strictly in accordance with the manufacturer's instructions. They must be disposed of safely and never close to open waters such as drains etc.
- For any material entering the site, the supplier must provide an assurance that it is free of invasive species.
- Ensure all site users are aware of the invasive species management plan, biosecurity and treatment methodologies (as appropriate). This can be achieved through 'toolbox talks' before works begin on site.
- Ensure that all operatives are familiar with the relevant non-native invasive species. A comprehensive
- list and details can be found on the Inland Fisheries Ireland website at:
- https://www.fisheriesireland.ie.
- Adequate site signage, hoarding and fencing will be erected in relation to the management of non-native invasive species.

Operation Stage – Mitigation Measures

The operational phase of the project is anticipated to generate minimal waste. Any debris resulting from maintenance or cleaning activities will be promptly removed from the site by the contractor. Waste disposal will be conducted in strict adherence to the Waste Management Act, 1996, ensuring proper handling and processing of all waste materials.

The primary types of waste anticipated at the proposed development include general packaging, office waste, and municipal waste from on-site canteen facilities. All waste will be segregated appropriately and collected by a qualified waste contractor for disposal or recycling.

The new lighting proposed for the project will be carefully managed to prevent any adverse impacts on local wildlife, in particular bats.

The proposed surface water drainage strategy incorporates a new internal drainage network with sustainable drainage systems (SuDS) features to collect runoff from relevant hardstanding areas where feasible. Since infiltration of surface water runoff to the ground is not viable, SuDS components will channel excess runoff into a dedicated surface water collection network. This network will discharge to a nearby field boundary drain located approximately 90 meters south of the site. Runoff will be released at a controlled Qbar rate, with temporary storage for excess volumes provided in an aboveground basin to manage flow and prevent flooding.

The design of the proposed development incorporates limited sources of contamination during the operational phase. Surface water will be managed without infiltration to the ground, utilising an attenuation design in line with SuDS and GDSDS (Greater Dublin Strategic Drainage Study) standards to treat and control water before offsite discharge. Regular monitoring and maintenance of the drainage system and SuDS features will be part of the site's comprehensive management plan, ensuring stable water quality and maintaining flow conditions during the operational phase, without adverse impacts on water quality or flow regime.

A bund system will ensure any contaminated water is prevented from discharging from process areas into the surface water drainage network.

The only wastewater generated on-site will come from the office and administrative building. This wastewater will be directed to a domestic pump station located east of the office, where it will be pumped via a fully enclosed rising main to the primary digester within the bund for integration into the biomethane production process.

The proposed pumping station will be a custom-designed package plant sized to handle daily wastewater loads for six staff, with a total estimated load of 360 liters per day. The system will also include a sump or tank providing 24-hour emergency storage of 0.36 m^3. With the biomethane process reusing all wastewater produced, no external wastewater discharge is required.

The site will adhere to Environmental Management System (EMS) procedures and IE Licence conditions. Emergency protocols developed per the IE Licence and EMS will be implemented, with spill kits available throughout the site and all staff trained in emergency response to accidental fuel spills.

The landscaped areas around the facility are designed with ecological enhancement in mind, featuring native species like willows (Salix spp.) to promote local biodiversity. The approach focuses on natural recolonisation, with minimal soil disturbance to encourage habitat connectivity across the site. Maintenance requirements are kept low to reduce operational upkeep while maximising the site's ecological value. With minimal upkeep requirements, this design not only supports native biodiversity but also enhances the natural environment, providing long-term ecological value while ensuring efficient, sustainable maintenance.

Decommissioning Stage – Mitigation Measures

Mitigation aligns with construction-phase measures under the CEMP, with enhanced noise control to protect mammals. Noise and vibration control, critical for minimizing mammal disturbance, includes:

- **Standards and Equipment**: Adherence to BS 5228 standards, selecting quiet plant (e.g., low-noise generators, silenced compressors) and fitting effective exhaust silencers or acoustic canopies to diesel engines, reducing steady-state noise from demolition and equipment removal.

- **Timing and Scheduling**: Works restricted to 08:00-18:00 Monday-Friday, avoiding nocturnal mammal activity (e.g., hedgehog foraging), with sequential plant startups to prevent sudden noise spikes startling fauna.

- **Physical Barriers**: Construction hoarding (mass >7 kg/m^2) and demountable enclosures around operatives using noisy tools (e.g., breakers) to contain sound near mammal habitats like scrub and hedgerows, relocated as works progress.

- **Monitoring**: Noise monitoring at periodic intervals at nearest sensitive locations (e.g., western hedgerow), targeting construction noise limits (e.g., 65 dB LAeq daytime), with immediate adjustments (e.g., silencing, rescheduling) if exceeded, conducted per ISO 1996 standards. Dust suppression uses water sprays, 20 kmph speed limits, and wheel washing, with dust monitoring at 350 mg/m^2/day. Traffic will follow a Traffic Management Plan using existing HGV route, agreed with Tipperary County Council. Contaminated materials will be transported in enclosed tankers to licensed facilities, with bunded fuel storage and spill kits preventing runoff. Drainage will remain operational with silt traps until phased removal, protecting the Cooleeny Stream. Vehicles and equipment will be cleaned pre-entry to prevent invasive species introduction, confirmed by the pre-decommissioning survey. Restoration involves backfilling with stored fill and reseeding with native species to stabilize soils and enhance mammal habitats. An Ecological Clerk of Works (ECoW) will oversee works, monitoring mammal activity and noise impacts, ensuring compliance as during construction.

Construction Stages – Monitoring Measures
Any monitoring carried out during the construction stage will be related to air quality, noise and vibration, traffic and transport and waste. Theses topics are subject to various mitigation measures and should therefore not cause any impacts to sensitive habitats.
Operation Stages – Monitoring Measures
There will be no monitoring required for the surrounding habitats associated with the operational phase of the proposed development.
Decommissioning Stage – Monitoring Measures
There is no proposed monitoring during the decommissioning phase

22.4.3 Land, Soils and Geology

Construction Stage – Mitigation Measures

During the Construction Phase, all works will be undertaken in accordance with the Construction Management Plan (CMP) (DOBA, 2024). Following appointment, the contractor will be required to further develop the CMP to provide detailed construction phasing and methods to manage and prevent any potential emissions to ground and surface water with regard to the relevant industry standards (e.g., C532 Control of Water Pollution from Construction Sites, C692 Environmental Good Practice on Site, ICE Earthworks a
d TII Specification for Road Works Series 600 - Earthworks).

The CMP identifies the minimum requirements with regard to the appropriate mitigation, monitoring, inspection and reporting mechanisms that need to be implemented throughout construction. Compliance with the CMP does not absolve the appointed contractor or its sub-contractors from compliance with all legislation and bylaws relating to their construction activities. The CMP will be implemented for the duration of the construction phase, covering construction and waste management activities that will take place during the construction phase of the Proposed Development.

Important of Aggregates and Materials

Contract and procurement procedures will ensure that all imported aggregates and materials required for the construction phase of the Proposed Development will be sourced from reputable suppliers operating in a sustainable manner and in accordance with industry conformity/compliance standards and statutory obligations. The importation of aggregates and materials will be subject to management and control procedures which will include testing for contaminants, invasive sns and assessment of the suitability for use in accordance with engineering and environmental specifications for the Proposed Development. Therefore, any unsuitable material will be identified prior to unloading / placement onsite.

Airborne Dust

Excavated soils will be carefully managed and maintained in order to minimise potential effect on soil quality and soil structure. Handling of soils will be undertaken in accordance with the documented procedures outlined in the CMP (DOBA, 2024) in order to protect ground and minimise airborne dust. The measures required to prevent airborne dust emissions and associated nuisance arising from site work will be in place including measures to prevent uncovered soil drying out leading to wind pick up of dust and mud being spread onto the local road network and adjoining properties. This may require additional wetting at the point of dust release, dampening down during dry weather and wheel cleaning for any vehicles leaving the site. Potential effects and avoidance and mitigation measures associated with generation of dust are addressed in **Chapter 12** of this volume.

Reuse of Soil

Soil and subsoil materials to be reused within the Proposed Development (i.e., for landscaping on site) will be subject assessment of the suitability of for use in accordance with engineering and environmental specification for the Proposed Development.

The extent of the required work area and the bulk excavation at the site will be minimised where appropriate to prevent unnecessary excavation of soil and tracking over soil and subsoil outside of the excavation work areas as a result of compaction and rutting from construction traffic.

Dedicated internal haul routes will be established and maintained by the contractor to prevent tracking over unprotected soils. The following criteria for the siting of haul routes must be adhered to:

- The length of haul routes on the site shall be minimised.
- The contour of the natural ground shall be followed as much as possible.
- The slope of haul routes shall not exceed 15%.
- Haul routes shall be constructed using permeable material, laid on geotextile.
- Trenchless gravel banks shall be used to filter runoff, and where possible existing vegetation along the perimeter of the haul routes shall be retained to provide an effective buffer against sediment leaving
- the area.
- Haul routes shall be at least 10m from a watercourse and shall be isolated from any watercourses with silt fencing.
- Exclusion zones will be established where soft landscaping is proposed in particular along site boundaries which are outside of the excavation areas to ensure soil structure is maintained

Export of Resource (Soil and Subsoil) and Waste

It is intended to retain all excavated soil onsite and incorporate it into the landscape design for the Proposed Development. However, where required, surplus materials or materials not suitable for reuse will require removal offsite in accordance with the procedures outlined in the CMP (DOBA, 2024) and all statutory legislation. It will be the contractor's responsibility to either; obtain a waste collection permit or, to engage specialist waste service contractors who will possess the requisite authorisations, for the collection and movement of waste off-site.

The re-use of soil and subsoil offsite will be undertaken in accordance with all statutory requirements and obligations including where appropriate re-use as by-product in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (SI No. 126 of 2011) as amended.

Any surplus material not suitable for re-use as a by-product and other waste materials arising from the construction phase will be removed offsite by an authorised contractor and sent to the appropriately authorised (licensed/permitted) receiving waste facilities. As only authorised facilities will be used, the potential effects at any authorised receiving facility sites will have been adequately assessed and mitigated as part of the statutory consent procedures.

Any waste soils will be transported under a valid waste collection permit issued under the Waste Management (Collection Permit) Regulations 2007, as amended and will be delivered to an appropriately authorised waste management facility.

Materials and waste will be documented prior to leaving the site. All information will be entered into a waste management register kept on the site.

Vehicles transporting material with potential for dust emissions to an off-site location shall be enclosed or covered with a tarpaulin at all times to restrict the escape of dust.

Public roads outside the site will be regularly inspected for cleanliness and cleaned as necessary. The main contractor will carry out road sweeping operations, employing a suction sweeper or similar appropriate method, to remove any project related dirt and/or material deposited on the road by construction/ delivery vehicles. Vehicles exiting the site shall make use of a wheel wash facility where appropriate, prior to entering onto public roads.

Management and Control of Stockpiles

Segregation and storage of soils for re-use on-site or removal off-site and waste for disposal off-site will be segregated and temporarily stored on-site pending removal or for reuse on-site.

Where possible, stockpiling of soils and subsoils onsite will be avoided. However, in the event that stockpiling is required, as documented in the CMP (DOBA, 2024), materials to be stored onsite (pending reuse onsite) will be stored in a safe manner and will minimise the risk of any negative environmental effects and will be managed on a 'just-in-time' basis. Stockpiled materials, pending reuse or removal offsite will be managed as follows:

- A suitable temporary storage area shall be identified and designated.
- All stockpiles shall be assigned a stockpile number.
- Material identified for reuse on site, off site and waste materials will be individually segregated and all segregation, storage and stockpiling locations will be clearly delineated on the site drawings.
- Soil stockpiles will be covered to prevent run-off from the stockpiled material generation and/or the generation of dust.
- Where required, silt fencing / bunding will be installed around the stockpile to ensure no soils and sediments are washed out overland to the existing surface water networks, or directly into the Cooleney Stream located approximately 0.02km south of the site. The silt fencing / bunding will be monitored daily by the appointed contractor and silt will be removed as required.
- Material identified for reuse on site, off site and waste materials will be individually segregated.
- Any waste that will be temporarily stored / stockpiled will be stored on impermeable surface high-grade polythene sheeting, hardstand areas or skips to prevent cross-contamination of the soil below or cross contamination with soil.
- Regular watering will take place to ensure the moisture content is high enough to increase the stability of the soil and thus suppress dust.
- In accordance with Inland Fisheries Ireland guidelines, stockpiles will not be allowed within 30m of the open watercourses or drainage.

Any waste generated from construction activities, including concrete, asphalt and soil stockpiles, will be managed in accordance with the procedures outlined in the CMP (DOBA, 2024) and will be stored onsite in such a manner as to:

- Prevent environmental pollution (bunded and/or covered storage, minimise noise generation and implement dust/odour control measures, as may be required).
- Maximise waste segregation to minimise potential cross contamination of waste streams and facilitate subsequent re-use, recycling and recovery.
- Prevent hazards to Site workers and the general public during Construction Phase (largely noise, vibration and dust

Concrete Works

The cementitious grout and other concrete works during the Construction Phase, will avoid any contamination of ground through the use of appropriate design and methods implemented by the Contractor and in accordance with the CMP (DOBA, 2024) and relevant industry standards.

Pre-cast concrete will be used where technically feasible to meet the design requirements for the Proposed Development. Where cast-in-place concrete is required (i.e., building foundations), all work must be carried out in dry conditions and be effectively isolated from any groundwater.

All ready-mixed concrete will be delivered to the Site by truck. Concrete batching will take place offsite, wash down and wash out of concrete trucks will take place into a container located within a controlled bunded area which will then be emptied into a skip for appropriate compliant removal offsite in accordance with all relevant waste management legislation. Any excess concrete is not to be disposed of onsite.

A suitable risk assessment for wet concreting shall be completed prior to works being carried out. Pumped concrete will be monitored to ensure there is no accident.

Handling of Fuels, Chemicals and Materials

The Contractor's construction compound will be located on site for the duration of the project and shall primarily consist of site offices & associated welfare facilities, car parking facilities, materials drop-off and storage areas and set down areas for HGVs.

Fuel will be transported to the site in dedicated mobile units based on supply requirements. Fuelling and lubrication of equipment will be conducted in accordance with the procedures outlined in the CMP (DOBA, 2024), within a designated area of the compound, clearly marked and situated away from any watercourses and drains. A dedicated fuel filling point will be established onsite within the compound, where all equipment will be brought for refuelling.

Fuel storage areas and refuelling points will be bunded and located away from surface water drainage and features. The bunds will comply with the Environmental Protection Agency guidelines 'Amendment to IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities' (EPA, 2013). All tank and drum storage areas will be bunded to a volume not less than the greater of the following:

- 110% of the capacity of the largest tank or drum within the bunded area; or
- 25% of the total volume of substance that could be stored within the bunded area.

As documented in the CMP, the appointed contractor will maintain an emergency response action plan and emergency procedures will be developed by the appointed contractor in advance of any works commencing. Construction staff will be familiar with the emergency response plan.

Strict supervision of contractors will be adhered to in order to ensure that all plant and equipment utilised onsite is in good working condition. Any equipment not meeting the required standard will not be permitted for use within the Proposed Development Site. Only emergency breakdown maintenance will be carried out onsite. Drip trays and spill kits will be available on-site to ensure that any spills from vehicles are contained and removed off-site.

Spill kits will be made available onsite and identified with signage for use in the event of an environmental spill or leak. A spill kit will be kept in close proximity to the fuel storage area for use in the event of any incident during refuelling or maintenance works. Heavy machinery used on the Site will also be equipped with its own spill kit.

There may also be the requirement for use of portable generators or similar fuel containing equipment during the construction phase of the Proposed Development, which will be placed on suitable drip trays. Regular monitoring of drip tray content will be undertaken to ensure sufficient capacity is maintained at all times. As documented in the CMP (DOBA, 2024), good housekeeping (e.g., site clean-ups, use of disposal bins, etc.) will be implemented on the site.

Emergency Procedures

As documented in the CMP, in advance of works commencing the emergency response action plan will be developed by the appointed contractor in accordance with the site emergency plan which will cover all foreseeable risks (i.e., fire, spill, flood, etc.). Appropriate site personnel will be trained as first aiders and fire marshals and be trained in environmental issues and spill response procedures. Spillage kits will be available on-site including in vehicles operating onsite. tliar with emergency procedures in the event of accidental fuel spillages. Remedial action will be immediately implemented to address any potential effects in accordance with industry standards and legislative requirements. ttAny required emergency vehicle or equipment maintenance work will take place in a designated impermeable area within the site. tEmergency response procedures will be put in place, in the unlikely event of spillages of fuels or lubricants. Such procedures will include:

- Containment measures.
- Emergency discharge routes.
- List of appropriate equipment and clean-up materials.
- Maintenance schedule for equipment.
- Details of trained staff, location, and provision for 24-hour cover.
- Details of staff responsibilities.
- Notification procedures to inform the EPA or Environmental Department of Tipperary County Council.
- Audit and review schedule.
- Telephone numbers of statutory water consultees.

- List of specialist pollution clean-up companies and their telephone numbers.
- Spill kits including oil absorbent material will be provided so that any spillage of fuels, lubricants or hydraulic oils will be immediately contained.
- In the event of a leak or spill from equipment in the instance of a mechanical breakdown during operation, any contaminated soil will be removed from the site and compliantly disposed of off-site.
- Residual soil will be tested to validate that all potentially contaminated material has been removed. This procedure will be undertaken in accordance with industry best practice procedures and standards.
- All construction works staff will be familiar with emergency procedures in the event of accidental fuel spillages.
- All construction works staff on-site will be fully trained on the use of equipment.

These procedures will be undertaken in accordance with industry best practice procedures and standards. These measures will ensure that there is minimal risk to the receiving land, soil and geological environment associated with the construction phase of the Proposed Development.

Welfare Facilities

Welfare facilities have the potential, if not managed appropriately, to release organic and other contaminants to ground or surface water courses. Foul drainage from temporary welfare facilities during the construction phase of the Proposed Development will be discharged to temporary holding tank(s) the contents of which will periodically be tankered off site to a licensed facility. All waste from welfare facilities will be managed in accordance with the relevant statutory obligations by tankering of wast
offsite by an appropriately authorised contractor.

Any connection to the public foul drainage network during the construction phase of the Proposed Development will be undertaken in accordance with the necessary temporary discharge licences issued by UE.

Operation Stage – Mitigation Measures

During the operational phase of the Proposed Development there is limited to no potential for any effect on the receiving land, soil and geology environment and therefore there is no mitigation required in regard to the Proposed Development.

The procedures set out in the EMS and conditions of the IE Licence will be strictly adhered to for the duration of the operational phase of the Proposed Development.

Accident prevention and emergency response procedures developed in accordance with the conditions of the IE Licence and outlined in the EMS, will be strictly implemented during the operational phase of the Proposed Development and spillage kits will be available on-site including in vehicles operating on-site. All staff will be familiar with emergency procedures for in the event of accidental fuel spillages.

Decommissioning Stage – Mitigation Measures

During the decommissioning phase of the Proposed Development, all works will be undertaken in accordance with the Decommissioning Plan (DOBA, 2025) (please refer to **Volume 3, Appendix 6.1**). Following appointment, the contractor will be required to further develop the Decommissioning Plan to provide detailed construction phasing and methods to manage and prevent any potential emissions to ground and surface water with regard to the relevant industry standards (e.g., C532 Control of Water Pollution from Construction Sites, C692 Environmental Good Practice on Site, ICE Earthworks and TII Specification for Road Works Series 600 - Earthworks).

The Decommissioning Plan identifies the minimum requirements with regard to the appropriate mitigation, monitoring, inspection and reporting mechanisms that need to be implemented throughout construction. Compliance with the Decommissioning Plan does not absolve the appointed contractor or its sub-contractors from compliance with all legislation and bylaws relating to their decommissioning activities. The Decommissioning Plan will be implemented for the duration of the decommissioning phase, covering construction and waste management activities that will take place during the decommissioning phase of the Proposed Development.

Re-use of Soils

The re-use of existing soils onsite will be carefully managed and maintained in order to minimise potential impact on soil quality. Double handling of the soils will be minimised. Dedicated internal haul routes will be established and maintained by the contractor to prevent tracking over unprotected soils. Exclusion zones will be established where soft landscaping is proposed in particular along site boundaries which are outside of the excavation areas to ensure soil structure is maintained.

Importation of Materials

Contract and procurement procedures will ensure that all imported topsoil required for the decommissioning phase of the Proposed development will be sourced from reputable suppliers operating in a sustainable manner and in accordance with industry conformity/compliance standards and statutory obligations. The importation of topsoil will be subject to management and control procedures which will include testing for contaminants, invasive species and other anthropogenic inclusions and assessment of the suitability for use in accordance with engineering and environmental specifications for the Proposed Development. Therefore, any unsuitable material will be identified prior to unloading / placement onsite.

Reinstatement

The re-profiling of the surface will be carried out to allow for the planting of native grassland as recommended by Teagasc. The re-profiling works will be supervised by a qualified landscape architect to ensure that the filling is carried out in a manner that will derive maximum benefit from this.

Airborne Dust

Decommissioning activities on-site, including the handling of soils, will be undertaken in accordance with the documented procedures outlined in the Decommissioning Plan (DOBA, 2025) (please refer to **Volume 3, Appendix 6.1**) in order to protect ground and minimise airborne dust. The measures required to prevent airborne dust emissions and associated nuisance arising from site work will be in place including measures to prevent uncovered soil drying out leading to wind pick up of dust and mud being spread onto the local road network and adjoining properties. This may require additional wetting at the point of dust release, dampening down during dry weather and wheel cleaning for any vehicles leaving the site. Potential effects and avoidance and mitigation measures associated with generation of dust are addressed in Chapter 8 of this EIAR Addendum.

Emptying Digestors and Storage Facilities of All Stored Materials / Products

The emptying of digestors, storage facilities and equipment/structures within the bund will be undertaken in accordance with the measures outlined in the Decommissioning Plan (DOBA, 2025) (please refer to **Volume 3, Appendix 6.1**). Prior decommissioning and demolition works, it will be the decommissioning contractor's responsibility to ensure that the digestors, storage facilities and equipment/structures are emptied out and raw materials removed offsite and disposed of in a safe and appropriate manner to a licensed waste facility in accordance with all relevant waste management legislation. Furthermore, an emergency response plan for the decommissioning phase to deal with accidental spillages will be developed in advance of decommissioning works commencing.

Waste Management

Any waste generated from decommissioning activities will be managed in accordance with the procedures outlined in the Dust Management Plan (DOBA, 2025) and will be stored onsite in such a manner as to:

- Prevent environmental pollution (bunded and/or covered storage, minimise noise generation and implement dust/odour control measures, as may be required).
- Maximise waste segregation to minimise potential cross contamination of waste streams and facilitate subsequent re-use, recycling and recovery.
- Prevent hazards to Site workers and the general public during Construction Phase (largely noise, vibration and dust.

The management of waste generated during the decommissioning phase of the Proposed development is assessed in Chapter 15 of this EIAR Addendum.

Handling of Fuels, Chemicals and Materials

During the decommissioning phase of the Proposed Development, site vehicles will be required to be refuelled. As documented in the Decommissioning Plan (DOBA, 2025) (please refer to **Volume 3, Appendix 6.1**), all fuel storage areas will be bunded in the compound and will be clearly marked. Fuel will be transported from the offsite compound to the plant and equipment in mobile units based on need. A dedicated fuel filling point will

be set up on-site with all plant brought to this point for filling. Only designated and trained personnel will be authorised to refuel vehicles. An emergency plan for the decommissioning phase to deal with accidental spillages will be developed. Spill kits will be available to deal with and accidental spillage in and outside the refuelling area. Storage of fuel, or any other hazardous materials will be kept to a minimum.

Welfare Facilities

Welfare facilities have the potential, if not managed appropriately, to release organic and other contaminants to ground or surface water courses. Foul drainage from temporary welfare facilities during the decommissioning phase of the Proposed development will be discharged to temporary holding tank(s) the contents of which will periodically be tankered off site to a licensed facility. All waste from welfare facilities will be managed in accordance with the relevant statutory obligations by tankering of waste offsite by an appropriately authorised contractor.

Construction Stage – Monitoring Measures

During the construction phase the following monitoring measures will be considered:

- Routine monitoring and inspections during refuelling, concrete works to ensure no impacts and compliance with avoidance, remedial and mitigation measures.
- Inspections and monitoring will be undertaken during excavations and other groundworks to ensure that measure that are protective of water quality are fully implemented and effective.
- Materials management and waste audits will be carried out at regular intervals to monitor the following:
  - Management of soils on-site and for removal offsite.
  - Record keeping.
  - Traceability of all materials, surplus soil and other waste removed from the site.
  - Ensure records are maintained of material acceptance at the end destination.

Operation Stage – Monitoring Measures

The Proposed Development will be subject to an IE Licence from the EPA. The operator will comply with any monitoring requirements as per the conditions of the IE Licence.

There are no additional monitoring requirements specifically in relation to land, soil and geology during the operational phase of the Proposed Development.

Decommissioning Stage – Monitoring Measures

During the decommissioning phase the following monitoring measures will be considered:

- Routine monitoring and inspections during refuelling and emptying digestors and storage facilities of all stored materials / products to ensure no effects and compliance with avoidance, remedial and mitigation measures.

- Inspections and monitoring will be undertaken during demolition works, excavations and other groundworks to ensure that measure that are protective of soil and water quality are fully implemented and effective.
- Materials management and waste audits will be carried out at regular intervals to monitor the following:
    - Management of soils on-site and for removal offsite.
    - Record keeping.
    - Traceability of all materials, surplus soil, process waste residues and other waste removed from the site.
    - Ensure records are maintained of material acceptance at the end destination.

22.4.4 Hydrology and Hydrogeology

Construction Stage – Mitigation Measures

During the Construction Phase, all works will be undertaken in accordance with the Construction Management Plan (CMP) (DOBA, 2025) provided in **Volume 3, Appendix 7.1**. Following appointment, the contractor will be required to further develop the CMP to provide detailed construction phasing and methods to manage and prevent any potential emissions to ground and surface water with regard to the relevant industry standards (e.g., C532 Control of Water Pollution from Construction Sites, C692 Environmental Good Practice on Site, ICE Earthworks and TII Specification for Road Works Series 600 - Earthworks). The CMP will be implemented for the duration of the Construction Phase, covering construction and waste management activities that will take place during the Construction Phase of the Proposed Development.

Mitigation works will be adopted as part of the construction works for the Proposed Development. These measures will address the main activities of potential effect which include:

- Control and Management of surface water runoff.
- Control and management of shallow groundwater during excavation and dewatering.
- Management and control of soil and materials.
- Appropriate fuel and chemical handling, transport and storage.
- Management of accidental release of contaminants at the site.
- Control and handling of cementitious materials.

The construction works will be managed in accordance with all statutory obligations and regulations and with standard international best practice. Good construction management practices will minimise the risk of pollution from construction activities at the Site including but not limited to:

- Construction Industry Research and Information Association (CIRIA), 2001. Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors.
- CIRIA, 2015. Environmental Good Practice on Site (C741).
- Enterprise Ireland Oil Storage Guidelines (BPGCS005).

- Environmental Protection Agency (EPA), 2013. IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities.
- CIRIA, 2007. The SuDS Manual (C697.
- UK Environment Agency, 2004. UK Pollution Prevention Guidelines (PPG).
- CIRIA, 2006. Control of Water Pollution from Linear Construction Projects: Technical Guidance (C648).
- National Roads Authority (now Transport Infrastructure Ireland), 2016. Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes.
- Inland Fisheries Ireland (IFI, 2016). Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters.

Control and Management of Water and Surface Water Runoff

There will be no direct discharge to groundwater or surface water during the Construction Phase of the Proposed Development.

There may be a temporary increase in the exposure of the underlying shallow groundwater during excavation works. Surface water runoff will be prevented from entering open excavations with sandbags or other approved methods proposed by the appointed contractor. Furthermore, the appointed contractor will ensure that machinery does not enter the groundwater if encountered during construction.

All run-off from the Site or any areas of exposed soil will be managed as required with temporary pumping and following appropriate treatment as required. Surface water runoff from areas stripped of topsoil and surface water collected in excavations will be directed to onsite settlement ponds where measures will be implemented to capture and treat sediment laden runoff prior to discharge at a controlled rate.

Given the vulnerability of the underlying groundwater at the site, the shallow groundwater table, and the potential presence of karst landforms, the construction methodology will adhere to the 'Guidance on Pollution Prevention' (EA, 2001) or similar best practices. This approach aims to minimize the risk of creating temporary conduits between potential surface contamination sources and the underlying groundwater. The construction method will include procedures to prevent any potential effect on water qualiiy. This includes measures to stop surface runoff or other piling/drilling fluids from entering open excavations and the surrounding formation. When lubricants, drilling fluids, or additives are required, the contractor will use water-based, biodegradable, and non-hazardous compounds under controlled conditions.i

Trenched double silt fencing will be installed along the southern boundary of the site. The silt fencing will act as a temporary sediment control device to protect the Cooleeny Stream from sediment and potential surface water run-off from the site. The fencing will be inspected twice daily based onsite and weather conditions for any signs of contamination or excessive silt deposits and records of these checks will be maintained. Silt laden water within the trenches will be routed to an appropriately sized ettlement facility before discharging to the Cooleeny Stream. A buffer zone of 10m will be maintained between the silt trap and the watercourse with natural vegetation left intact.

Where dewatering of shallow groundwater is required or where surface water runoff must be pumped from the excavations, water will be managed in accordance with best practice standards (i.e., CIRIA C750), the CMP,

the CEMP and regulatory consents to minimise the potential effect on the local groundwater flow regime of the underlying aquifer.

Where required, standard design and construction measures (i.e., groundwater drainage around impermeable subsurface structures) will ensure that groundwater flow across the site is maintained and that there will be no effect on groundwater levels.

All water leaving the Site during the construction phase will be desilted in onsite settlement ponds to include geotextile liners and riprapped inlets and outlets to prevent scour and erosion. The location of the settlement ponds will be reviewed and moved regularly as required. Additional measures will be implemented as required to capture and treat sediment laden surface water runoff (e.g., sediment retention ponds / tanks, surface water inlet protection, fencing and signage around specific exclusion zones and earth bunding adjacent to open drainage ditches). Where required, the water will also be directed through a hydrocarbon interceptor prior to discharge from the Site.

Unauthorised discharge of water (groundwater / surface water runoff) to ground, drains or watercourses will not be permitted. Where required, all public sewers will be protected to ensure that any untreated wastewater generated onsite does not enter the public sewers. The appointed Contractor will ensure that the discharge of water to ground, drains or watercourses will be in accordance with the necessary discharge licences issued by Tipperary County Council under Section 4 of the Local Government (Water PPllution) Act 1977, as amended in 1990.P
A regular review of weather forecast will take place, insofar as possible, ground excavation works will be scheduled during period of dry weather to minimise potential for silt laden runoff.

Control and Management of Stockpiles
Where required, stockpiles of loose materials pending re-use onsite will be protected for the duration of the works and not located in areas where sediment laden runoff may enter existing surface water drains. To help shed rainwater and prevent ponding and infiltration, the sides and top of the stockpiles will be regraded to form a smooth gradient with compacted sides reducing infiltration and silt runoff. Where required, silt fences will be erected at the toe of pes will be monitored daily by the appointed contractor and silt will be removed as required. In accordance with Inland Fisheries Ireland guidelines, stockpiles will not be allowed within 30m of the open watercourses or drainage.

Concrete Works
The cementitious grout and other concrete works during the Construction Phase, will avoid any contamination of ground through the use of appropriate design and methods implemented by the Contractor and in accordance with the CMP (DOBA, 2024) and relevant industry standards.

Pre-cast concrete will be used where technically feasible to meet the design requirements for the Proposed Development. Where cast-in-place concrete is required (i.e., building foundations), all work must be carried out in dry conditions and be effectively isolated from any groundwater.

All ready-mixed concrete will be delivered to the Site by truck. Concrete batching will take place offsite, wash down and wash out of concrete trucks will take place into a container located within a controlled bunded area which will then be emptied into a skip for appropriate compliant removal offsite in accordance with all relevant waste management legislation. Any excess concrete is not to be disposed of onsite.

A suitable risk assessment for wet concreting shall be completed prior to works being carried out. Pumped concrete will be monitored to ensure there is no accident.

Handling of Fuels, Chemicals and Materials

The Contractor's construction compound will be located on site for the duration of the project and shall primarily consist of site offices & associated welfare facilities, car parking facilities, materials drop-off and storage areas and set down areas for HGVs.

Fuel will be transported to the site in dedicated mobile units based on supply requirements. Fuelling and lubrication of equipment will be conducted in accordance with the procedures outlined in the CMP (DOBA, 2024), within a designated area of the compound, clearly marked and situated away from any watercourses and drains. A dedicated fuel filling point will be established onsite within the compound, where all equipment will be brought for refuelling.

Fuel storage areas and refuelling points will be bunded and located away from surface water drainage and features. The bunds will comply with the Environmental Protection Agency guidelines 'Amendment to IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities' (EPA, 2013). All tank and drum storage areas will be bunded to a volume not less than the greater of the following:

- 110% of the capacity of the largest tank or drum within the bunded area; or
- 25% of the total volume of substance that could be stored within the bunded area.

As documented in the CMP, the appointed contractor will maintain an emergency response action plan and emergency procedures will be developed by the appointed contractor in advance of any works commencing. Construction staff will be familiar with the emergency response plan.

Strict supervision of contractors will be adhered to in order to ensure that all plant and equipment utilised onsite is in good working condition. Any equipment not meeting the required standard will not be permitted for use within the Proposed Development Site. Only emergency breakdown maintenance will be carried out onsite. Drip trays and spill kits will be available on-site to ensure that any spills from vehicles are contained and removed off-site.

Spill kits will be made available onsite and identified with signage for use in the event of an environmental spill or leak. A spill kit will be kept in close proximity to the fuel storage area for use in the event of any incident during refuelling or maintenance works. Heavy machinery used on the Site will also be equipped with its own spill kit.

There may also be the requirement for use of portable generators or similar fuel containing equipment during the construction phase of the Proposed Development, which will be placed on suitable drip trays. Regular monitoring of drip tray content will be undertaken to ensure sufficient capacity is maintained at all times

As documented in the CMP (DOBA, 2024), good housekeeping (e.g., site clean-ups, use of disposal bins, etc.) will be implemented on the site.

Emergency Procedures

As documented in the CMP, in advance of works commencing the emergency response action plan will be developed by the appointed contractor in accordance with the site emergency plan which will cover all foreseeable risks (i.e., fire, spill, flood, etc.). Appropriate site personnel will be trained as first aiders and fire marshals and be trained in environmental issues and spill response procedures. Spillage kits will be available on-site including in vehicles operating onsite. Construction staff will be familiar with emergency procedures in the event of accidental fuel spillages. Remedial action will be immediately implemented to address any potential effects in accordance with industry standards and legislative requirements.

- Any required emergency vehicle or equipment maintenance work will take place in a designated impermeable area within the site.
- Emergency response procedures will be put in place, in the unlikely event of spillages of fuels or lubricants. Such procedures will include:
    - Containment measures.
    - Emergency discharge routes.
    - List of appropriate equipment and clean-up materials.
    - Maintenance schedule for equipment.
    - Details of trained staff, location, and provision for 24-hour cover.
    - Details of staff responsibilities.
    - Notification procedures to inform the EPA or Environmental Department of Tipperary County Council.
    - Audit and review schedule.
    - Telephone numbers of statutory water consultees.
    - List of specialist pollution clean-up companies and their telephone numbers.
- Spill kits including oil absorbent material will be provided so that any spillage of fuels, lubricants or hydraulic oils will be immediately contained.
- In the event of a leak or spill from equipment in the instance of a mechanical breakdown during operation, any contaminated soil will be removed from the site and compliantly disposed of off-site. Residual soil will be tested to validate that all potentially contaminated material has been removed. This procedure will be undertaken in accordance with indust
- y best practice procedures and standards.
- All construction works staff will be familiar with emergency procedures in the event of accidental fuel
- spillages.
- All construction works staff on-site will be fully trained on the use of equipment.

These procedures will be undertaken in accordance with industry best practice procedures and standards. These measures will ensure that there is minimal risk to the receiving land, soil and geological environment associated with the construction phase of the Proposed Development.

Welfare Facilities

Welfare facilities have the potential, if not managed appropriately, to release organic and other contaminants to ground or surface water courses. Foul drainage from temporary welfare facilities during the construction phase of the Proposed Development will be discharged to temporary holding tank(s) the contents of which will periodically be tankered off site to a licensed facility. All waste from welfare facilities will be managed in accordance with the relevant statutory obligations yoffsite by an appropriately authorised contractor.

Operation Stage – Mitigation Measures

Based on the design of the proposed development, there are limited potential sources of contamination during the operational phase. Additionally, the proposed attenuation design does not allow for infiltration to the ground.

Surface water will be managed in accordance with the principles and objectives of SuDS and the GDSDS to treat and attenuate water before discharging offsite. Regular operational monitoring and maintenance of drainage and SuDS measures will be incorporated into the overall management strategy for the proposed development. This will ensure that there are no effects on water quality and quantity (flow regime) during the operational phase.

The proposed bund system will ensure any contaminated water is prevented from discharging from Process Areas of the Proposed Development into the surface water drainage network.

The procedures outlined in the EMS and the conditions of the IE Licence will be strictly adhered to throughout he operational phase of the Proposed Development.

Emergency procedures, developed in accordance with the conditions of the IE Licence and detailed in the EMS, will be strictly implemented during the operational phase. Spillage kits will be available on-site, including in vehicles operating on-site. All staff will be trained and familiar with emergency procedures in the event of accidental fuel spillages.

Decommissioning Stage – Mitigation Measures

During the decommissioning phase of the proposed development, all works will be undertaken in accordance with the Decommissioning Plan (DOBA, 2025) (please refer to **Volume 3, Appendix 6.1**). Following appointment, the contractor will be required to further develop the Decommissioning Plan to provide detailed phasing and methods to manage and prevent any potential emissions to ground and surface water with regard to the relevant industry standards (e.g., C532 Control of Water Pollution from Construction Sites, C692 Environmental Good Practice on Site, ICE Earthworks and TII Specification for Road Works Series 600 - Earthworks). The Decommissioning Plan will be implemented for the duration of the Decommissioning Phase,

covering demolition and waste management activities that will take place during the Decommissioning Phase of the Proposed Development.

Mitigation works will be adopted as part of the demolition works for the decommissioning phase of the proposed development. These measures will address the main activities of potential effect which include:

- Control and Management of surface water runoff.
- Control and management of shallow groundwater during excavation and dewatering.
- Management and control of soil and materials.
- Appropriate fuel, chemical and process waste handling, transport and storage.
- Management of accidental release of contaminants including process waste at the site.

The demolition works will be managed in accordance with all statutory obligations and regulations and with standard international best practice. Good demolition management practices will minimise the risk of pollution from demolition activities at the Site including but not limited to:

- Construction Industry Research and Information Association (CIRIA), 2001. Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors.
- CIRIA, 2015. Environmental Good Practice on Site (C741).
- Enterprise Ireland Oil Storage Guidelines (BPGCS005).
- Environmental Protection Agency (EPA), 2013. IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities.
- CIRIA, 2007. The SuDS Manual (C697.
- UK Environment Agency, 2004. UK Pollution Prevention Guidelines (PPG).
- CIRIA, 2006. Control of Water Pollution from Linear Construction Projects: Technical Guidance (C648).
- National Roads Authority (now Transport Infrastructure Ireland), 2016. Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes.
- Inland Fisheries Ireland (IFI, 2016). Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters.

Control and Management of Water and Surface Water Runoff

The removal of the site drainage will be a phased removal, closely following the removal schedule of the buildings and yards. The phased process will ensure that the areas yet to be demolished will have live drainage and primary filtering prior to outfalling the stream to the south. Once the full site drainage has been removed, the ponds can be filled and levels brought to the original predevelopment condition. The site-wide drainage pipes and manholes will be disposed of at a licensed waste facility.

There will be no direct discharge to groundwater or surface water during the demolition phase of the proposed development. There may be a temporary increase in the exposure of the underlying shallow groundwater during excavation works (i.e. removal of utilities and drainage pipes). Surface water runoff will be prevented from entering open excavations with sandbags or other approved methods proposed by the appointed contractor.

Furthermore, the appointed contractor will ensure that machinery does not enter the groundwater if encountered during decommissioning.

All run-off from the site or any areas of exposed soil will be managed as required with temporary pumping and following appropriate treatment as required. Surface water runoff from areas of hardstanding removal and surface water collected in excavations will be directed to onsite settlement ponds where measures will be implemented to capture and treat sediment laden runoff prior to discharge at a controlled rate.

Given the vulnerability of the underlying groundwater at the site, the shallow groundwater table, and the potential presence of karst landforms, the demolition methodology will adhere to the 'Guidance on Pollution Prevention' (EA, 2001) or similar best practices. This approach aims to minimize the risk of creating temporary conduits between potential surface contamination sources and the underlying groundwater. The demolition method will include procedures to prevent any potential effect on water quality. When lubricants, drilling fluids, or additives are required, the contractor will use water-based, biodegradable, and non-hazardous compounds under controlled conditions.

Where dewatering of shallow groundwater is required or where surface water runoff must be pumped from the excavations, water will be managed in accordance with best practice standards (i.e., CIRIA C750), the Decommissioning Plan and regulatory consents to minimise the potential effect on the local groundwater flow regime of the underlying aquifer.

All water leaving the site during the decommissioning phase will be desilted in onsite settlement ponds to include geotextile liners and riprapped inlets and outlets to prevent scour and erosion. The location of the settlement ponds will be reviewed and moved regularly as required. Additional measures will be implemented as required to capture and treat sediment laden surface water runoff (e.g., sediment retention ponds / tanks, surface water inlet protection, fencing and signage around specific exclusion zones and earth bunding adjacent to open drainage ditches). Where required, the water will also be directed through a hydrocarbon interceptor prior to discharge from the site.

Unauthorised discharge of water (groundwater / surface water runoff) to ground, drains or watercourses will not be permitted. The appointed Contractor will ensure that the discharge of water to ground, drains or watercourses will be in accordance with the necessary discharge licences issued by Tipperary County Council under Section 4 of the Local Government (Water Pollution) Act 1977, as amended in 1990.

A regular review of weather forecast will take place, insofar as possible, ground excavation works will be scheduled during period of dry weather to minimise potential for silt laden runoff.

Control and Management of Stockpiles

Where required, stockpiles of loose materials pending re-use onsite will be protected for the duration of the works and not located in areas where sediment laden runoff may enter existing surface water drains. To help shed rainwater and prevent ponding and infiltration, the sides and top of the stockpiles will be regraded to form

a smooth gradient with compacted sides reducing infiltration and silt runoff. Where required, silt fences will be erected at the toe of stockpiles to prevent run-off. The silt fences will be monitored daily by the appointed contractor and silt will be removed as required. In accordance with Inland Fisheries Ireland guidelines, stockpiles will not be allowed within 30m of the open watercourses or drainage.

Emptying Digestors and Storage Facilities of All Stored Materials / Products

The emptying of digestors, storage facilities and equipment/structures within the bund will be undertaken in accordance with the measures outlined in the Decommissioning Plan (DOBA, 2025) (please refer to **Volume 3, Appendix 6.1**). Prior decommissioning and demolition works, it will be the decommissioning contractor's responsibility to ensure that the digestors, storage facilities and equipment/structures are emptied out and raw materials removed offsite and disposed of in a safe and appropriate manner to a licensed waste facility in accordance with all relevant waste management legislation. Furthermore, an emergency response plan for the decommissioning phase to deal with accidental spillages will be developed in advance of decommissioning works commencing.

Handling of Fuels, Chemicals and Materials

The Contractor's compound for the decommissioning phase will be located on site for the duration of the project and will primarily consist of site offices and associated welfare facilities, car parking facilities, materials drop-off and storage areas and set down areas for HGVs.

Fuel will be transported to the site in dedicated mobile units based on supply requirements. Fuelling and lubrication of equipment will be conducted in accordance with the procedures outlined in the Decommissioning Plan (DOBA, 2025) (please refer to **Volume 3, Appendix 6.1**), within a designated area of the compound, clearly marked and situated away from any watercourses and drains. A dedicated fuel filling point will be established onsite within the compound, where all equipment will be brought for refuelling.

Fuel storage areas and refuelling points will be bunded and located away from surface water drainage and features. The bunds will comply with the Environmental Protection Agency guidelines 'Amendment to IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities' (EPA, 2013). All tank and drum storage areas will be bunded to a volume not less than the greater of the following:

- 110% of the capacity of the largest tank or drum within the bunded area; or
- 25% of the total volume of substance that could be stored within the bunded area.

As documented in the Decommissioning Plan (please refer to **Volume 3, Appendix 6.1**), the appointed contractor will maintain an emergency response action plan and emergency procedures will be developed by the appointed contractor in advance of any works commencing. Staff will be familiar with the emergency response plan.

Strict supervision of contractors will be adhered to in order to ensure that all plant and equipment utilised on-site is in good working condition. Any equipment not meeting the required standard will not be permitted for use within the proposed development. Only emergency breakdown maintenance will be carried out on-site. Drip trays and spill kits will be available on-site to ensure that any spills from vehicles are contained and removed off-site.

Spill kits will be made available onsite and identified with signage for use in the event of an environmental spill or leak. A spill kit will be kept in close proximity to the fuel storage area for use in the event of any incident during refuelling or maintenance works. Heavy machinery used on the Site will also be equipped with its own spill kit.

There may also be the requirement for use of portable generators or similar fuel containing equipment during the construction phase of the proposed development, which will be placed on suitable drip trays. Regular monitoring of drip tray content will be undertaken to ensure sufficient capacity is maintained at all times.

Emergency Procedures

As documented in the Decommissioning Plan (please refer to **Volume 3, Appendix 6.1**), in advance of works commencing the emergency response action plan will be developed by the appointed contractor in accordance with the site emergency plan which will cover all foreseeable risks (i.e., fire, spill, flood, etc.). Appropriate site personnel will be trained as first aiders and fire marshals and be trained in environmental issues and spill response procedures. Spillage kits will be available on-site including in vehicles operating onsite. Decommissioning staff will be familiar with emergency procedures in the event of accidental fuel spillages. Remedial action will be immediately implemented to address any potential effects in accordance with industry standards and legislative requirements.

- Any required emergency vehicle or equipment maintenance work will take place in a designated impermeable area within the site.
- Emergency response procedures will be put in place, in the unlikely event of spillages of fuels or lubricants. Such procedures will include:
  - Containment measures.
  - Emergency discharge routes.
  - List of appropriate equipment and clean-up materials.
  - Maintenance schedule for equipment.
  - Details of trained staff, location, and provision for 24-hour cover.
  - Details of staff responsibilities.
  - Notification procedures to inform the EPA or Environmental Department of Tipperary County Council.
  - Audit and review schedule.
  - Telephone numbers of statutory water consultees.
  - List of specialist pollution clean-up companies and their telephone numbers.
- Spill kits including oil absorbent material will be provided so that any spillage of fuels, lubricants or hydraulic oils will be immediately contained.

- In the event of a leak or spill from equipment in the instance of a mechanical breakdown during operation, any contaminated soil will be removed from the site and compliantly disposed of off-site. Residual soil will be tested to validate that all potentially contaminated material has been removed. This procedure will be undertaken in accordance with industry best practice procedures and standards.
- All construction works staff will be familiar with emergency procedures in the event of accidental fuel spillages.
- All works staff on-site will be fully trained on the use of equipment.

These procedures will be undertaken in accordance with industry best practice procedures and standards. These measures will ensure that there is minimal risk to the receiving land, soil and geological environment associated with the construction phase of the Proposed Development.

Welfare Facilities

Welfare facilities have the potential, if not managed appropriately, to release organic and other contaminants to ground or surface water courses. Foul drainage from temporary welfare facilities during the Decommissioning phase of the proposed development will be discharged to temporary holding tank(s) the contents of which will periodically be tankered off site to a licensed facility. All waste from welfare facilities will be managed in accordance with the relevant statutory obligations by tankering of waste offsite by an appropriately authorised contractor.

Construction Stage – Monitoring Measures

During the Construction Phase of the Proposed Development the following monitoring measures will be considered:

- Inspections will be undertaken during excavations and other groundworks to ensure that measures that are protective of water quality outlined in this EIAR and the CEMP (DOBA, 2024a) are fully implemented and effective.
- In advance of construction works commencing the appointed contractor will updated with CEMP to include detailed methodologies for the construction of silt management systems (e.g., settlement ponds, silt traps, silt fences) and detailed procedures for pumping water from excavations. The surf
- ce water control measures will be inspected twice daily based onsite and weather conditions for any signs of contamination or excessive silt deposits and records of these checks will be maintained.
- Visual inspections of the Cooleeny Stream will be undertaken for siltation and hydrocarbon sheen will also be undertaken twice daily.
- Discharges to groundwater or surface water will be monitored where required in accordance with statutory consents (i.e., discharge licence).
- Routine monitoring and inspections during refuelling, concrete works to ensure no impacts and compliance with avoidance, remedial and mitigation measures.

Operation Stage – Monitoring Measures

The Proposed Development will be subject to an IE Licence from the EPA. The operator will comply with any monitoring requirements, including monitoring of the surface water discharge, in accordance with the conditions of the IE Licence.

Ongoing regular operational monitoring and maintenance of drainage and the SuDS measures will be undertaken throughout the lifetime of the operational phase of the Proposed Development.

There are no additional monitoring requirements specifically in relation to hydrology and hydrogeology during the Operational Phase of the Proposed Development.

Decommissioning Stage – Monitoring Measures

During the Decommissioning Phase of the Proposed Development the following monitoring measures will be considered:

- Inspections will be undertaken during demolition works to ensure that measures that are protective of water quality outlined in this EIAR and the Decommissioning Plan (DOBA, 2025) (please refer to **Volume 3, Appendix 6.1**) are fully implemented and effective.
- In advance of construction works commencing the appointed contractor will update the Decommissioning Plan to include detailed methodologies for the construction of silt management systems (e.g., settlement ponds, silt traps, silt fences) and detailed procedures for pumping water from excavations. The surface water control measures will be inspected twice daily based onsite and weather conditions for any signs of contamination or excessive silt deposits and records of these checks will be maintained.
- Visual inspections of the Cooleeny Stream will be undertaken for siltation and hydrocarbon sheen will also be undertaken twice daily.
- Discharges to groundwater or surface water will be monitored where required in accordance with statutory consents (i.e., discharge licence).
- Routine monitoring and inspections during refuelling to ensure no effects and compliance with avoidance, remedial and mitigation measures.

The Proposed Development will be subject to an IE Licence from the EPA. The operator will comply with any monitoring requirements, including monitoring of the surface water discharge, in accordance with the conditions of the IE Licence.

22.4.5 Air Quality

Construction and Decommissioning Stage – Mitigation Measures

The proposed development has been assessed as having a low risk of dust soiling impacts and a low risk of dust related human health impacts during the construction phase as a result of earthworks, construction and trackout activities. Therefore, the following dust mitigation measures shall be implemented during the

construction phase of the proposed development. These measures are appropriate for sites with a low risk of dust impacts and aim to ensure that no significant nuisance occurs at nearby sensitive receptors. The mitigation measures draw on best practice guidance from Ireland (DCC, 2018), the UK (IAQM (2024), BRE (2003), The Scottish Office (1996), UK ODPM (2002)) and the USA (USEPA, 1997). These measures will be incorporated into the overall Construction Environmental Management Plan (CEMP) prepared for the site. The measures are divided into different categories for different activities.

As the dust emissions during the decommissioning phase are expected to be of a similar or lesser magnitude to those identified during the construction phase, the mitigation measures applicable to construction phase dust emissions are also considered suitable for those during the decommissioning phase.

Communications

- Develop and implement a stakeholder communications plan that includes community engagement before works commence on site. Community engagement includes explaining the nature and duration of the works to local residents and businesses.
- The name and contact details of a person to contact regarding air quality and dust issues shall be displayed on the site boundary, this notice board should also include head/regional office contact details.

Site Management

- During working hours, dust control methods will be monitored as appropriate, depending on the prevailing meteorological conditions. Dry and windy conditions are favourable to dust suspension therefore mitigations must be implemented if undertaking dust generating activities during these weather conditions.
- A complaints register will be kept on site detailing all telephone calls and letters of complaint received in connection with dust nuisance or air quality concerns, together with details of any remedial actions carried out.

Preparing and Maintaining the Site

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being reused on site. If they are being re-used on-site cover as described below.
- Cover, seed or fence stockpiles to prevent wind whipping.

Operating Vehicles/Machinery and Sustainable Travel

- Ensure all vehicles switch off engines when stationary - no idling vehicles.
- Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.
- Impose and signpost a maximum-speed-limit of 15 kph haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided,

subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).
- Produce a Construction Transport Management Plan to manage the sustainable delivery of goods and materials.
- Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing).

Operations
- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g., suitable local exhaust ventilation systems.
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
- Use enclosed chutes and conveyors and covered skips.
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

Waste Management
- Avoid bonfires and burning of waste materials.

Measures Specific to Earthworks
- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
- Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
- Only remove the cover in small areas during work and not all at once.
- During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser will operate to ensure moisture content is high enough to increase the stability of the soil and thus suppress dust.
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
- Avoid site runoff of water or mud.
- Keep site fencing, barriers and scaffolding clean using wet methods.

Measures Specific to Construction
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.

- For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.

Measures Specific to Trackout

- A speed restriction of 15 kph will be applied as an effective control measure for dust for on-site vehicles.
- Avoid dry sweeping of large areas.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- Record all inspections of haul routes and any subsequent action in a site logbook.
- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permit.
- Access gates to be located at least 10 m from receptors where possible.

Monitoring

- Undertake daily on-site and off-site inspections, where receptors (including roads) are nearby, to monitor dust, record inspection results in the site inspection log. This should include regular dust soiling checks of surfaces such as street furniture, cars, and windowsills within 100 m of site boundary, with cleaning to be provided if necessary.
- Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.

Operation Stage – Mitigation Measures

An Odour Treatment System designed to manage odours from biogas and organic waste facilities has been incorporated into the design of the Proposed Development. Potential odour impacts from the various digestor tanks and biofertilizer processing plant and storage will be mitigated by this system.

The following odour mitigation measures will be adopted for the management of the proposed development:

- Whole crop feedstocks will be stored in concrete-walled and floored clamps, where they are compacted and covered with a plastic tarp to create an airtight seal.
- Equine, farmyard, and broiler manure will be housed in storage sheds specifically designed to manage moisture levels and odour control prior to processing.
- Liquid feedstocks will be pumped into a dedicated liquid feedstock tank, which will minimise fugitive odour emissions.
- Vehicles exiting the site will be subjected to cleaning procedures in accordance with the DAFM Conditions Document in a designated cleaning area.

- Deliveries of feedstock will be in enclosed trailers and sealed vacuum tankers.
- Feedstock delivery times will be controlled in order to minimise truck weighting times and therefore minimising fugitive odour emissions on-site.
- Digestate will be dewatered and pasteurised before removal from the site in order to minimise odour generation.
- An odour management plan will be prepared for the operational phase of the site to ensure that all odour control methods applied are sufficient and assessed at regular intervals. The plan will also outline a procedure for addressing any odour complaints.

The stack heights of the CHP generator and the emergency flare are of an adequate height to aid dispersion of the emissions and achieve compliance with the air quality standards at all off-site locations.

Construction and Operational Stage – Monitoring Measures

Monitoring requirements for the Proposed Development will be described in the Environmental Monitoring Plan submitted alongside the EIAR and further developed and agreed with stakeholders prior to construction.

Monitoring in the form of visual inspections for nuisance dust has been outlined in Section 11.6.1.

The assessment of impacts on air quality as a result of the construction and operation the proposed development are predicted to be not significant in EIA terms. Based on the predicted impacts it is concluded that no additional monitoring is required.

Decommissioning Stage – Monitoring Measures

There is no proposed monitoring during the decommissioning phase

22.4.6 Climate

Construction Stage – Mitigation Measures

Embodied carbon of materials and construction activities will be the primary source of climate impacts during the construction phase. Best practice measures to reduce the embodied carbon of the construction works include:

- Appointing a suitably competent contractor who will undertake waste audits detailing resource recovery best practice and identify materials can be reused/recycled;
- Materials will be reused on site where possible;
- Prevention of on-site or delivery vehicles from leaving engines idling, even over short periods;
- Ensure all plant and machinery are well maintained and inspected regularly;
- Minimising waste of materials due to poor timing or over ordering on site will aid to minimise the embodied carbon footprint of the site; and
- Sourcing materials locally where possible to reduce transport related CO2 emissions.

Specific measures are proposed to reduce GHG emissions during the construction phase:

- A total of approx. 27,000 m3 of excavated material generated during the construction phase will be reused on site. This material re-use represents an avoidance of GHG emissions of 172 tCO2e (if avoidance of recycling disposal is assumed), and has been accounted for in the total GHG emissions discussed in Section 16.3.1.1; and
- Lower carbon structural concrete composed of at least 25% ground granulated blast-furnace slag (GGBS), instead of a standard concrete mix, will be utilised in concrete based structure
- . This represents GHG savings of approximately 0.6 tCO2e (assuming a C32/40 mix).

In terms of impact on the proposed development due to climate change, during construction the Contractor will be required to mitigate against the effects of extreme rainfall/flooding through site risk assessments and method statements. The Contractor will also be required to mitigate against the effects of extreme wind/storms, temperature extremes through site risk assessments and method statements. All materials used during construction will be accompanied by certified datasheets which will set out the limiting operating temperatures. Temperatures can affect the performance of some materials, and this will require consideration during construction. During construction, the Contractor will be required to mitigate against the effects of fog, lighting and hail through site risk assessments and method statements.

Operation Stage – Mitigation Measures

The proposed development by design will reduce GHG emissions during the operational phase as follows:

- An estimated 3,253,600 tonnes of bio-based fertiliser will be produced over the lifetime of the proposed development and distributed back to the feedstock (crop) suppliers, completing the proposed development's circular economy process. This bio-based fertiliser is the remaining byproduct from the anaerobic digestion process and in this state is a product instead of a waste. This avoidance of a waste stream represents a total emissions offset of approx. 1,883,700 tCO2e (1.9 Mt tCO2e) over the lifetime of the proposed development (if avoidance of landfill disposal of organic waste is assumed); and
- The same truck which delivers the feedstock will also collect a load of bio-based fertiliser, reducing the number of truck movements. This efficiency results in an emission offset of approx. 20,580 tCO2e.

Some measures have been incorporated into the of the development to mitigate the impacts of future climate change. For example, adequate attenuation and drainage have been incorporated to avoid potential flooding impacts due to increased rainfall events in future years.

Decommissioning Stage – Monitoring Measures

There is no proposed monitoring during the decommissioning phase

Construction Stage – Monitoring Measures

There is no proposed monitoring during the construction phase.

Operation Stage – Monitoring Measures

There is no proposed monitoring during the operational phase.

Decommissioning Stage – Monitoring Measures
There is no proposed monitoring during the decommissioning phase

22.4.7 Noise and Vibration

Construction Stage – Mitigation Measures

Best practice control measures for noise from construction sites are found within BS 5228 (2009 +A1 2014) part 1. Construction noise impacts are expected to vary during the construction phase of the project, this impact will depend on the distance between the construction activities and noise sensitive receptor. The contractor will ensure that all best practice noise and control methods will be used, to ensure any negative noise impacts at off-site noise sensitive locations are minimised. emeasures, this includes the

- selection of quiet plant and equipment;
- noise control at source of the noise;
- screening, and;
- public liaison.

General Recommendations

This section of the report sets out noise mitigation options and detailed comment on each one specifically for this site.

Selection of Plant and Equipment

The noise impact of all plant and equipment should be assessed prior to selection of the plant for the project. Where an item of plant is identified as noisy with the potential to cause a negative noise impact it should be reviewed to check if there is an alternative quieter version of the same plant to undertake the same construction task.

Noise Control at Source

Where replacing a noisy item of plant is not viable or practical, consideration should be given to control that noise at source. This includes modifying the piece of plant or equipment to generate less noise, using dampening to control vibration induced noise or rattling. Example best practice mitigation measures to be considered are as follows:

- All plant and equipment to be switched off when idling.
- The use of white noise reversing alarms.
- Restriction on the dropping and loading of materials to less sensitive hours.
- The use of local screening for noisy activities or works with hand tools.
- Not dropping materials onto hard surfaces and using rubber mats etc for the dropping of materials.
- Ensure all plant and equipment is well maintained and cleaned, all lubrication should be in line with manufacturers guidelines.

Screening

Screening when used correctly can be an effective method of reducing the construction noise impact on the NSL's. The use of site hoarding and careful selection of areas for noise works, using buildings on the site, site offices and the building being constructed to screen noise from the works.

Local screening of noisy works with the use of temporary acoustic barriers, examples are provided below:

- https://ventac.com/acoustic-products/noisebreak-acoustic-barrier/
- https://echobarrier.com/

Public Engagement

It is recommended that a public liaison officer should be put forward by the contractor to liaise with the local residents on matters relating to noise. Residents should be informed of any noise works scheduled where there is the potential to generate high levels of construction noise or if specialist works etc need to be conducted out of the working hours. This person should also be the point of contact for all complaints and be responsible for reviewing the noise monitoring results and exceedances.

Site Specific

Construction Phase	Recommended Noise Mitigation Measure
Site Setup	Erect a minimum 2.4m high site hoarding that blocks the line of sight between noise source and receiver. Example construction for the site hording would be as follows: • A 2.4m high and 9mm plywood (4.5 kg/m2). Barrier must be solid and not contain gaps at the bottom or between adjacent panels Local screening using the examples provided in Figure 13.4 are required around hand tools in addition to hoarding. An absorptive lining should be considered for screening around hand tools will need to have an absorptive lining to avoid reflections increasing noise at other receivers. On this project 6 NSL's have been identified it is recommended that a noise monitor should be placed on the boundary with each of nearest noise sensitive locations closest to the works. (NSL1 being worst case)
Substructure	Site hoarding to block line of sight. Local screening around noisy plant and equipment. Noise monitoring as above
Superstructure	Local screening around saws/hammers where possible. Use external new building to screen noise from works where possible. Noise monitoring as above
External Finishes	Local screening around hand tools. Noise monitoring as above.

Operation Stage – Mitigation Measures

The operational noise impact of the development is predicted to comply with the project criteria and therefore no additional mitigation is required.

Decommissioning Stage – Mitigation Measures

Noise Mitigation Recommendations

Best practice control measures for noise from construction sites are found within BS 5228 (2009 +A1 2014) part 1. Decommissioning noise impacts are expected to vary during the construction phase of the project, this impact will depend on the distance between the construction activities and noise sensitive receptor. The contractor will ensure that all best practice noise and control methods will be used, to ensure any negative noise impacts at off-site noise sensitive locations are minimised.

The best practice measures set out in BS 5228 (2009) Part 1 includes guidance on several aspects of construction site mitigation measures, this includes the

- *selection of quiet plant and equipment;*
- *noise control at source of the noise;*
- *screening, and;*
- *public liaison.*

General Recommendations

This section of the report sets out noise mitigation options and detailed comment on each one specifically for this site.

Selection of Plant and Equipment

The noise impact of all plant and equipment should be assessed prior to selection of the plant for the project. Where an item of plant is identified as noisy with the potential to cause a negative noise impact it should be reviewed to check if there is an alternative quieter version of the same plant to undertake the same construction task.

Noise Control at Source

Where replacing a noisy item of plant is not viable or practical, consideration should be given to control that noise at source. This includes modifying the piece of plant or equipment to generate less noise, using dampening to control vibration induced noise or rattling. Example best practice mitigation measures to be considered are as follows:

- *All plant and equipment to be switched off when idling.*
- *The use of white noise reversing alarms.*
- *Restriction on the dropping and loading of materials to less sensitive hours.*
- *The use of local screening for noisy activities or works with hand tools*

- *Not dropping materials onto hard surfaces and using rubber mats etc for the dropping of materials.*
- *Ensure all plant and equipment is well maintained and cleaned, all lubrication should be in line with manufacturers guidelines.*

Screening

Screening when used correctly can be an effective method of reducing the construction noise impact on the NSL's. The use of site hoarding and careful selection of areas for noise works, using buildings on the site, site offices and the building being constructed to screen noise from the works.

Local screening of noisy works with the use of temporary acoustic barriers, examples are provided below:

- *https://ventac.com/acoustic-products/noisebreak-acoustic-barrier/*
- *https://echobarrier.com/*

Figure 13.(a): Temporary construction noise barrier © Ventac

Public Engagement

It is recommended that a public liaison officer should be put forward by the contractor to liaise with the local residents on matters relating to noise. Residents should be informed of any noise works scheduled where there is the potential to generate high levels of construction noise or if specialist works etc need to be conducted out of the working hours. This person should also be the point of contact for all complaints and be responsible for reviewing the noise monitoring results and exceedances.

Site Specific Recommendations

Table below outlines the recommended site-specific noise mitigation measures based on the attenuation required.

Construction Stage	Recommended Noise Mitigation Measure
Decommissioning	*Erect a minimum 2.4m high site hoarding that blocks the line of sight between noise source and receiver.* *Example construction for the site hording would be as follows:* • *A 2.4m high and 9mm plywood (4.5 kg/m^2). Barrier must be solid and not contain gaps at the bottom or between adjacent panels* *Noise monitoring as above*

Table 13.v: Attenuation required based on the construction noise predictions."

Construction Stage – Monitoring Measures

Construction noise monitoring will be undertaken at periodic sample periods on the boundary with the nearest noise sensitive receptors by the contractor. In this case NSL1 is the closest sensitive receptor, therefore, continuous noise monitoring should be observed at the boundary of the site in the direction of NSL1 for the during the substructure and superstructure phases of construction.

Noise monitoring should be conducted in accordance with the International Standard ISO 1996: 2017: Acoustics – Description, measurement and assessment of environmental noise.

Vibration Monitoring

It is not predicted that there will be any negative vibration impact at the sensitive locations, however vibration limits have been provided in this section should monitoring be required.

The Vibration monitoring stations should continually log vibration levels using the Peak Particle Velocity parameter (PPV, mm/s) in the X, Y and Z directions, in accordance with BS ISO 4866: 2010: Mechanical vibration and shock – Vibration of fixed structures – Guidelines for the measurement of vibrations and evaluation of their effects on structures.

Vibration Limits

The recommended vibration limits to avoid cosmetic damage to buildings, as set out in:

- British Standard BS7385: 1993: Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from ground borne vibration, and;
- British Standard BS5228-2: 2009 + A1: 2014: Code of practice for noise and vibration control on construction and open sites – Vibration.

The standards note that minor structural damage can occur at vibration magnitudes which are greater than twice those presented in Table 13.24 and major damage to a building structure is possible at vibration magnitudes greater than four times the values set out in Table 13.24. Definitions of the damage categories are presented in BS 7385-1:1990.

Operation Stage – Monitoring Measures

The impact assessment has found that there are no significant noise impacts likely at nearby noise sensitive locations during the operational phase and therefore no remedial or reductive measures are required. The predictions are based on the information available at planning stage and when the actual plant to be used becomes available it should be verified to ensure compliance. General recommendations for the management of noise include:

A noise policy should be created for the site. The noise policy should include but is not limited to policies on the following:

- Trucks/vans should not be left to idle when loading/unloading or when parked on the site.
- Wheel loading operators should ensure they are not slamming/dropping buckets when loading feed.
- There should be no amplified music or announcements externally in the yard areas.
- Signage should be erected in the yard and in the car park to remind workers to be respectful to the company's neighbours.

Operational Vibration Monitoring

There are no sources of vibration associated with the operational phase of the development therefore no operational or reductive measures are required.

Decommissioning Stage – Monitoring

Decommissioning noise monitoring will be undertaken at periodic sample periods on the boundary with the nearest noise sensitive receptors by the contractor. In this case NSL1 is the closest sensitive receptor, therefore, continuous noise monitoring should be observed at the boundary of the site in the direction of NSL1 for the during the substructure, superstructure and decommissioning phases of construction.

Noise monitoring should be conducted in accordance with the International Standard ISO 1996: 2017: Acoustics – Description, measurement and assessment of environmental noise.

Decommissioning Vibration Monitoring

It is not predicted that there will be any negative vibration impact at the sensitive locations, however vibration limits have been provided in this section should monitoring be required.

The Vibration monitoring stations should continually log vibration levels using the Peak Particle Velocity parameter (PPV, mm/s) in the X, Y and Z directions, in accordance with BS ISO 4866: 2010: Mechanical vibration and shock – Vibration of fixed structures – Guidelines for the measurement of vibrations and evaluation of their effects on structures.

Vibration Limits

The recommended vibration limits to avoid cosmetic damage to buildings, as set out in:

British Standard BS7385: 1993: Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from ground borne vibration, and;

British Standard BS5228-2: 2009 + A1: 2014: Code of practice for noise and vibration control on construction and open sites – Vibration.

The standards note that minor structural damage can occur at vibration magnitudes which are greater than twice those presented in Table and major damage to a building structure is possible at vibration magnitudes greater than four times the values set out in Table 13.31. Definitions of the damage categories are presented in BS 7385-1:1990.

Vibration PPV at the closest part of sensitive property to the source of vibration		
Frequency		
4 to 15 Hz	*15 to 40Hz*	*40Hz and above*
15 mm/s	*20 mm/s*	*50 mm/s*

Table 13.vii: Transient vibration guide values for cosmetic damage

Note 1: At frequencies below 4 Hz, a maximum displacement of 0.6 mm (zero to peak) is not to be exceeded.
Note 2: It should be noted that these values are at the base of the building.

22.4.8 Traffic and Transportation

Construction and Operational Stage – Mitigation Measures
This assessment concludes that the proposed development will not have a significant effect on the local road network during either the construction or operational phases, or in combination with other developments. A Mobility Management Plan has also been prepared by SYSTRA, and is included as Appendix 14.3.

The aim of the Mobility Management Plan is to minimise un-necessary vehicle trips, and to ensure that HGV deliveries to and from the site are safely and efficiently managed.

SYSTRA has also prepared a Framework CTMP, which forms part of the wider Construction Management Plan, which has been prepared by Donnachadh O'Brien Consulting Engineers (Ref. 2429-DOB-XX-SI-RP-C-0003), provided in **Volume 3, Appendix 7.1** and forms part of the wider EIAR.

This sets out the principles by which construction traffic will be planned for, managed, and monitored, to ensure that any impacts on local communities, vulnerable users and road users, will be minimised as far as possible.

Key mitigation steps include reducing dust emissions through regular watering of exposed areas, controlling vehicle speeds, and conducting air quality monitoring to ensure minimal disruption. Additional protocols address water quality, including runoff controls and secure storage for hazardous materials, to prevent contamination of nearby water sources. Waste management practices will ensure the minimisation, reuse, and recycling of materials, with regular waste audits to track compliance. Emergency response measures are also in place to handle any accidental spills or other environmental incidents promptly.

Decommissioning Stage – Mitigation Measures

As set out in the Decommissioning Plan (please refer to **Volume 3, Appendix 6.1**), a Traffic Management Plan will be developed and submitted prior to the start of any decommissioning activities. The removal of development components from the site will be carried out by a specialist haulier, and the traffic management arrangements will be agreed upon with the competent authority before decommissioning begins.

The key measures are:

- Limiting decommissioning activities to agreed site working hours.
- Ensuring that HGV deliveries to and from the site are planned and managed to ensure that vehicles are expected on site, and do not travel at sensitive times of the day.
- Ensuring that bankspeople are employed at the site entrance, and within the site, to over-see HGV movements.
- Ensuring that HGV companies sign up to a Code of Conduct, and that drivers have an in-date Driver Certificate of Professional Competence (CPC) qualification.
- To ensure that HGVs follow the designated routes from the M8.
- To ensure that all HGVs associated with decommissioning activities are fitted with compliant safety features.
- To ensure that the effects of dust and debris are managed by the covering of loads, employment of dust suppression measures and wheel washing facilities on site, and the regular use of a mechanical road sweeper on construction routes.
- To ensure that adequate signage is in place on the local road network, and within the Lisheen site.
- To ensure that sufficient space is available within the site to accommodate all vehicles, including workers' cars and vans.

Construction Stage – Monitoring Measures
The construction phase will be monitored by the appointed site manager and regular progress reports will be prepared. The manager will ensure the mitigation measures outlined will be implemented and adhered to.
Operation Stage – Monitoring Measures
The site will be staffed at all times during the working day when deliveries are expected. The appointed Site Manager will be responsible for programming and managing deliveries, and ensuring that HGV drivers comply with delivery and safety protocols.
Decommissioning Stage – Monitoring Measures
There is no proposed monitoring during the decommissioning phase

22.4.9 Material Assets - Waste

Construction Stage – Mitigation Measures
The following mitigation measures are recommended for the construction phase of the Proposed Development regarding Waste Management: • Waste materials will be separated at source and will follow the CMP. • Prior to the commencement of the construction phase detailed calculations of the quantities of topsoil, subsoil and greenwaste will be prepared, and soils will be tested to confirm they are clean, inert or non-hazardous. • Beneficial use must be identified for the entirety of the excavated soil from the Proposed Development prior to its production for the excavated soil and stone to be considered as a by-product under Article 27 of the European Communities (Waste Directive) Regulations, 2011. • A suitably competent and fully authorised waste management company will be employed to manage waste arising for the construction phase. The appointed waste contractor must have the relevant authorisations for the collection and transport of waste materials, issued by the National Waste Collection Permit Office (NWCPO). • All waste materials will be transported to an appropriately authorised facility, which must have the relevant authorisations for the acceptance and treatment of the specific waste streams, i.e. a Certificate of Registration (COR) or a Waste Facility Permit (WFP) as granted by a Local Authority, or a Waste/Industrial Emissions Licence as granted by the Environmental Protection Agency • All waste quantities and types will be recorded and quantified, and records will be retained onsite for the duration of the construction phase. These mitigation measures will ensure that the waste arising from the construction phase of the Proposed Development is dealt with in compliance with provisions of the Waste Management Act 1996, as amended, associated Regulations and Litter Pollution Act 1997, and The National Waste Management Plan for a Circular

Economy 2024-2030. The mitigation measures will also ensure optimum levels of waste reduction, reuse, recycling and recovery are achieved and will promote more sustainable consumption of s

The CMP (DOBA, 2024) details further measures for the construction phase as follows:

Source Segregation:

> *Metal, timber, glass and other recyclable material will be segregated and removed off site to a permitted/licensed facility for recycling. Waste stream colour coding and photographs will be used to facilitate segregation. Office and food Waste arising on site will be source separated at least into dry mixed recyclables, biodegradable residual Wastes. Paints, sealants and hazardous chemicals etc. will be stored in secure, bunded locations. All hazardous Waste will be separately stored in appropriate lockable containers prior to removal from site by an appropriate Waste collection holder. Waste bins, containers, skip containers and storage areas will be clearly labelled with Waste types which they shoull contain, including photographs as appropriate. The site will be maintained to prevent litter and regular litter picking will take place throughout the site.*

Material Management:

> *"Just in time" delivery will be used so far as is reasonably practicable to minimise material wastage. Waste generated on site will be removed as soon as practicable following generation for delivery to an authorised Waste facility. The Contractor will ensure that any off-site interim storage facilities for excavated material have the appropriate Waste licences or Waste facility permits in place.*

Refer to the Construction Management Plan (DOBA, 2025) for further information provided in **Volume 3, Appendix 7.1**.

A Construction Management Plan (DOBA, 2025) has been prepared for the Proposed Development which estimates the waste arisings from the construction phase. Table 15-3 provide calculations of the volume of waste predicted from the construction phase.

The Contractor will ensure that waste generation on site is minimised and that waste removed from site for recovery or disposal is reduced where feasible.

The site has been designed so that the cut and fill onsite is balanced to minimise off-site waste / disposal.

Excavated material from the site preparation works is to remain onsite and will be reused in the landscaping and berms at the site. There is no intention of discarding the excavated soil, and it is expected that no further processing of the soils is required in order for it to be reused. It is proposed to import approximately 10,000 m3 of selected structural stone and material for placement under roads and buildings.

Where the removal of waste from the Proposed Development during the construction phase is unavoidable, it will be delivered by the Contractor to licensed Waste facilities which are authorised under the Waste

Management Act 1996, as amended, and which hold the appropriate certificate of registration, Waste facility permit or EPA licence.

Operation Stage – Mitigation Measures

The following mitigation measures are recommended for the operational phase of the Proposed Development regarding Waste Management:

- All incoming feedstock quantities and types will be recorded and quantified, and records will be retained onsite;
- All recyclable materials will be segregated at source to reduce waste contractor costs and ensure maximum diversion of materials from landfill, thus achieving the targets set out in The National Waste Management Plan for a Circular Economy 2024-2030; and
- General waste including day-to-day office waste and municipal waste from staff areas will be segregated and collected by a suitably licenced contractor.

Decommissioning Stage – Mitigation Measures

It is expected that the Construction Environmental Management Plan (CEMP), that was prepared for the Proposed Development and submitted with the original planning application will be adhered to during the decommissioning phase. Waste mitigation measures as outlined within Chapter 15 of the EIAR and in the Construction and Environmental Management Plan are proposed. These include:

- Waste materials will be separated at source and will follow the CEMP;
- A suitably competent and fully authorised waste management company will be employed to manage waste arising for the decommissioning phase. The appointed waste contractor must have the relevant authorisations for the collection and transport of waste materials, issued by the National Waste Collection Permit Office (NWCPO);
- All waste materials will be transported to an appropriately authorised facility, which must have the relevant authorisations for the acceptance and treatment of the specific waste streams, i.e., a Certificate of Registration (COR) or a Waste Facility Permit (WFP) as granted by a Local Authority, or a Waste/Industrial Emission Licence as granted by the Environmental Protection Agency; and
- All waste quantities and types will be recorded and quantified, and records will be retained onsite for the duration of the decommissioning phase.

Construction Stage – Monitoring Measures

Materials and waste generated during the Construction Phase will be carefully monitoring by the Construction Environmental Site Manager, and/or an appointed Waste Officer, to ensure compliance with relevant local authority requirements and effective implementation of the CMP and the CWMP which will be prepared for the Proposed Development, including maintenance of waste documentation.

Operation Stage – Monitoring Measures

During the operational phase, all incoming feedstock quantities and types will be recorded and quantified, and

records will be retained onsite.

No specific monitoring measures are recommended for the Operational Phase of the proposed development, management and residents alike will be responsible for the maintenance of the residential waste bins and storage areas and ensuring they are kept in good condition.

Decommissioning Stage – Monitoring Measures

There is no proposed monitoring during the decommissioning phase

22.4.10 Material Assets – Utilities

Construction Stage – Mitigation Measures

During construction, the appointed contractor will implement precautions to protect known utility infrastructure from damage in accordance with best practice methodologies and the requirements of the utility companies, where practicable. Protection measures will include warning signs and markings indicating the location of utility infrastructure, safe digging techniques near known utilities, and, when possible, isolation of the section of infrastructure during works in the immediate vicinity. Additional methods that will be used to mitigate the risk of damage to existing services will be as outlined below.

- Review the service records of the existing assets to determine their depth, precise location, and their proximity to the planned cable trenches.
- The use of Ground Penetration Radar (GPR), to provide greater confirmation of the locations of existing assets.
- Using trial holes or slit trenches to provide more precise information about the exact location of existing assets.

Surface Water Drainage

In order to mitigate against the potential impacts outlined in the above section, the following measures are proposed for the construction stage of the project:

- Groundwater or run-off that collects in excavations or foundation trenches will be drained or pumped to a construction site water treatment arrangement. The water is to be directed into a settlement basin/tank, with a proprietary 'silt bag' to intercept bulk silt volumes. This process entails sediment laden water being pumped into a filter bag, which traps the solids inside and allows the filtered water to flow freely out through the Geotextile fabric to disperse into the collection point. The proposed collection point shall be a series of silt trap fences and filter drain arrangements, adjacent to the constructed pond which will act as a temporary settling pond during the construction. The water and silt within the pond are to be emptied into water vacuum tanker and is to be disposed of off-site to a licenced facility.
- To mitigate against unwanted silt discharge, Silt traps in the form of silt fences or hay bale structures will be adopted across lengths of the site to intercept runoff and provide a stage of treatment and runoff filtration.

- Runoff filtered through the silt trap fence shall be then intercepted by a temporary filter drain which will run directly parallel to the downstream side of the silt trap fence. The collected, filtered runoff shall discharge to the constructed ponds which shall act as temporary eide maximum treatment of surface water runoff entering the field boundary drain.
- Control and Management of surface water runoff.
- Control and management of shallow groundwater during excavation and dewatering.
- Management and control of soil and materials.
- Appropriate fuel and chemical handling, transport and storage.
- Management of accidental release of contaminants at the site.
- Control and handling of cementitious materials.

Wastewater Drainage

There is no existing wastewater drainage in close proximity to the subject site. Care will be taken in order to ensure no accidental spillage of wastewater during the emptying of welfare facilities.

Water Supply

When working in close proximity to the existing private water supply along the site's southern boundary, particular care will be taken. All existing infrastructure will be clearly marked on the ground, and open trenches will be appropriately fenced to ensure safety and protect the integrity of the water supply.

Open trenches will be backfilled promptly to prevent any infiltration into the subsurface. Full coordination with the Moyne Group Water Scheme's owners will be maintained, and any work affecting the water supply or conducted near it will proceed only with their prior consent and cooperation.

ESC Utility Services

The ESB shall install all of the new incoming supplies to the proposed development unless otherwise agreed in writing. The Contractor shall ensure that construction works on site adhere to the ESB Networks / HSA 'Code of Practice for Avoiding Danger from Underground Services'. If works do require an outage these shall be planned by the Contractor in advance and the ESV shall liaise with customers advising them of the same. Where ay construction activities pass beneath the existing high-voltage overhead cables, suitable fencing, goalposts, and guarding will be installed during construction in accordance with best practice.

Operation Stage – Mitigation Measures

Surface Water Drainage

Surface water runoff from the Project will be managed in accordance with the requirements of the Greater Dublin Strategic Drainage Study (GDSDS), with surface water attenuation and retention are included as part of the main surface water drainage system. The surface water management proposals shall serve to significantly reduce the overall impact of the Project on the existing environment and shall reduce the risk of flooding in the receiving public surface water network. The proposed SuDs strategy shall also provide cleansing of all surface water prior to the discharge to the field boundary drain, increasing the sustainability of the design. The following measures have been applied to ensure adequate usage during the operational phase:

- The Process and Non-Process Area has been designed to remain completely separate,
- Utilise spill kits, bunded pallets, and secondary containment units as necessary.

Wastewater Drainage

The wastewater pump station has been designed with 24-hour emergency storage and a standby pump in the event of failure of the primary pump.

In the event of failure of one of the processing tanks, the bunded area is designed with a temporary storage capacity of 110% of the largest tank within it, whereafter it can be pumped back into the processing feed or temporarily stored in the buffer storage tank.

Water Supply

The only potable water usage during the operational stage will be the office and administration building. The water usage is anticipated to be minimal and no mitigation is required in this instance.

The biomethane process is proposed to re-use harvested water being stored in above-ground depressions. Both of these will be supplied with a standby pump in the event of failure of the primary pumps.

ESB Utility Services

The new network shall be commissioned and subject to a regular operational inspection and maintenance regime, in accordance with the utility providers' procedures and national rules for electrical installations I.S 10101: 2020, to ensure the system keeps operating within the design specifications.

The proposed development will be utilising the ESB National Grid, however, it is noted that the subject site is located in close proximity to various renewable energy sources and it is the client's full intention to rather use these as primary sources of electricity. The subject site has a CHP unit in case of any power outages.

Decommissioning Stage – Mitigation Measures

The following section shall assess the effects of the receiving environment during the Decommissioning phase of the Project.

Surface Water

The surface water for the subject site will remain in a working condition until later in the decommissioning phase, however, care shall be taken at the flow through ponds to ensure that any silt and debris settle or are removed prior to outfalling into the stream. In this instance, settling ponds and silt traps/fences can be used in a similar fashion to that mentioned for the construction works.

The removal of the site drainage will be a phased removal, closely following the removal schedule of the buildings and yards. The phased process will ensure that the areas yet to be demolished will have live drainage and primary filtering prior to outfalling the stream to the south. Once the full site drainage has been removed, the ponds can be filled and levels brought to the original pre-development condition. The site-wide drainage pipes and manholes will be disposed of at a licensed waste facility.

Process Water

The Digestors and storage facilities may contain contaminated matter as part of the AD Processing. It will be the decommissioning contractor's responsibility to ensure that the storage structures are emptied out and raw materials carted off-site and disposed of in a safe and appropriate manner to a licensed waste facility. Similarly, all of the equipment/structures within the bund may contain process material which should be transported in an enclosed tanker to a licensed waste facility prior to the demolition of these structures.

ESB Utility Services

For underground cabling, such as the electricity feed from the grid, the ducting will remain in the ground, however, the cabling within the duct will be removed/pulled by a mechanical winch and be re-rolled to be reused.

Other Utility Services

Prior to any decommissioning and demolition work commencing on-site, all live site services will be disconnected adequately. Any live pressurised mains, such as gas pipework, will be purged in such a manner that the environment is not impacted adversely.

Construction and Operational Stage – Monitoring Measures

Surface Water Drainage

Routine inspections to the on-site drainage features such as the pumps, manholes, silt traps and flow control devices, especially after large storm events. The EPA will be invited for regular inspections as required.

Waste Water Drainage

The Project's facility management shall carry out operational inspection and maintenance regimes to ensure the system keeps operating within the design specifications. Regular inspections and maintenance are to be carried out on the wastewater pump station serving the offices.

Water Supply

The Project's management company shall carry out operational inspection and maintenance regimes to ensure the system keeps operating within the design specifications.

ESB Utility Services

The proposed subject primary energy source will be the ESB Grid or local renewable energy suppliers. However, a standby CHP unit is proposed if the main electricity feed has an outage. The proposed CHP unit will be regularly serviced as required by the manufacturer's guidelines. No additional monitoring will be required in this instance.

Decommissioning Stage – Monitoring Measures

There is no proposed monitoring during the decommissioning phase

22.4.11 Archaeology and Cultural Heritage

Construction Stage – Mitigation Measures
Archaeology All topsoil stripping in the south-western corner of the development area will be subject to archaeological monitoring. If any features of archaeological potential are identified, further mitigation will be required such as preservation in-situ or by record. Any further mitigation will require agreement from the National Monuments Service of the DoHLGH. Cultural Heritage No mitigation is deemed necessary with respect to the construction stage of the proposed project and cultural heritage.
Operation Stage – Mitigation Measures
Archaeology No impacts have been identified and as such no mitigation is required. Cultural Heritage No impacts have been identified and as such no mitigation is required
Decommissioning Stage – Mitigation Measures
There is no proposed mitigation during the decommissioning phase

Construction and Operational Stage – Monitoring Measures
The mitigation measures detailed above would also function as a monitoring system to allow the further assessment of the scale of any predicted impacts and the effectiveness of the mitigation measures.
Decommissioning Stage – Monitoring Measures
There is no proposed monitoring during the decommissioning phase

22.4.12 Landscape and Visual

Construction Stage – Mitigation Measures
There are no specific LVIA mitigation measures proposed during the construction phase for the proposed development. However, site hoarding around the Facility, which has a number of functions including safety and security, will also serve as a visual screen within the former Lisheen Mine Site (the proposed construction works will not likely be visible from surrounding public road).
Operation Stage – Mitigation Measures
No specific LVIA mitigation measures are proposed for the operational phase. However, it is important to note that the design of the proposed development incorporates proactive visual considerations. The LVIA team has

ensured a recessive colour scheme, particularly for the shed sheeting and structures, to reduce visual prominence and integrate the development harmoniously into the surrounding landscape.

Decommissioning Stage – Mitigation Measures

No specific LVIA mitigation measures are proposed for the Decommissioning Phase, as the works will largely involve removal of built structures and reinstatement of the site to a greenfield condition.

However, the Decommissioning Plan (Ref: 2429-DOB-XX-SI-RP-C-0005) sets out environmental management measures to ensure that temporary visual impacts (such as the presence of machinery, stockpiles, or disturbed ground) are minimised (please refer to **Volume 3, Appendix 6.1**). These measures are consistent with those applied during the construction phase, including careful management of temporary works areas and adherence to the Construction Environmental Management Plan (CEMP).

Once the site is reinstated and reseeded, it will gradually blend into the surrounding landscape, removing any long-term visual impacts.

Construction Stage – Monitoring Measures

There is no proposed monitoring during the construction phase.

Operation Stage – Monitoring Measures

There is no proposed monitoring during the operational phase.

Decommissioning Stage – Monitoring Measures

There is no proposed monitoring during the decommissioning phase

22.4.13 Major Accidents and Disasters

Construction Stage – Mitigation Measures

No specific mitigation measure for Construction phase. However, the Applicant will comply with any measures required by the HSA or other relevant authorities.

Operation Stage – Mitigation Measures

A site Major Accident Prevention Policy, including an Emergency Response Plan, will be developed prior to the commencement of operations and will include detailed procedures in the event of a major accident. This plan will follow the framework detailed in Guidance Document 10 of A Framework for Major Emergency Management (DECLG 2015) and will comply with the requirements of the COMAH Regulations.

This plan will contain detailed plans for the response to emergencies such as loss of containment from an Anaerobic Digester, release cylinders of compressed natural gas and severe weather events.

The proposed development has been designed in line with good industry practice, and, as such, mitigation against the risk of major accidents and/or disasters is embedded through the design and in accordance with planning and legislative requirements. As no likely significant effects were identified, no additional mitigation measures are proposed.
Decommissioning Stage – Mitigation Measures
There is no proposed mitigation during the decommissioning phase
Construction Stage – Monitoring Measures
There is no proposed monitoring during the construction phase.
Operation Stage – Monitoring Measures
There is no proposed monitoring during the operational phase.
Decommissioning Stage – Monitoring Measures
There is no proposed monitoring during the decommissioning phase

22.4 Implications for the EIAR

With the clarifications provided above and revisions included to the chapter, there have been no changes made which would fundamentally alter the assessment made in the EIAR, or its conclusions.

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