Volume 1: Non-Technical Summary – Environmental Impact Assessment Report (EIAR)

Ardee 2040 Regeneration Project, Co. Louth

October 2025

Comhairle Contae Lú
Louth County Council

Rialtas na hÉireann
Government of Ireland

Tionscadal Éireann
Project Ireland
2040

Contents

Client
Louth County Council

Our reference
LOUB3003

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1. Introduction

1.1 This document is a non-technical summary (NTS) of the Environmental Impact Assessment Report, prepared to facilitate the dissemination of the information presented in the Environmental Impact Assessment Report (EIAR) to the general public. It shall endeavour, insofar as possible, to present a condensed summary of the Environmental Impact Assessment Report, using non-technical terms, but without omitting or understating any environmental effects of note. This NTS presents, in non-technical language, a summary of:

- The proposed development;
- The purpose and scope of the EIAR;
- The main findings of each chapter of the EIAR; and
- The mitigation and enhancement measures proposed.

1.2 This NTS has been prepared by Turley on behalf of Louth County Council (LCC) in respect of the proposed development in Ardee, County Louth. The EIAR, and associated NTS, will accompany a planning application to An Coimisiún Pleanála under Section 175 of the Planning and Development Act 2000 (as amended) which seeks permission for the proposed development.

Structure of the NTS

1.3 The EIA Directive and its implementing Regulations require that an environmental impact assessment must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of a project on the following factors and the interaction between those factors:

- population and human health;
- biodiversity, and in particular species and habitats protected under Council Directives 92/43/EEC (the Habitats Directive) and 2009/147/EC (the Wild Birds Directive);
- land, soil, water, air and climate;
- material assets, cultural heritage and the landscape.

1.4 The remainder of this NTS considers the above environmental topics in the order outlined in **Table 1.1** below:

Table 1.1: Topics Considered in This Report

Chapter No.	Title
Chapter 1	Introduction

Chapter 2	The EIA Process
Chapter 3	Site and Development Context
Chapter 4	Consideration of Alternatives
Chapter 5	Description of the Proposed Development
Chapter 6	Consultation
Chapter 7	Population & Human Health
Chapter 8	Biodiversity
Chapter 9	Land, Soils & Geology
Chapter 10	Hydrology & Hydrogeology
Chapter 11	Air & Climate
Chapter 12	Noise & Vibration
Chapter 13	Material Assets (Waste)
Chapter 14	Material Assets (Traffic & Transportation)
Chapter 15	Material Assets (Site Services)
Chapter 16	Cultural Heritage and Archaeology)
Chapter 17	Architectural Heritage
Chapter 18	Landscape & Visual Impact
Chapter 19	Interactions
Chapter 20	Cumulative Impacts
Chapter 21	Mitigation Measures

The Environmental Impact Assessment Team

1.5 Turley are the planning consultant and Environmental Impact Assessment coordinator for the proposed development. The Environmental Impact Assessment Report was prepared by Turley, with input from the project design team and various environmental specialists, as listed in **Table 1.2**.

Table 1.2: Environmental Impact Assessment Report Contributors

Company	Name	Qualifications
Turley	Angela Wiggam	• BSc (Hons) Town Planning • Diploma Town Planning • MRTPI
Turley	Lee Hannigan	• MSC Urban & Regional Planning • MIPI • MRTPI

RSK	Conor McKinney	• MSc Ecological Mgt & Conservation Biology
RSK/NM Ecology	Nick Marchant	• MSc in Ecosystem Conservation • Landscape Management • BSc in Environmental Science
RSK	Mark Lang	• BSC Biology, Chartered Ecologist
RSK	Lisa Colleen Mc Clung /	• MSc Environmental Science
RSK	Sven Klinkenbergh	• B.Sc. Environmental Science P.G.Dip. Environmental Protection
RSK	Lisa Colleen Mc Clung	• MSc Environmental Science
RSK	Erin Zhang	• MSc in Environmental Monitoring, Modelling and Reconstruction
RSK	Srinivas Srimath	• MSc Environmental Engineering, Phd Air Quality
RSK	James Mangan	• IOA Diploma in Acoustics and Noise Control
RSK	Ryan Murphy	• MSc Environmental Engineering
Hegsons	Ken Hegarty	• BE Civil & Environmental Engineering • MEng Sc Transport Engineering • MIEI • MCIHT
Nicholas O'Dwyer Ltd	Delecia Reddy	• BTech in Civil Engineering. • National Diploma in Civil Engineering • MIEI
IAC Archaeology	Faith Bailey	• MA Cultural Landscape Management • BA (Hons) Archaeology • MIAI • MCIfA
IAC Archaeology	Jacqui Anderson	• MA Archaeology • BA Archaeology and Classical Studies • MIAI
Mesh Architects	Tom McGimsey	• BA Architecture • MSC Historic Preservation • RIAI (Architecture & conservation)

Park Hood	Andrew Bunbury	• BA Landscape Architecture • DipLA Landscape Architecture • CMLI
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2. The EIA Process

Overview

2.1 Environmental Impact Assessment (EIA) is a process involving a systematic analysis and assessment of the potential effects of a proposed development on the receiving environment. The requirement for Environmental Impact Assessment in the European Union stems from the EIA Directive, which aims to provide a high level of protection to the environment and human health. It requires that projects likely to have significant effects on the environment are subject to Environmental Impact Assessment, as part of the development consent process.

2.2 The Environmental Impact Assessment Report is the principal document upon which the Environmental Impact Assessment is based. It provides a statement of the effects that a proposed development, if carried out, would have on the environment.

2.3 Where required, the Environmental Impact Assessment Report is prepared by a Developer / Applicant for the purposes of a planning application for a proposed development. As part of the planning application, it is submitted to the planning authority (An Coimisiún Pleanála, in this case), who uses the information provided therein to complete the Environmental Impact Assessment. The assessment, in the context of other considerations, informs the decision to grant or refuse planning permission.

Requirement for Environmental Impact Assessment

2.4 Part 1 of Schedule 5 of the *Planning & Development Regulations 2001* (as amended) lists major project classes for the purposes of mandatory EIA, which typically include industrial, chemical, energy, waste, infrastructure and intensive agricultural developments.

2.5 The proposed project **does not fall** within a development category contained in Part 1 of Schedule 5 and therefore a mandatory EIA is not a requirement under this provision.

2.6 Part 2 of Schedule 5 of the *Planning & Development Regulations 2001* (as amended) sets mandatory thresholds for each project category above which EIA is required. Category 10 of Part 2 relates to '*infrastructure projects*' and sub-category 10(b) makes specific reference to residential projects and urban development:

> *'Category 10 - Infrastructure Projects:*
>
> *(b) (i) Construction of more than 500 dwelling units…*
>
> *(b) (iv) Urban development which would involve an area greater than 2 hectares in the case of a business district, 10 hectares in the case of other parts of a built-up area and 20 hectares elsewhere'.*

2.7 It is considered that the proposed development represents '*urban development*' in an area which can be classified as a '*business district*'. Noting this, and that the proposed

red line boundary for the application extends to an area of 6.93 ha, exceeding the 2ha threshold for this type of development and location, the project exceeds the threshold set out in sub-category 10(b)(iv) of Part 2, therefore the requirement for a mandatory EIA is triggered.

EIA Methodology

2.8 In preparing the EIAR the following regulations and guidelines were considered:

- Environmental Protection Agency (EPA) - Guidelines on the information to be contained in Environmental Impact Assessment Reports (2022);
- Department of Housing, Planning and Local Government (DHPLG) - Guidelines for Planning Authorities and An Coimisiún Pleanála on carrying out Environmental Impact Assessment (2018);
- Department of Housing, Planning and Local Government (DHPLG) - Circular letter PL 1/2017 - Advice on Administrative Provisions in Advance of Transposition (2017);
- European Commission (EC) - Environmental Impact Assessment of Projects. Guidance on Scoping (2017);
- European Commission (EC) - Environmental Impact Assessment of Projects. Guidance on the preparation of Environmental Impact Assessment Report (2017);
- Environmental Protection Agency (EPA) - Draft Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (2015);
- European Commission (EC) - Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment (2013); and
- European Commission (EC) - Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (1999).

2.9 In addition to the above listed guidance documents, all EU Directives and national legislation relating to the specialist areas (e.g. Biodiversity, Air and Climate, Noise) have been considered under each relevant environmental aspect. Specific guidance is addressed in the relevant chapters of this EIAR.

2.10 Each chapter of this EIAR assesses the direct, indirect, cumulative, and residual impact of the proposed development for both the construction and operational stage of the proposed development.

2.11 In accordance with the EPA's 2022 Guidelines, the criteria for describing specific effects on the environment are set out in **Table 2.1** below, unless stated otherwise within the respective EIAR chapters.

Table 2.1: Table 2.2: Descriptions of Effects [Source: Table 3.4 of the EPA's 2022 Guidelines]

Criteria	Definition
Quality of Effects	**It is important to inform the non-specialist reader whether an effect is positive, negative or neutral**
Positive Effects	A change which improves the quality of the environment (for example, by increasing species diversity, or improving the reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).
Neutral Effects	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
Negative/Adverse Effects	A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or damaging health or property or by causing nuisance).
Significance of Effects	**Significance' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful (also see Figure 2.4 below).**
Imperceptible	An effect capable of measurement but without significant consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant Effects	An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment.
Profound Effects	An effect which obliterates sensitive characteristics.
Extent and Context of Effects	**Context can affect the perception of significance. It is important to establish if the effect is unique or, perhaps, commonly or increasingly experienced.**
Extent	Describe the size of the area, the number of sites and the proportion of a population affected by an effect.

Context	Describe whether the extent, duration or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)
Probability of Effects	**Descriptions of effects should establish how likely it is that the predicted effects will occur so that the CA can take a view of the balance of risk over advantage when making a decision.**
Likely Effects	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
Unlikely Effects	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
Duration and Frequency of Effects	**'Duration' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful.**
Momentary Effects	Effects lasting from seconds to minutes.
Brief Effects	Effects lasting less than a day.
Temporary Effects	Effects lasting less than a year.
Short-term Effects	Effects lasting one to seven years.
Medium-term Effects	Effects lasting seven to fifteen years.
Long-term Effects	Effects lasting fifteen to sixty years.
Permanent Effects	Effects lasting over sixty years.
Reversible Effects	Effects that can be undone, for example through remediation or restoration.
Frequency of Effects	Describe how often the effect will occur (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually).
Types of Effects	
Indirect Effects (a.k.a. Secondary or Off-site Effects)	Effects on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
Cumulative Effects	The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects.
'Do-nothing Effects'	The environment as it would be in the future should the subject project not be carried out.
'Worst-case' Effects	The effects arising from a project in the case where mitigation measures substantially fail.

Indeterminable Effects	When the full consequences of a change in the environment cannot be described.
Irreversible Effects	When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.
Residual Effects	The degree of environmental change that will occur after the proposed mitigation measures have taken effect.
Synergistic Effects	Where the resultant effect is of greater significance than the sum of its constituents (e.g. combination of SOx and NOx to produce smog).

3. Site and Development Context

Site Description

3.1 The application site extends across multiple sites/land uses in Ardee. To assist in describing the existing site context/uses and the proposed development, the overall development is split into the following main Character Areas (see **Figure 3.1** below):

- Character Area 1 – Main Street (including Ash Walk);
- Character Area 2 – Old Railway Lands;
- Character Area 3 – Amenity Lands; and
- Character Area 4 –Woodland Walk.

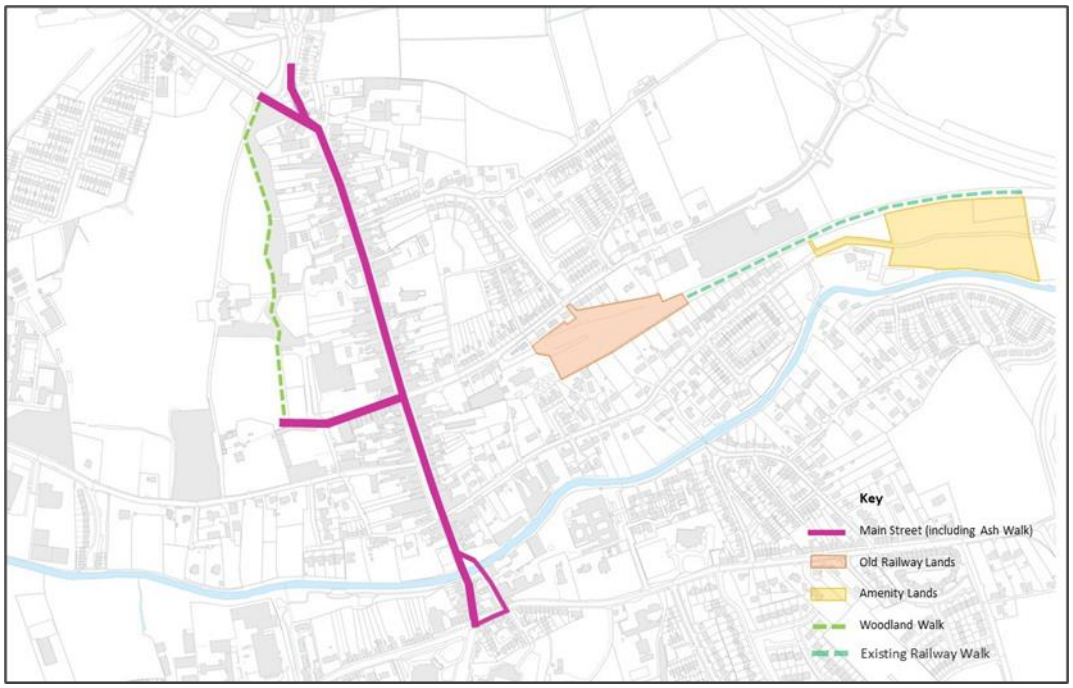

Figure 3.1: Project Character Areas

Character Area 1 – Main Street (including Ash Walk)

3.2 The site extends from the N2 / N52 roundabout in the north of Ardee and extends south along Main Street as far as the junction of the N2 and R170 roads. The opportunity area includes a portion of Golf Links Road to the north west of Main Street and the public road/existing footpath and public realm areas within Ash Walk.

3.3 The entire public area within Main Street, including the public road and existing footpath/areas of public realm, are within the site boundary. These areas are currently finished in either concrete paving or tarmac.

3.4 There are limited areas of existing soft landscaping along Main Street, with a number of mature trees positioned along the public footpath. None of the buildings along Main

Street are located within the site boundary. The site boundary extends as far as Bridge Street to the south.

Character Area 2 – Old Railway Lands

3.5 This portion of the site is located on lands to the south of 4 no. dwellings on Sean O'Carroll Street (Eircode's[1] A92 W684, A92 ND36, A92 V260 & A92 A6P2) and No's 1 – 5 Cappocks Green, east of Mid-Louth Garage (the Old Railway Station) and north of No's 1 – 5 The Avenue and dwellings located on Tierney Street, Ardee.

3.6 Character Area 2 links to Character Area 3 via the existing pedestrian walkway on the former railway lands to the south of Ardee Enterprise Centre at Cappocks Green and links to Character Area 4 via the existing pedestrian route from the south of the site to Tierney Street.

3.7 The boundaries of the site are defined by existing fences and walls. The site is currently unmaintained grassland with semi-mature trees located sporadically throughout the space. The remains of the former railway platform are visible in the western portion of the site.

3.8 A pedestrian walkway traverses the site from Sean O'Carroll Street in the north before exiting the site via the route of the old railway line to the east of the site. A second pedestrian access is located to the south east linking the site to Tierney Street.

3.9 An informal gravel roadway runs in a west to east direction linking the vehicular access at Mid-Louth Garage in the west to the existing pedestrian walkway in the east of the site. Vehicular access to the site is available from Sean O'Carroll Street via Mid-Louth Garage and the existing access to the north of the site.

3.10 Character Area 2 is linked to Character Area 3 via an existing pedestrian footpath along the former railway line.

Character Area 3 – Amenity Lands

3.11 This portion of the site is located to the east of Greenvale House, Old Dawsons Demesne (Eircode A92 RH76), to the west of Ardee Wastewater Treatment Works and north of the River Dee.

3.12 The western boundary of the site is defined by a post and wire fence and existing hedge / mature trees. The southern boundary of the site follows the alignment of the River Dee. The south east boundary of the site is currently undefined by an existing physical boundary whilst the north east boundary is marked by the security fencing enclosing Ardee Wastewater Treatment Works. The northern boundary is marked by a row of existing mature trees.

3.13 The majority of the site is unmaintained grassland. The north eastern corner of the site is currently used for the storage of building materials by Louth County Council. The boundary of this storage area is defined by a fence. A roadway traverses the centre of

[1] Eircode Finder website (https://finder.eircode.ie)

the site in a west to east direction linking Tierney Street to the Ardee Wastewater Treatment Plant.

3.14 The immediate area is characterised by a mixture of land uses. To the north is a pedestrian walkway following the route of the former railway line, and beyond this is agricultural land. To the east of the site is Ardee Wastewater Treatment Works. To the south of the site is the River Dee and beyond this agricultural land. To the west of the site is a private dwelling set within a large mature plot and beyond this a medium density residential area.

Character Area 4 - Woodland Walk

3.15 The Woodland Walk site travels in a north to south direction in the west of the town linking Ash Walk to Golf Links Road. The proposed route begins directly to the west of the existing Supervalu overflow car park and travels north through agricultural land towards the wooded area surrounding St. Joseph's Hospital. The proposed route follows the alignment of an established path through the wooded area and connects to Golf Link Road in the north. This portion of the proposed route is currently used as agricultural land and incorporates an existing path through the wooded area.

Development Context

3.16 Chapter 3 also provides details on matters relevant to the assessment of the development (i.e. transport and movement, heritage, landscape, urban form etc.) and provides details on relevant planning applications outside of the site boundary, but within the immediate vicinity of the application site. Chapter 3 confirms that no relevant applications were identified within the boundary of the application site.

3.17 We consider that these applications will not have a direct impact on the proposed development, however they have been considered as part of the design concept evolution to ensure that the Ardee 2040 Regeneration Project maximises the potential to link existing and future residential and community infrastructure, where possible.

4. Consideration of Alternatives

4.1 In accordance with Part 1(d) of Schedule 6 of the Planning and Development Regulations 2001, this Chapter of the Environmental Impact Assessment Report provides a "*A description of the reasonable alternatives studied by the person or persons who prepared the [Environmental Impact Assessment Report], which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment*".

4.2 As per the Environmental Protection Agency's 2022 Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, the alternatives are discussed under headings as follows:

- Do Nothing Alternative
- Alternative Location
- Alternative Project Design / Layout
- Alternative Processes
- Alternative Mitigation Measures

'Do-Nothing' Alternative

4.3 The 'Do-Nothing' alternative considers the likely scenario that would arise, assuming the proposed development was not progressed, i.e. if nothing were done. The likely impacts of a Do-Nothing scenario in relation to the various environmental topics (e.g. cultural heritage, biodiversity, traffic and so on) are discussed in the respective chapters of this EIAR. In this case, the Do-Nothing scenario might entail:

(a) A continuation of the existing condition and use of the subject lands (i.e. predominantly agricultural land, waste ground and former golf course lands); or

(b) Development (likely to be similar in nature to the current proposal) of an alternative proposal and related planning application at some point in the future.

4.4 If the development was not constructed (i.e., scenario A above), then it could represent a significant loss of potential funding for the regeneration of Ardee, to upgrade public realm spaces, install traffic calming measures and community infrastructure. This would not maximise the development potential of the land and maintain a negative impact on the wider community.

4.5 We consider that Scenario B is the more likely alternative. If this development were not to come forward at this stage it is likely that LCC would propose a similar development under a separate proposal. This course of action is considered to be likely where LCC owns the majority of the application site and on the basis that policy objectives of the

Louth County Development Plan 2021 – 2027 aspire to deliver sustainable community infrastructure to meet the needs of the entire population.

Alternative Locations

4.6 The overall objective of this regeneration project is to transform Ardee Town from a traditional manufacturing centre to a 21st century prosperous and thriving local multifunctional, innovative centre in an integrated and sustainable way. The proposed development is located in four Key Character Areas within Ardee. These areas have been chosen due to the potential of these areas to link to/complement a number of existing projects at differing stages of development in the town. On this basis, consideration of alternative locations is not relevant in this instance.

Alternative Design Approach (Layout and Design)

4.7 An extensive Masterplanning process was undertaken to establish the optimal redevelopment principles and proposals for the lands. This masterplanning process included an extensive review of the site and the wider area by an integrated design team, including a roads engineer, architect, urban designer, civil engineer, conservation architect, planner and ecologist, to identify potential physical, social and planning constraints for the project.

4.8 Following this, the Design Team developed 3 no. design options for the Main Street/Ash Walk, Old Railway Lands and Amenity Lands Key Character Areas. No alternative options were developed for the route of the Woodland walk (Character Area 4) as the proposal includes improvement works to an existing footpath.

4.9 As part of the concept development stage of the project 3 no. alternative design options were developed for each character area. The following provides detail on the alternative design approaches and the reasons as to why they were discounted as the preferred option for the final development.

Character Area 1 – Main Street (Including Ash Walk)

Alternative Option 1

4.10 Alternative Option 1 for the Main Street is a vision for pedestrian comfort. The design characteristics of this option are as follows:

- Asymmetric Road Scape designed to slow down vehicular speed;
- 7 no. different quarters designated along Main Street defined through the changing road design;
- Change of pavement material of the road at three main Quarters; Heritage, Town Square & Culture to identify their individual characteristics;
- Improving pedestrian and bicycle comfort;
- The road is designed to reduce vehicular speed;

- East/West connectivity from the new school in the west to the recreation area in the east is provided for in the vision; and

- A green gateway is proposed to the north and south of Main Street.

4.11 This design option was discounted as, whilst it encouraged a reduction in vehicular speed, it was decided that it didn't go far enough to improve the public realm and encourage alternative modes of sustainable transport.

4.12 The following details the design characteristics of the alternative option for the Ash Walk Area:

- The proposed concept was for a 'Town Square Extension' to the Main Street to provide a multifunctional space for events;

- Pavilions were proposed for commercial use which would help to define the street scape along Ash Walk and extend the town centre towards the new Aldi site and school to the west.

- Possible re-invention of the old Super Valu store fronting onto Main Street for further commercial uses, while creating a pedestrian link from the Main Street to Ash Walk.

4.13 A large portion of the proposed concept concentrated on the re-development of the existing Super Valu car park for alternative uses in the evenings/weekend. Further to engagement with the landowner it has been confirmed that redevelopment of their car park, for use as a shared space on occasions, would have a detrimental impact on the viability of their business and therefore this proposal was discounted as an alternative option.

Alternative Option 2

4.14 Alternative Option 2 for the Main street is a vision for an improved pedestrian environment. The following details the design characteristics of the alternative option for the Main street Area:

- This option includes a partly asymmetric road scape, with the majority of the road alignment remaining as per the existing road;

- The proposed road would be finished in tarmac throughout all 7 no. Quarters, with no shared surface spaces; and

- This option will marginally improve pedestrian and cyclist experience along Main Street.

4.15 This design option was discounted as it was decided that it didn't go far enough to improve the public realm and encourage alternative modes of sustainable transport, therefore the option would not deliver on the vision or objectives of the project.

4.16 The following details the design characteristics of the alternative option for the Ash Walk Area:

- Redevelopment of the Super Valu car park as a multifunctional space which can be used for events, culture, markets etc on special occasions;

- Parking remains as the primary function of the space; and

- New landscaping will announce the entrance to Super Valu.

4.17 Further to engagement with the landowner it has been confirmed that redevelopment of their car park to use this as a shared space on special occasions would have a detrimental impact on the viability of their business and therefore this proposal was discounted as an alternative option.

Character Area 2 – Old Railway Lands

Alternative Option 1

4.18 Alternative Option 1 is for an event space with temporary/moveable café and nature based play structures. This option includes an extension of the ecological corridor of the existing railway walk.

4.19 Whilst aspects of the option were considered to be appropriate for this site i.e. temporary/moveable café and nature based play structures, it was decided that this was not the preferred location for a performance space in Ardee due to the potential noise impacts on the adjacent residential properties. Further to this there is no car parking in close proximity to this location that could be used to accommodate traffic associated with an event. For this reason, Alternative Option 1 was discounted.

Alternative Option 2

4.20 Alternative Option 2 proposed a neighbourhood park with formal landscaping and small commercial units/workshops. A review of Louth County Council Development Plan 2021 – 2027 indicated that a commercial use was not a generally acceptable land use on a site zoned for Open Space. Louth County Council also advised that in its opinion this was not a viable location to locate small business units, with their preference being that commercial uses be retained within the town centre boundary. For these reasons, Alternative Option 2 was discounted.

Character Area 3 – Amenity Lands

Alternative Option 1

4.21 Alternative Option 1 is to develop a BMX / cycle track and cross-country running track and associated landscaping on this site. This alternative was discounted as the non-statutory community consultation process carried out as part of the design process did not identify a sufficient level of need or support for the redevelopment of this site for a BMX / cycle track.

Alternative Option 2

4.22 Alternative Option 2 was for the development of an open parkland with structured tree planting, cycle friendly pathways and sub-space recreation e.g., boules / yoga / outdoor fitness. This option was discounted as a viable alternative option for redevelopment of the Amenity Lands site as it didn't maximise the use/community benefit of a key Council owned site within the settlement boundary of Ardee.

Character Area 4 – Woodland Walk

4.23 No alternative design options were developed for the route of the Woodland Walk as the proposal includes improvement works to an existing path.

Alternative Processes

4.24 The EPA document 'Guidelines on the information to be contained in Environmental Impact Assessment Reports' states that "*Within each design solution there can be several different options as to how the processes or activities of the project can be carried out*".

4.25 Given the nature of the scheme (i.e. public realm works / realignment of road / community infrastructure and parks), it is not envisaged that there are any alternative processes that could have been followed in respect of the assessment of environmental impact.

4.26 It is therefore concluded that the consideration of an alternative process is not considered relevant to this EIAR.

Alternative Mitigation Measures

4.27 The mitigation measures which are outlined in the various chapters of the EIAR are considered appropriate to the location, nature and extent of the project and its potential impacts (see Chapter 21). As such, no alterative mitigation measures were considered.

Conclusion

4.28 Having examined various reasonable alternative designs for each Character Area it is considered that the proposed development is the preferred option in terms of the sustainable development of the subject site.

5. Description of the Proposed Development

Introduction

5.1 This Chapter, in accordance with Article 5(1)(a) of the EIA Directive, provides: "…*information on the site, design, size and other relevant features of the project*".

5.2 The assessment provided in the following Chapters, undertaken by a specialist team of consultants, is underpinned by the description of the project as set out below.

Overall Project Vision

5.3 Towns are constantly reassessing themselves, searching for new ways to address local and regional challenges to be thriving, attractive and prosperous centres. In-line with the National Planning Framework and the Regional Economic and Spatial Strategy, there is a need to provide Ardee with the strategic direction required to ensure it grows and performs as a Local Service Centre.

5.4 The Ardee 2040 Regeneration Project brings forward a vision for urban regeneration and development of the town with the following objectives at the forefront:

- Ensuring inclusivity for all members of the community; the very young, the youth, the old, the mobility impaired, those that are socially disadvantaged, the pedestrian and cyclist.
- Developing projects which aspire to embody the design principles established as national and international best practice.
- Promoting an environment which leads to daytime and night-time activities.
- Improving connectivity and legibility for all members of the community and for visitors/tourists to the town.
- Creating quality gateways, public spaces, recreational areas, sporting areas and public realm.
- Capitalising upon, whilst sensitively respecting the rich heritage of the town centre.
- Operating / employing sustainable development principles through minimising energy consumption and maximising the use of renewable energy technology.

Detailed Description of the Development

5.5 The scheme is defined in the statutory notice as follows:

1) Public realm improvement works at Ardee Main Street (N2) and surrounding streets as listed above (in the townland of Townparks) comprising: new hard landscaping including resurfacing; soft landscaping including new tree

planting; street furniture; new pedestrian connections and footpaths; Sustainable Urban Drainage System (SUDS); new cycle parking; tactile paving; and undergrounding of services.

2) Road improvement works at Ardee Main Street (N2) and surrounding streets as listed above (in the townland of Townparks) to include: alteration of road alignment; realignment of Golf Links Road / N2 junction; raised junctions; resurfacing; shared surface treatments; revised access arrangements; pedestrian crossing points; reduction and rationalisation of the layout / orientation of existing on-street public car parking provision; installation of electric vehicle charging points; new bus stop shelters; road signs; and new public lighting.

3) Resurfacing of Bridge Street Bridge (NIAH Reg. No. 13823008 / Protected Structure Ref: LHS017/056) at Bridge Street.

4) Construction of a new segregated cycle lanes at Main Street (N2) (in the townland of Townparks), Ardee provided as dedicated one-way and two-way bi-directional cycle lanes and associated cycle parking stands.

5) Alterations to the existing car parking layout at Ardee Library off Ardee Main Street (N2) (in the townland of Townparks) to create in part a public plaza including retention of Sir Frederick Foster Memorial Fountain scheduled monument (NIAH Reg No. 13823042 / Protected Structure Ref: LHS017/070) and realignment of existing access road to Foster Close.

6) Extension of Ash Walk Road (extending approx. 60m to the west and upgrades to existing junction to the Supervalu car park / services access off Ash Walk Road.

7) Development of a woodland walk within St. Joseph's Hospital Grounds (in the townland of Townparks) including: resurfacing of existing informal path within St. Joseph's Hospital grounds (Protected Structure Ref: LHS017/035); a new footpath on agricultural land linking St. Joseph's Hospital grounds to Ash Walk and Golf Links Road; resurfacing of existing footpath linking St. Joseph's Hospital grounds to the rear of Ardee Day Care Centre to create new pedestrian access point onto Ardee Main Street; and new soft landscaping, boundary treatments, bollards and signage.

8) Construction of a new community park at lands known as the Old Railway Lands off O'Carroll Street (in the townlands of Dawsons Demesne / Cappocksgreen) including: hard and soft landscape areas; community garden; equipped children's play space; pedestrian footpaths and kerbing; storage container; proposed boundary treatments; street furniture; public lighting; Sustainable Urban Drainage System (SUDS); heritage enhancement including demarcation of former location of Ardee Town Wall with engraved natural stone paving; new signage; construction of a new vehicle / pedestrian access and associated gate piers to O'Carroll Street and associated works; and provision of car parking and circulation space within community park.

9) Retention of existing railway heritage infrastructure off O'Carroll Street (in the townland of Dawsons Demesne) to provide a public amenity space.

10) Construction of a community sports and recreation facility and single storey sports pavilion building (7m high) on lands off Tierney St. (in the townland of Cappocksgreen) to include: a 200m all-weather running track; bowling green and associated flood lighting and boundary treatments; hard and soft landscape areas; Sustainable Urban Drainage System (SUDS); new pedestrian access points to existing old railway walk retaining pedestrian linkage to Old Railway Lands; provision of new car parking; new public lighting; street furniture; and signage;

11) All associated site works including: drainage; undergrounding of services; and all other associated ancillary development works.

5.6 The following provides a detailed description of the proposed uses and development proposed for each character area of the application site.

Character Area 1 - Main Street Area (including Ash Walk)

Proposed Development

5.7 The extent and nature of the proposed development is intended to reflect the importance of a balanced approach to the town's further development. Ardee is a commercial centre and therefore it is essential that links to surrounding towns and counties, as well as to the country as a whole, are retained.

5.8 The proposals are rooted in the urban fabric of the town. They include components for strengthening the town's infrastructure, by improving the accessibility of existing pavements and celebrating the town's cultural strengths through high-quality public realm additions, with an emphasis on the Library square and Ardee Castle areas of the Main Street.

5.9 The development in the Main Street / Ash Walk area comprises of:

- The realignment of the existing carriageway including areas of road narrowing and the introduction of Shared Surfaces;
- Realignment of the Golf Links Road and Main Street junction to rationalise the junction and improve road safety;
- Development of an on-road two lane cycle path;
- Alterations to the existing on-street car parking provision to increase the area of hard and soft landscaped public realm spaces available to the public;
- Alterations to the Ash Walk / Main Street / O'Carroll Street junction;
- A new pedestrian crossing on Castle Street outside of Ardee Castle;

- Extension of Ash Walk to connect to the new link road previously approved under Part 8 planning permission; and

- Public realm upgrade works to Main Street / Ash Walk to include the resurfacing of existing footpaths, new public realm areas outside of Ardee Library and Ardee Castle, new soft landscape areas and trees, new street lighting and street furniture.

Materials

5.10 It is proposed that the existing paving is replaced with a high-quality paving, including stone slabs and bonded gravel of various tone and colour, which reflects the character of prominent historical buildings along Main Street including Ardee Castle, Hatches Castle and St. Marys Church. The proposal will include a durable material palette using local stone where possible.

5.11 The choice of materials can contribute to the project's sustainable credentials and be a strong element of its identity. Choosing a local stone, if it is available economically, is an obvious starting point, but several types of surface will generally be required, including asphalted carriageways for vehicles. The extent and nature of the finishes will need to be carefully balanced against budgetary constraints.

5.12 A variety of public seating areas are located at key positions along Main Street to provide a place for the community to sit and socialise or provide a place to rest. Cycle stands will also be located along Main Street to encourage the use of bicycles.

Landscape Strategy

5.13 The Main Street area will incorporate a mixture of evergreen tree species including Pinus sylvestris and Pinus nigra (Tree Planting Typology 1) (see **Figure 5.2**) and flowering tree species including Prunus avium 'Plena', Betula pubescens and Amelanchier canadensis (Tree Planting Typology 2) (see **Figure 5.3**). This approach has been proposed to identify the various quarters proposed throughout the Main Street area and provide a level of greenery throughout the year.

Figure 5.1: Tree Planting Typology 1 – Evergreen Species Trees

Figure 5.2: Tree Planting Typology 2 – Flower Species Tree

Car Parking

5.14 The Main Street is the primary route for traffic moving in a north-south direction through Ardee. The road is a single carriageway, two-way road with footpath provided on both side of the road along its full length. The carriageway is quite wide at various locations along the Main Street. A high level of car parking is experienced along the Main Street and a lot of the parking is in an irregular pattern, with combinations of parallel, saw-tooth and perpendicular parking along the street.

5.15 The proposed development will result in the net loss of 135 No. on-street car parking spaces. The loss in parking spaces is due to a significant gain in the provision of walking (wider footpaths), cycling infrastructure (cycle facilities and parking) and the creation of new urban civic spaces, streets, road junctions, pedestrian pavements, steps and cycle routes.

5.16 The proposed development will result in the next loss of 36 No. off-street car parking spaces. The loss in parking spaces is due to a significant gain in new urban civic spaces through the alterations to the existing car parking layout outside Ardee Library, to create a public plaza, and the redevelopment of Bridge Street car park to create a public landscaped park.

Drainage Infrastructure

5.17 The proposed development includes new gullies and drainage infrastructure which will connect to the existing sewers along Main Street and Ash Walk.

Character Area 2 - Old Railway Lands

Proposed development

5.18 The Old Railway Lands are located in a strategic position in Ardee and will create an attractive parkland link from the Amenity Lands to the centre of Ardee via the existing railway footpath and Sean O'Carroll Street. The proposals for the development of the Old Railway Lands provide for a lively and active public open space with accessible routes which will help to enhance and improve the existing connectivity between different areas of Ardee and create a space where friends can gather (**Figure 5.3**).

5.19 The following principles and elements underlie the landscape strategy for this space:

- Universal access from O'Carroll Street in the north to Tierney Street in the south and the Railway Walk in the east.
- Remnant railway infrastructure should inform the spatial layout of the sub-spaces within the lands.
- Innovative and creative play area for children.
- Facilitate events in a flexible space.
- Interpretive and interactive elements.
- Allotment gardens to encourage gardening, community interaction, and develop a GYO (Grow Your Own) ethos.
- Seating and picnic areas designed for all age groups and abilities.
- Use of planting to define areas and spaces with a greater proportion of native plant species.
- Celebrate the presence of Ardee's old town wall.
- Entrance thresholds to be denoted using thoughtful design and carefully curated materials.
- Retention of existing ground levels.

5.20 The following provides a detailed description of the proposed works in this Character Area:

- Redevelopment of the site to develop a community park including hard and soft landscaped area, allotments, equipped children's play park, kiosk style storage container and boundary fences.

- Retention of the remnant railway infrastructure to create a raised platform / seating area.

- Construction of new public realm comprising new surfaces, kerbing, street furniture, feature lighting and signage.

- Construction of a new vehicle drop-off / short stay area associated with the proposed allotments.

- Retention and refurbishment of the existing pillars at the O'Carroll Street access.

Figure 5.3: Extract from Proposed Site Layout Plan

Materials

5.21 A mixture of hard landscaped areas is proposed within the site. A key part of the design is to provide a flexible open space, which creates connectivity in an east to west direction within the park. This space will use a variety of materials including a self-binding aggregate and timber decking to create areas where people can sit and relax. Footpaths within the site will be finished in a mixture of Macadam and decorative concrete finishes.

5.22 Soft landscaped areas within the site will be a mixture of open lawn, meadow, native forestry planting, proposed ground cover planting and allotments.

5.23 A natural play area utilising timber play equipment has been proposed to the south west corner of the site. This space will be finished in an impact absorbing play safety surface.

Access Arrangements

5.24 The existing vehicular access to Sean O'Carroll Street will be retained and refurbished as part of the proposed development. This access will include a removable bollard to control access times to the park for users of the allotments to drop off materials etc.

Car Parking Strategy

5.25 An informal drop off area for allotment users / maintenance vehicles has been proposed in this area. Due to the site's close proximity to the town centre, and the car parking provided in Character Area 3 – Amenity Lands, no permanent car parking is to be provided in this area.

Drainage Infrastructure

5.26 An existing combined sewer traverses the north boundary of the site in a west to east direction. This sewer will be retained in its current position and no permanent structures are proposed above this sewer. No other new drainage is proposed in this area.

Character Area 3 - Amenity Lands

5.27 The Amenity Lands site is currently an underutilised grassland area to the east of the town. Through consultation with the local community, sports groups and the wider public a vision for this space has been created which will establish a new sports hub in the town, delivering a mixture of formal and informal facilities and recreational activities that will link seamlessly to the town centre via the proposed greenway and Old Railway Lands park.

5.28 The proposals for the development of the Amenity Lands are intended to integrate the proposed development with the surrounding context and generate a newly accessible public open space with recreation facilities along the River Dee (see **Figure 5.4**). The following principles and elements underpin the landscape strategy for this space:

- Facilitate an integrated access from Tierney Street to the Railway Walk.
- Installation of a grass athletics running track with additional athletics spaces such as a long jump.
- Innovative and creative play/rest areas for all ages.
- Installation of grass bowling green with universal access to pavilion building.
- Facilitate river access for walkers and cyclists.
- Comfortable and high-quality seating and viewing areas.
- Provide opportunities for education and observation of wildlife.
- Use of planting to define areas and spaces.
- Increased quantum of native plant species creating ecological connectivity between river and Railway Walk.
- Flood resistant materials.

- Multi-use pavilion building with universal access.
- Generous cycle parking, SuDS friendly car-parking.

5.29 The following provides a detailed description of the proposed works in this Character Area:

- Redevelopment of the site to create a community park and sports hub to include 200m grass running track and associated flood lighting, bowling green and boundary fence, hard and soft landscaped areas and drainage swale.
- Construction of new public realm comprising new surfaces/footpaths, kerbing, street furniture, feature lighting, signage and new site boundary fencing.
- Construction of a single storey sports pavilion building.
- Construction of a new access road, public car parking parallel / perpendicular to the carriageway and a designated off road car park.

Figure 5.4: Extract from Proposed Site Layout for Amenity Lands

Proposed Building Design

5.30 The Pavilion Building will be the centre piece of the Amenity Lands vision. Taking inspiration from its agricultural location, we propose to use the traditionally rural form of a barn and its simplistic pitched gable end as a starting point.

5.31 Simplification of the basic form allows for a contemporary interpretation of the barn vernacular. Removing mass from the form enables a covered external space to be created within the volume. Using timber frame construction methods and sustainable materials for cladding and insulation enables a fast and cost-effective construction method.

Materials

5.32 The following summarises the materials proposed for this portion of the site:

- **Road & Car Parking** – it is proposed that the road is finished in permeable asphalt with car parking spaces finished in a mixture of permeable paving and grass crete.

- **Hard Landscaped Areas** – it is proposed that the hard surfaced areas, including footpaths and plazas are finished in Macadam surfacing and feature stone paving.

- **Soft Landscaped Areas** – the proposal includes a mixture of soft landscaped areas including open maintained lawn, managed meadow, low level ground cover planting and native forestry whip planting.

Access Arrangements

5.33 The existing access from Tierney Street to the site will be upgraded to serve the proposed development.

Car Parking Strategy

5.34 A total of 19 No. formal parking spaces, including 9 No. Electric Vehicle parking spaces and 4 No. disabled car parking space are proposed within the site. A total of 26 No. overflow car parking spaces are also provided on site. The area identified for the overflow parking will be constructed as a grasscrete area and would only be used in periods of high demand or when an event is scheduled for the amenity lands.

Drainage Infrastructure

5.35 The layout will incorporate SUDS in the form of open swales. The swales have been scaled to ensure that they provide adequate capacity to serve the hard landscaped areas of the proposed development. Foul drainage for the proposed building will connect to the existing foul sewer which traverses the site.

Character Area 4 - Woodland Walk

Proposed Development

5.36 The proposed development will resurface the existing woodland walk traversing the woodlands to the east of St. Joseph's Hospital and will include an extension of this route to link to the new road extension proposed to Ash Walk.

Materials

5.37 The proposed path will use a cellular confinement system specifically designed for tree root protection. The system creates a stable, load bearing surface for traffic or footfall whilst eliminating damage to roots through compaction and desiccation of the soil. This approach will ensure that the existing trees are not impacted by the proposed development.

Access Arrangements

5.38 There will be no vehicular access to this portion of the site. Pedestrian access will be available from Golf Links Road and Ash Walk. Signage will be located to notify pedestrians of how to access the walk.

Drainage Infrastructure

5.39 There are no drainage proposals planned for this portion of the site.

6. Consultation

Introduction

6.1 This Chapter describes the consultation process in respect of the proposed project. Statutory consultation prior to submission of the planning application is not required under Section 175, however the EIA Directive places emphasis on effective public participation in decision-making procedures for projects that require EIA. On this basis we have carried out extensive non-statutory community consultation. This process has been described in detail below.

Non-Statutory Consultation

Public Consultation

6.2 In June and July 2021, Louth County Council undertook preliminary engagement and consultation for the preparation of a masterplan for the regeneration of Ardee.

6.3 As part of the design development, key stakeholders and members of the community have been engaged to assess the needs and aspirations of the local community. This exercise also provided an opportunity for those parties engaged to provide feedback on the proposed design principles and mixed-use ambition for the sites.

6.4 The stakeholder engagement was carried out during the public health crisis, and varying levels of restrictions applied at different stages of engagement, which may have influenced both the number and type of responses received. The survey was live during the circuit breaker lockdown, during which time the general public were advised to stay at home and limit their contact with people outside of their household 'bubble'. The public information webinars took place shortly after restrictions were eased, when the general public could meet with other households when outdoors.

6.5 An online consultation survey was carried and received a total of 541 submissions (equivalent to c.11% of the population of Ardee town as per the last census). The survey was hosted online at www.ardee2040.ie and was live for a two weeks from 21st June to 5th July 2021. The survey sought to gather participant feedback on potential uses for the four key character areas, in relation to the existing key features in the area and commence a co-design process on the draft design principles on draft design principles. Chapter 6 of the Volume II of the EIAR includes a summary pf what features that people would like to see introduced to Ardee Town.

Statutory Consultation

6.6 This planning application is being submitted directly to An Coimisiún Pleanála for its consideration. As part of this planning application process, further consultation will take place, comprising:

- Placing of a public notice in a local newspaper;
- Placing a copy of the application and all accompanying documents on display in the Council's local offices and website; and

- Issuing details of the planning application and a copy of the EIA Report to the Department of Department of Housing, Local Government and Heritage's EIA Portal.

6.7 Pursuant to Section 175(4)(b) of the Planning and Development Act, 2000 (as amended), the following authorities have also been directly notified in respect of this planning application:

- Irish Water; Minister for Tourism, Culture, Arts, Gaeltacht, Sport and Media;
- Heritage Council;
- An Taisce;
- An Comhairle Ealaíon;
- Fáilte Ireland;
- National Transport Authority; and
- Transport Infrastructure Ireland.

6.8 Any submissions arising from the consultation and notification process will be submitted directly to An Coimisiún Pleanála and considered as part of the decision-making process.

Transport for Ireland Departure Consenting Process

6.9 The N2 National Road traverses the Main Street Character Area in a north / south direction. As the application is proposing alterations to the design of a national road we were required to secure TII permission for the proposed design through their Departures process prior to submitting this planning application.

6.10 Departure no. 36213 – Ardee 2040 Regeneration Project was accepted by TII on the 15th April 2025 under acceptance number 18634. 1 no. condition advises that "The submission of a Design Report in accordance with DN-GEO-03030 - Design Phase Procedure for Road Safety Improvement Schemes, Urban Renewal Schemes and Local Improvement Schemes for the N2 Ardee 2040 Regeneration Project is noted". This confirms that a Preliminary Design Report and Quality Audit accompanied the departure submission. Acceptance of the departure application confirms that TII are content that the design amendments to the national road are acceptable in principle from their perspective.

7. Population & Human Health

7.1 This chapter of the Environmental Impact Assessment Report has been prepared by Turley and assesses the impacts of the proposed development in relation to population and human health. It has been prepared with regard to the relevant legislation and guidelines, including those from the Environmental Protection Agency and the Institute of Environmental management and Assessment.

Study Area

7.2 In order to assess the likely significant impacts of the proposed development on population and human health, we undertook an analysis of the available Census data, relating to the economic, demographic and social characteristics of the Local Authority (LA) area within which the subject site is located. The study area for this assessment is the full extent of the development site and considers Ardee Town in the wider context (Ardee Electoral area as identified in **Figure 7.1**).

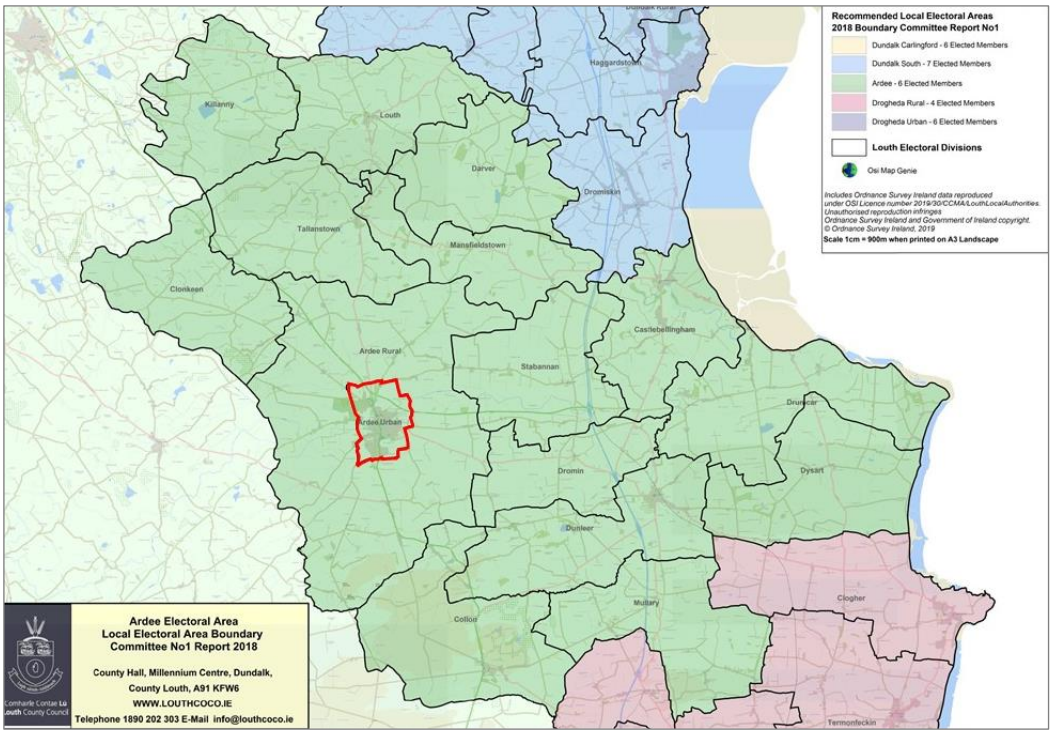

Figure 7.1: Study Area

Baseline/Receiving Environment

7.3 Chapter 7 of Volume II provides detailed information on the baseline/receiving environment with respect to the following:

- Economic and Employment Activity
- Settlement and Land Use Patterns

- Population
- Demographic Trends
- Housing
- Community Infrastructure
- Human Health
- Amenity (including Tourism)

Potential Impacts of the Proposed Development

7.4 Population and human health is an Environmental Impact Assessment topic that tends to interact with numerous other environmental topics / media addressed elsewhere in the Environmental Impact Assessment Report. As part of the assessment of potential impacts on population and human health, the other specialist chapters of the Environmental Impact Assessment Report have been reviewed.

7.5 The short-term construction phase is expected to give rise to typical environmental effects commensurate with a development of this nature and scale, including generation of dust, elevated noise and visual impacts. Waste materials will be generated, which will require proper management, during both construction and operational phases. Both phases will also contribute to marginally increased traffic volumes on the surrounding road network.

7.6 In the absence of standard good construction practices and / or project-specific mitigation measures, the following potential impacts have been identified during the construction phase:

- Nuisance / health impacts related to exposure to dust;
- Nuisance / disturbance related to elevated noise levels;
- Potential increase in greenhouse gas emissions;
- Visual impacts related to the presence of an unsightly construction site;
- Impacts on traffic / parking due to presence of construction traffic;
- Health impacts related to improper waste management; and
- Economic impacts related to construction employment / increased demand for goods and services.

7.7 During the operational phase, the following potential impacts have been identified:

- Nuisance / disturbance related to elevated noise levels;

- Impacts on traffic / parking due to traffic generated by the proposed development;

- Impacts on access for various road users due to enhanced permeability across the site; and

- Economic impacts related to the provision of new community infrastructure and increased demand for goods and services locally.

7.8 The mitigation measures proposed elsewhere in the Environmental Impact Assessment Report are sufficient to avoid / minimise potential impacts in relation to population and human health. Considering the nature, scale and location of the proposed development, and having regard to the mitigation measures proposed in the various specialist chapters of the Environmental Impact Assessment Report, no likely significant effects are predicted in relation to population and human health.

8. Biodiversity

8.1 This chapter of the Environmental Impact Assessment Report (EIAR) was prepared by RSK Ireland Ltd to assess the impacts of the Likely Significant Effects (LSE) of the proposed regeneration development in Ardee, County Louth.

8.2 This biodiversity chapter has concentrated on ecological features within the development area of particular significance, primarily designated habitats and protected species and considered those within 10km for potential complete pollutant pathways.

8.3 The key ecological receptors identified as being impacted by the proposed development works, and within the zone of influence include: mixed broadleaved woodland, hedgerows, birds, bats, hedgehog, and the large red-tailed bumblebee.

8.4 The site is not within or adjacent to any European Designated Sites (Natura 2000 sites), including: Special Areas of Conservation (SAC) and Special Protection Areas (SPA). An Appropriate Assessment (AA) Screening report was prepared for the proposed development. The AA Screening concluded no likely significant effects on the integrity of any European designated site. The site is not within or adjacent to any national designated sites (i.e., proposed Natural Heritage Areas). No potential pathways were identified to any of the National Designated Sites.

8.5 The assessment considered the potential impacts (direct, indirect, and cumulative) on biodiversity within the zone of influence of the proposed redevelopment site (Character Areas 1 - 4). Potential impacts were identified as: change of habitat in relation to Sustainable Drainage Systems (SuDS) creation, disturbance and displacement of species (construction noise, vibration, increased people presence, artificial lighting), environmental incidents and accidents, changes in air quality, impacts on adjacent habitats, and changes to surface/ground water.

8.6 Although applications were found for small-scale works such as residential modifications or changes-of-use, no large-scale development works are proposed in the regeneration project, therefore no potential sources of in-combination or cumulative effects are noted.

8.7 Proposed mitigation and compensation measures have been outlined within the chapter, with residual impacts after mitigation described and assessed. These include measures for bats and nesting birds as part of construction and operational phases.

8.8 In summary these include adherence of no cutting of vegetation during bird nesting season, bat and nesting bird surveys as part of demolition or renovation of buildings (and related mitigation upon presence of either), the use of bat-sensitive lighting as directed by Bat Conservation Trust (BCT) guidelines, and zoning around trees and hedgerows where removal is not required.

8.9 Enhancement measures are recommended for protected/priority species and habitats for the site, which include nest box installation for common swifts; woody vegetation/habitat creation and management, installation of boxes for roosting bats;

vegetation/habitat creation suitable for hedgehogs; habitat creation for solitary bees; and management of grassland along the existing railway line for species-rich grassland.

9. Land, Soils & Geology

9.1 The project is a masterplan for future development in the area surrounding the townland of Ardee. It covers a number of Character Areas throughout Ardee town, as described earlier in this NTS. Works will involve a range of small-scale works to improve access and amenity in the area to create a pedestrian friendly townscape.

9.2 There are no major changes in topography on the site. The underlying bedrock is a mixture of limestone and sandstone. Consultation with available GSI maps indicates that there is one borehole mapped as a Karst feature within the vicinity of the site. Consultation with available soil maps indicates that soil types across the site include 'Artificial Surfaces' of 'Discontinuous Urban Fabric' of 'Made ground'. Soils are deep and well-drained in most areas.

9.3 The main land use in the vicinity of the site is urban, with a mix of agricultural lands, public recreational areas and green fields. Consultation with Historical Maps indicated that there was gas works sites near the proposed development which may have led to contamination in the soil. Therefore, if proposed ground excavations go ahead, it is recommended that a further assessment of the underlying soils to determine if contamination of any kind is present.

9.4 The site is not within or adjacent to any Natural Heritage Areas. Potential indirect impacts were considered within a zone of influence of 5 km. The Site is not within or adjacent to any Natura 2000 sites, these being Special Sites for Conservation (SAC) or Special Protection Areas (SPA). Potential indirect impacts were considered within a zone of influence of 10 km, and downstream along the River Dee.

9.5 The predicted impacts of the proposed development with regard to the land, soil and geology environment were assessed for the construction and operational phases and were identified as Land Take, Subsoil/Bedrock removal, Soil/subsoil compaction and Soil contamination. The first three impacts identified here will be mitigated by reduction, avoidance where possible. There will be the addition of hard and soft landscaped areas and drainage swale, reducing the removal of subsoil and bedrock further. Railway infrastructure will remain reducing the disturbance of subsoil and bedrock. The hazard posed by hydrocarbon contamination to soil is deemed significant in terms of adversely impacting on the health of the soils associated with the proposed site and the flora and fauna it supports, however the risk is considered limited considering the movement of same is limited.

9.6 Impacts assessed and classified in this Chapter are considered at the localised scale, with the exception of potential indirect impacts on downgradient receptors, for example associated with surface water.

9.7 Mitigation measures have been prescribed for protecting the existing Geological regime of the Site. Subsoil and bedrock which are excavated as part of the construction phase will be reused onsite where possible. To mitigate by reduction and reuse; the volume of material required to be excavated, will be minimised. To protect ground stability particular earth works tasks should be completed under suitable meteorological conditions, construction activities will not occur during periods of sustained significant

rainfall events. Vehicular movements will be restricted to the footprint of the Development and advancing ahead of any construction will be minimised in so far as practical. Hydrological monitoring will give indications on whether the mitigations on land and soil management is being adhered to. The cumulative effects of the Development are localised and not considered to vary dramatically or behave synergistically when considering the Site in conjunction with other developments in the vicinity or downgradient of the Site. On a national scale the importance of soils in terms of ecological value and carbon value must be considered.

10. Hydrology & Hydrogeology

10.1 The Site is situated within Ardee Town and includes 4 no. Character Area, as previously outlined in this NTS. The River Dee flows east along the southern boundary of the site, and meets the coast of the Irish Sea. Under the WFD this section of The River Dee holds a 'Good' Water quality status (2016-2021). A second river, the Townspark River which is not designated under the WFD, flows through the northern section of the site before joining the River Dee, northeast of the Site. Consultation with GeoHive Map Viewer (OSI, 2022) and aerial photography shows non-mapped drainage within the general area of the site.

10.2 The central and western parts of the site are underlain by a 'Locally Important Aquifer' (LI). The north eastern part of the Site is underlain by a 'Poor Aquifer'. These areas are classified with High (H) and Moderate (M) vulnerability ratings along the Development boundaries.

10.3 The proposed development site is situated outside the 0.1% AEP (Flood Zone C), indicating a low flood risk. The predominant source of flood risk for the proposed development site is fluvial flooding from the River Dee adjacent to the riverfront area. Considering that the development involves public realm and urban regeneration projects with minimal alterations to existing site levels, any instances of flooding will be mitigated through retained and replaced drainage infrastructure as well as SuDS design of soft landscaping.

10.4 While there are no Special Areas of Conservation (SCA) or Special Protection Areas (SPA's) located in the immediate vicinity of the site and it is not within any Natural Heritage Areas (NHAs), there are NHAs close to the site. The Louth Hall and Ardee Woods pNHA is located approximately 490 metres to the north of the site and Ardee Cutaway bog is approximately 1.5 kilometres to the west of the site.

10.5 Groundwater bodies underlying the Development Site are protected under EU Water Framework Directive Legislation as Designated Groundwater in SPA and SAC Habitats. All receptors associated with the Development i.e. streams, rivers, and groundwater, are considered highly sensitive receptors.

10.6 Two surface water sampling events took place to understand the baseline hydrological and hydrogeological conditions. Assessment of these conditions indicates that areas of the site have already experienced impacts, through urban development and agricultural practices in the area.

10.7 While assessing the potential effects of the proposed site, it was identified that the Development could result in the release of contaminants, particularly suspended solids during the construction phase of the project, and to a lesser extent during the operational phase relative to baseline conditions. Release of suspended solids and other contaminants in runoff are the principal risks to surface water quality. But with appropriate environmental engineering controls and properly executed mitigation measures the risk of these potential impacts can be significantly reduced, and the magnitude of any potential impact reduced to within acceptable levels. The introduction

of any cementitious material can lead to a local change in hydrochemistry and impact on sensitive attributes in the water environments.

10.8 Mitigation measures have been prescribed for protecting the existing hydrological regime of the Site. Buffer zones are intended to drive the design process by minimising or avoiding the risk to surface water features by restricting construction disturbance to outside these zones. Preventing run-off is an effective method of preventing sediment pollution in the water environment for example Earthworks will be limited to seasonally dry periods and the installation of silt fencing. it is essential to ensure that the use of wet concrete is carefully controlled so as to minimise the risk of any material entering the water. To protect the site from direct flooding can be achieved through the use of Sustainable Urban Drainage Systems. Surface water monitoring is proposed during construction of the development.

10.9 The effects of the Development are considered to contribute to the cumulative nature of adverse effects imposed on the surface water network in the catchments associated with the Development. However, if the Mitigation measures are adhered to, the project will reach the Mitigated Potential Impacts. These are laid down as the achievable benchmarks provided measures and should be implemented adequately. This will reduce the overall impact the project will have on the hydrology of the site and the wider area surrounding the site, creating a neutral impact.

11. Air & climate

11.1 The Air Quality Chapter has assessed the potential effects of the proposed development on local air quality during both the construction phase and the operational phase.

11.2 The principal air quality pollutants relevant to this assessment are considered to be nitrogen dioxide (NO2) and particulate matter (PM10 and PM2.5). A desk-based study has been undertaken using data obtained from the Environmental Protection Agency (EPA) website. The Dundalk monitoring site is the nearest monitoring station, which is located approximately 18km to the north-east of the development site. Monitored air quality at the Dundalk station was used in the assessment, which saw no exceedances to the of the relevant air quality standards (AQSs) in 2021-2022. Background air quality concentrations at the Site are anticipated to be below the relevant AQSs.

11.3 For the construction phase, a qualitative construction dust assessment has been undertaken to consider potential impacts from dust nuisance from soiling and impacts on human health from particulate matter generation. The assessment defines the pre-mitigation risk of dust impacts of the activities during construction, and site-specific mitigation measures have been recommended. With the implementation of the recommended mitigation measures where appropriate, the effect of dust and particulate matter generated by construction phase activities is considered to be not significant.

11.4 During the operational phase, the key air pollutants of concern are NO2, PM10 and PM2.5, which are related to emissions from road vehicles generated by the proposed development. Using the Design Manual for Roads and Bridges (DMRB) screening method tool, three worst case receptors were identified and 'Do nothing' and 'Do something' scenarios were included in the assessment.

11.5 The magnitude of difference between the 'Do nothing' and 'Do something' scenarios was calculated and the development was predicted to have a negligible impact on all receptors. Therefore, the development is not anticipated to have a significant impact on local air quality. Furthermore, the development will unlikely introduce additional sensitive receptors into an area of known poor air quality and therefore no further modelling or assessment is considered to be required.

11.6 The potential climate effects and greenhouse gas (GHG) emissions from both construction and operational phase were assessed.

11.7 Construction phase GHG emissions were assessed using the Royal Institution of Chartered Surveyors (RICS) 2017 guidance. The estimated annual average construction phase GHG emissions was predicted to be 0.0002% of Ireland's 2020 and 2030 GHG emissions target and are therefore considered to have a negligible impact and not significant.

11.8 Operational phase GHG emissions were estimated using the DMRB screening model for the 'Do Nothing' and 'Do Something' scenarios. The results show that the impact of the proposed development will be to increase CO2 emissions by ≤0.001% of Ireland's EU

2020 and 2030 emissions targets for CO2. The overall operational phase magnitude of the changes on climate is considered to be not significant.

12. Noise & Vibration

12.1 RSK Ireland Ltd have assessed the potential noise and vibration impacts associated with the proposed regeneration scheme at Ardee, Co. Louth.

12.2 The existing noise climate has been surveyed across the site over the course of typical day and night-time periods. The key noise sources noted at the site were distant and local road traffic. Other sources of intermittent noise included distant construction machinery, car parking activities, birdsong, river flow noise and occasional pedestrian activity.

12.3 The noise and vibration impact assessment has focused on the potential outward impacts associated with the construction and operational phases of the proposed development.

12.4 During the construction phase of the project there will be some impact on nearby residential properties due to noise emissions from construction activity and site traffic. The application of binding noise limits and hours of operation, along with implementation of appropriate noise and vibration control measures, will ensure that noise and vibration impact is kept to a minimum. The resultant residual noise impact from this source will be of negative, moderate, short-term impact.

12.5 During the operational phase, the noise impact to the surrounding environment will be limited to noise any proposed new industrial / commercial plant items, any increased noise due to additional vehicular traffic on public roads, recreational noise from the proposed new amenity / activity areas, and car parking on site. The impact assessment has concluded that the residual impact of the operational phase of the proposed development will be of neutral to negative, not significant, permanent impact.

13. Material Assets (Waste)

13.1 This section of the EIAR has been prepared by RSK Group to identify and assess the likely impact of the waste generated from the proposed development at Ardee, County Louth. The Waste Management Chapter identifies mitigation measures to ensure the proposed development is constructed and operated in an environmentally sustainable manner.

13.2 The construction and demolition phase (C&D Phase) of the project will generate a range of non-hazardous and hazardous waste materials. The chapter outlines a management strategy to ensure that there are no significant impacts from the waste generated. Factors such as permitted waste haulers and collectors, appropriate waste storage and segregation areas, correct classification of waste materials and using opportunities for waste materials to be reused off-site will ensure that there are no significant impacts from waste generated throughout the C&D phase. The predicted impacts on the environment from waste generation during the construction and demolition phase are expected to be likely, negative, short term and not significant.

13.3 The operational phase of the project will result in long-term waste generation. The chapter outlines a management strategy to ensure that there are no significant impacts from the waste generated. Factors such as correct waste storage and segregation, the use of permitted waste contractors and authorised facilities will give rise to appropriate management of waste and environmental impacts. The potential impact of operational waste generation from the development is expected to be negative, long term and not significant.

13.4 The implementation of the mitigation measures outlined in the chapter will ensure that a high rate of reuse, recovery and recycling is achieved throughout the entire development.

14. Traffic & Transportation

14.1 Hegsons Design Consultancy Ltd prepared the Traffic & Transportation chapter of the EIAR. An assessment of the potential impact on the road network due to the development proposals has been undertaken. This assessment has focused on the impacts associated with the construction and operational phases of the development proposals at the key location along the road network to/ from the character areas.

14.2 The aim is to identify the characteristics of the application site and surrounding area, examine the likely transport implications, ensure sustainable accessibility is maximised and appropriate infrastructure provided. This report will present the baseline transport environment including reporting on traffic counts carried out on the surrounding street network and an analysis of the road safety data available. The projected change in traffic associated with the operation of the proposed scheme and its likely significant effects on the baseline transport networks is presented.

14.3 The study area is considered to be the primary zone of influence with respect to the management of traffic during the construction of the proposed scheme and is the area most likely to experience changes, if any, in traffic flow. Access to the character areas is primarily off the N2. Vehicular access to the Old Railway Lands is achieved directly form Sean O'Carroll Street while the Amenity Lands are accessed via Tierney Street. Pedestrian and cycle access is available from a number of streets within the town centre but there are no dedicated cycle facilities.

14.4 The proposed development includes for the following public realm refurbishment and enhancement in Ardee Town Centre across 4 main Character Areas:

- Realignment and narrowing of the carriageway on Main Street and alterations to existing public car parking bays to reduce the overall number of spaces to reduce traffic movements in the Main Street.

- Creation of new urban civic spaces, streets, road junctions, pedestrian pavements, steps, and cycle routes to encourage active travel.

- Redevelopment of the Old Railway Lands and the Amenity Lands to provide a community park and sports hub in order to encourage more health based activities and active travel within the community.

- Resurfacing of existing informal Woodland Walk path within St. Joseph's Hospital grounds and new footpath on agricultural land linking St. Joseph's Hospital grounds to Ash Walk to enhance pedestrian and cycle facilities to the west of the Main Street.

14.5 A Construction Stage Temporary Traffic Management Plan will be developed including the identified haulage routes in compliance with the Preliminary Temporary Traffic Management Plan developed in consultation with the local authority. The surrounding road network is suitable to accommodate the construction traffic associated with the proposed development. The Construction Stage Traffic Management Plan will include a range of mitigating measures to ensure the safety of the workforce on the site, and the

public on the surrounding roads / footpaths. The Plan will also minimise construction traffic generation and disruption on the surrounding road network.

14.6 An accessibility review was undertaken to assess the opportunities for travel to the site by all relevant modes of transport and review walking, cycling and public transport provision, as well as access by private car. The sites are located within an existing and established urban centre and therefore benefit from good pedestrian and cycle links. The proposed development will significantly improve pedestrian and cycle facilities within the scheme area.

14.7 The proposed development will not have a negative impact on existing traffic numbers, and it is anticipated that with the inclusion of sustainable travel facilities that private vehicle movements will be reduced.. Therefore, it is concluded that the proposed development can be accommodated within the existing road network.

14.8 The overall proposed scheme will include a number of measures that are deemed beneficial to improve the public realm, enhancing the pedestrian and cycle connectivity and road safety across the area. The measures which will be implemented as part of the overall development to influence the use of sustainable modes of transport and help minimise the need for private vehicle trips. The design and layout of the development will facilitate ease of access to public transport, support walking and cycling and meet the needs of people with disabilities and others whose mobility is impaired through adherence to current design guidelines.

14.9 The development proposals recognise opportunities to encourage use of sustainable modes of travel by:

- Promoting cycling and walking as viable sustainable transport modes for all members of the community;
- Provision of enhanced public transport facilities; and
- Providing, where possible, traffic free pedestrian and cycle routes, especially where they would facilitate more direct, safer and pleasant alternatives to those used by the private car.

14.10 Given that the proposals will encourage prioritisation of pedestrian and cyclist modes of transport in the town, it will have a positive long-term effect by following best practice for lowering traffic levels in the town in the short, medium and long term.

14.11 Subject to the implementation of the various mitigation measures recommended in the EIAR (see Chapter 21), the proposed development is not anticipated to have any significant adverse impacts. This chapter concludes that there is unlikely to be any significant adverse impacts on material assets as a result of the proposed development during either the construction or operational phases of development.

15. Site Services

15.1 This chapter was prepared by Nicholas O'Dwyer Ltd and discusses the potential impacts of the proposed Ardee 2040 Regeneration Scheme on site services, such as wastewater, water supply, surface water, electricity, gas, telecommunications, and waste management.

15.2 The baseline data of the existing infrastructure and services is described, including their approximate location and size. The potential impacts during the construction phase, such as the need for new connections or adjustments to existing infrastructure, are discussed, as well as the measures to mitigate them, such as recording and incorporating drainage networks, electrical cabling, gas pipelines, and telecommunications infrastructure into the detailed design of the scheme, and notifying businesses and residents in advance of any service disruptions.

15.3 The interactions between site services and various environmental factors, such as population and human health, biodiversity, land, soils, and geology, hydrology and hydrogeology, air quality and climate, noise and vibration, landscape, roads, traffic and transportation, archaeology, and architectural heritage, are also considered.

15.4 Finally, the cumulative impact of the proposed development on the existing and future residential and community infrastructure is discussed, and the anticipated residual impacts on site services after applying the mitigation measures are described as slight.

16. Cultural Heritage & Archaeology

16.1 IAC Archaeology (IAC) has prepared this chapter on behalf of Turley to assess the effect, if any, on the archaeological and cultural heritage resource of the proposed development at Ardee, County Louth. This chapter was prepared by Faith Bailey (MA Cultural Landscape Management, BA (Hons) Archaeology, MIAI, MCIfA) and Jacqui Anderson (MA Archaeology, BA Archaeology and Classics, MIAI).

16.2 The proposed development is located at Ardee within the townlands of Townparks, Dawsons Demesne and Cappocksgreen, County Louth. It lies within the zone of archaeological potential for the historic town of Ardee (LH017-101) and there are two further recorded monuments within its footprint, namely the town defences (LH017-101001) and a midden (LH017-101023). Although no extant remains survive for the medieval town wall and gates the subsurface remains are considered to have National Monument Status and as such as afforded the highest level of protection. An additional 21 recorded archaeological sites are located within 100m the proposed development area. In addition, four sites of cultural heritage significance have been identified within the vicinity, including two townland boundaries and two plaques commemorating 20th century events.

16.3 While there are no surviving upstanding remains of the town defences the proposed development footprint crosses the line of the wall at three locations (Irish Street, Ash Walk and the former railway site) and is located in the immediate vicinity of three former gates (Head Gate, Ash Walk Gate and Bridge Gate). Ground disturbances associated with the proposed public realm works may have a permanent significant direct, negative effect on any surviving sub-surface elements relating to the former town walls and gates. This would be caused by ground works carried out beneath the modern road/footpath level, such as excavation for services or pits for tree planting, etc.

16.4 Furthermore, while it is clear that the proposed scheme footprint has been subject to development and disturbance during the post-medieval and modern periods it is not clear how this disturbance may have affected the archaeological resource. As such, ground disturbances below the modern road levels and within previously undisturbed greenfield, such as the excavation of service diversions or pits for tree planting etc, may have a permanent significant direct, negative effect on previously unrecorded archaeological features or deposits that have the potential to survive beneath the current ground level.

16.5 All groundworks associated with the proposed scheme, carried out beneath the modern road/footpath surface and within greenfield areas, will be monitored by a suitably qualified archaeologist. This work will be carried out under Ministerial Consent due to the proximity of the National Monument (Town Defences LH017-101001). The locations of the town walls and former gates are considered to have high archaeological sensitivity and all construction staff will be made aware of the potential for remains to exist at these locations in advance of works. If any features of archaeological potential are discovered during the course of the monitoring further archaeological mitigation may be required, such as preservation *in-situ* or by record. Any further mitigation will require approval from the National Monuments Service of the DoHLGH.

16.6 The well-preserved remains of two medieval castles (LH017-101015 and LH017-1018) are located on the east side of Irish Street and Market Street respectively, on the periphery of the proposed development area. While there is no predicted direct impact by the proposed works, there may be a moderate indirect, negative impact on the upstanding remains on the structural remains of these monuments. Protective measures, such as temporary signage or appropriate fencing, will be established around the upstanding structural remains of the medieval castles LH017-101015 and LH017-1018 in advance of construction to avoid any indirect impacts which may have been caused by the passage of construction traffic or other related activities.

16.7 The proposed development area crosses two townland boundaries of Cappocksgreen/ Dawsons Demesne and Townparks / Dawsons Demesne. The former boundary has been removed within the development area by the former railway development, and the latter boundary comprises O'Carroll Street. As such there is no predicted impact on these features by the proposed development. Should sub-surface features associated with the townland boundaries survive within the boundary of the proposed scheme, archaeological monitoring will lead to their identification. If such features are present, a full written and photographic record will be made for the townland boundaries to be included in the archaeological monitoring report.

16.8 A number of commemorative plaques have been erected along Irish Street/Market Street on tree cages. The commemorative plaques will be removed and stored carefully to be re-erected following the completion of works. This will result in a temporary moderate negative impact on the cultural heritage resource. As the plaques will be replaced no further mitigation is required.

16.9 Following the application of mitigation measures, there are no predicted residual impacts on the archaeological and cultural resource as a result of the proposed scheme.

17. Architectural Heritage

17.1 This chapter of the EIAR has been prepared by Thomas McGimsey of Mesh Architects, a RIAI Grade 1 Accredited Conservation Practice. This chapter examines the likely impacts, both direct and indirect, on protected structures, monuments and other significant architectural heritage assets.

17.2 The Architectural Heritage assets that are likely to be affected by the proposed development have been identified and characterised. The characterisation has taken into consideration their Architectural and Cultural Significance, their sensitivity to change and the likely degree of impact.

17.3 Where negative impacts are noted as possible or likely, mitigation measures are identified that will reduce or eliminate the severity of that impact.

17.4 Ardee is one of Ireland's oldest walled towns, having been established soon after the Norman Invasion of 1185. On the south side of the River Dee, in the vicinity of the current bridge, stood the Augustinian Hospital of St. John the Baptist, founded at the beginning of the C13th. In 1274, a Carmelite Monastery was established in the town by Ralph de Pippard, then the local lord. Given its exposed location along the late medieval Pale boundary, the town was protected by walls with several entrance gates. During one of the many incursions, the town was attacked and largely destroyed by Edward Bruce.

17.5 The current town of Ardee retains its late medieval footprint as illustrated in a map of the town from the C17th. Although the historic town walls have almost totally disappeared, the town's main street has survived as the most important element of the town's form. The historic pattern of streets, lanes, building plots and principal structures is still very much in evidence in the modern town. It is critical that any proposals for improvements to Ardee's townscape include proposals to protect and reinforce the surviving historic urban form.

17.6 The Architectural Heritage Assets in Ardee that are susceptible to impact from the proposed Development include the following:

- The River Dee runs along the southern edge of the original town. The main road into the town crosses the river over a fine mid-C19th stone arched bridge.

- The ancient origins of the town of Ardee can still be read in its principal streets, faint traces of the town's medieval and late medieval defensive perimeter, the survival of ancient structures including three tower houses, an ancient church and graveyard, and the substantial ruins of a medieval college structure.

- At present, the central area of Ardee includes a once bustling commercial core, with some new commercial developments in the back lands behind the somewhat under-used buildings on the west side of the Main Street. While there are relatively few derelict or unoccupied structures on the Main Street, there are some, and many of the upper floors are poorly utilised or vacant. In addition,

there are many under-used structures in the deep sites behind the primary Main Street Buildings.

- Located a short walk from Main Street is a former Railway station, converted to privately owned commercial use after the closure of the station and removal of the tracks. Besides the station, there are other related structures remaining from the railroad, including a Station Master's House, the original railway platform, a perimeter stone wall and gate, and a now-roofless engine shed.

17.7 An Architectural Conservation Area (ACA) was established in the Development Plan, to provide protection to Ardee's many heritage assets, and within whose boundaries are most of the sites included in the subject proposed development. There are many sites and structures of Local and Regional Importance, and more than a few of National Importance, within and adjacent to the application site boundary.

17.8 In relation to the Conservation of the area's rich architectural heritage, the proposed development has sought to improve and enhance the settings for a few highly visible and significant monuments that give Ardee's town centre its principal identity.

17.9 In relation to the Conservation of the area's rich architectural heritage, the proposed development has sought to improve and enhance the settings for a few highly visible and significant monuments that give Ardee its principal identity.

17.10 While the structures themselves are not intended to be modified or changed to accommodate the proposed adjacent developments, there will be changes to their current setting, and how they are seen and understood by members of the public.

17.11 In all locations, the design and details of the proposed developments have been conceived to avoid any direct physical impact to the adjacent structures. Additionally, the design team responsible for the detail design/tendering information, must be keenly aware of the potential for damage to the monuments, protected structures and all otherwise significant heritage assets, during the construction stage of the works, and provide method statements and specifications that will guarantee that the required diligence will be practiced by the contractors on the project.

17.12 Impacts to the setting and context of heritage assets may be mitigated as noted in Section 17.2. Because the impacts are all considered to be minimal and indirect, the mitigation measures are aimed principally at reducing or eliminating any potential for direct negative impacts by careful attention to site protection measured during the construction stage. The visual changes to the setting and context of the heritage assets are considered to be positive in their impact, and have been designed to enhance the heritage assets, through improvements to design and detail of the public realm.

17.13 In relation to the Conservation of the area's rich architectural heritage, the proposed development has sought to improve and enhance the settings for a few highly visible and significant monuments that give Ardee its principal identity.

17.14 While the structures themselves are not intended to be modified or changed to accommodate the proposed adjacent developments, there will be changes to their current setting, and how they are seen and understood by members of the public.

18. Landscape & Visual Impact

18.1 The site comprises environmental improvement works within four areas of townscape and landscape within Ardee in Co. Louth as follows:-

- Character Area 1 – Main Street Ardee (including Ash Walk)
- Character Area 2 – Old Railway Lands (associated with the old railway station)
- Character Area 3 – Amenity Lands 90 (to the east aside the Ardee Wastewater Treatment Works, and north of the River Dee; and
- Character Area 4 – Woodland Walk towards at St Joseph's Hospital.

18.2 Within Ardee, an Architectural Conservation Area extends across the Main Street and Woodlands Walk part of the Application Site but not the Railway Walk and Amenity Lands to the east of Ardee. No parts within these four areas associated carry any other landscape or environment / ecology designations as indicated on the National Parks and Wildlife Service map viewer.

18.3 Given the ACA designation within the core of the town, the majority of the Application Site along Main Street and the areas towards the Woodland Walk should, in principle, possess a high quality and value townscape / landscape baseline. The historic streetscape indented with notable buildings and wooded periphery to the St Joseph's respectively, give these parts of the town an inherent aesthetic core and is subject to high numbers of visual receptors. In general, the townscape aside the Application site is a mix of *ordinary* and *good* townscape including with higher quality areas associated with the more historic sites and key components of the ACA.

18.4 The extent of thru-traffic on the functional transport corridor of the N2 and associated noise and movement is a notable feature with Main Street is dominated by hard landscape and traffic giving a more utilitarian character.

18.5 The Old Railway Lands have been subject to landscape improvements over the last few years to make this a more attractive open space with the old platforms and other features of the long-gone railway preserved as an interesting industrial record. The Amenity Lands have a more ordinary landscape character being normal farmland set aside the Water Treatment Works and the N33.

18.6 Twelve representative viewpoints in and near the four Application Site areas were identified as part of the LVIA process and formed the basis for the photomontages used as part of the broader visual assessment.

18.7 Given the nature of the project is about environmental and landscape improvements to the town of Ardee, it is considered that mitigation or enhancement measures form a key component of what is proposed.

18.8 The core works on Main Steet are predominantly to streetscape areas and include built elements and structures designed to enhance the townscape character of Ardee. The

magnitude of change is assessed as being of a *medium* rating, which when measured against the baseline sensitivity of the receiving environment (*medium / high*) would result in the overall townscape effects being rated as being of *moderate* significance. These impacts/ effects would be of a positive nature on all the main elements of the townscape character, including (a) the land use, (b) the urban grain and movement patterns, (c) the network of public realm and communal open spaces, (d) green infrastructure, and (e) the overall perception of quality and liveliness of the Ardee townscape.

18.9 The works to the Railway Park and Memorial Park will serve to demonstrate a continuation to the recent works to improve the landscape condition, quality and character of this area. The proposals seek to add to these works in terms of enhancing the usability and amenity provision of the park with the magnitude of effect rated as *medium* with, ultimately on completion, *moderate* positive effects of this part of Ardee.

18.10 Works to the Amenity Area to the east of Ardee will represent a slight extension of the townscape or urban influences into previously (largely) rural areas. The visual containment of the proposed amenity facilities due to peripheral vegetation and the extent of proposed landscape works ensures the (*medium / high*) effects, while of *moderate* significance will not have any adverse or unacceptable consequences in landscape of visual terms of the site or the wider Ardee town.

18.11 The woodland walk will be largely obscured by the woodland through it traverses to impacts of a limited nature to the wider town (i.e. *low* magnitude of effect. However, the extension of the path towards Ash Walk and the retail stores in this area will offer notable betterment to the townscape character, connectivity and pedestrian amenity.

18.12 Beyond the immediate areas associated with the four developments, effects will be less easy to discern due to the nature of the townscape but there will be an overall perception that the quality, condition and sense of place across the town has improved having wider positive effects on Ardee and its environs.

18.13 In summary, the townscape effects of this proposed development across the four areas will be both in permanent and long-term but are predicted to be significant and positive in terms of the townscape / landscape character and the visual amenity of Ardee.

19. Interactions

19.1 This chapter of the Environmental Impact Assessment Report provides an overview of the key interactions identified and addressed in the foregoing chapters of the report. It is a requirement of the EIA Directive that, not only are the impacts in respect of the individual specialist topics (hydrology, biodiversity, air quality and climate, etc.) to be addressed in the Environmental Impact Assessment Report, but so too must the interactions and inter-relationships between these topics be addressed. As stated in the Environmental Protection Agency's 2022 Guidelines on the information to be contained in Environmental Impact Assessment Reports:

"The interactions between impacts on different environmental factors should be addressed as relevant throughout the [Environmental Impact Assessment Report]. For example, where it is established in the Hydrology section that there will be an increase in suspended solids in discharged surface waters during construction, then the Biodiversity section should assess the effect of that on sensitive aquatic receptors. […] It is general practice to include a matrix to show where interactions between effects on different factors have been addressed. […] This is typically accompanied by text describing the interactions." (Section 3, p. 56)

19.2 A matrix of interactions is provided in **Table 19.1**, below, summarising where effects / impacts in relation to one topic (the source) have been found to directly or indirectly result in effects / impacts in relation to another topic (the receptor). The relevant consultants have liaised with each other and members of the design team, where necessary, to address potential impacts arising as result of interactions between one or more environmental topics or media. Where necessary, corresponding mitigation measures have been prescribed.

Table 19.1: Matrix of Interactions Between Effects Predicted as a Result of the Proposed Development

Source \ Receptor	Population and human Health	Biodiversity	Land, Soils and Geology	Hydrogeology & Hydrology	Air Quality / Climate	Noise & Vibration	Architectural Heritage	Cultural Heritage & Archaeology	Roads and Traffic	Waste	Townscape and Visual	Services
Interaction Between Environmental Factors												
Population and human Health					✓	✓				✓		✓
Biodiversity			✓	✓								✓
Land, Soils & Geology		✓		✓								✓
Hydrology & Hydrogeology		✓	✓									✓
Air Quality / Climate	✓								✓	✓		✓
Noise & Vibration	✓								✓			✓
Architectural Heritage												✓
Cultural Heritage & Archaeology												✓
Roads and Traffic					✓	✓					✓	✓
Waste	✓				✓							✓
Townscape and Visual									✓			✓
Services	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

20. Cumulative Impacts

20.1 The European Commission's Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (1999) define cumulative impacts as "*Impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project*" (p. iii). The Environmental Protection Agency's 2022 Guidelines on the Information to be Contained in Environmental Impact Assessment Reports state that:

"While a single activity may itself result in a minor impact, it may, when combined with other impacts (minor or significant), result in a cumulative impact that is collectively significant. For example, effects on traffic due to an individual industrial project may be acceptable; however, it may be necessary to assess the cumulative effects taking account of traffic generated by other permitted or planned projects. It can also be prudent to also have regard to the likely future environmental loadings arising from the development of zoned lands in the immediate environs of the proposed project." (Section 3, p. 54)

20.2 The potential for cumulative impacts to occur as a result of the proposed development in combination with other proposed plans and projects in the area has been assessed in the various specialist chapters of this Environmental Impact Assessment Report. This chapter provides an account of the plans and projects that have been scoped into the cumulative impact assessment. Considering the nature and scale of the proposed development, and its likely impacts as assessed in this Environmental Impact Assessment Report, a search for projects that may have the potential to result in cumulative impacts was carried out. For the purposes of this initial search, a review of all planning applications which were recorded on the National Planning Applications Database (DoHPLG) with extant permissions or were otherwise under consideration at the time of writing were included. A further review of An Coimisiún Pleanála's website was undertaken to identify relevant applications.

20.3 Following a review of the above sources, the following key permitted and proposed developments at the site of the proposed development and in the vicinity were identified.

Table 20.1: Permitted and Pending Developments

Planning Reference	Location	Decision
Approved		
2560141	John St, Ardee, Co. Louth	Approved
2560005	Market Street, Ardee, Co. Louth	Approved
24144	Potters Field, Cappocksgreen, Ardee, Co Louth	Approved
2460492	Ashwalk, Ardee	Approved
2360237	Lands at Dawsons Demesne, Ardee, Co. Louth	Approved

2360274	Castle Street and Tierney Street, Ardee	Approved
22806	De La Salle House, Moorehall, Townparks, Ardee	Approved
22331	Market Street and Market House Lane, Ardee	Approved
22228	Bridgegate, Rathgory, Mulladrillen, Drogheda Road, Ardee, Co Louth	Approved
22616	Cappocksgreen, Ardee, Co Louth	Approved
22337	De La Salle House, Moorehall, Townparks, Ardee, Co Louth	Approved
20135	Cappocksgreen, Ardee	Approved
19704	St Joseph's Hospital, Golf Links Road, Ardee, Co Louth	Approved
19699	Jervis Street, Ardee,Co Louth	Approved
19648	St Joseph's Hospital, Golf Links Road, Ardee, Co Louth	Approved
1882	Jervis Street, Ardee, Co. Louth	Approved
Pending		
2560107	Market Street, Ardee	Pending
2460337	Boat Trench, Ardee, Co. Louth	Pending
2438	John St, Ardee, Co. Louth	Pending

20.4 The specialist contributors to the Environmental Impact Assessment Report have considered the potential for the above-listed plans and projects to give rise to cumulative impacts in combination with the proposed development. A full description of this assessment is included in Chapter 20 of the EIAR. No significant negative cumulative impacts are expected to arise during the construction or operation of the proposed development.

21. Mitigation Measures

21.1 A key objective of the Environmental Impact Assessment process is to identify likely significant environmental impacts at the pre-consent stage and where necessary to propose measures to mitigate or ameliorate such impacts. Monitoring Measures must be incorporated in the Development Consent for a Project if the Project is likely to have significant adverse effects Article 8a of the EIA Directive, requires that monitoring measures proposed (if appropriate) should be included in the EIA Report.

21.2 **Tables 21.1 and 21.2** summarises the proposed mitigation and monitoring measures set out in Chapters 7 to 18 of Volume II of this EIAR for the construction and operational phases of the development.

21.3 A preliminary Construction and Environmental Management Plan (CEMP) accompanies this planning application. It is proposed that the appointed contractor will update the CEMP prior to works commencing on-site. All the mitigation and monitoring measures proposed within the individual specialists' assessments will be incorporated into the final plan.

Table 21.1: Construction Phase Mitigation Measures

Chapter	Mitigation Measure
Chapter 8 - Biodiversity	**Bats** The design principles for bat-sensitive lighting are as follows (BCT & ILP 2018): • Low-UV LEDs or low / high pressure sodium lamps would be the preferred bulb type, as they have least effect on bats. Mercury or metal halide bulbs should not be used. Lights should have a 'warm' tone, with minimal blue / UV content; • Lights in pedestrian areas should be installed at a low level, e.g. bollards of up to one metre in height. Lights should be directed onto ground level, with no light spill above the horizontal. Lux levels should be the minimum required for pedestrian safety; • All external lights should be fitted with directional hoods to direct the light downwards onto targeted areas and to prevent unnecessary light-spill; • No lights should be directed towards freshwater habitats (i.e. the River Dee), woodland or trees. This particularly applies to floodlighting for the sports facilities in the east of the Site near Tierney St.; and • Where feasible, all external lighting at access points to buildings should be fitted with motion sensors and timers in order to provide light only when required. Constant, overnight lights should not be permitted.

	Birds • Potential impacts on nesting birds will be avoided by timing the cutting of vegetation to avoid the nesting season (March to August inclusive).
	Trees • Measures to protect all tree features and hedgerows throughout the site that do not require removal will be undertaken including the zoning of buffers around that habitat types to protect root systems.
Chapter 9 - Land, Soils & Geology	**Soil Contamination** • All plant and machinery will be serviced before being mobilised to site. • No plant maintenance will be completed on site, any broken down plant will be removed from site to be fixed. • Refuelling of vehicles and the addition of hydraulic oils or lubricants to vehicles will be undertaken offsite where possible. Where this is not possible, filling and maintenance will take place in a designated material storage compound, which is located at least 10 meters from any temporary or permanent drainage features. • Refuelling if necessary on Site, will be completed in a controlled manner using drip trays at all times or a designated refuelling area will be created on an impervious surface such as a concrete slab with drainage to a hydrocarbon interceptor or other tank type which will hold run-off from the concrete slab. • Mobile bowsers, tanks and drums will be stored in secure, impermeable storage areas away from open water. • No bulk chemicals will be stored within the active construction areas. • Fuel containers will be stored within a secondary containment system, e.g. bunds for static tanks or a drip tray for mobile stores. • Containers and bunding for storage of hydrocarbons and other chemicals will have a holding capacity of 110% of the volume to be stored. • Ancillary equipment such as hoses and pipes will be contained within the bund. • Taps, nozzles or valves will be fitted with a lock system. • Fuel and chemical stores including tanks and drums will be regularly inspected for leaks and signs of damage. • Drip-trays will be used for fixed or mobile plant such as pumps and generators in order to retain oil leaks and spills. • Only designated trained operators will be authorized to refuel plant on site.

	• Procedures and contingency plans will be set up to deal with emergency accidents or spills. • An emergency spill kit with oil boom, absorbers etc. will be kept on-site for use in the event of an accidental spill. A specific team of staff will be trained in the use of spill containment. • Highest standards of site management will be maintained, and utmost care and vigilance followed to prevent accidental contamination or unnecessary disturbance to the site and surrounding environment during construction. A named person will be given the task of overseeing the pollution prevention measures agreed for the site to ensure that they are operating safely and effectively as well as having responsibility for the implementation of Emergency Procedures for spill control measures.
	Soil and Subsoil Compaction • The in-situ soils and subsoils underlying the development area will be subject to a certain amount of compaction, but this will be unavoidable. • Any infill material/landscaping that is required will be placed and levelled in appropriate lift thicknesses to ensure the material is not over compacted thereby retaining it drainage properties.
	Vehicular Movements Mitigation Measures • Vehicular movements will be restricted to the footprint of the Development and advancing ahead of any construction will be minimised in so far as practical. This will be done with a view to minimising soils / subsoils exposure to rain and runoff.
	Ground Stability Mitigation Measures • In order to mitigate for particular earth works tasks and suitable meteorological conditions, construction activities will not occur during periods of sustained significant rainfall events, or directly after such events (allowing time for work areas to drain excessive surface water loading and discharge rates reduce).
Chapter 10 - Hydrology & Hydrogeology	**Earthworks Proposed Mitigation Measures** Mitigation measures to reduce the potential for adverse impacts arising from earth works and management of spoil include the following: • Management of excavated material, that is: a materials management plan will be established and form part of the Construction & Environmental Management Plan (CEMP) with a view to establishing material balance during the proposed construction phase, thus minimising the potential for, or the length of time excavated materials are exposed and vulnerable to entrainment by surface water runoff.

- A full service survey of existing drainage features should be carried out with an accompanied risk assessment for the potential receptors, prior to works commencing.
- Drainage and measures to control run-off will be employed to manage sediments prior to any works to be undertaken at the Site.
- No permanent, or semi-permanent stockpile will remain on the site during the construction phase of the Development.
- Suitable locations for temporary stockpiles will be identified on a case-by-case basis. The suitability of any particular location will consider characteristics of the proposed site including; slope incline and topography, drainage networks in the vicinity and proximity to same, other relevant characteristics which are likely to facilitate, increase, or compound the potential for entrainment by surface water runoff.
- Earthworks will be limited to seasonally dry periods and will not occur during sustained or intense rainfall events. Similarly, controls measures in preparation for and during storm events will be outlined in the SWMP, for example, pause excavation activities during storm events.
- Any permitted, exposed soils (temporary stockpiles) will be covered with plastic sheeting during all relatively heavy rainfall events and during periods where works have temporarily ceased before completion at a particular area (e.g. weekends).
- Silt fencing will be installed around the perimeter of the site at any locations where surface water is likely to run off, directly into the River Boyne. This could include the river bank, land drains, natural depressions in the soil surface, or any other geomorphological feature which might accommodate surface water run-off. The location of the silt fencing will been determined in the construction stage CEMP and is subject to a detailed assessment of the area or phase to be developed. The purpose of the silt fencing is to prevent silt leaving the site in run-off water and entering adjacent land with the potential to impact nearby watercourses. Silt fences will consist of a geotextile membrane fixed to wooden stakes approximately 600 mm high. The membrane will be anchored into the ground to form a continuous barrier with the soil surface. Silt fences will be monitored and maintained when necessary during the construction period. Maintenance will include the replacement of the geotextile when damaged and the removal of any silt build-up on the upslope side of the silt fence. Silt fences will be temporary features but will remain in place for a period following the completion of the Construction Phase.
- Construction waters will be collected and pumped to the established treatment train prior to discharging from Site, if necessary.

- Emergency contact numbers for the Local Authority Environmental Section, Inland Fisheries Ireland, the Environmental Protection Agency and the National Parks and Wildlife Service will be displayed in a prominent position within the site compound. These agencies will be notified immediately in the event of a pollution incident.
- Site personnel will be trained in the importance of preventing pollution and the mitigation measures described here to ensure same.
- The site manager will be responsible for the implementation of these measures. They will be inspected on at least a daily basis for the duration of the works, and a record of these inspections will be maintained.
- Road sweepers will be employed to clean the site access route as required. For example, Any hard surface site roads will be swept to remove mud and aggregate materials from their surface.

Release of Hydrocarbons Proposed Mitigation Measures

The risk of water quality impacts associated with works machinery, infrastructure and on-land operations (for example leakages/spillages of fuels, oils, other chemicals and waste water) will be controlled through good site management and the adherence to codes and practice. The following measures will be implemented during construction:

- Gerry cans with proper pouring nozzles will be used to move fuel around the site for the purposes of refuelling items of small plant on site.
- Drip trays will be used under items of small plant during refuelling or any repair works which may lead to accidental spillage of hydrocarbons.
- Any gas bottles will be stored in a caged area at a secure location on the site.
- Temporary oil and fuel storage tanks, if necessary, may be kept in a material storage area in suitable containers and will be stored on appropriately bunded spill pallets capable of retaining a volume of equal to or greater than 1.1 times (>110%) capacity of the containers stored on them. In the event of a filling spillage excess oil or fuel will be collected in the bund

Construction and Cementous Materials Proposed Mitigation Measures

Fresh concrete is very alkaline and can cause serious pollution in water bodies. It is essential to ensure that the use of wet concrete is carefully controlled so as to minimise the risk of any material entering the water.

- A washdown area will be provided on site, if necessary, for trucks to use after delivery of concrete or on return to the

	batching plant. This area will be adequately bunded to mitigate the risk of contaminated runoff to the site and surrounding area. Washdown runoff will be appropriately treated prior to discharge • Wash-out areas on site will be properly designed as an impermeable slab with a peripheral drain system • Wash-out of vehicles shall not be located within 10 metres of any temporary or permanent drainage features
	Wastewater or Sanitation Contaminants Proposed Mitigation Measures During the construction phase potential contamination incidents arising from welfare facilities will be addressed in a similar manner to other contamination incidents whereby issues identified will be isolated and addressed in an efficient and timely manner. Site welfare facilities will connect to existing foul sewer system (in consultation with and authorized by Irish Water) or use bunded porta-loos.
	Surface Water Contamination Before works commence a detailed survey of surface water/storm water drainage system is required. During the construction phase of the Development, the use of oil booms and, if necessary, a silt settlement tank will reduce the risk contamination of surface water run-off.
Chapter 11 - Air & Climate	**Communications** • Develop and implement a stakeholder communications plan that includes community engagement before work commences on site. • Display the name and contact details of people accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager. • Display the head or regional office contact information.
	Dust Management • Develop and implement a Dust Management Plan, which may include measures to control other emissions, to be approved by the Local Authority. The level of detail will depend on the risk and should include at a minimum the highly recommended measures. The desirable measures should be included as appropriate for the site. The Construction Environmental Management Plan may include monitoring of dust deposition, dust flux, real-time PM10 continuous monitoring and/ or visual inspections.

Site Management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to the local authority when asked.
- Record any exceptional incidents that cause dust and/or air emissions, either on- or off site and the action taken to resolve the situation in the log book.

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.
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
- Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.
- Avoid site runoff of water or mud.
- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used 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 15mph on surfaced and 10mph on unsurfaced haul roads and work areas.
- Produce a construction logistics 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

- No bonfires or burning of waste material.

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 to cover with topsoil, as soon as practicable.
- Only remove the cover in small areas during work and not all at once.

Specific to Construction

- Avoid scabbling (roughening of concrete surfaces) if possible.
- 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.

Specific to Trackout

- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site.
- Avoid any 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 log book.
- Install hard surfaced haul route, which are regularly cleaned and damped down with fixed or mobile sprinkler systems, or mobile water bowsers.
- 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 permits. • Access gates to be located at least 10 m from receptors where possible.
Chapter 12 - Noise & Vibration	• Use of a site hoarding, minimum 2.4m height to be erected around the northern perimeter of Character Area 2 – Old Railway Lands site, for the duration of works where the distance of works is 30m or less to nearby noise sensitive locations; • Limiting the hours of construction to the following: Monday to Friday 07.00 – 19.00 Saturday 07.00 – 13.00 • In exceptional circumstances, and subject to agreement with the Local Authority, extended hours of operation may be applied for. In such instances an assessment of potential noise impacts shall be carried out in advance of works taking place, and submitted to the Local Authority, as part of the extended hours request. • Monitoring levels of construction noise and vibration at the closest noise sensitive location to the north of the proposed Railway lands site; • Maintaining site access roads even so as to mitigate the potential for vibration from lorries; • Selection of plant with low inherent potential for generation of noise and/ or vibration; • Erection of barriers as necessary around items such as generators or high duty compressors; • Situate any noisy plant as far away from sensitive properties as is reasonably practicable and the use of vibration isolated support structures where necessary; • Establishing channels of communication between the contractor/developer, Local Authority and residents, and; • Appointing a site representative responsible for matters relating to noise and vibration.
Chapter 13 - Material Assets (Waste)	• Onsite segregation of waste materials into concrete, rubble, Plasterboard, metals, glass and timber. • Any hazardous wastes produced will be stored separately • All waste materials will be stored in skips or other suitable receptacles and appropriately labelled. • Reuse of left-over materials where possible (e.g. timber off cuts, broken concrete) • A waste manager/site representative will be appointed to ensure waste management procedures are followed.

	• All waste leaving the site will be reused, recycled or recovered where possible. • All waste leaving the site will be recorded and accounted for with all relevant documentation maintained.
Chapter 14 - Material Assets (Traffic & Transportation)	**Construction Traffic Management Plan** • A detailed Construction Traffic Management Plan, which will incorporate the relevant traffic management measures included for in the Outline Construction Management Plan, will be finalised for the construction stage of the project by the Contractor. This Plan will include the following transport-related measures: • Working hours that will avoid any significant staff trips during peak hours; • Appropriate amount of car parking for construction staff to mitigate any potential car parking overspill onto the surrounding residential areas; • The separation of construction traffic from general traffic where possible and necessary; • The management and marshalling of construction vehicles when required; and • The Contractor will be required to implement a Mobility Management Plan for its staff, where travel by sustainable modes and car-pooling will be encouraged • The Contractor will ensure that the proposed works are carried out in accordance with the Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013).
Chapter 15 - Material Assets (Site Services)	**General** • Prior to construction, drainage networks, electrical cabling, gas pipelines, and telecommunications infrastructure will be recorded and incorporated into the detailed design of the scheme to avoid any clashes where possible. • Any service diversions required will be designed and constructed in accordance with the requirements and under the supervision of the relevant utility provider. Businesses and residents will be notified in advance of any service disruptions. • Contractors will be provided with service maps and the utility mapping survey prior to Construction. Services shall be traced on the ground with a cable avoidance tool (CAT) or similar by the Contractor. Where service locations are still not known or confirmed, the Contractor may be required to excavate trial pits to confirm locations and depths as necessary.
Chapter 16 - Cultural Heritage and Archaeology)	**Archaeology** • All groundworks associated with the proposed scheme, carried out beneath the modern road/footpath surface and within greenfield areas, will be monitored by a suitably qualified

	archaeologist. This work will be carried out under Ministerial Consent due to the proximity of the National Monument (Town Defences LH017-101001). The locations of the town walls and former gates are considered to have high archaeological sensitivity and all construction staff will be made aware of the potential for remains to exist at these locations in advance of works. • If any features of archaeological potential are discovered during the course of the monitoring further archaeological mitigation may be required, such as preservation in-situ or by record. Any further mitigation will require approval from the National Monuments Service of the DoHLGH. • Protective measures, such as temporary signage or appropriate fencing, should be established around the upstanding structural remains of the medieval castles LH017-101015 and LH017-1018 in advance of construction to avoid any indirect impacts.
	Cultural Heritage • Should sub-surface features associated with the townland boundaries be present within the boundary of the proposed scheme, archaeological monitoring will lead to their identification. If such features are present, a full written and photographic record will be made for the townland boundaries to be included in the archaeological monitoring report. • The commemorative plaques will be removed and stored carefully to be re-erected following the completion of works. No further mitigation is required.
Chapter 17 - Architectural Heritage	• Prior to the start of construction on site, a photographic record should be made to document the current condition and appearance of all structure and landscape features withing and abutting the proposed developments. • Detailed Method Statements should be prepared during the detail design/tendering stage, to provide clear instructions to the contractors in relation to preventing any damage to existing structures or other landscape features through the use of hoarding, sheeting, guarding's and work methods.
Chapter 18 - Townscape & Visual Impact	• All activities will be subject to pre-planned method statements in accordance with appropriate legislation in particular Construction Design and Management Regulations and Management of Health and Safety at Work Regulations; • Erection of temporary hoarding around construction areas to clearly delineate working areas and protect public from the works. Hoardings will be maintained in good condition throughout this stage; • Lighting will be maintained in good order and provided where necessary to ensure sufficient illumination. Precautions will be taken to ensure no shadows are cast by hoardings or building

	works onto pavement or road areas. Internal construction lighting will be angled so that it does not cause nuisance to adjacent properties or carriageways; • Careful siting of construction machinery, materials and welfare facilities to avoid unnecessary impacts on adjacent areas; • Ensuring the streets or roads providing access to the work are maintained free of dust and mud as far as possible and that any damaged surfaces are made good; and • To have effective site and litter management systems in place from the outset to ensure a clean, tidy and presentable image.

Table 21.2: Operation Phase Mitigation Measures

Chapter	Mitigation Measure
Chapter 8 - Biodiversity	Construction Phase mitigation measures also apply to the Operation Phase of the development.
Chapter 9 - Land, Soils & Geology	No mitigation measures are considered to be necessary during the operation phase.
Chapter 10 - Hydrology & Hydrogeology	**Increased Hydraulic Loading** • Mitigation measures for protecting the site from direct flooding can be achieved through the use of Sustainable Urban Drainage Systems which reduce the impacts of increases to hydraulic loading on or near the site. Some SuDS measures have been outlined in detail in Table 10.13 of Vol. 2 of the EIAR. These mitigation measures will be developed, modelled and tested in the form of an advance Flood Risk Assessment.
Chapter 11 - Air & Climate	It is considered unlikely that the development would introduce additional sensitive receptors into an area of known poor air quality and the development is not anticipated to have a significant impact on local air quality. Therefore, no specific operational phase mitigation measure is considered to be required.
Chapter 12 - Noise & Vibration	**Industrial / Commercial Plant Noise** • Where necessary noise mitigation measures shall be installed in order to ensure that the stated plant noise limits are not exceeded, such measures may include attenuators to the atmosphere side of supply/extract fans, acoustic barrier screens / louvres to external plant.
	Additional Road Traffic Noise on Public Roads

	• During the operational phase of the development, noise mitigation measures with respect to the traffic from the development are not deemed necessary.
	Recreational Noise from the proposed new Amenity / Activity areas • During the operational phase of the development, noise mitigation measures with respect to noise from amenity / activity areas on site are not deemed necessary.
	Car Parking on Site • During the operational phase of the development, noise mitigation measures with respect to car parking on site are not deemed necessary.
Chapter 13 - Material Assets (Waste)	• The segregation of waste materials including Organics, dry mixed recycling, mixed non-recycling, glass, WEEE and cleaning chemicals. • All wastes will be stored in appropriate containers and colour coded. • All applicable waste leaving the area will be reused, recycled or recovered where possible. • All waste leaving the site will be transported by suitable permitted contractors and taken to suitably registered, permitted or licensed facilities. • All waste leaving the site will be recorded and copies of relevant documentation maintained.
Chapter 14 - Material Assets (Traffic & Transportation)	**Active Travel Strategy** • It is recommended that an Active Travel Strategy is prepared for the operation phase of the proposed development. This Strategy should encourage use of sustainable transport measures during the operational phase and should relate to all future developments within the Ardee area in order to form part of the wider mitigation measures (e.g. strategy highlighting the proximity of local services, public transport provision, schools and walking/cycle distances to same, etc). Full details on the details that should be included within the Active Travel Strategy are set out in Chapter 14.
Chapter 15 - Material Assets (Site Services)	No mitigation measures are considered to be necessary during the operation phase.
Chapter 16 - Cultural Heritage and Archaeology)	No mitigation measures are considered to be necessary during the operation phase.
Chapter 17 - Architectural Heritage	No mitigation measures are considered to be necessary during the operation phase.

Chapter 18 - Townscape & Visual Impact	No mitigation measures are considered to be necessary during the operation phase.