Environmental Impact Assessment Report

Volume 1
Non-technical Summary

Large-Scale Residential Development (LRD)

Lands at Station Road (L2228) and Old Navan Road (R147), Townlands: Dunboyne, Clonee, Castle Farm and Loughsallagh, Co. Meath

On behalf of
John Connaughton Ltd.

August 2024

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1 INTRODUCTION

Overview of Site

This section of the Environmental Impact Assessment Report has been prepared by Brock McClure Planning and Development Consultants on behalf of the applicant, John Connaughton Ltd., to accompany a planning application for an LRD planning application at lands at Station Road (L2228) and Old Navan Road (R147), Dunboyne, Co. Meath in the townlands of Dunboyne, Clonee, Castle Farm and Loughsallagh submitted to Meath County Council.

John Connaughton Limited intend to apply to Meath County Council for a 10-year permission for development of a Large-Scale Residential Development (LRD) to include 853no. residential units, café, 1no. medical unit, 2no. retail units, community room, 2 no. creches, a section of Eastern Distributor Road located at lands at Station Road, Dunboyne, Co. Meath, to the east and north of Dunboyne Town. Furthermore, the subject development includes works to 2no. roundabouts at Old Navan Road (R147), Dunboyne, Co. Meath.

Brock McClure highlights from the outset, that the client is committed to working with the Planning Authority to deliver on an LRD proposal that is appropriate to the site and the surrounding context at Dunboyne. The proposal is in line with statutory documents and reflects on local limitations to minimise impacts on the environment. The site location is shown on figure 1 below:

Figure 1 – Application Site Area

For a full development description we refer to Chapter 2. and the accompanying Non-Technical summary of same.

Content of Environmental Impact Assessment Report

This EIA report has been prepared in accordance with the most relevant guidance including but not limited to:

- EIA Directive (2011/92/EU) as amended by EIA Directive (2014/52/EU)
- Planning and Development Act 2000 (as amended)
- Planning and Development Regulations 2001 (as amended)
- Guidelines for Planning Authorities and An Bord Pleanala on carrying out Environmental Impact Assessment (Department of Housing, Planning and Local Government, 2018).
- Guidance on preparation of the Environmental Impact Assessment Report (European Union, 2017)
- Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022).

Pursuant to EIA Directive, (Article (5) 1 of Directive 2014/52/EU), this EIAR specifically contains:

- A description of the project comprising information on the site, design, size and other relevant features of the project;
- A description of the likely significant effects of the project on the environment;
- A description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and if possible, offset likely significant adverse effects on the environment;
- A description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment.
- A description of the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be effected or the use of natural resources;
- A non-technical summary of the information referred to in points (a) to (d); and
- Any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project.

Impacts arising from the existence of the proposed development, the use of natural resources, the emission of pollutants, the creation of nuisances and the elimination of waste are described as direct, indirect, secondary, cumulative, short and long term, permanent and temporary, positive and negative, as appropriate.

Competency and Project Team

An Environmental Impact Assessment Report must be prepared by competent experts. The applicant, John Connaughton Ltd., approached Brock McClure Planning and Development Consultants to direct and co-ordinate the preparation of the EIAR. A team of qualified experts has prepared each individual chapter of the report. Contributing consultants to this EIAR are as follows:

- Brock McClure Planning and Development Consultants
- DBFL Consulting Engineers
- Enviroguide
- Ait Urbanism and Landscape
- IAC Archaeology
- Wave Dynamics

Structure of Environmental Impact Assessment Report

The EIAR is presented in 3 no. volumes as follows:

- Volume 1 – Non-Technical Summary

- Volume 2 – Environmental Impact Assessment Report
- Volume 3 – Appendices to Environmental Impact Assessment Report

2 DESCRIPTION OF DEVELOPMENT

This chapter provides a description of the site, receiving environment and the proposed development.

Description of the site

The subject site is located on the eastern outskirt of Dunboyne to the east from a railway line. The subject development site extends to approximately 21.9 ha (gross site area). The net developable area of c.15.74 ha excludes: the distributor road including temporary areas needed for a construction phase, engineering connections outside main development area, 10m wide Irish Rail exclusion zone, 2no. roundabouts on R147, existing wayleave along the western boundary. The site consists of 2 separate areas: the main part of the site proposed for residential development including a section of the Eastern Distributor Road and 2no. roundabouts located on R147.

The future residential development with ancillary 2 no. retail units, medical unit, café, community room and 2no. creches is located to the north of Station Road (L2228) and to the east from a railway line on the north east outskirt of Dunboyne. The subject area is located dominantly in Townland Dunboyne with a small southern section of the Station Road junction in Townland Castle Farm. Furthermore, 2 no. roundabouts at Old Navan Road (R147) proposed for alterations are located in Townlands Clonee and Loughsallagh.

The majority of the site is greenfield in nature relatively flat, and in agricultural use. A residential property known as Mill Farm Cottage in the southwest corner of the subject site has been demolished recently. An access road to the Dunboyne Train Station is located at the southern end of the site. There are a number of trees and hedgerows in the northern portion of the site. The wider area is generally comprised of suburban residential developments, Dunboyne Train Station and agricultural/greenfield space.

The lands are bound by the Iarnród Éireann railway line which services the Western Commuter (Dublin to Sligo) Railway service and Dunboyne train station to the west. Station Road runs along the southern boundary of the site. Loughsallagh (residential area) is adjacent to the subject site to the south east and agricultural land to the east and north. The site is c 1 km from the town centre and directly adjacent to Dunboyne train station.

Proposed Development

John Connaughton Limited intend to apply to Meath County Council for a 10-year permission for development of a Large-Scale Residential Development (LRD) to include 853no. residential units, café, 1no. medical unit, 2no. retail units, community room, 2 no. creches, a section of Eastern Distributor Road located at lands at Station Road, Dunboyne, Co. Meath, to the east and north of Dunboyne Town. Furthermore, the subject development includes works to 2no. roundabouts at Old Navan Road (R147), Dunboyne, Co. Meath.

Brock McClure highlights from the outset, that the client is committed to working with the Planning Authority to deliver on an LRD proposal that is appropriate to the site and the surrounding context at Dunboyne. The proposal is in line with statutory documents and reflects on local limitations to minimise impacts on the environment.

An overview layout drawing of the proposed LRD is shown on Figure 2 below:

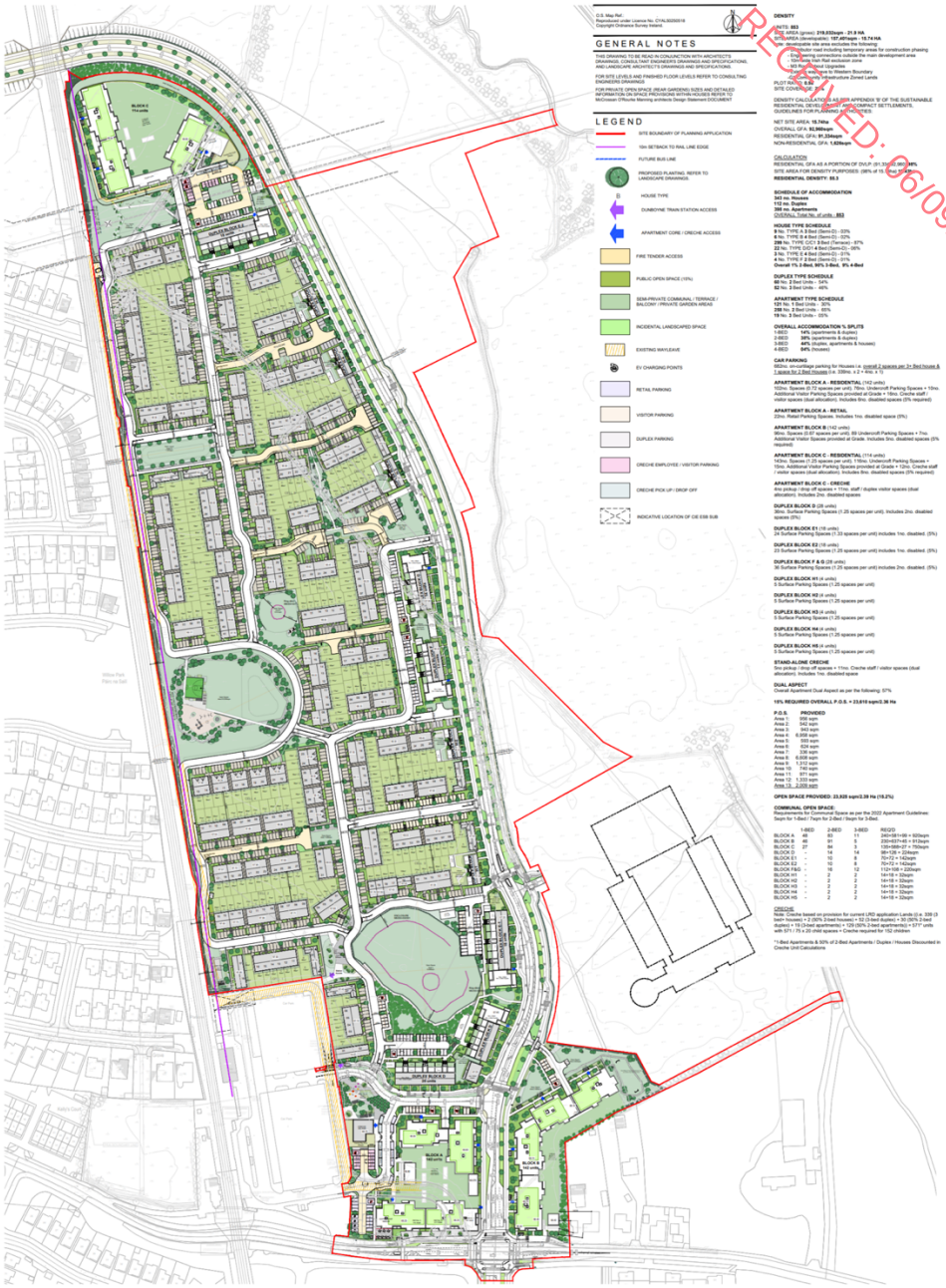

Figure 2 – Site Layout Plan

Development comprises of: -

a) Construction of 853 no. residential units as follows:

1) 398 no. Apartment Units in 3 no. 1-6 storey blocks (A-C) consisting of 121 no. 1-bedroom apartments; 258 no. 2-bedroom apartments; and 19 no. 3-bedroom apartments. All apartment units will be provided with private open space areas in the form of balconies/terraces.
2) 112 no. Duplex Units in 6 no. 2-4 storey blocks (D-H) consisting of 60 no. 2-bedroom units, 52 no. 3-bedroom units. All duplex units will be provided with private open space areas in the form of balconies/terraces.
3) 343 no. 1-3 storey houses consisting of 4 no. 2-bedroom units, 308 no. 3-bedroom units, 31 no. 4-bedroom units. Each house will have an associated rear private garden.

b) Residential amenity spaces in Block A (approx. 212 sqm), Block B (approx. 284 sqm) and Block C (approx. 81 sqm);

c) The proposed development also includes a proposed café (approx. 196sqm) with associated outdoor seating area, medical unit 1 (197 sqm), retail unit 2 (approx. 217 sqm), retail unit 3 (approx. 170 sqm), community room (approx. 52 sqm), 2 no. creche facilities (approx. 394 sq m and approx. 400 sqm);

d) Provision of 1192 no. car parking spaces across the development site (inclusive of accessible parking spaces (27 no.) and 1,634 no. bicycle parking spaces for residents and visitors of the scheme provided throughout the development site.

e) 13 no. landscaped public open space amenity areas (approx. 23,925 sqm total);

f) 7 no. communal open spaces associated with the proposed apartments and duplexes will be provided in the form of landscaped areas located in the vicinity of these units (approx. 6,279 sqm total);

g) Section of the Dunboyne Eastern Distributor Road (approx. 865 m long) from the southern site boundary with Station Road (L2228) to the northern boundary of the site. This includes all associated vehicular and pedestrian accesses, carriageways, paths and junctions;

h) New vehicular, pedestrian and cycle connections to Dunboyne Train Station and closure of the existing vehicular access from Station Road (L2228);

i) Upgrade of Station Road (L2228) – proposed Distributor Road junction;

j) Alterations to 2no. roundabouts on the R147 (Old Navan Road):

   a. Roundabout at the junction of Station Road (L2228) and Old Navan Road (R147)
   b. Roundabout at the entrance to Clonee Village on the R147, at the Ard Cluain apartment scheme and Dunboyne Tennis Club

k) All associated site development works, services provision, infrastructural and drainage works, internal access roads, homezones and cycle and pedestrian infrastructure, provision of ESB substations, bin stores, public lighting, landscaping, and boundary treatment works.

l) Temporary areas allowing for construction: 5m buffer zone along the Distributor Road, compound and spoil storage area

Previous applications have been made or permitted on lands within the red line boundary of the subject proposal: Reg. ref. 24/60063, Reg. ref. 23849, ABP NA29S.314232 DART+ West, Reg. ref. 212395 (ABP 304842), Reg. ref. RA180561 refers. The subject application does not materially amend any of these existing, permitted, or proposed developments with only minor works proposed to same.

This planning application is accompanied by an Environmental Impact Assessment Report (EIAR) and a Natura Impact Statement (NIS).

3 PLANNING AND DEVELOPMENT CONTEXT

This chapter has been prepared to consider the relevant planning polices that relate to the development site, the wider Meath County and National development objectives. It considers strategic and local level plans relevant to the subject development and a review of the national

and regional policy context inclusive of local statutory plans in place to govern the sustainable development of Dunboyne.

The following relevant planning documents were considered by the project design team during the planning process:

Strategic Planning Policy Documents:

- National Planning Framework – Project Ireland 2040
- Rebuilding Ireland: Action Plan for Housing and Homelessness
- Housing for All – A New Housing Plan for Ireland (2021)
- Regional Spatial & Economic Strategy for the Eastern and Midland Region 2019-2031
- Transport Strategy for the Greater Dublin Area 2016-2035

Ministerial Guidelines

- Guidelines for Planning authorities on Childcare Facilities (2001)
- Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (January 2024)
- Urban Development and Building Height Guidelines (2018)
- Sustainable Housing: Design Standard for New Apartments (2023)

Furthermore, following documents are acknowledge and compliance with them is addressed as listed

- The Planning System and Flood Risk Management (2009) – addressed in the Flood Risk Assessment prepared by JBA and Chapter 7
- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (2009) – addressed in the Appropriate Assessment Screening Report prepared by Enviroguide and Chapter 8
- Design Manual for Urban Roads and Streets 2019 – addressed in the Design Manual for Urban Roads and Streets Compliance Statement prepared by DBFL and Chapter 13

Statutory Planning Document

- Meath County Development Plan 2021-2027

Other

- Transportation Study at Dunboyne & Environs (2018)

It is considered that the proposed development is consistent with the objectives and visions for sustainable development as set out in the above planning policy documents. The proposal delivers strategically located large scale residential development adjacent to Dunboyne train station.

<u>Sustainable Residential Development and Compact Settlements Guidelines (2024)</u>

The *Sustainable Residential Development and Compact Settlements Guidelines (2024)* were finalized and published in January 2024. The proposed scheme is brought forward within this context of redefined density and SPPRs set by the Guidelines.

The application site is well served by public transport and we note specifically that it meets the accessibility designation 'High Capacity Public Transport Node or Interchange' as defined in the Sustainable Residential Development and Compact Settlements Guidelines Planning for Authorities (January 2024). Notably, the site is located in proximity to existing public transport services at Dunboyne Station, which is along the commuter railway line included in DART+ West project to provide an efficient and high-capacity service to and from Dublin City Centre.

Furthermore, 3 steps of refining density as set out in the Guidelines were applied. Therefore, it is submitted that the overall density of 55.3 uph fits well in the required range of 50-150 uph, it is

considered to be appropriately balanced and in compliance with The Sustainable Residential Development and Compact Settlements Guidelines.

It is clear that the subject proposal strikes a balance between respecting the existing and future pattern of development in proximity to the site, and meeting the Guidance provided in the Compact Settlement Guidelines.

Meath County Development Plan 2021-2027

It is also considered that the proposed development is consistent with the objectives of the Meath County Development Plan 2021-2027 as follows:

Dunboyne is a strategically important settlement in Meath. It is an important centre for economic growth in the County due to its location in the Dublin Metropolitan Area and along a multi-modal corridor. The town has enjoyed recent successes in attracting inward investment. It is an objective of this Plan to continue to attract high-quality investment to the town. In addition, there is capacity for the town to accommodate significant population growth, with strategically located lands zoned for residential use in proximity to the rail stations available for development. Therefore, a rapid growth of the town is expected.

The majority of lands are zoned A2 New Residential. Furthermore, the subject site encroaches lands zoned A1 Existing Residential, F1 Open Space, G1 Community Infrastructure, TU Transport and Utilities and RU Rural Area. It is submitted that the proposal does not materially contravene listed zoning objectives. Zoning map marks also an indicative road route in the corridor of the proposed distributed road.

The Development Plan sets policies and objectives referring to the subject development in Settlemet and Housing Strategy Volume 1 – Chapter 3) and Settlement Strategy for Dunboyne, Clonee and Pace (Volume 2 – Written Statement and Maps for Settlements).

Other Objectives and Policies of the Meath County Development Plan 2021 – 2027 are acknowledged and it is submitted that they are addressed in relevant packs prepared by the design team.

4 ALTERNATIVES CONSIDERED

This chapter provides an outline of the main alternatives examined during the design phase. It sets out the reasons for choosing the development as now proposed and considers the environmental impacts of the chosen option that have arisen as part of the evolving design process.

The requirement to consider alternatives within an EIAR is set out in Annex IV (2) of the EIA Directive (2014/52/EU) and in Schedule 6 of the Planning and Development Regulations, 2001, as amended, which state:

*"A description of the **reasonable alternatives** studied by the person or persons who prepared the EIAR, 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."*

As such, the consideration and presentation of the reasonable alternatives as studied by the project design team is an important aspect of the EIA process. The alternatives examined throughout the design process are set out as follows:

Alternative Locations

Given the sites appropriate zoning for residential development and the physical site suitability, the subject site was considered an ideal location by the applicant for the development of a new residential scheme.

The development of the lands at Station Road will provide much needed residential accommodation in Dunboyne and as such, no alternative locations for the proposed development were considered

Alternative Designs

It is noted that the design of the scheme evolved following a pre planning meeting with Meath County Council as well as consultation with Irish Rail.

- **Option 1** was presented to Meath County Council at the initial Section 247 pre planning consultation for the scheme. Comments from the Meath County Council Planners present at the section 247 meeting were considered and the design proposal was updated accordingly.
- **Option 2** was presented to Meath County Council at S32 pre planning meeting. Subsequently, S32 Opinion was issued by the Council. Items listed in the Opinion were considered and the proposal was updated accordingly, giving rise to the proposal that is now submitted to the planning authority seeking permission. A detailed Statement of Response to Opinion forms a part of this application.
- **Option 3** Option 3 represents the 'Chosen Option' now submitted to the planning authority for consideration. The project design team has endeavoured to incorporate all comments received from Meath County Council into the final design proposal.

It is considered that the above evolution of the scheme from option 1 through to option 2 and the chosen option 3 were not driven by environmental factors but rather by comments received from the Meath County Council Planning Department and other departments being involved. The design team has endeavoured to ensure that the proposal presents the most sustainable design option for the site from the initial outset of the design of the scheme.

Do Nothing Alternative

It is considered that the 'Do Nothing' Alternative of leaving the development site as greenfield lands would be contrary to Meath County Councils development objectives for the subject site.

Alternative Processes

Alternative processes are not considered relevant to this Environmental Impact Assessment Report given the nature of the proposed development.

5 POPULATION AND HUMAN HEALTH

This chapter has been prepared to assess the likely impacts, if any, associated with Human Health and population that may arise from the proposed development. In Accordance with the Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA 2022), Draft Advice Notes for Preparing Environmental Impact Statements (EPA 2015) and European Commission Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (EU 2017). This chapter considers the "existence, activities and health of people", with respect to "topics which are manifested in the environment such as employment and housing areas, amenities, extended infrastructure or resource utilisation and associated emissions".

The chapter focuses on the human environment proximate to the proposed development in terms of population profile, employment, land use and social patterns, human health and traffic congestion.

Receiving Environment

The sensitivity of the surrounding area has been considered based off the details available from published data.

The Central Statistics Office (CSO) provides data on population and socio-economic aspects of the population at a State, County and local Electoral District level. The subject site falls within the 'Dunboyne' Electoral District (ED) and within the administrative area of Meath County Council. The most recent census of population was undertaken by the CSO in 2022.

CSO population statistics relevant to the subject area are summarised below. The most recent population figures for the Dunboyne area is noted as 10,698.

A review of the Dunboyne age profile confirmed that the communities surrounding the area have an age profile generally weighted towards a young and middle aged population group, with an below average concentration of individuals over 65 years of age and an above average proportion of the population under 19 years of age. The areas most prominent age cohort was revealed to be those in the working age group of between 35 and 39 years old.

Accommodation – Household Size

The average household size in Meath County was calculated as being 3.3, which is slightly above the national average figure. The local community surrounding the subject site comprises mostly of 4 person households.

Employment

In accordance with Development Plan policy, there is an identified need to accommodate future generations within Meath and the Greater Dublin Area through the proper planning and development of new neighbourhoods. It envisages that a certain level of local employment will arise from the increase in employment opportunities. It is considered that the proposed development will have an increasingly positive effect on employment in the local community.

Retail Provision

It is concluded that there is sufficient retail facilities in the area. There is an array of supermarket and local shops in the vicinity of the proposed development that the future residents of the area will avail of. The proposal delivers for 2 no. retail unit and café to serve future community

Potential Impacts of the Proposal at Construction and Operation Phase

It is considered that the proposed development will lead to inevitable short-term impacts throughout the construction phase. These can be summarised as:

- A temporary increase in vehicular traffic
- A temporary increase in noise, dirt and dust generation
- A temporary increase in the employment opportunities arising from the construction of the development

A proposal of this nature at the subject site would have the following potential impacts during its operational phase:

- Change the character and appearance of the subject site

- Increase demand for local resources and Increase support and demand for local businesses and services through subsequent development
- Creation of the employment opportunities arising from proposed non-residential uses

The local community will experience a change in mobility consequent to reduced congestion of the Dunboyne road network.

An alteration to the actual physical environment of the neighbourhood may affect the spatial perceptions of the community living in this area. However, the proposed development will add to the vitality of the existing community.

The proposed development will ultimately increase the critical mass of the area and therefore provide a significant support base for the introduction of public transport systems over the longer term.

6 LAND, SOILS AND GEOLOGY AND HYDROGEOLOGY

The existing lands can currently be described as historically agricultural greenfield in the vicinity of the river Tolka flood plain. Ground investigations were undertaken by Causeway Geotech in 2019 which used a variety of experimental techniques to determine the substrata characteristics across the site. This, coupled with existing geological mapping, determine that the site is underlaid with till and gravel derived from limestone. The bedrock geological mapping indicates that the site is underlaid with by Dark Limestone and Shale from the Lucan formation.

These substrata characteristics indicate a high to moderate groundwater vulnerability across the site tallying with the relatively high permeability of the subsoils encountered. There is unlikely to be any existing groundwater contamination due to the current agricultural use of the lands

The potential impacts of the proposed LRD construction on the underlying ground are primarily associated with excavations needed for the formation of the required road buildup, drainage, building foundations reducing the depth of substrata layers and increasing the groundwater vulnerability for the duration of construction. There is low likelihood of groundwater contamination despite the increase in vulnerability due to the nature of the imported fills, the specific mitigation measures introduced during the construction phase to reduce the overall hazard risk and the long-term operation phase not releasing any significant discharges to the subsoils.

7 HYDROLOGY

In terms of Hydrology the proposed LRD development lies outside of the 'Public Supply Source Protection Area' which provide Dunboyne with its drinking water. However, these wells draw from the 'locally important aquifer' which belies the site.

A number of existing drainage ditches provide discharge routes for the surface water runoff emanating from the existing agricultural site to the Tolka River and its tributaries to the east. Most of the ditches will be made redundant by the development of the subject site while the ditch receiving run-off from lands outside the development to the northwest of site will be diverted directly to the River Tolka. Likewise, an existing surface water pipe entering development lands from the west which currently flows through Dunboyne rail station will be culverted through site to discharge directly to the River Tolka. Post-development, the vast majority of site will discharge surface runoff directly to the River Tolka at controlled greenfield runoff rates, to prevent

downstream impacts of the increased runoff associated with impermeable areas. Following a review of CFRAMS mapping and additional hydraulic modelling carried out on the Tola River, a minor portion of the eastern distributor road was found to lie in Flood Zone B. Following the proposed mitigation measures and application of a justification test carried out in the SSFRA, the proposed development is considered appropriate as each of the criteria outlined as part of the test was satisfied.

The potential impacts of the construction and operation of the proposed development are mitigated through a series of measures which will reduce the hazard risk to acceptable levels. For example, to prevent silt and construction debris entering the downstream watercourses a number of settlement tanks will be required. By introducing the measures outlined in Chapter 7 during construction and operation, the risk to the hydrological environment is reduced to an acceptable level.

8 BIODIVERSITY

This Biodiversity Chapter details the Ecological Impact Assessment (EcIA) of the Proposed Development, which assesses the potential effects of same on habitats and species; particularly those protected by national and international legislation or considered to be of particular nature conservation importance. This Chapter describes the ecology of the Site and surrounding area, with emphasis on habitats, plants, and animals, and will assess the potential effects of the Construction and Operational Phases of the Proposed Development on these Key Ecological Receptors (KERs).

A detailed desk study, in combination with a suite of field surveys, was carried out regarding the Proposed Development. Field surveys included: habitat/flora (including invasive plants) surveys, hedgerow appraisal survey, breeding bird surveys, wintering bird surveys, mammal surveys and bat surveys. All surveys were carried out at the appropriate time of year, and no significant limitations were encountered in the preparation of this Chapter.

Fourteen protected designated sites/areas were considered to potentially fall within the precautionary zone of influence (ZOI) of the Proposed Development, largely associated with Dublin Bay downstream along the River Tolka. These sites include the Dublin Bay UNESCO Biosphere, North Dublin Bay SAC (000206), South Dublin Bay SAC (000210), South Dublin Bay and River Tolka Estuary SPA (004024), North Bull Island SPA (004006), Rye Water Valley/Carton SAC (001398), Baldoyle Bay SPA (004016) and Malahide Estuary SPA (004025); two Ramsar sites: Sandymount Strand/Tolka Estuary (832) and North Bull Island (406), and four pNHAs: South Dublin Bay pNHA (000210), Dolphins, Dublin Docks pNHA (000201), North Dublin Bay pNHA (000206) and Rye Water Valley/Carton pNHA (001398).

The protected sites/areas in Dublin Bay all overlap and are all linked to the Site of the Proposed Development via two weak hydrological pathways in the form of the Tolka which runs to the east of the Site, and via foul water treatment at Ringsend Wastewater Treatment Plant. The potential impacts to the SACs and SPAs are assessed in detail in the Appropriate Assessment (AA) Screening and Natura Impact Statement (NIS) that accompany this application under separate cover. Dublin Bay UNESCO Biosphere, as well as the pNHAs and RAMSAR sites assessed in this Chapter overlap with the Dublin Bay European Sites and are designated for similar reasons e.g., the same waterbird species, habitats etc. It is deemed that the AA Screening and NIS therefore have assessed the potential impact of the Proposed Development on these other designated sites by proxy, with appropriate mitigation proposed where applicable, and therefore no further assessment in this

Chapter is required. The Rye Water Valley/Carton pNHA was screened out for dust impacts due to its distance from the Site. Therefore, no designated Sites were considered further as KERs in this Chapter.

The Site is largely made up of a set of arable fields with low species diversity, located east of the train line. Mature hedgerows and drainage ditches separate and run along the fields in some locations, while small areas of scrub are present in the north and south of the Site. No rare or protected plant species were recorded at the Site. Three low-medium impact invasive plant species were recorded; Sycamore (*Acer pseudoplatanus*), Cotoneaster (*Cotoneaster sp.*) and Butterfly bush (*Buddleja davidii*).

The Site is considered to be of local importance to breeding birds due to the number of species recorded and the presence of 2 red-listed species; yellow hammer (*Emberiza citrinella*) and swift (*Apus apus*) within or over the Site. The Site provides suitable foraging and nesting habitat for the majority of species recorded; through its various hedgerows. The Site supported small numbers of black-headed gull (*Chroicocephalus ridibundus*), golden plover (*Pluvialis apricaria*), herring gull (*Larus argentatus*), and snipe (*Gallinago gallinago*) during the winter bird surveys. Black-headed gull and herring gull are amber-listed birds, while snipe and golden plover are red listed species. Although it provides suitable habitat, the Site is not considered to be an important *ex-situ* site for wintering birds; due to an abundance of similar agricultural fields in the vicinity of the Site, and only a single occurrence of a flock of golden plover over the course of the winter. The Site is not considered to be a significant or scarce resource locally.

Signs of Badger (*Meles meles*) (scatt) were recorded near the scrub beside the trainline on the Site on two occasions and are assumed to be marginal territorial marks as no other evidence of badger activity was found at the Site. Rabbit (*Oryctolagus cuniculus*) were sighted at the Site and several fox (*Vulpes vulpes*) scats were also noted along the hedgerows. The Site could support some of the smaller native mammals, such as hedgehog (*Erinaceus europaeus*), Irish stoat (*Mustela erminea subsp. Hibernica*), and pygmy shrew (*Sorex minutus*). None of the other historically recorded mammals are likely to occur within the Site or in its immediate vicinity, but otter (*Lutra lutra*) may be present within the Tolka and its tributaries that are hydrologically linked to the Site, and as such will be assessed as part of an entity for 'Fauna of the Tolka' along with the river's fish populations. The lack of suitable habitat within the Site is likely to limit the potential population of any amphibians e.g., Common Frog. Common Lizard (*Zootoca vivipara*) was considered as a precaution due to the presence of some suitable habitat at the Site.

Bat surveys in 2022 and 2023 recorded a total of 3 bat species; Common pipistrelle (*Pipistrellus pipistrellus*), Soprano pipistrelle (*Pipistrellus pygmaeus*), and Leisler's Bat (*Nyctalus leisleri*). Bat activity was associated with the vegetated boundaries of the Site. Comon pipistrelle was the most commonly recorded species, with similar representation of both Leiser's and Soprano pipistrelle across the surveys. The hedgerows and trees at the Site provided low roosting potential due to a general lack of potential roost features.

The following habitats and species were considered as KERs as part of the EcIA of the Proposed Development:

- Hedgerows (WL1), Scrub (WS1) and Drainage Ditches (FW4).
- Linked River Habitats (Naulswood, Bracetown, Tolka)
- Bat Assemblage.
- Breeding Bird Assemblage.

- Badger.
- Small mammals.
- Common Lizard.
- Otter.
- Fish Assemblage of the Tolka.

Potential impacts that could occur in the absence of mitigation were identified and can be summarised as potential Construction Phase impacts via habitat loss or damage, habitat fragmentation, spread of medium impact invasive plant species on Site, increases in noise and dust emissions, direct mortality or disturbance of animals (breeding birds, bats, small mammals and Common Lizard) during vegetation clearance and poor site management, potential pollution of drainage ditches and linked watercourses, and light pollution impacts to nocturnal species e.g., bats. The Proposed Development of the Site will result in the loss and fragmentation of the existing hedgerow network to facilitate the development footprint. Operational Phase impacts can be summarised as light pollution impacts to birds and nocturnal species e.g., bats, risk of vehicle collisions to small mammals, and general habitat loss until the proposed landscape planting becomes established.

Embedded mitigation is included in the Proposed Development in the form of integrated design features such as the public lighting design and landscape design. The best practice construction measures and mitigation measures recommended to address the potential impacts described above include standard surface water protection measures and the preparation of, and adherence to, a robust and comprehensive Construction Environmental Management Plan (CEMP) by the contractor for the duration of the Site works. This will bring together and set out all of the environmental control measures required to minimise, and control adverse environmental impacts associated with the Proposed Development. The timing of the various construction works will follow a predetermined construction timeline that will ensure that works take into account the breeding bird season, and the hibernation season for small mammals etc.

Specific Construction Phase mitigation measures are also recommended including: a pre-construction badger survey, precautions during vegetation clearance, measures to prevent mammals becoming trapped/injured within the construction site, to minimise pollution, light, noise and dust impacts to local animals/the receiving watercourses, prevent the spread of invasive plants on Site, and retained trees being damaged during the Construction Phase. No Operational Phase mitigation measures are required at the Site.

Enhancement measures recommended for the Site include the installation of 10 bat boxes to provide new roosting habitat, preparation of a Hedgerow & Woodland Management Plan (HWMP) by an Ecologist to ensure that new areas of hedgerow and woodland on Site are managed into the future in a way that maximises their biodiversity value, and the inclusion of 30 ‘Swift Bricks’ in the facades of the northern and western elevations of apartment Block A top provide nesting habitat for Swift, an endangered bird species.

The monitoring proposed of the Proposed Development includes: an Ecological Clerk of Works (ECoW) to carry out pre-commencement surveys for badgers, bats, breeding birds (if required) and invasive species, Construction Phase monitoring of tree protection measures for retained trees and of Construction Phase lighting. Operational Phase monitoring includes ECoW to ensure all enhancement measures (bat boxes and Swift bricks) are installed and operating effectively, as well as the review of the Hedgerow & Woodland Management Plan. The Ecologist will visit the Site

each summer for the first 2-3 years post completion to review the management of the hedgerows and woodland areas at the Site and confirm that the HWMP is being followed by the landscape maintenance company.

No significant cumulative impacts involving the Proposed Development and other developments were identified. The Proposed Development Site interacts with a proposed eastern distributor road (ref: 2460063, Submitted and further information requested) which will pass through the Site, as well as a second LRD proposed along the north-western section of the distributor road to the north-west of the Proposed Development. The combined construction phases will lead to combined impacts on the immediate area of the three sites; through loss of existing farmland habitats, increased noise and dust, and potentially surface water run-off to the Tolka and its tributaries to the east. It is not envisaged that the combined construction phases of each development would act cumulatively to cause any likely significant effects on any designated sites nearby or downstream.

In terms of residual impacts, the construction mitigation measures detailed in this Chapter and those included within the NIS, along with the design features to be adopted to offset/minimise adverse impacts to habitats animals at the Site, will be sufficient to reduce any identified potential impacts to KERs associated with the Site to 'negative', 'imperceptible' to 'slight', 'short-term' to 'permanent' in nature. 'Positive', 'permanent', 'significant' residual impacts are envisaged through a net increase in habitat diversity, tree and woodland planting, and floral diversity across the Site, and provision of new bat roosts and swift nesting habitat on Site. It is considered that provided the mitigation measures proposed are carried out in full, there will no significant negative impact to any valued habitats, designated sites or species as a result of the Proposed Development.

The Proposed Development will result in an overall slight positive impact through the landscaping plan, which includes the retention and enhancement of the existing western hedgerows at the Site and a net increase in total native and non-native trees through supplementary planting. This will in turn provide additional suitable foraging, commuting and nesting habitat for local populations of fauna including birds, bats and small mammals in an otherwise relatively ecologically poor agricultural landscape, and will provide connectivity between the Site and the wider area. The inclusion of bat boxes and Swift bricks in the design of the Proposed Development will also provide new roosting habitat for bats at the Site and new nesting habitat for Swifts, respectively. The Proposed Development will therefore provide an overall slight net gain in biodiversity at the Site.

9 AIR QUALITY AND CLIMATE

The Air Quality and Climate chapter examines the potential for the Proposed Development to impact upon air quality and climate within the vicinity of the site. This chapter also describes and assesses the impacts on local climate and on global climate in a wider context.

Construction Phase

A construction phase dust assessment has been carried out in accordance with the Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction (2024). The risk of dust impacts has been assessed separately for earthworks, construction and trackout and the dust emission magnitude has been classified for each of the four activities (this is known as 'Step 2A' of the dust assessment), using the definitions outlined for each activity within the Institute of Air Quality Management (IAQM) guidance. The dust emission magnitude is based on the scale of the anticipated works and is classified as small, medium and large. The sensitivity of the area was determined for dust soiling and human health impacts, respectively, as per the guidance (this is known as 'Step 2B' of the dust assessment). In accordance with the Institute of Air Quality Management (IAQM) guidance, the dust emission

magnitude (Step 2A) and sensitivity of the area (Step 2B) have been combined and the risk of impacts from construction, earthworks and trackout have determined (before mitigation is applied) (this is known as 'Step 2C' of the dust assessment). This risk has then been used to inform the selection of appropriate mitigation measures.

Table 1 details the risk of dust impacts for earthworks, construction and trackout activities.

POTENTIAL IMPACT	***SENSITIVITY***	***MAGNITUDE***		
		EARTHWORKS	***CONSTRUCTION***	***TRACKOUT***
		LARGE	***MEDIUM***	***LARGE***
Dust Soiling Impacts	***High***	***High Risk***	***Medium Risk***	***High Risk***
Human Health Impacts	***Low***	***Low Risk***	***Low Risk***	***Low Risk***
Ecological Impacts	***Not applicable – no ecological receptors within the study area***			

Table 1: **Summary of Unmitigated Risks**

The Institute of Air Quality Management (IAQM) recommends that significance is only assigned to effect after considering the construction activity mitigation. The risk of dust impacts has been determined in Step 2C and the appropriate dust mitigation measures identified, and the final step is to determine whether there are significant effects arising from the construction phase of the Proposed Development. The proposed mitigation measures will reduce the effects to be not significant.

It is predicted that fossil fuel combustion gas emissions including carbon dioxide, sulphur dioxide, nitrogen oxides, carbon monoxide and hydrocarbon particulate emissions will be minor and ongoing for the construction phase of the development and will not have a significant adverse impact on the existing ambient air quality in the vicinity of the site. The air dispersion modelling concluded that the construction phase is likely to result in a short-term increase in Nitrogen Dioxide (NO_2) concentrations in the locality. The results determine that there may be an 'imperceptible' and 'small' increases in concentrations of Nitrogen Dioxide (NO_2) at the worst-case receptors assessed when compared with 'Do Nothing' levels; with the highest predicted increase of 0.7 µg/m3 measured at R5 in the Opening Year and the highest predicted increase of 0.83 µg/m3 at R1 in the Design Year 'Do Something' scenarios. However, this increase in traffic has been determined to have an overall insignificant impact in terms of local air quality. Furthermore, the increase in traffic has been determined as marginal with regard to climatic impacts. Therefore, no residual significant impacts are anticipated from the Proposed Development in the context of air quality and climate.

Increased light good vehicles and heavy goods vehicles traffic flow as a result of the proposed development is likely to contribute to increases in greenhouse emissions such as carbon dioxide and nitrous oxide (N_2O). However, these contributions are likely to be marginal in terms of overall

national greenhouse gas emission estimates and Ireland's obligations under the Paris Agreement, and therefore unlikely to have an adverse effect on climate.

The Contractor will seek to achieve the greatest standards of sustainable construction and design and will incorporate sustainable design criteria from the outset which supports overall climate change mitigation. The following mitigation measure will further reduce the effect on national GHG emissions:

- Ensure all vehicles switch off engines when stationary – no idling vehicles; and
- Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable.

Operational Phase

Richard McElligott has prepared a Sustainability and Energy Statement for the Proposed Development (2024). This report identifies the energy standards with which the Proposed Development will have to comply and also sets out the overall strategy that will be adopted to achieve these energy efficiency targets.

The Proposed Development will be required to minimise overall energy use and to incorporate an adequate proportion of renewable energy in accordance with Building Regulations Part L 2021, Conservation of Energy and Fuel.

The design and construction of all buildings in accordance with Building Regulations Technical Guidance Document Part L 2022 will ensure that modern building materials are used and that they are designed to be thermally efficient resulting in a reduction in the volume of fossil fuels required to heat the buildings.

A Flood Risk Assessment has been undertaken for the Proposed Development by JBA Consulting (2024) to ensure sustainability and effective management of flood risk. The Flood Risk Assessment was undertaken in accordance with 'The Planning System and

Flood Risk Management' guidelines and is in agreement with the core principles contained within.

The Flood Risk Assessment:

- Identifies potential sources of flood risk;
- Confirms the level of risk and identifies key hydraulic features;
- Assesses the impact that the Proposed Development on flood risk; and
- Develops appropriate flood risk mitigation and management measures which will allow for the long-term development of the site.

Residual Effects

No negative residual impacts in the context of air quality and climate are anticipated regarding the Proposed Development.

10 NOISE AND VIBRATION

This Noise and Vibration chapter of the EIAR has been prepared by Wave Dynamics Limited an Acoustic Consultancy specialising in noise and vibration. Chapter 9 of the EIAR addresses the potential noise and vibration impact of the proposed development which consists of a Large-Scale Residential Development on lands at Station Road and Pace Line, Dunboyne, Co. Meath.

The assessment considers the noise and vibration impact of both the short-term construction phase and the long term/permanent operational phase on the surrounding environment.

The sites are located on existing lands at Station Road and Pace Line, Dunboyne, Co. Meath. The assessment of direct, indirect and cumulative noise and vibration impacts on the surrounding environment have been considered as part of the assessment.

An attended and unattended baseline noise survey and vibration survey was undertaken on the site to establish the background noise levels in the area for the purposes of assessing the noise impact on the existing noise sensitive receptors. The prevailing noise levels were from road traffic

noise, train noise and aircraft noise. Vibration was also measured from the existing rail line to quantify the impact on any future inhabitants of the development.
For the construction phase the cumulative noise impact from construction was assessed based on a worst-case scenario ie all plant and equipment operational at the same time. The noise sensitive receptors were considered in each direction from the site and their proximity to the construction works. The cumulative noise impact from construction noise was predicted at each noise sensitive location. The cumulative noise impact from the construction activities without mitigation was predicted to exceed the project criteria. Mitigation measures have been specified to mitigate the impact from construction activities to suitable levels. This includes the use of screening via hording, low noise plant and construction noise monitoring.
Vibration from construction activities was considered. It is not anticipated that the vibration will have a negative impact on the sensitive receptors however precautionary vibration monitoring has been recommended during the construction period to ensure any potential vibration impact is controlled. Vibration limits from the construction phase have been set for the development for the purposes of monitoring the vibration impact.
For the operational phase the main sources of noise are the additional traffic on the development, noise from play areas and the mechanical plant and equipment on the buildings. The noise levels from the operations of the development have been predicted based on the measured noise levels from similar developments. The assessment included vehicle movements, car parking, creche areas, external amenity spaces, plant and equipment on the buildings. The cumulative noise impact was predicted to the nearest noise sensitive location in each direction. The cumulative noise impact has been predicted to achieve the project criteria without any additional mitigation. This should be confirmed at design development stage when the specific plant and equipment for each site has been determined.
There are no expected sources of vibration for the operational phase of the development.
In conclusion the cumulative noise and vibration impact has been considered for both the operational and construction phases of the project. Noise and vibration monitoring during the construction period will be used to manage the construction noise and vibration emissions. For the operational phase the cumulative noise and vibration impact has been predicted to achieve the project criteria without any additional mitigation.

11 LANDSCAPE VISUAL IMPACT

The proposed development is located on the eastern edge of Dunboyne Town in Co. Meath. It presents as an agricultural fieldscape with hedgerows and treelines. The western edge is defined by green palisade fence at the interface with Irish Rail lands that comprise of Dunboyne Train Station, a large surface car park and the rail line itself. The boundary and central hedgerows with tree lines, along with one visually significant Monterey Pine in the southern portion of the site are considered to be important visual and landscape features. There are a number of mature trees and woodland to the south / south-west of the site in private lands that add value to the visual and landscape amenity locally.

Given the site's location on the eastern edge of Dunboyne Town there are elements which degrade the medium quality of the landscape setting. These include the fence line along the western boundary, high voltage power masts and overhead wires, the train line embankment and fencing which cuts through the north of the site.

The Meath Landscape Character Assessment (LCA) which forms part of the Meath County Development Plan 2021-2027, identified the general locale of the proposed development site as a South East Lowlands Landscape Character Area with a Lowland Landscape Character Type, with medium sensitivity, a medium to high landscape value and medium capacity for change. The overall landscape sensitivity is considered medium. The LCA also notes the somewhat degraded nature of the eastern perimeter landscape of Dunboyne Town.

There are no protected Views and Prospects identified locally that will be impacted by the proposed road development. There will be no impact on the Architectural Conservation Area (ACA) within Dunboyne Town. There will be no impact on archaeological heritage within the site.

Given the nature of the agricultural fieldscape setting, a detailed biodiversity assessment was carried out by Enviroguide Consulting, covering flora and fauna of the site. Several habitats were identified, and recommendations made to ensure any adverse impacts will be designed out of the project and mitigations measures are addressed at the outset. Enviroguide worked in close consultation with KFLA, the project landscape architects. The landscape proposals endeavour to replace like for like in terms of new native tree and hedgerow plantings to replace the habitats that will be removed to facilitate the proposed development. SUDs measures are also designed into the scheme to ensure that surface water run-off etc is managed appropriately. A Construction and Environmental Management Plan (CEMP) has also been undertaken to ensure best practices are adhered to during the construction stage of the project.

In terms of visual assessment, fourteen photomontages were prepared by Digital Dimension, and are included in Appendix 11 of the EIAR. The views are representative views into the site and include short, medium and long distance viewpoints, all from the public domain at ground level.

The effects of the impacts of the proposed development will be experienced by sensitive receptors such as local residents, pedestrians, cyclists, car users using local roads such as Station Road, the Navan Road and the road infrastructure on higher elevations to the east of Dunboyne town as well as users of Dunboyne Train Station and train line.

The greatest of the visual effects will be experienced from the following locations :

- Along Station Road to the south, on approach to and exit from Dunboyne town
- Along the northern access road to the residential area to the west of the site
- By users of Dunboyne Train Station and rail line
- By users of roads on higher elevations to the east of the site

	Quality of Effects	**Significance of Effects**	**Duration Of Effects**
View No. 1	Positive	Moderate	Permanent
View No. 2	Neutral	Moderate	Permanent
View No. 3	Positive	Significant	Permanent
View No. 4	Neutral	Moderate	Permanent
View No. 5	Neutral	Moderate	Permanent
View No. 6	Neutral	Slight	Permanent
View No. 7	Neutral	Not Significant	Permanent
View No. 8	Neutral	Slight	Permanent
View No. 9	Neutral	Slight	Permanent
View No. 10	Negative	Significant	Permanent
View No. 11	Neutral	Imperceptible to Not Significant	Medium Term
View No. 12	Neutral	Not significant	Medium Term
View No. 13	Neutral	Moderate	Permanent
View No. 14	Neutral	Moderate	Permanent

The existing agricultural fieldscape on the north side of Station Road on the eastern edge of Dunboyne town is located in a peri-urban/suburban landscape context, is currently an area in transition with new residential areas under construction to the south in Castlefarm, and another LRD granted to the south of Castlefarm.

The proposed development will remove the existing agricultural fieldscape and replace it with a new residential neighbourhood with creche facilities set within a high quality public realm with substantial landscape planting, that will have a slight positive effect on the biodiversity of the site. The proposed enhancement of the existing western hedgerows is generally considered beneficial.

12 ARCHITECTURAL, ARCHAEOLOGICAL AND CULTURAL HERITAGE

IAC Archaeology has prepared Chapter 12 of this EIAR to study the impact, if any, on the archaeological, architectural and cultural heritage resource of a proposed Large-Scale Residential Development at Dunboyne, County Meath. The assessment has been undertaken by Faith Bailey (MA, BA (Hons), MIAI, MCIfA) of IAC Archaeology.

There are three recorded monuments located within the site, which consist of a ring ditch (ME050-031), an enclosure (ME050-032001) and a further ring ditch (ME050-032002). All three sites will be preserved in-situ as part of the development, and in accordance with national and regional policy. There are a further five archaeological sites within the 250m study area. The zone of archaeological potential (ME050-021) that surrounds Dunboyne town is located c. 578m west of the proposed development.

There are no protected structures included on the RPS within 250m of the proposed development area. There are, however, two structures listed on the NIAH building survey. These structures consist of the Dunboyne Bridge (NIAH 14341002), c. 22m southwest and the Dunboyne water tower (NIAH 14341001), c. 36m to the southwest.

A review of the Excavations Bulletin (1970-2023) and the available excavation reports has revealed that a large percentage of the proposed development footprint has been subject to geophysical survey and archaeological testing in 2017 to 2019. The only areas not assessed as part of previous works comprise a proposed compound and service runs to the east of the development. The initial programme of works containing the southern portion of the development revealed the presence of the three recorded monuments (ME050-032001/2, ME050-031) and a number of other areas of archaeological potential (AA1-6 2017). These comprised a charcoal deposit in AA3 (2017), charcoal within the upper ditch fills in AA4 (2017), and a charcoal and ash deposit encountered within AA5 (2017). AA6 (2017) consisted of two parallel curvilinear ditches that may have represented a former trackway through the landscape. None of the identified archaeological areas were located within the footprint of the proposed development.

Geophysical survey and archaeological testing within the northern portion of the proposed development area revealed four areas of archaeological potential. The most significant features included a partial, circular enclosure and two associated pits and a hearth in AA3 (2017ext), a potential ring ditch enclosure in AA1 (2017ext) and a possible kiln in AA4 (2017ext). Linear and pit features in AA2 (2017ext) were considered to be of less significance. AA2 (2017ext), AA3 (2017ext), and AA4 (2017ext) are located in the proposed development area. AA1 is located to the immediate north of the proposed development area.

Ring ditches ME050-031 and ME050-032002 and enclosure ME050-032001 will be preserved in-situ. It remains possible that inadvertent ground disturbances associated with the construction and operation of the development may have a direct, negative and permanent impact on the archaeological remains. Prior to the application of mitigation, the significance of effect has the potential to range from slight to significant.

Preservation in-situ is the preferred method to conserve the archaeological resource and is this is reflected by national and regional policy. The recorded monuments within the site will be preserved in-situ within green areas associated with the development (ring ditches ME050-031 and ME050-032002 and enclosure ME050-032001). In order to prevent inadvertent impacts at construction and operation, these sites will be fenced off and in advance of construction a management plan will be submitted to the Local Authority, detailing the preservation of the sites during construction and operation. The management plan will be compiled by a suitably qualified archaeologist.

Ground disturbances associated with the construction phase will result in a direct, negative and permanent impact on the archaeological remains identified during archaeological investigation on site. These comprise a charcoal deposit in AA3 (2017), charcoal within the upper ditch fills in AA4 (2017), a charcoal and ash deposit encountered within AA5 (2017) and two parallel curvilinear ditches in AA6 (2017). Further effected archaeological areas include AA1 2017ext (potential ring ditch), linear and pit features in AA2 (2017ext) and AA3 2017ext (partial enclosure and associated features). Prior to the application of mitigation significance of effect will be significant.

As it is not possible to preserve the archaeological sites identified during geophysical survey and archaeological testing, the sites will be fully preserved by record (archaeological excavation). This will be undertaken by an archaeologist under licence to the DoHLGH. Full provision will be made available for the required fieldwork and post-excavation works.

It remains possible that small or isolated archaeological features survive beneath the current ground level, outside the footprint of the excavated test trenches, which would be directly, negatively and permanently affected by ground disturbances associated with the construction phase. Effects may be moderate to significant in significance, depending on the significance of any remains that are present.

Dunboyne corn mill will not be affected by works associated with the construction phase. The site of the mill pond will be affected by ground disturbances within the compound area to the east of the proposed development. Effects, prior to the application of mitigation, will be direct, negative and permanent with a moderate significance of effect.

During the operation phase, there will be an indirect, temporary, negative effect on the setting of Dunboyne corn mill, due to the operation of the compound area to the west. Given the poor condition and overgrown nature of the site, this is a slight negative effect.

All topsoil stripping within the proposed development area will be monitored by a suitably qualified archaeologist. If any further features of archaeological significance are identified, including any remains associated with Dunboyne Mill, further mitigation may be necessary, such as preservation in situ or by record. Any further mitigation will be subject to approval from the National Monuments Service of the DoHLGH.

No effects during construction or operation are predicted upon the architectural heritage resource.

Following the completion of all mitigation measures, there will be no significant residual impacts upon the archaeological, architectural or cultural heritage resource.

13 TRAFFIC AND TRANSPORTATION

This section of the Environmental Impact Assessment Report (EIAR) document has been prepared by DBFL Consulting Engineers and addresses all transport and related sustainability issues surrounding the proposed Large-Scale Residential Development (LRD) including means of vehicular access, pedestrian, cyclist and local public transport connections. The principal objective of this chapter is to quantify any level of impact across the local road network and subsequently ascertain the operational performance of the local road network, should the proposed LRD be granted planning permission and fully constructed.

The proposed development site is located to the east of the Dublin to Dunboyne / M3 Parkway railway line and to the north of the L2228 Station Road. The site is bound to the north and east by the future Dunboyne Eastern Distributor Road (DEDR) corridor, whilst Community Infrastructure zoned lands are also located to the east adjoining the LRD site.
The development will consist of 853 no. units, comprising 343 no. houses, 112 no. duplexes and 398 no. apartments to be constructed over four phases. The development will also feature a proposed café (approx. 197sqm) with associated outdoor seating area, medical unit (197 sqm), retail unit 2 (approx. 217 sqm), retail unit 3 (approx. 170 sqm), community room (approx. 52 sqm), 2 no. creche facilities (approx. 394 sqm and approx. 400 sqm).

Access to the proposed development will be facilitated via the Dunboyne Eastern Distributor Road (DEDR) which is subject to a separate planning application to be lodged soon. It is envisioned that the DEDR will be open and operational by the time the entire proposed residential development is complete. The section of the Dunboyne Eastern Distributor Road, from the proposed development's southern boundary with Station Road (L2228) to its northern boundary will be delivered by the subject LRD development. New vehicular, pedestrian and cycling connections to Dunboyne Train Station and the closure of the existing vehicular access from Station Road (L2228) will also be provided by this LRD development.

The Dunboyne Eastern Distributor Road is put forward as an objective of the Meath County Development Plan 2021-2027. Under MOV OBJ 52 of the plan, it is stated that it is an objective of the Council "*to continue to support the delivery of key strategic roads within Dunboyne to include an eastern distributor road to facilitate rail-focused development, new bus routes and reduce traffic levels in the town.*"

As detailed further in the accompanying Traffic and Transport Assessment Transport, our methodology incorporated a number of key inter-related stages, including:

- Site Audit: A site audit was undertaken to quantify the existing road network issues and identify local infrastructure characteristics, in addition to establishing current levels of accessibility surrounding the subject site in terms of walking, cycling and public transport. An inventory of the local road network was developed during this stage of the assessment.
- Traffic Counts: Junction traffic counts were undertaken and analysed with the objective of establishing local traffic characteristics across the local Dunboyne road network.
- Traffic Forecasting: A traffic growth / forecast exercise has been carried out to establish the potential level of increase in motorized vehicle traffic across Dunboyne while also accounting for trips generated by future planned developments.
- Trip Redistribution: Based upon both the existing traffic characteristics and the road network layout in addition to the spatial / land use configuration and density of the urban structure across the catchment are of the proposed scheme, a redistribution exercise has been undertaken to assign and distribute vehicle trips across the immediate local road network following the completion of the Business Park Link Road and Dunboyne Eastern Distributor Road.
- Network Impact: The specific level of influence generated by the proposed development upon the local road network was ascertained and the junctions which required assessment in greater detail identified.

- Network Analysis: Detailed computer simulations were undertaken to access the operational performance of key junctions in the post development 2026, 2031 and 2041 future scenarios.

The assessment included the consideration of third party committed developments during the schemes initial construction stage and subsequent operation stage. An additional sensitivity test has also being undertaken to consider how traffic generated by the proposed development would navigate the local road network, should the completion of the full Dunboyne Eastern Distributor Road be delayed beyond 2041.

For the purpose of this analysis, it was conservatively assumed that phase 1 of the proposed residential development would be built and occupied by 2026 with the rest of the development, along with the full DEDR constructed and operational by 2031. A range of peak hour scenarios were investigated for an opening year of 2026, an interim year of 20231 and a future design year of 2041 including the following different assessment scenarios: -

Do-Minimum Scenario

- A1 – 2026 Do-Minimum traffic characteristics: 2026 base traffic flows + committed development flows + redistributed flows with completion of the Business Park Link Road;
- A2 – 2031 Do-Minimum traffic characteristics: 2031 base traffic flows + committed development flows + redistributed flows with completion of the Business Park Link Road and Dunboyne Eastern Distributor Road;
- A3 – 2041 Do-Minimum traffic characteristics: 2041 base traffic flows + committed development flows + redistributed flows with completion of the Business Park Link Road and Dunboyne Eastern Distributor Road;

Do-Something Scenario

- B1 – 2026 Do-Something traffic characteristics: 2026 Do-Minimum (A1) + Proposed Development Flows;
- B2 – 2031 Do-Something traffic characteristics: 2031 Do-Minimum (B2) + Proposed Development Flows;
- B3 – 2041 Do-Something traffic characteristics: 2041 Do-Minimum (B3) + Proposed Development Flows;

The potential level of impact that may be generated by the subject residential development has been investigated at a number of key nodes across the local road network. A total of 6 no. junctions were chosen for analysis in greater detail using computer simulations due to their function as new connection points between the Dunboyne Eastern Distributor Road and the existing road network, alterations to their layout or the additional volume of traffic expected to navigate the junctions with the completion of the proposed residential developments. These junctions are:

- L2228 Station Road / R147 roundabout
- R147 / M3 junction 4 northbound slip roundabout
- Private Access / L2228 Station Road / Rooske Road signalised junction
- Future Navan Road / DEDR / Dunboyne Business Park signalised junction
- Future Station Road / DEDR signalised junction
- Future Dunboyne Train Station Access / DEDR signalised junction

Detailed operational assessments of these six junctions reveals that all nodes will operate within normal operational parameters when the proposed residential development is fully constructed and occupied and will continue to operate within normal operational parameters should the completion of the Dunboyne Eastern Distributor Road be delayed beyond 2041.

14 WASTE MANAGEMENT

The Waste Management chapter provides an assessment of the potential impacts of the Proposed Development on waste management services.

All waste materials generated during the construction and operational phases of the Proposed Development will be managed in accordance with the respective waste management plans.

The waste management objectives for the Proposed Development are as follows, and will facilitate material reuse and recycling, where possible, and seek to divert waste from landfill:

- Prevention: The Contractor will prevent and minimise waste generation where possible by ensuring large surpluses of construction materials are not delivered to the site through coordination with the suppliers;
- Reuse: Re-using wastes and surplus materials where feasible and in as many high value uses as possible;
- Recycle: Recycling wastes where possible such as introducing on-site crushers to produce waste derived aggregates which, subject to appropriate testing and approvals, may be re-used in the Proposed Development;
- Disposal: Where disposal of waste is unavoidable, this will be undertaken in accordance with the Waste Management Act 1996, as amended.

A Resource Waste Management Plan (RWMP) (Enviroguide, 2024) has been prepared for the construction phase of the Proposed Development and has been submitted with the planning application.

It is intended, where possible, to maximise the reuse of clean/non-hazardous excavation material as landscaping or engineering fill following appropriate material testing and risk assessment to ensure the material is suitable for its proposed end use, to avoid importing raw materials. Excavated soil and stone pending reuse in the Proposed Development will be temporarily stockpiled in designated areas onsite during the construction phase.

Offsite removal of surplus clean soil and topsoil will be undertaken in accordance with the RWMP and relevant waste management legislation. The site management team will keep records of the removal and certification on file on site. The offsite re-use of material will be prioritised to minimise the potential loss of valuable good quality soil and subsoil to landfill as a waste. The re-use of soil offsite will be undertaken in accordance with all statutory requirements and obligations including where appropriate re-use as by-product in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (SI No. 126 of 2011) as amended. Any surplus soil not suitable for re-use as a by-product and other waste materials arising from the Construction Phase will be removed offsite by an authorised contractor and sent to the appropriately authorised (licensed/permitted) receiving waste facilities. As only authorised facilities will be used, the potential impacts at any authorised receiving facility sites will have been adequately assessed and mitigated as part of the statutory consent procedures.

The potential impact from the construction phase on waste recovery and disposal is likely to be short-term, negative and minor in nature.

An Operational Waste Management Plan (OWMP) has been prepared by Enviroguide (2024) and has been submitted with this planning application. The waste strategy presented in the Operational Waste Management Plan which sets out how waste storage and management has been designed in accordance with legal requirements, policies and good management guidelines.

Implementation of the Operational Waste Management Plan will ensure that a high level of recycling, reuse, and recover at the Proposed Development during the operational phase. The potential impact from the operational phase on municipal waste disposal is likely to be long term, negative and moderate.

The cumulative effects of the Proposed Development on waste management have been assessed taking other planned, existing, and permitted developments in the surrounding area into account. All relevant planning permission applications that have been granted and developed have been taken into account. The assessment concluded that the likely cumulative impact of the Proposed Development with other developments in the area during both the construction and operational phases will be neutral and not significant on waste management facilities in the area in the long-term.

The implementation of the Resource Waste Management Plan in conjunction with best environmental practice and appropriate management of the Proposed Development and the implementation of the mitigation measures outlined in the Waste Management Chapter will ensure that the waste arising from the construction phase of the Proposed Development is dealt with in compliance with provisions of the Waste Management Act 1996, as amended, associated Regulations and Litter Pollution Act 1997, and The National Waste Management Plan for a Circular Economy 2024-2030. The mitigation measures will also ensure optimum levels of waste reduction, reuse, recycling and recover are achieved and will promote more sustainable consumption of resources. Therefore, there are no likely significant adverse effects to waste management as a result of the Construction Phase of the Proposed Development.

Implementation of the Operational Waste Management Plan will ensure a high level of recycling, reuse and recovery at the Proposed Development. All recyclable materials will be segregated at source to reduce waste contractor costs and ensure maximum diversion of materials from landfill, thus achieving the targets set out in The National Waste Management Plan for a Circular Economy 2024-2030.

Residual Effects

Construction Phase

The residual effects on waste management are considered to be minor, negative and short-term for the construction phase, due to:

- The prevention and mitigation measures proposed within the Waste Management chapter and other chapters of the Environmental Impact Assessment Report;
- Compliance with national legislation and the allocation of adequate time and resources dedicated to efficient waste management practices; and
- Continued use of permitted/licensed waste haulers and facilities. Waste removed from the site will be managed appropriately and will avoid environmental impacts or pollution. In addition, the correct site management and storage of waste will avoid litter or pollution issues at the site.

Operational Phase

The use of suitably licensed waste contractors will ensure compliance with relevant legal requirements and appropriate off-site management of waste. With the implementation of the proposed operational waste management measures, the proposed development is not expected to have a significant environmental impact with respect to operational waste. The likely effect of the operational phase on waste management will be neutral and imperceptible in the long-term.

15 MATERIAL ASSETS

This chapter prepared evaluates the protentional impacts, from the proposed development of Material Assets as defined in the EPA Guidelines 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022), Advice Notes Draft Advice Notes for preparing Environmental Impact Statements (EPA, 2015), and European Commission Guidance on Environmental Impact Assessment of Projects: Guidance on the Preparation of the Environmental Impact Assessment Report (2017)'.

This chapter provides an evaluation of the following economic assets of the subject site and its surroundings:

Materials Assets of Natural Origin

- Agriculture

- Natural resources

Material Assets of Human Origin

- Local Settlement
- Property Prices
- Gas Supply
- Electricity supply
- Telecommunications
- Transport
- Water supply and sewerage
- Municipal Waste
- Tourism

It is considered that the proposed development will not have any significant impact on material assets including, most notably, public utilities and natural resources. The overall predicted impact of the proposed developments can be classed as long term and negligible with respect to material assets. The proposed development has been designed for, and the infrastructure constructed for, a residential development of this nature.

16 CUMULATIVE IMPACTS

This chapter has been prepared to consider the potential for cumulative impacts that may arise as a result of the proposed development in combination with any future development, as far as is practically possible, on the site and the cumulative impacts with both planned and permitted developments in the immediate surrounding area.

Cumulative impacts are the impacts that relate to the incremental/ additive impacts of the planned development to historical, present, or foreseeable future actions within reason. Cumulative impacts generally arise through the following:

- Persistent additions or losses of the same material or resource,
- Compounding effects due to the coming together of two or more effects.

The potential for cumulative impacts is assessed within this chapter for each relevant environmental factor, and the predicted impact is described. With proper implementation of mitigation measures where appropriate, it is predicted that there will be no long term significant cumulative impacts.

17 INTERRELATIONSHIPS BETWEEN THE ASPECTS

This chapter has been prepared to examine the potential interactions and interrelationships between the environmental factors as discussed in the preceding chapters. All consultants have engaged with each other to ensure that the potential interactions are addressed, and their negative impacts are mitigated.

The interactions between the environmental factors and impacts as discussed in the EIA have been assessed and it is considered that the proposed development will not result in any significant synergistic effects on the environment.