

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

NON-TECHNICAL SUMMARY

PROPOSED COLP WEST STRATEGIC HOUSING DEVELOPMENT

AT

COLP WEST, DROGHEDA, COUNTY MEATH



In Association with:

DDA Architects | DBFL Consulting Engineers | DFLA Landscape
Consultants | Awn Consulting Ltd | Archer Heritage Consultancy |
Modelworks | EnviroGuide Consulting

September 2020

Non-Technical Summary

INTRODUCTION

This Environmental Impact Assessment Report (EIAR) has been prepared in support of the proposed Colp West Strategic Housing Development application for residential, childcare facility and associated infrastructure development on a site at Colp West, Drogheda, Co. Meath. The lands are primarily located to the north of Colpe Road and to the west of Mill Road and Gaelscoil an Bhradáin Feasa and are primarily bordered to the south west by the Dublin-Belfast railway line. The site also takes in lands within the existing Grange Rath development to the south west of the railway line and sections of Colpe Road and Mill Road to the south east and northeast of the main application site.

This document is a summary of the information contained in the EIAR. For detailed information and key mitigation and remedial measures please consult the full EIAR document.

Purpose of the EIAR

The objective of this EIAR is to identify and predict the likely environmental impacts of the proposed development; to describe the means and extent by which they can be reduced or ameliorated; to interpret and communicate information about the likely impacts; and to provide an input into the decision making and planning process.

The EIAR is the primary element of the Environmental Impact Assessment (EIA) process and is recognised as a key mechanism in promoting sustainable development, identifying environmental issues, and in ensuring that such issues are properly addressed within the capacity of the planning system.

The Requirement for an EIAR

Projects needing environmental impact assessment are listed in Schedule 5 of the Planning and Development Regulations 2001-2018.

Schedule 5 (Part 2) of the Planning & Development Regulations 2001-2019 set mandatory thresholds for each project class. Sub-section 10(b) (iii) and (iv) addresses 'Infrastructure Projects' and requires that the following class of project be subject to EIA:

(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.

The proposed Strategic Housing Development comprises of *inter alia* the provision of 357 no. residential units, a childcare facility and associated site and infrastructural works of c. 13.47 hectares.

An EIA is therefore mandatory, as the proposed SHD development at Colp West exceeds the relevant urban development area threshold of 10 hectares.

The following components are addressed in the EIAR:

- Introduction and Methodology,
- Project Description and Alternatives Examined,
- Population and Human Health,
- Archaeology and Cultural Heritage,
- Biodiversity,
- Landscape and Visual Impact,

- Land and Soils,
- Water,
- Air Quality and Climate,
- Noise and Vibration,
- Material Assets – Built Services
- Material Assets - Transpiration,
- Interactions of the Foregoing,
- Principle Mitigation and Monitoring Measures,
- Non-Technical Summary.

It is necessary to examine each of these sections of the environment with respect to the impacts that the proposed development may have on them.

In addition to the components required under Schedule 5 of the Planning & Development Regulations 2001-2018, this planning application has examined a number of additional areas in further detail (such as Traffic and Transportation and Flooding), which have helped inform the contents of this EIAR, and which are included as standalone reports with the planning application.

PROJECT DESCRIPTION AND ALTERNATIVES EXAMINED

Development Description

The proposed development consists of a residential development comprising 357 no. residential units, a childcare facility and associated outdoor play area, road infrastructure, a pedestrian bridge over the railway line and associated pathways, all associated open space, cycle and pedestrian infrastructure, services and all other associated development on a site of c. 13.47 hectares.

The 357 no. residential units proposed consist of 169 no. houses, 52 no. duplex apartments and 136 no. apartments.

The 169 no. houses will consist of the following:

- 104 no. 3 bedroom units
- 65 no. 4 bedroom units

The 136 no. apartment units will consist of the following:

- 58 no. 1 bedroom units
- 78no. 2 bedroom units

The 52 no. duplex units will consist of the following:

- 52 no. 3 bedroom units

The proposed childcare facility is a two storey building with a GFA of 439 sq.m. The proposed houses are 2 to 3 storeys in height and the duplex/apartment blocks are 3 to 6 storeys in height.

The development includes road infrastructure comprising of a link street approximately 652m in length (including changes to the previously permitted road infrastructure under Reg. Ref.: LB/180620), including bus stops, 1 no. roundabout, pedestrian crossings and c. 246m long road to the east to facilitate a connection to the existing school on Mill Road (Gaelscoil an Bhradáin Feasa). The road infrastructure also includes the realignment of a section of Colpe Road and the realignment of the southern section of Mill Road, and includes proposed cycle lanes/paths,

footpaths, grass verge, and the provision of a footpath and cyclepath / cycle lane on Colpe Road to tie-in with the existing shared footpath / cyclepath, to the south-west of the railway line.

The proposed new pedestrian bridge will cross the existing Dublin to Belfast railway line and will link the proposed SHD development to the existing Grange Rath housing development to the south-west.

The development includes associated site and infrastructural works including all associated road infrastructure, foul and surface / storm water drainage (including upgrading of water services on Mill Road), surface water management including attenuation and storage features, a pumping station, watermains and utilities, 592 no. car parking spaces, 532 no. cycle parking spaces, public open space including a linear park, bin and bike stores, 2 no. substations, landscaping consisting of new tree planting, hedges, berms and grass planting, boundary treatments, public lighting, temporary marketing suite and signage (during construction phases), and all associated site and infrastructural works.

Alternatives Examined

This chapter also includes a summary of reasonable alternatives which were considered for the proposed development. These options were considered as the scheme progressed and the key considerations and amendments to the design having regard to the key environmental issues pertaining to the lands are summarised in this section of the EIAR.

POPULATION AND HUMAN HEALTH

The 2014 EIA Directive (2014/52/EU) has updated the list of topics to be addressed in an EIAR and has replaced 'Human Beings' with 'Population and Human Health'. This chapter also meets the requirement for assessment of 'Human Beings', as set out in Schedule 6 of the Regulations.

Population (human beings) and Human Health is a broad ranging topic and addresses the existence, activities and wellbeing of people as groups or 'populations'. While most developments by people will affect other people, this EIAR document concentrates on those topics which are manifested in the environment, such as new land uses, more buildings or greater emissions.

- Economic Activity;
- Social Patterns;
- Land-Use & Settlement Patterns;
- Employment; and
- Health & Safety.

The proposed development will result in a generally positive alteration to the existing undeveloped green-field site in terms of the provision of residential units, childcare facilities, significant areas of open space and new road and pedestrian / cycle infrastructure to serve the growing need for quality housing in the area in accordance with the planning policy framework provided by the National Planning Framework, and at a local level the Meath County Development Plan and the LAP for the Southern Environs of Drogheda. The proposed development will precipitate long term and positive impacts in respect of the health of future occupants. The proposed development will bring about an increase in population in the wider area.

The implementation of the range of remedial and mitigation measures included throughout this EIAR document are likely to have the impact of limiting any likely adverse environmental impacts of the construction and operational phase of the proposed development on population and human health.

ARCHAEOLOGY AND CULTURAL HERITAGE

An Archaeological Impact Assessment comprising a desk-based study, field survey, geophysical survey and test-excavations was carried out for lands at Colp, Drogheda, Co. Meath. The desktop assessment, field surveys and excavations identified the following factors;

The proposed residential area is in proximity to three recorded monuments; ME021-016 a Fulacht Fia; ME021-011001 a cemetery; and ME021-011002 an enclosure. The cemetery and enclosure were partially excavated in 1988, where the remains of over 100 individuals were buried over several generations. A separate Conservation and Management plan for this feature has been prepared.

Aerial photographs show the double ditched enclosure of ME021-011002 approx. 150m to the rear of An Bhradan Feasa School.

The field survey identified a NW/SE aligned ridge running through the road which had the potential to contain archaeological features- subsequent test excavations proved it to be non-archaeological.

No potential archaeological features were recorded in historical maps of the subject site.

There are no visible remains of the medieval church of Colpe (ME021-012004-) the location of which lies approximately 500m south- east of the residential development.

Two protected structures, Colpe House (Reg. No. 14317002, RPS number MH021-103) and Colp Church of Ireland are located 500m to the south-east of the residential development.

Previous excavations to the immediate south and west of the site (Grange Rath housing estate) revealed a large range of archaeological features including a small ringfort with eight additional enclosures and cereal-drying kilns indicating an extensive and prosperous settlement (Clarke & Murphy, 2001) Test trenching (licence number 18E0089) and geophysical survey (licence numbers 09R0057 and 18R0011) for a proposed road and office development (Planning Ref. LB180620) revealed three linear features probably associated with the enclosure ME021-011002.

Further test trenching of the subject site (licence number 18E0597) comprising a total of twenty (20) trenches (2980 linear metres) and two 5m x 5m areas centred on geophysical anomalies (18R0181) were mechanically excavated across the site under archaeological supervision. A single archaeological feature, a shallow linear ditch in Trench 10, was identified that may correspond to a linear feature (Feature A) highlighted in the geophysical survey (18R0181).

Following consultation with Mr. Tom Condit of the Department of Cultural Heritage and the Gaeltacht a licence to excavate the linear features found in the test-excavations (18E0089 & 18E0597) was received (18E0615ext.). Full archaeological excavation of these features, in two cuttings, was undertaken on 5-24 April 2019.

Archaeological monitoring of the groundworks for a proposed road and office development (Planning Ref. LB180620) was undertaken in July 2019 (18E0089ext.). Only two fields to the rear of Fortfield House were subject to construction activity in this phase and no archaeological features or material was identified.

Test excavations (licence number 19E0627) in advance of a proposed temporary school site and access road (Planning ref. LB 190739) took place in September 2019. No archaeological features or material was identified. However, a field survey undertaken as part of the archaeological assessment for the school project identified a possible ring-ditch in the form of a crop-mark within the field resulting in the development being relocated in the design stage.

Archaeological monitoring of the groundworks for the proposed temporary school site and access road took place in March 2020. No archaeological features or material was identified during the course of the topsoil stripping of the site.

Several measures have been undertaken or proposed to mitigate the impacts of development on the archaeological resource;

Mitigation measure 1: It is recommended that archaeological monitoring, under licence, should be undertaken during topsoil removal for the remainder of the construction works of the access road, under Planning ref. Meath Co. Co. LB180620. An earlier phase in July 2019 took place under licence number 18E0089ext. (see Appendix 6).

Mitigation measure 2: A conservation strategy for the enclosure, ME021-011002-, and burials, ME021-011001 has been submitted to the Licensing Section and the Developments Applications Unit (DAU) of DCHG. This entails the establishment of a fenced exclusion zone around the site of the enclosure, ME021-011002-, and burials, ME021-011001 prior to, and continuing through, any construction phase of the development. This area within the exclusion zone will be appropriately landscaped and maintained as green area to preserve the buried archaeological material (see Appendix 1).

Mitigation measure 3: A fulacht fia site (RMP ME021-016) is located at the north-eastern boundary of the development area. It is recommended that this site should be preserved-in-situ and it is noted that it will be located under green space in the final development plan. An exclusion zone should be established around this site for the duration of construction works. It is further noted that all groundworks for the proposed access road and, in particular, the attenuation area, will be monitored under licence 18E0089ext. Should the fulacht fia extend into this area, an appropriate mitigation strategy will be agreed with the Department of Culture, Heritage and the Gaeltacht (DCHG) in consultation with the National Museum of Ireland (NMI). This may involve either preservation in situ or preservation by record, i.e. full archaeological excavation.

Mitigation measure 4: It is recommended that archaeological monitoring, under licence, should be undertaken during topsoil removal for the construction works of the residential area. Should any further archaeological features be revealed during monitoring they will be cordoned off from surrounding construction activity and an appropriate mitigation strategy will be agreed with the Department of Culture, Heritage and the Gaeltacht (DCHG) in consultation with the National Museum of Ireland (NMI). This may involve either preservation in situ or preservation by record, i.e. full archaeological excavation.

BIODIVERSITY

This EIAR chapter describes the Biodiversity (flora and fauna) of the Site of the Proposed Development at Colpe West with emphasis on habitats, flora, fauna and outlines the methodology of assessment. The assessment involved several steps and was carried out by suitably qualified ecologists.

Several specialist surveys were carried out to describe the baseline biodiversity of the Site, including:

- Desk-top study of protected Sites within 15km of then Proposed Development.
- Desk-top study of all species recorded with the 10km, 2km and 1km grid squares.
- Habitat Surveys.
- Bat surveys (2018 and 2019).
- Bird surveys (2020); and
- Mammal surveys

All surveys were carried out following standard and/or best practice protocols. Baseline ecological surveys involved a combination of both desk-based and field studies. A desk study was initially carried out to assess existing information relating to the Site's natural environment. The desk study relied on several resources including records and data from the National Biodiversity Data Centre (NBDC), Environmental Protection Agency (EPA), Geological Survey Ireland (GSI), National Parks and Wildlife Service (NPWS), as well as satellite imagery and mapping resources.

Following the baseline studies, the direct, indirect, and cumulative ecological implications or impacts of the project during its lifetime were assessed. Finally, where possible, mitigation measures to remove or reduce negative impacts at the Design, Construction and Operational Phases were proposed.

There are 6 no. European Sites located within 15km of the proposed development. The closest of which are the Boyne Estuary SPA (0.9km north of the proposed development), the River Boyne and Blackwater cSAC (0.9km north of the site of the proposed development) and the Boyne Coast and Estuary cSAC (0.9km north of the proposed development). There are 2 proposed Natural Heritage Areas (pNHAs) within 15km of the proposed development, the closest being the Boyne Coast and Estuary pNHA, 0.9km north east of the proposed development site.

The Appropriate Assessment Screening Report for the Proposed Development, included as a standalone report with the application, concluded that while significant negative effects of the Proposed Development could be ruled out for Clogher Head SAC, River Nanny Estuary and Shore SPA and River Boyne and River Blackwater SPA, significant negative effects could not be ruled out for The Boyne Coast and Estuary SAC, River Boyne & River Blackwater SAC, and the Boyne Estuary SPA. A Stage 2 Appropriate Assessment was therefore carried out. A Natura Impact Statement (NIS) has been prepared and accompanies the application. The recommended mitigation measures within the NIS accompanying this application will ensure that no adverse effects to the integrity of the Boyne Coast & Estuary cSAC, River Boyne and Blackwater cSAC and the Boyne Estuary SPA will occur.

The Site of the Proposed Development is approximately 13.47 hectares. The Site is predominantly a greenfield site and was previously in agricultural use. The last crop of Rape seed was harvested in July 2019 and the site has since been taken out of agricultural production. The field boundaries are defined by mature hedgerows and treelines.

The Site is within the River Boyne catchment. The closest stream to the Site is the Stagrennan, which is located approximately 300 metres to the north of the Site. This small, 1st order stream (smallest tributary) flows in an easterly direction before discharging into the River Boyne as well as two European sites - The Boyne Coast & Estuary *candidate* Special Area of Conservation (cSAC) and the Boyne Estuary Special Protection Area (SPA)

Habitat surveys at the Site revealed that habitats are semi-natural and man-made in nature, and include arable crops, hedgerows, treelines, and scrub. Arable crops are the dominant habitat type at the Site and is considered to be of low-moderate ecological value due to its highly modified nature and the lack of any floral diversity within it. Conversely, the hedgerows and treelines at the Site are of high local ecological value. These habitats provide habitat connectivity around the Site and with other linear vegetative habitats in adjacent lands. In a highly managed agricultural and suburban setting, hedgerows and treelines are important for roosting/foraging birds, bats and small mammals and insects.

The mammal surveys identified extensive evidence of mammal activity in the form of frequented paths or runs at the Site of the Proposed Development. Evidence of Badger activity at the Site was observed on the field margins of the northern boundary hedgerow and included active sett entrances, runs, turned out bedding, droppings, latrines, and foraging holes. Two Bat species were detected foraging along the hedgerows at the Site, namely Common Pipistrelle and Soprano Pipistrelle. A third species, Leisler's bat, was noted infrequently south of the Proposed Development Site footprint. No evidence of a suitable bat roost was located within the Site.

A total of 26 bird species were identified within the Site of the Proposed Development, with all species identified as '*possible breeders*' based on activity observed during the surveys. Of these 26 species, two (Grey wagtail and Yellow Hammer) are red listed in *Birds of Conservation Concern in Ireland 2014-2019*. The standalone winter bird survey, which was carried out over 12 survey days, recorded limited numbers of water bird species, namely Common Gull, Snipe and Grey Heron. The Site is unsuitable as a feeding/roosting resource for any birds associated with nearby SPAs and is therefore not considered to be a suitable *ex-situ* habitat for them.

Several faunal species were selected as “Key Ecological Receptors”, meaning that further detailed assessment was required for them. These species included Badger, Pygmy Shrew, Red Squirrel, Hedgehog, the Bat assemblage, the breeding bird assemblage, Common Frog and Smooth Newt.

Potentially negative impacts on biodiversity associated with the Proposed Development were identified. The stripping of vegetation during the construction phase works will result in the loss of hedgerow habitat, which will ultimately result in a reduction in habitat connectivity across the Site. It is noted, however, that the majority of hedgerow habitat at the Site of the Proposed Development is to be retained. No treeline habitat will be included in the Proposed Works, therefore there are no potential impacts envisaged for this habitat type. However, the Proposed Development will result in the loss of up to 60 trees of varying quality throughout the site of the Proposed Development.

As there are no proposals to remove any hedgerow on the northern boundary of the Site, there will be no direct interference with the Badger setts. Nevertheless, disturbance is likely during the construction phase given the proximity of construction activities to the Badger setts. Without mitigation, the construction of this project may result in the abandonment of the setts and the permanent loss of Badgers from this area. In the absence of mitigation, both the construction and operational phases will have a potential negative, and permanent impact on the Badger population at the Site of the Proposed Development.

Impacts on smaller mammals such as Bats, Red squirrel, Hedgehog and Pygmy Shrew and local bird populations will be less severe than those on Badger. These smaller mammals and birds may be affected by the Proposed Development through the loss of sections of hedgerow habitat and individual trees. However, the relative loss of hedgerows and individual trees in the context of the proportion of this habitat that exists, and will remain, along the boundaries of the Site is deemed to be relatively insignificant.

Impacts on birds, also include disturbance due to noise generated by the Proposed Works.

Furthermore, in the absence of any storm water management measures during the construction phase, there is potential for silt, oil and other pollutants to enter the surface water drainage network which could ultimately result in a negative, slight and short-term impact on the aquatic invertebrate population of the Stagrennan stream.

Mitigation for the loss of hedgerow habitat from the central sections of the Site during post-construction landscaping will include new native and non-native planting which will, in time, provide new habitat for breeding and wintering birds. Furthermore, all other boundary hedgerows at the Site of the Proposed Development will be retained. This will help to mitigate negative impacts on small mammals, birds, and bats. All site clearance and landscaping works will comply with current legislative requirements and best practice, including appointment of a professional bat ecologist to carry out a full internal roost survey of any trees prior to felling.

To prevent harm to Badgers, the setts at the Site will need to be sealed under licence, and Badgers excluded from accessing the setts temporarily for the duration of the construction works. Prior to the commencement of the construction phase, a specialist mammal ecologist shall visit the Site to determine whether Badger activity has changed. In addition, further survey work to identify alternate setts in the area would be required to ensure that the Badgers could relocate to a suitable alternative location.

There will be some temporary residual impacts to biodiversity arising from this project, specifically, the removal of trees and portions of hedgerow which will result in displacement of some species and habitat loss. However, these are predicted to not be significant. When landscaped areas mature it is likely that the negative effects of the habitat loss will be offset. During the operational phase, the Badger sett and Badger population inhabiting the Site may continue to be disturbed due to the increased human activity, which could lead to the total abandonment of the setts and displacement of the badger population to alternative setts within the Badger territory.

To protect freshwater habitats and fauna, stormwater generated on site will be treated via a series of geotextile lined settlement basins prior to discharge. Regular monitoring of water quality prior to discharge will be carried out. In addition, an exclusion barrier will be erected around drainage ditches to restrict access by construction vehicles. Best practice environmental management shall be implemented during the construction works at all times.

With the exception of the permanent residual impact on Badger, it is considered that, provided the mitigation measures proposed are carried out in full, permanent negative impacts to any valued habitats or individual or group of species as a result of the Proposed Development will be either non-existent, slight or negligible.

LANDSCAPE AND VISUAL IMPACT

Introduction

The landscape architecture proposals, which are influenced by the existing character of the site and surrounding landscape, include hard and soft landscape treatments to pedestrian routes, entrances parking areas, roads, boundaries and areas of public open space.

Selected trees and hedgerows are proposed to be retained and integrated within the landscape design. Substantial new tree planting is proposed to replace existing trees and hedgerows to be removed. Planting is proposed to enhance the micro-climate and create sub spaces within the larger landscape, without affecting the existing landscape character. Substantial areas of new habitat are proposed. Sustainable urban drainage is integrated throughout the landscape scheme.

Existing Environment

The site is located on the southern fringes of Drogheda town and lies directly east of the Dublin-Belfast railway line. The main site area is located north of Colpe Road and west of Mill Road. The site is surrounded by agricultural fields, except for the western boundary with the railway line. The site is bounded by existing hedgerows and a single hedgerow is located centrally within the site running on a north-south axis. There are no steep slopes or abrupt level changes on site, but the site falls gently on a southwest northeast axis. There are a range of existing trees the retention of a selected number of these should contribute to the future spatial character of the site. The surface of the site at present is predominantly grassland. The site is relatively enclosed and views into the site are restricted from all directions except from the south, where views into the site are possible from Colpe Road and the existing bridge over the railway line.

Principal Effects

Existing Vegetation

A number of existing trees and hedgerows are proposed to be removed to facilitate the Proposed Development. There is a risk, with the importation of fill or topsoil to the site, that invasive species will be introduced to the site.

Landscape Character

During the construction phase the character of the site will be affected in the short-term as a result of construction activities, the placement of construction compounds, erection of site hoarding and storage of materials. On completion new vegetation planted as replacement planting will be smaller in scale than mature trees removed to facilitate development, but during the operational phase this replacement planting will mature to match existing vegetation and reinforce the existing landscape character.

Views

Thirteen viewpoints representative of views/visual receptors in the receiving environment were selected for detailed assessment informed by verified photomontages.

There will be short-term impacts to some views across the site during the construction stage, due to the erection of site hoarding and other temporary structures to facilitate construction. The removal of existing trees will be seen in some views.

The proposed development will have no significant effects from the viewpoints assessed. There will be minimal impact on views from surrounding roads and adjacent developments, but the development will have a moderate impact on selected views, in particular along the Colpe Road to the south of the subject site. The proposed development will not be visible from further afield, e.g. from the R150 Marsh Road to the north.

Mitigation Measures

Existing Vegetation

During the construction phase, existing trees and hedgerows to be retained will be protected in accordance with BS5837:2012 and in accordance with the recommendations of the Arboricultural Impact Assessment. The landscape proposals include replacement tree planting, groundcover planting, grass seeded areas, and areas of new habitat created by forestry whip planting. To mitigate against the risk of introducing invasive species, the works will be carried out in accordance with standards and guidance including BS3882, the 'National Plant Specification', the National Parks and Wildlife Service publication 'Invasive Species in Ireland' and the Heritage Council's 'A Guide to Habitats in Ireland'. Landscape maintenance and management during the operational phase will ensure that planting matures to replace vegetation that will be removed to facilitate the Proposed Development.

Landscape Character

The landscape works, including planting and earthworks will be installed in accordance with the landscape plans to retain the character of the site and create a new character appropriate for the residential area. During the operational phase the planting will be maintained to retain the existing character of the site, but also to retain a high quality network of open spaces to provide for a diverse range of amenity and recreational opportunities. The site will be monitored for the presence of invasive species. Invasive species will be eradicated if found to exist on site.

Views

The proposed new tree planting and its subsequent maintenance and management during the operational phase will ensure that it replaces the trees removed to facilitate the Proposed Development and maintain relatively restricted views of the site.

LAND AND SOILS

This chapter was prepared by DBFL Consulting Engineers. This chapter is based on a site investigation carried out on the subject lands in May/June 2019 and January 2018. The site investigations comprised trial pits, boreholes, surface water soakaway testing, and associated lab testing. The site investigation results are included in "Mill Road Ground Investigation Report", September 2019 and "Mill Marsh Road, Co. Meath Ground Investigation Report", January 2018. Environmental testing was carried out on soil samples from the three boreholes. The results of the environmental testing were below the criteria limits for inert waste landfill.

The bedrock Geology Map produced by the Geological Survey of Ireland (GSI) was also consulted.

Potential impact of the development during the construction phase is summarised below:

It is anticipated, from observed borehole rock depths, that the development site works will be deep enough in very limited locations to impact on the underlying bedrock geology. It is therefore considered that the construction will have greatest impact on the soils and sub-soils arising from the extensive stripping and wide scale excavation works to prepare and construct the development. Therefore, the impact may be characterised as a likely, short term, slight, adverse impact on the natural strength of the subsoil and the impact may be characterised as likely, permanent, not significant and adverse on underlying bedrock. Landscaping activity in public open space areas will likely have a moderate, positive, permanent, impact on the soil and ground profile.

WATER

This chapter was prepared by DBFL Consulting Engineers. This chapter assesses and evaluates the likely impact of the proposed development on the surrounding surface water and hydrogeological environments, as well as identifying proposed mitigation measures to minimize any impacts.

This chapter is based on the following reports:

- “Meath County Development Plan”;
- ‘Site Specific Flood Risk assessment’, by DBFL Consulting Engineers;
- “Infrastructure Design Report” by DBFL Consulting Engineers;

This chapter is also based on a site visit, drainage and water services record information received from the Local Authority and is based on information on the EPA and GSI websites and OPW Eastern CFRAM Flood Extent Mapping and OPW ICPSS North East Coast Flood Extent Map.

The development will require new surface water drainage to accommodate surface water runoff from the development. This will include SuDS features incorporated into the surface water drainage network and a mixture of underground surface water storage and overground surface water storage in the form of detention basins. Due to the generally impermeable soil type throughout the site discharges to the ground would be limited, with the majority of surface water collected on site, and positively drained to the local drains / ditches and an existing surface water sewer adjacent to the railway line, adjacent to the north east corner of the site, via attenuated outlets. Surface water collected on site in SuDS features would also be lost through evaporation. It is likely that this activity will have a slight, adverse, permanent, residual, impact on the existing drains / ditches and surface water sewers.

The “Site Specific Flood Risk Assessment” by DBFL Consulting Engineers, assesses the proposed development in the context of the ‘Planning System and Flood Risk Management Guidelines’. This report is included as a standalone report and it confirms that in accordance with the “Guidelines”, the subject site is located within Flood Zone ‘C’. Flood Zone C lands are suitable for all types of land use, including residential developments which are classified as “highly vulnerable” in the “Guidelines”. Therefore, the development meets the requirements of The FRA Guidelines, the proposed development is suitable for this type of flooding zoning and the Planning Guidelines Sequential Approach is passed and a justification test is not required.

The impact of the development on potable water and wastewater is also assessed in this chapter.

AIR QUALITY AND CLIMATE

AWN Consulting Limited has been commissioned to conduct an assessment of the likely impact on air quality and climate associated with the proposed development at Colp West, Drogheda, Co. Louth.

In terms of the existing air quality environment, baseline data and data available from similar environments indicates that levels of nitrogen dioxide, carbon monoxide, particulate matter less than 10 microns and less than 2.5 microns and benzene are generally well below the National and European Union (EU) ambient air quality standards.

Impacts to air quality and climate can occur during both the construction and operational phases of the proposed development. With regard to the construction stage the greatest potential for air quality impacts is from fugitive dust emissions impacting nearby sensitive receptors. Impacts to climate can occur as a result of vehicle and machinery emissions. In terms of the operational stage air quality and climate impacts will predominantly occur as a result of the change in traffic flows on the local road links associated with the proposed development.

Any potential dust impacts can be mitigated through the use of best practice minimisation measures which are outlined in this report. Therefore, dust impacts will be short-term and imperceptible at all nearby sensitive receptors. It is not predicted that significant impacts to climate will occur during the construction stage due to the relatively small scale of the development and the low volume of vehicles and machinery predicted.

The local air quality modelling assessment concluded that levels of traffic-derived air pollutants resulting from the development will not exceed the ambient air quality standards either with or without the proposed development in place. Using the assessment criteria outlined in Transport Infrastructure Ireland's guidance document '*Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes*' the impact of the development in terms of PM₁₀, PM_{2.5}, CO, NO₂ and benzene is long-term and imperceptible. The proposed development is not predicted to significantly impact regional air quality and climate during the operational stage. Increases in traffic derived levels of NO_x, VOCs and CO₂ have been assessed against Ireland's obligations under the EU Targets and emissions ceilings set out by Directive (EU) 2016/2284 "*On the Reduction of National Emissions of Certain Atmospheric Pollutants and Amending Directive 2003/35/EC and Repealing Directive 2001/81/EC*". Impacts to regional air quality and climate are deemed imperceptible and long-term with regard to NO_x, VOCs and CO₂ emissions.

It is predicted that the impact of the operational phase traffic will lead to an increase in nitrogen oxide concentrations within a section of the Boyne Coast and Estuary SAC & pNHA, River Boyne and River Blackwater SAC and Boyne Estuary SPA. However, this increase is not considered significant.

As the National and EU standards for air quality are based on the protection of human health, and concentrations of pollutants for both the construction and operational stages of the proposed development are predicted to be significantly below these standards, the impact to human health is predicted to be imperceptible in the short and long term.

No significant impacts to either air quality or climate are predicted during the construction or operational phases of the proposed development.

NOISE AND VIBRATION

AWN Consulting Limited has been commissioned to conduct an assessment of the likely noise and vibration impact associated with the proposed residential development at Colp West, Drogheda, Co. Louth.

The existing noise climate has been surveyed over the course of day and night-time periods and has been found to be typical of a semi-urban location influenced by road traffic along the surrounding roads in the vicinity.

When considering a development of this nature, the potential noise and vibration impact on the surroundings must be considered for each of two distinct stages: the short-term impact of the construction phase and the longer-term impact of the operational phase.

During the construction phase of the project vibration impact of the works on nearby residential buildings is not expected to pose any significance in terms of potential for cosmetic or structural damage. Noise levels will be increased during different phases of the works occurring at the development site. It is expected that construction works will generate high levels of noise and there is potential for significant short-term adverse impact on nearby sensitive receivers, particularly within 30m of certain construction works during the construction period. As works move beyond this range around the site noise levels will reduce during the construction phase. Mitigation measures have been proposed to minimise significant noise or vibration impact on sensitive receivers.

The impact of the change in traffic volumes along surrounding roads as a result of the development has been assessed. The increase in noise associated with additional traffic is negligible.

In respect mechanical plant items, these will be designed and located such that any noise emissions will be within the relevant noise criteria within the development, therefore at off-site locations further away, no significant adverse impact is predicted. No vibration impacts are predicted to occur due to mechanical plant.

MATERIAL ASSETS – BUILT SERVICES

This chapter was prepared by DBFL Consulting Engineers. This chapter assesses and evaluates the likely impact of the proposed development on existing surface water and foul drainage, water supply and utility services in the vicinity of the site, as well as identifying proposed mitigation measures to minimize any impacts.

The material assets considered in this chapter include Surface Water Drainage, Foul Drainage, Water Supply, Power, Gas and Telecommunications.

The impact of the operational phase of the proposed development on the public water supply and utilities is likely to be to increase the demand on the existing supply. The potential impact from the operational phase of the development is therefore likely to be permanent and slight. The impact of the proposed development on the public foul sewerage system will be to increase the quantity of wastewater discharging to Drogheda Wastewater Treatment Plant for treatment and disposal. The development will add to the environmental and financial costs associated with treatment and disposal before final discharge at the WWTP. The potential impact from the operational phase of the development is therefore likely to be permanent and slight.

MATERIAL ASSETS – TRANSPORTATION

This chapter was prepared by DBFL Consulting Engineers. This chapter assesses and evaluates the likely impact of the proposed development on existing transportation system in the vicinity of the site, as well as identifying proposed mitigation measures to minimize any impacts. This chapter is based on the Traffic and Transport Assessment by DBFL.

From an accessibility perspective, the resulting proposals include for two number vehicle site access junctions, which includes for vehicle access to the east and west sides of the site. This is achieved through a four-arm signal-controlled junction along the link street approved under MCC planning reference LB180620, and amended under this proposed development. There is also a priority-controlled junction north of the aforementioned signal-controlled junction, which provides access onto the approved link street. The new signalised junction is proposed as an amendment to the roundabout junction currently permitted under the approved Link Street (MCC: LB180620). The subject development also proposes for segregated pedestrian footways and cycle tracks along the length of the approved Link Street and along the Western Residential Link Street and along the Gaelscoil link street, providing safety and connectivity throughout the site. Accordingly, the site will be highly accessible to both pedestrians and cyclists with permeable connections provided.

The subject site benefits from national, regional and local bus services as provided by private and public sector operators. The Site is located 3-4 km from Drogheda's transportation hub, with MacBride Train Station also providing regional heavy rail links, approximately 3km from the site. Bus Eireann provides a number of services linking Drogheda with Dundalk to the north and Dublin to the south where connections can be made to further regional / national services and destinations across the country, with Matthews Coaches also acting as a private bus service to supplement the general public needs for connectivity and public transport routes. The closest current bus services to the site is offered by the Matthews 910 service; this service runs to/from Dublin through Laytown and Bettystown, and stops by Donacarney church (approx. 600m from the proposed residential site) and Southgate Shopping Centre.

In the vicinity of the subject site the NTA's Cycle Network Plan proposals have outlined the future development of a Greenway route along River Boyne and a cycle route connecting Colpe Road to Drogheda Town has been indicated for future development plans as an "Inter-Urban Route", which will be connected to the site via an existing pedestrian footpath and cycle track.

With the objective of quantifying the existing traffic movements across the local road network a number local traffic surveys have been commissioned. Vehicle turning count surveys (classified junction turning count) were conducted from 07:00 to 10:00 in the AM and again from 16:00 to 19:00 in the PM period, whilst Automated Traffic Counts were carried out along roads to collect data on vehicle movements across a 24 Hour Period; both sets of data were collected on Thursday 25th May 2017 at the following locations:

- **Junction 1** – Dublin Road R132 / Beamore Road roundabout junction
- **Junction 2** – Dublin Road R132 / Colpe Road roundabout junction
- **Junction 3** – Colpe Road / Mill Road priority controlled junction
- **Junction 4** – Marsh Road / Mill Road priority controlled junction

In order to analyse and assess the impact of the proposed development, a traffic model of these junctions were analysed for the scheme's 2022 Opening Year, 2027 and 2037 Future Horizon Years (as per Transport Infrastructure Ireland (TII) Guidelines).

Junctions included within the Network Analysis



The following assessment takes place across two options, with the first option (Option A) including for a through route offering connectivity between Colpe Road and Marsh Road, and the second option (Option B) where no further development along the approved link street (LB180620) occurs and the Link Street does not extend towards Marsh Road.

The junction simulation results demonstrate that the proposed development will have a material impact upon the performance of some of the key off site junctions, however the identified mitigation measures help offset the impact of the development generated traffic in addition to providing methods of sustainable transportation to reduce the demand on vehicle trips. As a result, all of the local key junctions modelled are forecast to be operating within capacity in each of the post development scenario's (2022, 2027 and 2037) when compared to the corresponding Do-Nothing scenarios.

INTERACTIONS BETWEEN ENVIRONMENTAL FACTORS

The purpose of this chapter of the EIAR is to draw attention to significant interaction and interdependencies in the existing environment. John Spain Associates in preparing and co-ordinating this EIAR ensured that each of the specialist consultants liaised with each other and dealt with the likely interactions between effects predicted as a result of the proposed development during the preparation of the proposals for the subject site and this ensures that mitigation measures are incorporated into the design process. This approach is considered to meet with the requirements of Part X of the Planning and Development Act 2000, as amended, and Part 10, and schedules 5, 6 and 7 of the Planning and Development Regulations 2001-2020. The detail in relation to interactions between environmental factors is covered in each chapter of the EIAR.

SUMMARY OF EIA MITIGATION AND MONITORING MEASURES

This chapter provides a summary of all the mitigation and monitoring measures proposed throughout the EIAR document for ease of reference for the consent authority and all other interested parties.