

Cumnor Construction Ltd

Proposed Strategic Housing Development at
Coolcarron (townland), Fermoy, Co. Cork

Environmental Impact Assessment Report

Non Technical Summary

Volume I



Non-Technical Summary

Table of Contents

1	Introduction to EIAR and Non-Technical Summary	5
1.1	Introduction	5
1.2	Development Description	5
1.3	Screening for Environmental Impact Assessment	7
1.3.1	Study Area	8
1.3.2	Report Structure	8
1.4	Design Team and Competency	8
1.5	Methodology.....	9
1.6	Consultation	10
1.7	Cumulative Impacts	11
2	Project Description.....	12
2.1	Introduction	12
2.1.1	Author	12
2.2	Description of Existing Environment.....	12
2.3	Description of Proposed Development.....	12
2.4	Services	13
2.5	Construction Activities and Phasing.....	14
3	Alternatives Considered.....	15
3.1	Introduction	15
3.2	'Do-nothing' Scenario.....	15
3.3	Alternative Location.....	16
3.4	Alternative Layouts and Designs.....	16
3.4.1	Option A	17
3.4.2	Option B	18
3.4.3	Option C	19
3.4.4	Final Scheme	20
3.5	Alternative Processes.....	21
3.6	Cumulative Impact	21
3.7	Mitigation Measures.....	21
4	Landscape and Visual Impact.....	21
4.1	Introduction	21
4.2	Landscape	22

4.3	Visual	22
5	Material Assets – Traffic and Transportation	23
5.1	Introduction	23
6	Material Assets – Services, Infrastructure and Utilities	24
6.1	Introduction	24
6.2	Surface Water Drainage	24
6.3	Wastewater Drainage	25
6.4	Watermain Design	25
6.5	Electricity Supply	25
6.6	Communications	26
6.7	Gas	26
6.8	Earthworks	26
7	Land	27
7.1	Introduction	27
7.2	Existing Environment	27
7.3	Predicted Impacts	28
7.4	Mitigation Measures	28
7.5	Impact Assessment	28
7.6	Conclusion	28
8	Water (Hydrology)	29
8.1	Introduction	29
8.2	Existing Environment	29
8.3	Predicted Impacts	29
8.4	Mitigation Measures	30
8.5	Impact Assessment	30
8.6	Monitoring	30
8.7	Conclusion	31
9	Biodiversity	31
9.1	Introduction	31
9.2	Existing Environment	31
9.2.1	Designated Nature Conservation Sites	31
9.2.2	Habitats and Flora	31
9.2.3	Fauna in the Existing Environment	32
9.3	Conclusion: Residual Impacts & Effects	32
10	Noise and Vibration	32
10.1	Introduction	32

11	Air Quality and Climate	33
11.1	Introduction	33
11.2	Description of Existing Environment.....	33
11.3	Impact Assessment	33
11.3.1	Construction Phase Impact	33
11.3.2	Operational Phase Impact.....	34
11.3.3	Residual Impact.....	34
11.3.4	Cumulative Impact	34
11.4	Mitigation.....	34
11.4.1	Construction Phase	34
11.4.2	Operational Phase.....	35
11.5	Monitoring	35
12	Cultural Heritage and Archaeology.....	35
13	Population and Human Health Chapter.....	36
13.1	Introduction	36
13.2	Existing Environment	36
13.2.1	Demography.....	36
13.2.2	Population.....	36
13.2.3	Health.....	36
13.3	Impact Assessment	37
13.3.1	Do Nothing Scenario	37
13.3.2	Construction Phase Impacts.....	37
13.4	Human Health	38
13.5	Operational Phase.....	38
13.6	Mitigation.....	38
13.7	Monitoring	38
13.8	Residual Impacts	38
14	Interactions of the Foregoing	38
15	Schedule of Mitigation and Monitoring Measures.....	39
16	Risk of Major Accidents and Disasters	39

Tables

Table 1.1:	Fermoy Site EIAR: List of Consultants and Responsibility	9
Table 1.2	Projects considered for Cumulative Impacts	11

Figures

Figure 1.1 Location of Subject Site within Fermoy Area	6
Figure 1.2 Proposed Site Layout	7
Figure 3.1 Option A	17
Figure 3.2 Option B	18
Figure 3.3 Option C	19
Figure 3.4 Option D	20

1 Introduction to EIAR and Non-Technical Summary

1.1 Introduction

The preparation of a Non-Technical Summary (NTS) is a requirement under the EIA directive as one of the fundamental objectives of the EIA process is to “ensure that the public are made aware of the environmental implications of any decisions about whether to allow new projects to take place”.

This NTS provides a concise and comprehensive summary of the assessments carried out, a description of the project, its existing environment, and the effects of the proposed project on the environment.

The Environmental Impact Assessment Report (EIAR) sets out the results of the environmental assessments which have been completed for the proposed development to inform the planning consent process.

The assessment has been completed as a statutory environmental assessment. The environmental impact assessment process has been completed in line with Directive 2014/52/EU, based on the draft guidance presented in Guidelines on the Information to be contained in Environmental Impact Assessment Reports, Draft (EPA 2017).

1.2 Development Description

The development description is set out in Chapter 2 Project Description, and briefly summarised below. Cumnor Construction Ltd are applying for permission for the construction of a Strategic Housing Development (SHD) at Coolcarron (townland), Fermoy, Co. Cork.

The proposed development will comprise of:

- 336 no. residential units comprising 242 dwellings houses (comprising a mix of 5, 4, 3 and 2 bed detached, semi-detached and townhouse/terraced units) and 94 no. duplex/simplex units (comprising a mix of 1 and 2 bed units);
- A 587m² creche/childcare facility;
- the provision of landscaping and amenity areas to include 4 no. flexible open space areas with natural play features;
- A linear green route with a 3m wide shared surface path running along the western boundary and a number of informal grassed area;
- Public Realm upgrades along the R639, including a shared footpath and cycleway, a 4m toucan crossing with tactile paving; the proposed alteration to the Barrymore-Coolcarron 38kv line;
- The proposed alteration will involve the undergrounding of a section of the above mentioned overhead 38kV line to facilitate the housing development and the realignment of approximately 13.6 metres of 38kv overhead line;
- The proposed alterations will comprise of one (1) 12 metre Type “F” lattice steel end terminate mast structure and one (1) 38kV cable sealing ends;
- The proposed retirement of 282 metres of overhead conductors and one (1) type “F” Lattice steel mast structure , one (1) Type “C” light angle strain structure and one (1) Type “B” portal suspension structure; and
- All associated ancillary development including vehicular access on to the R639 road, 2 no. access gates to the existing weighbridge and associated ancillary development, lighting, drainage, boundary treatments, bicycle & car parking, and bin storage.

The location and site context of the site within the Fermoy is shown on Figure 1.1 and the site layout is shown on Figure 1.2.

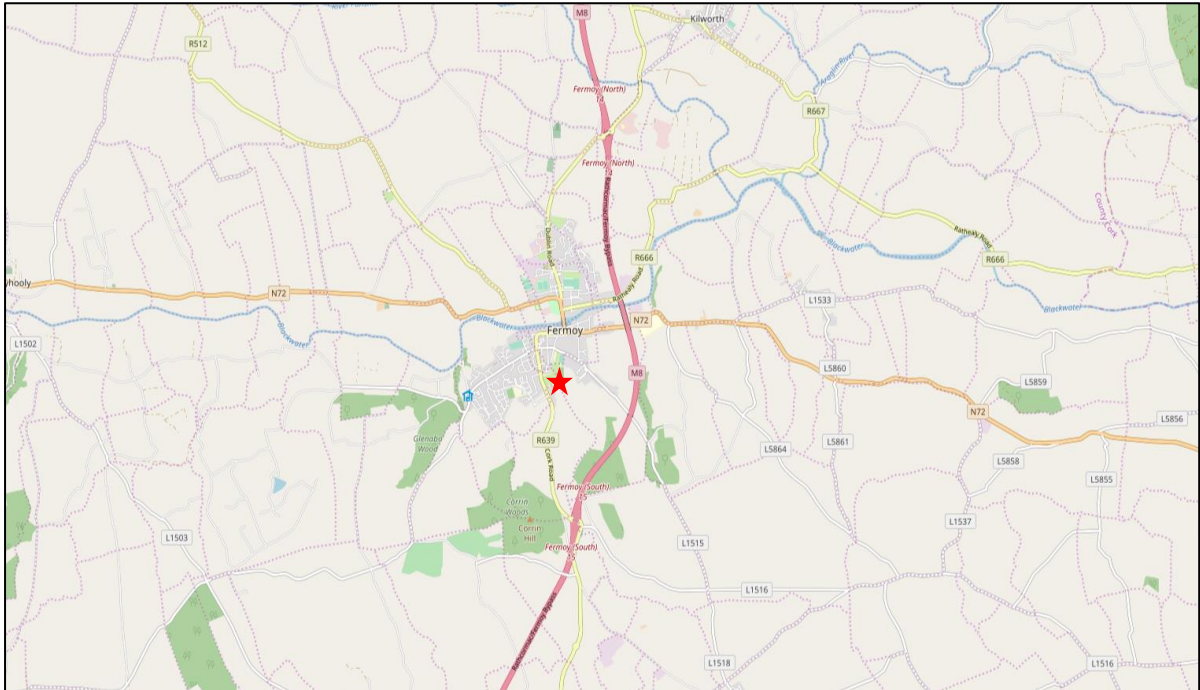


Figure 1.1 Location of Subject Site within Fermoy Area



Figure 1.2 Proposed Site Layout

1.3 Screening for Environmental Impact Assessment

Environmental Impact Assessment (EIA) requirements derive from EU Directives. Council Directive 2014/52/EU amended Directive 2011/92/EU and is transposed into Irish Law by the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018. The Requirement for projects needing an Environmental Impact Assessment is listed in Schedule 5 of the Planning and Development Regulations 2001-2018 (as amended).

Schedule 5 (Part 2) of the Planning & Development Regulations 2001-2018 set mandatory thresholds for each project class. Sub-section 10 addresses 'Infrastructure Projects' and requires that a number of classes of project be subject to EIA. The following are applicable to the proposed development.

10. Infrastructure projects

(b) (i) Construction of more than 500 dwelling units.

(iv) Urban development which would involve an area greater than 2 hectares in the case of business district, 10 hectares in the case of other parts of a built-up area and 20 hectares elsewhere. (In this paragraph, "business district" means a district within a city or town in which the predominant land use is retail or commercial use.)

The proposed Strategic Housing Development comprises of 336 no. units including a creche on a site area of c.11.56 ha. While this does not exceed the threshold of 500 dwelling units set out in 10 (b) (i), a mandatory EIA is required under the provisions of Part 2, Article 10 (b) iv as the proposed development site comprises c. 11.56 hectares within the built up area of Fermoy Town, Co. Cork.

1.3.1 Study Area

The study areas are defined individually for each environmental topic, according to guidance and the geographic scope of the potential impacts or of the information required to assess those impacts. Details are provided by each discipline as part of the description of baseline conditions of the site.

1.3.2 Report Structure

This EIAR has been prepared according to the 'Grouped Format Structure'. This means that each topic is considered as a separate section and is drafted by relevant specialists.

The EIAR is divided into three Volumes as follows:

Volume I:	Non-Technical Summary
Volume II:	Main Environmental Impact Assessment Report
Volume III:	Appendices to the Main Environmental Impact Assessment Report

1.4 Design Team and Competency

McCutcheon Halley Planning Consultants (MH Planning) are the planning consultants and project co-ordinators of the EIAR. The qualifications of consultants responsible for each discipline is provided in the introduction to the relevant chapter. Production of the EIAR has been co-ordinated by Sue Cullen, Honours Bachelor of Environmental Studies Urban and Regional Planning, Associated Director with McCutcheon Halley Planning and Majella O'Callaghan MSc Urban and Regional Planning, Dip in Project Management and BA (Hons) in Geography and Economics, Senior Planning Consultant with McCutcheon Halley Planning.

The EIAR structure and consultant responsible for each of the chapters is set out in Table 1.1.

Table 1.1: Fermoy Site EIAR: List of Consultants and Responsibility

Consultant	Chapters prepared
<p>McCutcheon Halley Planning, 6 Joyce House, Barrack Square, Ballincollig, Cork.</p> <p>Tel: (021) 4208710 e-mail: info@mhplanning.ie</p>	<p>Chapter 1 Introduction</p> <p>Chapter 2 Project Description</p> <p>Chapter 13 Population and Human Health</p> <p>Chapter 14 Significant Interactions</p> <p>Chapter 15 Summary of Mitigation and Monitoring</p>
<p>Geraldine Coughlan Architects, Enniskeane, Co. Cork</p> <p>Tel: (023) 882 2688 e-mail: gercoughlan@hotmail.com</p>	<p>Chapter 2 Project Description</p> <p>Chapter 3 Alternatives Considered</p>
<p>Cathal O'Meara, 2 McSweeney Street, Fermoy, Co.Cork</p> <p>Tel: 087 920 2549 e-mail: info@cathalomeara.com</p>	<p>Chapter 4 Landscape and Visual Impact</p>
<p>MHL Traffic Engineers, Carrig Mo House, 10 High Street, Ballinlough, Cork</p> <p>Tel: 021 484 0214 e-mail: info@mhl.ie</p>	<p>Chapter 5 Traffic and Transportation</p>
<p>Walsh Design Group Consulting Engineers, The Mall, Maryborough Woods, Cork</p> <p>Tel: 021 477 4940 e-mail: reception@wdg.ie</p>	<p>Chapter 2 Project Description</p> <p>Chapter 6 Material Assets: Services, Infrastructure and Utilities</p>
<p>Virdus Consulting Ltd</p> <p>Tel: 021 422 3200 e-mail: John.hynes@arup.com</p>	<p>Chapter 7 Soils and Geology</p> <p>Chapter 8 Hydrology and Hydrogeology</p>
<p>Kelleher Ecology Services Ltd., Curraghdermot, Castlelyons, Co. Cork.</p> <p>Tel: 086 8677932 e-mail: info@kelleherecologyservices.ie</p>	<p>Chapter 9 Biodiversity</p>
<p>AWN Consulting, The Tecpro Building, Clonshaugh Business & Technology Park, Dublin 17, Ireland.</p> <p>Tel: 353(0)1 8474220 e-mail: info@awnconsulting.com</p>	<p>Chapter 10 Noise and Vibration</p> <p>Chapter 11 Air Quality and Climate</p> <p>Chapter 16 Risk of Major Accidents or Disasters</p>
<p>Louise Harrington, Whitethorn, Douglas Road, Cork City</p> <p>Tel: 085 748 1769 e-mail: info@louiseharrington.com</p>	<p>Chapter 12 Cultural Heritage and Archaeology</p>
<p>Innovision, Office 8, Sligo Airport Business Park, Starndhill, Co.Sligo</p> <p>Tel: 071 912 8220 e-mail: info@innovision.ie</p>	<p>Photomontages</p>

1.5 Methodology

The EIAR has been prepared in accordance with the requirements set out in the Planning and Development Act 2001 (as amended) and in Council Directive 2011/92/EU as amended by Directive 2014/52/EU (the EIA Directive). The Planning and Development Acts and Regulations 2000 to 2018 have been amended by the European Union (Planning and Development) (Environmental Impact

Assessment) Regulations 2018 (SI No. 296 of 2018) to take account of the requirements of the EIA Directive (Directive 2014/52/EU).

Annex IX of the EIA Directive and Schedule 6 of the European Union (Planning and Development) (Environmental Impact Assessment) (Regulations) 2018 specify the information to be contained in EIAR. These requirements identify a range of prescribed environmental factors, the significant effects of which have been addressed in this EIAR. These include population and human health, biodiversity, land and soil, water, air and climate, noise, landscape, cultural heritage, and material assets as well as the inter-relationship between the above topics.

The preparation of this EIAR was also undertaken in accordance with the following guidance.

- Department of Housing, Planning, Community and Local Government (2018) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018)
- Department of Housing, Planning Community and Local Government (2017) Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licensing Systems
- Department of Housing, Planning, Community and Local Government (2017) Implementation of Directive 2014/52/EU on the effects if certain public and private projects on the environment (EIA Directive): Advice on the Administration Provisions in Advance of Transposition
- Environmental Protection Agency (2017) Revised Guidelines on the Information to be contained in Environmental Impact Assessment Reports (Draft August 2017)
- Environmental Protection Agency (2015) Advice Notes for Preparing Environmental Impact Statements (Draft September 2015)

1.6 Consultation

The EIAR was scoped following an appraisal of the EPA guidelines of information to be contained within the EIAR, through design team meetings with the specialist consultants and the formal S247 Meeting held 20th November 2019. The EIAR was also informed by guidance, and in the Inspector's Report and Opinion received from An Bord Pleanála during the Pre-Application Consultation process (Ref No: ABP- 310351-21)

Prior to lodging the application, the required information has been issued for the Department of Housing, Planning and Local Government's EIA Portal. The purpose of this tool is to inform the public, in a timely manner, of application that are accompanied by the EIAR.

The information on the EIAR was uploaded to the EIA Portal on 30/03/2022, reference EIA Portal ID Number: 2022055 which is submitted as part of this planning application.

A dedicated website has been created for the project and is available here: <https://fermoyshd.ie/>

The following prescribed bodies have been consulted in relation to the general scope of the EIAR and the responses received at time of finalising the EIAR are included at Appendix 1.1.

Prescribed Bodies / Agencies

- 1) Department of Culture, Heritage, & the Gaeltacht (Development Applications Unit)
 - I. National Monuments Services;
 - II. National Parks & Wildlife Service (NPWS);
- 2) Department of Education;
- 3) Geological Survey Ireland;
- 4) The Heritage Council;
- 5) Office of Public Works (OPW);
- 6) Transport Infrastructure Ireland (TII);
- 7) The National Transport Authority
- 8) The Health and Safety Authority;

- 9) The Health Service Executive (HSE);
- 10) Inland Fisheries Ireland;
- 11) Bat Conservation Ireland;
- 12) Irish Water;
- 13) An Taisce;
- 14) Environmental Protection Agency.

1.7 Cumulative Impacts

Projects considered for their potential cumulative impacts with the proposed development are identified in Table 1.2 of Chapter 1. Within the EIAR other disciplines may have identified further projects which are considered to be relevant to their assessments.

The following projects were identified as being proposed or permitted in proximity to the proposed SHD and have been assessed by each discipline for potential cumulative impacts. No significant negative cumulative impacts have been identified.

Table 1.2 Projects considered for Cumulative Impacts

Proposal/Application	Planning Reference	Comment
Part 8 Housing Scheme 11 no. residential housing units at Uplands, Fermoy	Cork County Council Part 8 Application	Information at: https://www.corkcoco.ie/en/Planning/Part-8-Development-Consultation/active-part-8-development-consultation
Retention for Internal works for new technology room, sanitary rooms, 3 no. new classrooms, 1 no. new computer room at St. Colmans College, Monumental Hill, Fermoy	Planning Ref: 21/4049	Permitted on 15th July 2021
A) the change of use (through intensification of use) of part of an existing light industrial building currently used for the assembly and commissioning of stainless steel vessels to provide for an electropolishing area within the building footprint; b) internal works to facilitate the change of use, including the provision of an underground containment pit and other alterations to the factory floor; and c) ancillary external site works to connect to the existing on-site sewer network.	Planning Ref: 20/6246	Permitted by 07/12/2020
The demolition of 2 No. dwelling houses and associated sheds/outhouses and the construction of 28 No. residential units and all ancillary site development works, including access, car/bike parking, bin storage and amenity areas	Planning Reference: 21/7241	Under review by Cork County Council
To demolish existing pump canopy, shop and stores, for construction of valeting buildings, car wash, boundary fencing and 2 no. signs together with associated works.	Planning Reference: 19/6221	Permitted by 11/6/2020

2 Project Description

2.1 Introduction

The EIA Directive requires that an EIAR includes a description of the project comprising information on the site, design, size and other relevant features of the project. Recital 22 of the 2014 Directive requires that

“In order to ensure a high level of protection of the environment and human health, screening procedures and environmental impact assessments should take account of the impact of the whole project in question, including, where relevant, its subsurface and underground, during the construction, operational and, where relevant, demolition phases”.

This chapter satisfies the requirements of the EIA Directive, providing detail on the location, size and characteristics of the proposed project.

2.1.1 Author

This chapter was prepared by Anna Healy, B.Arch in Architecture, MRIA, Architect with Geraldine Coughlan Architects Ltd and Ian Reilly, Civil and Structural Engineer of Walsh Design Group, in conjunction with Majella O’ Callaghan MSc Urban and Regional Planning, MIPI, Senior Planner at McCutcheon Halley Planning Consultants.

2.2 Description of Existing Environment

The subject site is located south of Fermoy town, within the development boundary of the town, in the townland of Coolcarron. The development is within 1km of Fermoy Town Centre and is well connected by public transport to the town centre, Cork City and Clonmel.

The site is currently a green field site, with parts of the site being overgrown. It is bounded on the west by the main road to Fermoy town (R639), as well as private dwellings, commercial properties and an ESB facility. There is also an existing lay-by and weigh station on the western boundary, adjacent to the proposed entrance. There is a planted woodland and drainage ditch to the east of the site. The south of the site is bounded by agricultural land. St. Colman’s College Sports Campus is to the north.

The site itself is made up of two existing field boundaries within the site, one a stone wall, and one of mature alder trees.

2.3 Description of Proposed Development

The proposed development will contribute positively to Fermoy town and deliver much needed housing for the Cork area.

The development includes 336 no. residential units, comprising 242 no. dwelling houses and 94 no. duplex and simplex apartments. Please refer to the schedule of accommodation (Appendix 2.1) for a further breakdown of the proposed development. This housing mix is focused on providing affordable homes for both individuals and families alike. The proposed scheme has a density of 30 units/HA considered on a net developable area of 11.22HA. There is also a childcare facility, 86-child crèche, which has been placed adjacent the site entrance to allow for convenient accessibility.

Connectivity, legibility and permeability are some of the main key themes of the scheme and develops from the wider surrounding area to the local environment. A pedestrian and cycle route runs from the main entrance on the west to the ecological corridor on the east, and then north through the ecological corridor before turning west again, allowing for potential connection to the future development to the west. Ease of access for pedestrians to play areas and public open space has been prioritized throughout the scheme.

Within the site, the internal connections will provide easy access from the dwellings to the proposed amenities which also provide passive surveillance and promote active neighbourhoods.

The overall form of the scheme was developed around existing features of the site. The planted woodland and drainage ditch located to the east informed the decision to maintain a green edge along this boundary, which has been further developed as a wildflower meadow and pedestrian route.

The urban edge to the north of the site, close to Fermoy town, led to the siting of higher density apartment buildings in this area. These duplex apartments are 2 and a half and 3 storeys in height. Three storey duplex buildings are clustered around the central core, creating an urban heart to the scheme, with these buildings overlooking a large green area.

The proposed development includes the provision of a childcare facility. The creche is located beside the main entrance, providing easy access both by car and on foot.

Lower density housing is provided outside of duplex clusters. Simplex apartments, terrace houses, semi-detached and detached houses are 2 storeys. A variety of housing types have been provided, forming neighbourhood clusters, and creating distinctive areas within the scheme. The scheme is split into 2 architectural finishes. To the south there is a strong brick elevational treatment, while to the north there is an emphasis on painted render finish.

Public open space is dispersed throughout the scheme, influenced by the existing site features. Existing mature alder trees created a linear green area just below the main entrance. Several play areas have been dispersed throughout the scheme, with easy access from neighbouring dwellings. Pedestrian permeability is prioritised in the layout, with pedestrian routes following desire lines through public open space.

Car parking spaces have been provided in adequate numbers, with particular attention to visitors, disabled and electric vehicle parking spaces. Adequate bike stores have been placed near the duplex-apartments.

2.4 Services

The overall drainage system has been designed in 6 separate networks due to the topography of the site and the proposed street layout. The proposed SuDS elements in the proposed design are; proprietary permeable paving, tree pits and filter drains, water butts, subsurface EcoCell attenuation tanks, hydrocarbon interceptors and hydrobrakes on each outfall. It is also proposed to retain the wetland area in the east of the site as described in Chapter 9 Biodiversity prepared by Kelleher Ecology Services. It is proposed to discharge the attenuated surface water runoff from the completed networks into the existing open drainage channels in the site which in turn discharge to the River Blackwater.

There is no Foul water Drainage existing on site. The proposed network is a conventional piped, gravity sewer flowing to a wastewater pumping station in the East of the site from which it is proposed to pump the wastewater, via rising main, to the public wastewater sewer in the R639.

It is proposed that a watermain network connection to the existing Irish Water infrastructure will be made in the R639 road. Private properties will each have a separate service connection, fitted with an Irish Water approved boundary box immediately outside the boundary. Fire hydrants are placed so that no domestic property within the development is more than 46m from a hydrant.

The Road network sole vehicular access to the development is via the entrance from the R639. A link street at the main entrance provides access to the north and south of the site before becoming local streets for main routes. Shared surfaces have been used wherever possible to create home zones.

The electricity supply is proposed to underground the 38kV cables that are currently overhead from the southern boundary to the ESB distribution facility to the west of the site. The works proposed

include the construction of a new steel mast near the southern boundary at which the overhead cables coming from the South would be diverted underground. Should permission be granted a separate diversion agreement shall be entered into with ESB networks to have the 10kV/20kV overhead lines existing on site rerouted to suit the proposed layout.

Telecoms ducting and cables will be laid within the development site during the construction stage. Prior to the operational phase of the development this internal network will be connected to the local infrastructure of one or more of the telecoms providers in the area.

2.5 Construction Activities and Phasing

It is proposed to construct the development in 5 phases generally progressing from the south to the north of the site.

The construction of the residential units will, to a certain degree, respond to the demand/sale of the units involved, however there is a strong demand for housing in Cork and it is anticipated that the construction progress will reflect this strong demand and that the units in each phase will be constructed/completed over a 1-2 year period (depending on phase size) and will involve up to 60 construction staff (depending on the number of units being constructed at any one time).

It is envisaged that the housing units will generally be developed on a sequential basis starting with the southern portion of the site and moving towards the north with each phase. This phasing will allow the construction compound and access to be provided in the northern part of the site without impacting on the constructed/completed units.

The Earthworks development of the subject site will require the stripping of top soil and the excavation or fill of ground to formation level. The earthwork cut and fill volumes are described in more detail in Chapter 6 Material Assets prepared by Walsh Design Group of this document and in the preliminary Construction Demolition Waste Management Plan (CEMP), 19074-ER-04, accompanying this application. The CEMP also includes measures to minimise the dust and noise raised by construction activities and the hours during which construction activities will be permitted on the site.

Construction activities and vehicle movements shall be in accordance with the Construction Environmental Management Plan (CEMP), Construction and Demolition Waste Management Plan (CDWMP) and the Construction Traffic Management Plan (CTMP), all formulated by the appointed Main Contractor and overseen by their Construction Manager and Waste Manager in order to minimise any impact on the existing environment and the surrounding area.

An estimation of the maximum daily vehicle movements is as follows:

- Construction Workers / Site Staff - Maximum number of 60 per day, generating 140 traffic movements;
- Net Importation of fill material - As required, less than 20 loads per day, generating 40 truck movements;
- General Construction materials delivery (truck/ Van) - On average 15 deliveries per day, generating 30 traffic movements;
- Construction Waste Removal - When required, less than 40 loads per day, generating 80 truck movements.

The Surface water runoff during the construction stage of the development will be managed by limiting the topsoil strip to a phase-by-phase sequence and limiting its extent as much as possible. Measures such as settlement ponds, silt fencing and sediment traps will be used to reduce the suspended sediment in runoff and good housekeeping measures such as bunding of hydrocarbon stores will prevent the contamination of runoff. The management of surface water runoff is addressed in more detail in the Civil Engineering Report, 19074-ER-01, accompanying this application.

A desktop study of the flood history at the site was carried out. There are no records of any flooding in this area of Fermoy in the OPW's floodinfo.ie database of maps and the development lies outside all flood zones shown in the Local Area Plan for the Fermoy Municipal District.

Fermoy Town is known to be susceptible to flooding but the projected flood extents shown in the CFRAM River Flood Extents maps are localised in the lower lying areas of the town near the river and do not extend southwards to the proposed site which is significantly elevated above the river level.

3 Alternatives Considered

3.1 Introduction

This chapter of the EIAR was prepared by Anna Healy of Geraldine Coughlan Architects Ltd. Anna graduated from the University of Limerick with a B.Arch in Architecture in 2011 and completed her professional diploma in Architecture in University College Dublin in 2015. She has over 10 years' national and international experience in designing public, residential, healthcare and commercial projects.

Annex IV of the EIA Directive 2014/52/EU requires the consideration of alternatives within EIAR to contain the following:

“a description of the reasonable alternatives studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.”

A number of alternatives were developed and discussed with the developer and design team before arriving at the chosen solution. This section provides an outline of the main alternatives examined during the design phase. It sets out the main reasons for choosing the development as proposed, taking into account the environmental effects. For the purposes of the Regulations, alternatives may be described under the follow headings:

- i. Do-nothing Alternative
- ii. Alternative Locations
- iii. Alternative Designs
- iv. Alternative Processes

The following text provides information on the consideration of alternatives and mitigation measures are considered where appropriate in the EIAR technical chapters.

The scheme has gone through many different iterations, and challenges have been resolved with the design team. The location of the site between a rural and urban area has presented challenges in providing an appropriate density for the zoning, while also respecting the rural edge to the south of the site. The undergrounding of an overhead ESB line has impacted the layout, with units being relocated to allow for the clearance distances required.

3.2 'Do-nothing' Scenario

The consideration of an alternative location would equate to a 'do-nothing' alternative for the subject site and the site would become overgrown and unkept. This would mean that these residential zoned lands would not be developed in accordance with the objectives of the Local Area Plan and would be contrary to the Councils objectives to promote residential land use at this site. This in turn would have the knock-on impact, creating pressure to develop unzoned, unserviced or remote sites. This is not in line with National, Regional or Local plan policies which require the efficient use of zoned land. Furthermore, these lands are considered suitable for development due to their proximity to existing public transport facilities, services, and community facilities.

A 'do nothing' approach would likely result in a neutral impact on the environment in respect of material assets, land, water, air, climate, cultural heritage, biodiversity, and landscape.

3.3 Alternative Location

The site is zoned for 'Medium A Density Residential' development under the Fermoy Municipal District Local Area Plan 2017 and the development of the site is consistent with the core strategy of the Development Plan.

At this location, the proposed scheme will deliver significant additional public and private housing in a range of house types in a consolidated and accessible urban neighbourhood which will be supported by ancillary community facilities and public open spaces. The site is well connected to Fermoy town which will also ensure that the future residents will benefit from the existing shops and facilities which are available in the area.

As such, it is considered that the site is entirely suitable for the nature of the development as proposed in the application and it was not considered necessary to consider alternative sites.

3.4 Alternative Layouts and Designs

The key character areas and features of the site were established at an early stage and informed all design options considered. The planted woodland and drainage ditch to the east informed the decision to maintain a green edge along this boundary. The urban edge to the north of the site led to the siting of higher density duplex buildings in this area. A few proposals were considered for the integration of the existing stone field boundary in the centre of the site into the overall design. As the design evolved the central core developed as a strong character area, with the duplex buildings surrounding a central green square. Below is a selection of the alternative layouts considered.

USONE	
	USONE GROUP OF COMPANIES 2000 N. 1ST ST. DENVER, CO 80202



The scheme does not provide sufficient routes through the development for pedestrians. Therefore, it can be expected that residents would depend on cars even for short trips. This car dependency would increase greenhouse gas emissions, air pollution and traffic congestion. It would also contribute to sedentary lifestyles with a negative impact on public health.

3.4.2 Option B



Figure 3.2 Option B

Option B comprised 373 units, 136 of which were apartments or duplex apartments. Duplex buildings were increased to 3 stores in height. A Creche was added to the south of the site entrance and a pedestrian link was added to St. Colman's College.

This option increased the provision of open-space, and connections to neighbouring services. The provision of a creche close to the entrance provides easy access for residents and eliminates the need to travel by car to alternative childcare facilities. The increase in the height of duplex building results in more efficient land use.

3.4.3 Option C



- further consideration of residential amenity, having regard to the proportion of single aspect and north facing apartments, and internal unlit corridors in apartments buildings
- further consideration regarding Daylight and Shadow Impact Assessment
- scale of creche to be reviewed
- back-to-back relationship of particular units to be considered in relation to residential amenity
- relationship of Apartment block H1 to pedestrian path to north-east to be considered
- visual impact of apartment buildings to north to be reviewed when viewed from St. Coleman's College
- Consideration to be given to the overall form and massing of block G1.

As well as the issues listed above, Cork County Council noted that green space was allocated disproportionately towards the north of the site.

3.4.4 Final Scheme



quality residential development which responds appropriately to the site characteristics, opportunities and constraints. Permeability is a very important element of the scheme and is achieved by providing potential connections between the site and adjoining residential properties to the north west of the site. The overall development provides a good mix of houses which vary in configuration, size and style, which will meet the needs of the future residents of Fermoy.

This option provides a lesser, but still appropriate density of 30 units per hectare. The ecological corridor along the eastern boundary is further strengthened in this layout. Visual impact is reduced, with a maximum height of three storeys, and buildings being smaller in scale.

This layout addresses the issues raised by An Bord Pleanála. There were concerns about daylight in apartment units, north facing units and the massing of the buildings, as well as the visual impact of the apartments to the north and their orientation in relation to the pedestrian path to the north-east. Apartments with communal circulation have been omitted in favour of own door duplex and simplex units that are all dual aspect. Potential pedestrian and cycle connections to the north and north-west have been allowed for. The relationship between the main entrance and the garda weight bridge and lay-by has been reviewed and altered. The scale of the creche has been increased, with an upper floor being added. Overlooking issues between units have been resolved. The areas of public open space to the south of the site have been increased, with green space more evenly distributed throughout the site.

3.5 Alternative Processes

The residential units will be designed to comply with TGD L 2019 Conservation of Fuel and Energy – Dwellings, including requirements for Nearly Zero Energy Building (NZEB). A Building Energy Rating (BER) of A2 is to be achieved. Low maintenance cladding materials are proposed to minimize the impact of façade maintenance. Brick is proposed for duplex/simplex buildings, while a mix of brick and render are proposed for houses.

3.6 Cumulative Impact

As noted, the proposed scheme does not give rise to any significant adverse environmental impacts. It is considered that the proposed scheme in general achieves a better result in terms of impact on the environment than the other design options previously considered. The strong biodiversity corridor would have a positive impact on biodiversity and human health. Improved pedestrian and cycle routes would lead to less car dependence and would have a positive impact on human health. Reduced car dependence would reduce traffic impact compared to other layouts.

3.7 Mitigation Measures

These are provided throughout the various chapters in the EIAR and no alternative mitigation measures were considered in the preparation of this chapter.

4 Landscape and Visual Impact

4.1 Introduction

This chapter of the EIAR assess the proposed development in terms of landscape and visual impact. On balance, there will be a predicted Moderate and Neutral Significance of Impact on Landscape Character.

The Landscape Assessment attempts to measure the sensitivity of specific landscape resources and describe the significance of changes to that resource occurring as a result of the development. Primary Mitigation measures are proposed as part of the proposed development. A series of landscape drawings (refer to Appendix 4.1 of the EIAR) is included that details these proposals.

4.2 Landscape

While the proposed residential development will significantly alter the site, transforming it from grazed farmland to a large residential development of this level of change is consistent with the pattern of development for lands zoned for residential development. This pattern of development is evident in the surrounding landscape and is consistent with this edge of town site.

A number of landscape design constraints have been identified to assist with the development of the site from a landscape perspective.

- Retention of external boundary vegetation as well as (one) significant internal boundary/treeline
- Design of high-quality streetscape with legible hierarchy of routes and streets
- Development of several play spaces as focal points within the development
- Cut and fill operations to optimise integration of the proposed development in the setting

These core design principals play a central role in the layout and configuration of the proposed development and how this development will integrate with the surrounding landscape.

The landscape effect resulting from a medium landscape sensitivity, and a medium magnitude of change, is Moderate. Given the adjacent context the Qualitative assessment is determined to produce a Neutral Landscape Effect.

4.3 Visual

The zone of visual influence is the extent of visibility of the site from the landscape and is defined further by topography and built structures. Although the site is located on an elevated parcel of land, several barriers exist that limit visibility. These include the undulating nature of the local landscape, with Fermoy Town largely built within the valley of the Blackwater River and the presence of a forestry plantation screening views from the east. The number and spread of potential visual receptors are limited to lands principally to the south and immediately west of the site. An elevated view of the site also exists from Corrin Hill and is also included.

Of the six viewpoints assessed there will be Moderate Neutral effects associated with two viewpoints and a Slight effect associated with a further three viewpoints and No Change for the remaining viewpoint. It is anticipated however that the two viewpoints with Moderate Neutral effects will tend over time towards Slight and Neutral as the internal site planting at the northern hedgerow matures and the proposed Scots pine trees develop to partially screen the development from these locations.

Some degree of Visual Impact is inevitable, and the following measures have been identified to mitigate these impacts.

- Additional Planting adjacent to the existing site boundaries should be in a manner consistent with The Landscape Character Assessment recommendations for this area 'Deciduous trees are a dominant feature within the landscape.... Their continuation will be important in retaining this landscape type's character'.
- This single internal Hedgerow/treeline is to be retained and supplemented with similar species to form a dominant landscape feature and ecological corridor.
- Cut and fill operations are to be optimised to integrate the proposed development into its landscape setting.

The development does not impact Scenic Routes, Protected Structures, areas of special designation or historical areas and has only a minor impact on Corrin Cross/Hill the principal culturally relevant area with the Zone of Visual Influence.

5 Material Assets – Traffic and Transportation

5.1 Introduction

The material assets (Traffic & Transport) chapter assesses and evaluates the likely impact the proposed development will have on the existing roads network in the vicinity of the site, as well as identifying proposed mitigation measures to minimise such impacts. Full details of the assessment carried out can be found in Chapter 5 Volume II of the EIAR.

The key junctions in the area surrounding the proposed development are identified as follows:

- Junction 1: T-Junction serving the R639 Cork Rd. & the L-1542 local road.
- Junction 2: Roundabout on the Junction of the R639 and the M8 Motorway.
- Junction 3: Proposed entrance junction to the development.

The traffic assessment has demonstrated the following:

- A review of the RSA Road Collision Statistics undertaken for the area in the vicinity of the applicants' site indicates that there are no significant impacts on road safety.
- Junction 1: R639/L-1542 is shown to currently operate within capacity currently and will continue to do so up to and including the design year 2042 with the development in place. The maximum future year RFC (Ratio of Flow to Capacity) is 75% in 2042 AM peak. The Level of Service for this maximum RFC is D – Borderline Unstable. This Level of Service signals that the junction is reaching capacity but remains operational while incurring delays. The modelling results demonstrate that this Level of Service will be experienced both with and without development traffic in the year 2042
- Junction 2: R639/M8 Roundabout is shown to currently operate well within capacity and will continue to do so up to and including the design year 2042 with the development in place. The maximum future year RFC (Ratio of Flow to Capacity) is 33% in 2042 PM peak. The Level of Service for this maximum RFC is A – Free Flow.
- Junction 3: Development Entrance Junction is shown to operate within capacity during both AM & PM peak for all future years.
- The proposed new access arrangements are safe and suitable and are in accordance with the Design Manual for Roads & Bridges (DMRB) and the Design Manual for Urban Roads & Streets (DMURS).
- The proposed site layout is permeable to the roads network with the proposed R639 upgrade works ensuring the development is well connected to existing pedestrian/cycling linkages, to public transport offerings, schools, retail, and amenity destinations.
- The site benefits from being in close proximity to regular transport provision, within walking distance of the site, which enables journeys to the primary employment centre in the region Cork City.

A modal shift of 40% (implying an anticipated increase in public transport or active travel in the immediate area of 22%) for future year models is deemed to be reasonable. This modal shift increase of 22% will be applied to proposed development traffic from the opening year (when the development is fully completed) 2027, up to the design year 2042.

Extensive upgrade works on the R639 are proposed as part of the proposed development. The proposed works will include footpath and cycle lanes to connect the proposed residential development to the existing pedestrian and cycling network located to the north of the R639 entrance junction. Additionally, a signalised crossing to be located just south of the development entrance is proposed to provide a safe crossing point for pedestrians and cyclists. The signalised crossing also allows cyclists to safely cross the R639 to access the northbound cycle lane heading towards Fermoy.

6 Material Assets – Services, Infrastructure and Utilities

6.1 Introduction

The full assessment of Material Assets: Built Services is contained within Chapter 6 of Volume II of the EIAR. This NTS provides a summary of the potential impacts of the proposed development on the existing utility network was assessed, including the following infrastructure:

- Surface Water Drainage
- Foul Water Drainage
- Water Supply
- Electricity Supply
- Natural Gas
- Telecoms

6.2 Surface Water Drainage

There is no existing surface water network within the existing development site. There are a number of small open agricultural drains which fall gently with the site topography from west to east to join the drainage channel running from south to north along the eastern boundary. Apart from these drains the rainwater percolates directly to groundwater. The channel along the eastern boundary continues northwards, beyond the site, through the St. Coleman's sports grounds until discharging into an old stone culvert under College Road and the grounds of the Convent.

The proposed storm sewer collection system consists of a 100 mm diameter pipe collection network around each house in accordance with TGD part H discharging to 225mm diameter uPVC sewer pipes or larger under the estate streets. The surface water network layout and typical details are shown in the following drawings:

- Site Layout- Drainage- Sheet 1 of 3 (1907-P-002-1)
- Site Layout Drainage- Sheet 2 of 3 (19074-P-002-2)
- Site Layout Drainage – Sheet 3 of 3 (19074-P-002-3)
- Surface Water Drainage Typical Details (19074-P-500)

It is proposed to approach the management of surface water drainage for the development using the principles of sustainable urban drainage systems (SuDS). The overall strategy aims to provide an effective system to mitigate the adverse effects of urban surface water runoff on the environment by reducing rainfall runoff rates to equal greenfield runoff, reducing the overall volume leaving the site and reducing pollutant concentrations in the surface water. The proposed SUDs feature in the development are modular permeable paving, tree pits, filter drains, water butts in private plots and Eco Cell underground attenuation tanks, petrol interceptor sand Hydro brake flow controls.

A new 750mm diameter pipeline proposed from the stone culvert north of the site to the existing infrastructure in Devlin Street will result in disruption to the users of St. Coleman's sports grounds and the local streets traversed during its construction.

In the sports grounds the impact would be on access from the north end to the south end across the line of the pipe. This will be mitigated by scheduling the construction so as to leave a safe crossing point at all times, reducing the impact to neutral, not significant and momentary.

In Devlin Street, the impact will be on road users during the construction of the pipeline. It is estimated that the road works will take between 1 and 2 weeks to complete. A traffic management plan shall be formulated by the appointed contractor and the necessary road opening licence applied for. An

effective traffic management plan will mitigate the impact of the works to negative but slight and temporary.

6.3 Wastewater Drainage

The layout of the proposed wastewater drainage network for the development and its typical details are shown on the following drawings:

- Site Layout - Drainage - Sheet 1 of 3 (19074-P-002-1),
- Site Layout - Drainage - Sheet 2 of 3 (19074-P-002-2),
- Irish Water Standard Details - Wastewater (19074-P-501)

The network is a conventional piped, gravity sewer flowing to a wastewater pumping station in the East of the site from where it is proposed to pump the wastewater, via rising main, to the public wastewater sewer in the R639.

The proposed wastewater network has been designed in accordance with Irish Water specifications and a pre-connection enquiry was submitted to Irish Water followed by a design submission. Irish Water has confirmed in consultations with Michael Walsh of Walsh Design Group that connection of the proposed network is feasible with minor upgrades to the local wastewater treatment plant and has accepted the wastewater design submitted. See Appendix C to the Civil Engineering Report, 19074-ER-01 and Appendix 6.4 to this report for Irish Water correspondence.

The impact on the wider wastewater drainage system during the construction stage will be brief, neutral, and imperceptible and no long-term impacts will result from the construction stage.

6.4 Watermain Design

It is proposed to connect the watermain for the development to an existing watermain that runs past the proposed entrance in the R639. Irish Water has confirmed that this connection is feasible without upgrade to the local water supply infrastructure.

A 200mm diameter HDPE watermain is proposed to supply water to the proposed development as per the following accompanying drawings:

- Site Layout – Watermain- Sheet 1 of 2 (19074-P-001-1)
- Site Layout- Watermains – Sheet 2 of 2 (19074-P-003-2)

The watermain will be metered in accordance with Irish Water requirements at the entrance to the proposed development to monitor bulk water usage.

There will be some disruption to the existing watermain whilst making the connection, but the works will be completed in a few hours and any potential impacts to water supply will be brief, neutral, and imperceptible.

See Appendix 6.4 to this EIAR for the Irish Water confirmation of feasibility for the water connection and confirmation of design acceptance for the overall design of the water supply system.

6.5 Electricity Supply

ESB networks were contacted regarding power lines running in the vicinity and through the site. There are no buried cables running through the site but there are several medium voltage 10kV/20kV overhead lines and one high voltage 38kV line crossing the development site.

It is proposed to underground the 38kV cables that are currently overhead from the southern boundary to the ESB distribution facility to the west of the site. A form NW1 was submitted to the ESB

requesting the diversion and subsequently, the agreed diversion route is shown on the following drawings:

- Site Layout & Levels - Sheet 1 of 2 (19074-P-001-1),
- Site Layout & Levels - Sheet 2 of 2 (19074-P-001-2).

The works proposed include the construction of a new Type F lattice steel mast near the southern boundary at which the overhead cables coming from the South would be diverted underground. From the lattice mast new ducting will be laid in the ESB's trefoil 5-way duct formation along the route shown in the drawings. This duct trench is 600mm wide and shall have a 4.0m wide wayleave for access which is centred on the trench.

Subject to permission granted on site, a separate diversion agreement shall be entered into with ESB networks to have the 10kV/20kV overhead lines rerouted to suit the proposed layout. These works are less complex than those on the 38kV line and do not involve large structures.

When the structures, ducting and new cabling is in place and ready for connection there will need to be a short-scheduled outage of power supply to the local area as the overhead cables are shut down and the underground cables become live. This outage will be agreed with the ESB, local residents and businesses will be warned and the impact from the construction phase of the proposed development on the local electrical supply network is likely to be brief and imperceptible.

6.6 Communications

Telecoms ducting and cables will be laid within the development site during the construction stage. Prior to the operational phase of the development this internal network will be connected to the local infrastructure of one or more of the telecoms providers in the area.

The potential impact from the construction phase of the proposed development on the local telecoms network is likely to be brief, neutral and imperceptible.

6.7 Gas

No Gas is proposed for the development and no works are envisaged to the local gas network; however, Gas Networks Ireland shall be informed of any works near their infrastructure at the proposed site/development entrance.

6.8 Earthworks

The development of the subject site will require the stripping of top and sub soils and the excavation or fill of ground to formation level. The earthwork cut and fill volumes are described in more detail in the preliminary Construction Demolition Waste Management Plan (19074-ER-04), accompanying this application.

Construction activities and vehicle movements shall be in accordance with the Construction Environmental Management Plan, Construction and Demolition Waste Management Plan and the Construction Traffic Management Plan, all formulated by the appointed Main Contractor and overseen by their Construction and Demolition Waste Manager in order to minimise any impact on the existing environment and the surrounding area.

7 Land

7.1 Introduction

This is the non-technical summary of the Land and Soil (Geology) Environmental Impact Assessment Reporting (EIAR) works of the proposed residential development site at Coolcarron just south of Fermoy in North Co. Cork.

The subject site is made up of agricultural pastoral grassland comprising of three large open fields separated by mature hedges or old wall sections. The site is in a semi-urban and rural setting on the southern fringe of Fermoy Town.

The site has a roughly rectangular shape which occupies the central area of a broad valley that has a relatively flat topography with a slight slope from west to east and from south to north across the site area. Several residential and commercial properties, including a service station, car sales yard and warehousing are located on the western boundary. The R639 Fermoy to Rathcormac Road is adjacent to the Western boundary while agricultural lands continue to the south and there is commercial forestry to the east of the site area. Access to the development is via customs weigh bridge lay-by off the R639 on the western boundary. A drainage channel forms the eastern boundary and to the north the St. Colman's playing pitches and open park area are located between the site and Fermoy Town.

Background information on the nature of the land, soils and geology, their characteristics and status were obtained from a wide variety of available documents and online references. Consultation was undertaken by the project planning coordinator with the relevant authorities.

7.2 Existing Environment

The Geological Survey of Ireland (GSI) and Environmental Protection Agency (EPA) regional mapping data indicates that the soils in the area comprise of undifferentiated lacustrine or glacial lake deposits comprised of a mix of sediments such as clays, silts, sands, and gravel deposits. The recent Teagasc/EPA Mapping identifies the Soil Association as being 'Ross Carbury Soils' which are described as "Coarse loamy drift with siliceous stones", and while they are only identified in a local 'pocket' of ground in this area they are very widely distributed in the Cork and Munster area.

30 Trial Pits were previously excavated across the site area in 2004 and they identified soil depths of between 1.1m to >3.6m, which gives the site a variable vulnerability from Extreme (<3m subsoil depth) towards the southern end of the site too High to Moderate (>3m to >5m to 10m subsoil depth) vulnerability rating over the remainder of the site area. The GSI classify the majority of the site as having a Moderate Vulnerability.

The bedrock underlying the majority of the site is identified as the Upper Devonian Ballytrasna Formation (BS) which is comprised of steeply dipping inter-bedded sandstones, siltstones and mudstones. The bedrock is classified as a locally important aquifer that is productive only in local zones. No interaction with the groundwater table is anticipated and no dewatering is proposed.

There are no 'Legacy Landfills', EPA licensed facilities, geological heritage areas or economic deposits located on site or in the vicinity of the development area. The Douglas River Estuary, located over 1km to the North of the site, is part of the Cork Harbour Special Protection Area (SPA). The sites storm water will discharge to the estuary.

7.3 Predicted Impacts

Predicted impacts during the construction phase of development include: (1) removal of the soil cover and as necessary the backfilling and/or excavation of the underlying subsoils for the developments roads, buildings and related infrastructure, (2) potential for accidental contamination of soils, bedrock and the underlying aquifer through fuel spillages, (3) possible soft peaty and poor ground conditions being encountered especially along the drainage feature on the eastern side of the site, and (4) potential for dust generation in dry weather and suspended sediment runoff in surface water in wet weather from the active construction areas, to the adjacent R369 roadway and/or local drainage channel and River Blackwater located about 500m to the North of the site.

No operational impacts are predicted as the soil and land environment will be stable post construction.

The main risk to human health would be caused by the collapse of an exposed subsoil excavation or high stockpile during construction - prior to backfilling or temporary retaining structures being put in place. Large losses of fuel would pollute the soils and underlying bedrock, but they are unlikely to create a human health risk.

7.4 Mitigation Measures

Good construction management such as controlled refuelling of machinery and bunding of fuel storage and chemical areas will be undertaken during the construction phase. Construction areas will be kept as small as possible, clean and dirty water runoff will be segregated and as necessary settlement ponds and silt fences will be constructed to control sediment runoff as required. Buffer areas will be established between the construction area and the drainage feature on the eastern boundary and works near this feature will be undertaken during dry conditions. Green areas will be left undeveloped, and any disturbed ground will be reseeded to limit and prevent sediment runoff. Dust suppression and damping down techniques will be used in dry weather and stockpile areas will be set back from drainage ditches and the eastern boundary.

Best practice guidelines with regard to environmental management and pollution control for the construction industry (e.g. CIRIA, Fisheries & UK EA Pollution Control guidelines), will be implemented for the proposed development through the Construction Environmental Management Plan (CEMP).

7.5 Impact Assessment

The sites soils are considered to have a Medium to Low Importance as the attribute, which are moderately drained fertile soils, would have a medium quality significance or value on a local scale. The Impact Magnitude is considered to be Small Adverse on a local level as there is a permanent and irreversible loss of an area of moderately fertile soils, however these soil types are very common and extensive in the Cork area and therefore would have a Negligible Impact on a more regional scale.

The bedrock attribute would be considered to be of Low Importance. The bedrock impact is considered to be Negligible as the impact is insignificant in terms of its use or overall integrity.

7.6 Conclusion

Following the assessment of the Land and Soil elements of the development the Magnitude of Impact on these attributes is considered to be Negligible. Some of the potential short term or brief impact such as fuel spills, unsupported excavations, dust occurrence or suspended sediment runoff in surface waters can be prevented or limited by incorporating the recommended mitigation measures into the construction phase, the identified impacts are rated to be Imperceptible.

8 Water (Hydrology)

8.1 Introduction

This is the non-technical summary of the Water Environmental Impact Assessment Reporting works of the proposed residential development site at Coolcaroon, Fermoy, Co. Cork.

Background information on the nature of the Water elements, (hydrology and hydrogeology), their characteristics and status were obtained from a wide variety of available documents and online references. Consultation was undertaken with the relevant authorities.

8.2 Existing Environment

There are a number of drainage ditches on the site which drain the land area from West to East and connect with the surface water drainage feature which forms the eastern boundary of the site. This channel flows northwards and is piped and culverted under Fermoy town to discharge into the Blackwater River located about 500m to the north of the site.

The Water Framework Development (WFD) and Environmental Protection Agency (EPA) river system and catchment mapping does not identify the drainage channel on the as it is too small.

The WFD and EPA Catchment Mapping identifies that the site is in the River Blackwater (Munster) Hydrometric Area 18, (HA18) which is divided into 28 sub-catchments. The site location is at the eastern end of sub catchment area 18_14, Blackwater (Munster)_SC_110 and in the middle of the sub river basin water body Blackwater (Munster)_190. Small watercourses are identified within this River Sub-Basin area in the topographical valleys 1.5km to the west (Deer Park Stream) and 1.1km to the East (Fermoy Wood Stream) of the site. Like the drainage feature on the site these all flow northwards to the Blackwater River. The river Blackwater is designated as a Salmonoid River system and is a Special Area of Conservation for several sensitive habitats.

The site area is made up of a number of open green field areas underlain by sandstone bedrock which is underlain by undifferentiated lacustrine sediments of clays, silts, sands and gravels of fluvio-glacial origin. A site investigation comprising of 30 trial pits was completed in 2004 which identified a mix of sediments typically to a depth of at least 3m below ground level. Soil depths of between 3m to 5m and possibly 10m are anticipated to underlie the site. The water table was usually encountered at about 2m.

The bedrock underlying the site is classified as a Locally Important (LI), Aquifer that is productive only in local zones. The local water supply will be via the Irish Water (IW) mains supply. No local wells or other potable supplies have been identified by the GSI mapping in the immediate area of the site. The Fermoy-Coolroe Public Supply scheme is identified about 3km to the west of the site area. Although not all private boreholes are recorded by the GSI it is considered that the local aquifer is not widely used as a water supply source given the rural nature of the site and provision of a local mains supply.

8.3 Predicted Impacts

Predicted impacts during the construction and operational phase of development include: 1) potential for suspended runoff in surface water from the active construction, cut and fill areas in wet weather to the adjacent drainage channel and potentially from there to the Blackwater River, 2) potential for accidental contamination of the underlying aquifer through fuel spillages, 3) potential for increased runoff from hard surfaces off site, 4) potential for local impact on the aquifer from pollution by leaks

in the buried waste water piping system, 5) potential for dirty surface runoff from the local road network.

The main risk to human health is considered to be from contamination by sewage leaks to the aquifer if the groundwater is then used as a potable supply. The likely hood of this is very low as the potential for leaks from new sewage infrastructure would be low and there are no known groundwater users in the vicinity of the site.

The changes to the surface water runoff and diversion of the storm water to the adjacent drainage channel have the potential to increase flows however the volumes involved are small with regard to the catchment area and the site area does not have any history of flood events. The provision of a new drainage pipe to the local stormwater infrastructure will reduce the risk of flooding occurring both in the site area and downstream in Fermoy Town.

8.4 Mitigation Measures

Good construction management such as controlled refuelling of machinery and bunding of fuel storage and chemical areas will be undertaken during the construction phase. Construction areas will be kept as small as possible, clean, and dirty water runoff will be segregated and as necessary settlement ponds and silt fences will be constructed to control sediment runoff as required. A buffer area will be established to protect the drainage feature on the eastern boundary and the proposed green areas will be left undeveloped. Any disturbed ground will be reseeded as soon as possible after construction to limit and prevent sediment runoff.

Best practice guidelines with regard to environmental management and pollution control for the construction industry (e.g. CIRIA & UK EA Pollution Prevention Guidelines), will be implemented for the proposed development through the Construction Environmental Management Plan, (CEMP).

Sustainable Urban Drainage Systems (SuDs) in the form of permeable paving, grassed swales areas, tree pits, and in particular hydro-brake manholes and buried storm water attenuation storage systems, of which six are proposed to be constructed around the site and installed with hydrobrakes so that the green field runoff rates for the site can be maintained.

Hydrocarbon interceptors are to be installed on hard surface/roadway surface water drainage systems around the development which, once maintained, will limit the potential silt and hydrocarbon pollution risk on the site in the long term.

8.5 Impact Assessment

The local surface water drainage feature is considered to have a low importance but would have a high sensitivity as it is directly connected to the Extremely Important Blackwater River to the north. The potential Impact Magnitude on the surface water regime is considered to be Negligible as no long-term adverse effects are identified and short-term risks can be successfully managed and mitigated.

The underlying aquifer has a Medium Importance with a potential Impact magnitude on the groundwater considered to be Negligible as no long-term adverse effects are identified and any short-term risks can be successfully managed and mitigated.

8.6 Monitoring

Visual assessment of the surface water runoff from the site will identify if there are any sediment or hydrocarbon impacts occurring. If necessary, sampling of the local drainage feature could be

undertaken during the construction phase to ensure there is no deterioration in the water quality and intervention can be implemented should issues arise.

8.7 Conclusion

Following the assessment of the Water elements of the development the Magnitude of Impact on these attributes is considered to be Negligible. Some of the potential short term or brief impacts such as, suspended sediment runoff in surface waters or wastewater leaks to groundwater, or more long term storm water runoff risks can be prevented or limited by incorporating the recommended mitigation measures into the construction and operational phases, the identified impacts are rated to be Imperceptible.

9 Biodiversity

9.1 Introduction

This biodiversity study and impact assessment of the proposed residential development at Coolcarron, Fermoy, Co. Cork was undertaken by Kelleher Ecology Services Ltd with Croft Ecology. A series of baseline field surveys were completed at the EIAR study site including habitat & flora, aquatic, bird, mammal, bat and other taxa. The baseline field surveys along with desktop review were then used to inform the biodiversity evaluation of the EIAR study site, assessment of potential Impacts arising from the proposed development, consideration of appropriate mitigations measures to reduce potential negative impact(s) to an acceptable level where possible.

9.2 Existing Environment

9.2.1 Designated Nature Conservation Sites

The study site is not located within or adjacent to any designated site nor does it require resources from any thereby ruling out any direct habitat loss/damage at such conservation sites. The nearest designated conservation area to the study site is the Blackwater River (Cork/Waterford) SAC, which is located c 0.5 km from the study site boundary.

There is a potential impact-receptor link between the study site and the Blackwater River (Cork/Waterford) SAC, Blackwater River Callows pNHA and Blackwater Callows SPA via (i) potential construction/operational surface water run-off impacts and (ii) potential operational waste-water discharge impacts. While all pNHAs are of national importance, all SAC/SPAs are of international importance.

A Natura Impact Statement (NIS) in support of the Appropriate Assessment process has been undertaken in relation to the proposed development here (accompanying the planning application) with key findings summarised in this EIAR.

9.2.2 Habitats and Flora

No Annex I habitat listed under the EU Habitats Directive and no botanical species protected under the Flora (Protection) Order 2015, listed in the EU habitats Directive or red-listed in Ireland were recorded at the study site.

Non-native invasive plant species noted at the study site included the following: *Cherry Laurel Prunus Laurocerasus* and *Winter Heliotrope Petasites Pyrenaicus*. None of these invasive species are listed on the Third Schedule of the 2011 European Communities (Birds and Natural Habitats) Regulations.

The proposed development area will primarily impact habitat features of higher local value (marshy wet grassland, scattered trees and parkland) lower local value (improved grassland, drier and semi-improved areas of wet grassland, bramble dominated scrub drainage ditches, stone walls and other stonework, amenity grassland) or of no value (buildings and artificial surfaces).

9.2.3 Fauna in the Existing Environment

The study site is of lower to higher local value for fauna overall, where the open drainage channels at the study site are of no to lower local value for fisheries as they lack conditions to support a viable fish/lamprey population in general. While red-listed Meadow Pipit, Redwing and Snipe bird species were noted at site; the non-breeding wintering season that is of less conservation consequence for these species was of relevance here. The wet habitat features of the study site support Common Frog, and although this species is of no conservation concern at present, it is nevertheless listed on the Irish Wildlife Acts (1976 – 2018 as amended) and on Annex V of the EU Habitats Directive.

9.3 Conclusion: Residual Impacts & Effects

The study site and associated proposed development works footprint is of lower to higher local biodiversity value overall, where the higher local value features are confined to areas of marshy wet grassland in this case. Various biodiversity related mitigation measures will be implemented as part of the proposed project such that residual effects associated with potential ecological impacts arising from the proposed residential development are considered.

- Neutral for designated sites in the wider area, where a NIS support of the AA process has been undertaken in relation to Natura 2000 sites of relevance here accompanying the planning application.
- Neutral for the downstream water-features in the wider area (drainage ditch and Blackwater River in this case) and associated habitats/flora and fauna.
- Slight to moderate negative for wet grassland habitat in its own right due to a net loss of same but slight positive on semi-natural habitats/flora overall at the study site as new planting/landscape successfully matures into a native/non-native pollinator friendly dominant scheme with a net gain of native dominant woody features at the site (trees, hedgerow) in line with All Ireland Pollinator Plan recommendations or slight to moderate negative for habitats/flora overall at the study site where new planting/landscaping fails to successfully mature into a native/non-native pollinator friendly dominant scheme with a net gain of native dominant woody features at the site (trees, hedge grow) in line with All Ireland Pollinator Plan recommendations.
- Positive for the study site and wider locality in general with the successful management/eradication of non-native invasive plants or slight to moderate negative for the study site and wider locality in general where management/eradication of invasive plants at the study site fails for whatever reason allowing for the spread of same.
- Slight to moderate negative or wet grassland associated fauna due to a net loss of wet grassland from the existing situation but slight positive on fauna overall at the study site as new planting/landscaping successfully matures into a native/non-native pollinator friendly dominant scheme in line with All Ireland Pollinator Plan recommendations or slight to moderate negative for fauna overall at the study site where new planting/landscaping fails to successfully mature into a native/non-native pollinator friendly dominant scheme in line with All Ireland Pollinator Plan recommendations.
- Neutral for fauna (including bats) in relation to general on-going operational disturbance/displacement impacts including a lighting scheme that ensures artificial light spillage is minimal onto retained/new woody features at the study site and adjoining area along with continued access for small and medium sized mammals.

10 Noise and Vibration

10.1 Introduction

AWN Consulting Limited has been commissioned to assess the likely noise and vibration impacts associated with the proposed residential development at Fermoy, County Cork.

The existing noise climate in the vicinity of the proposed development has been surveyed. Prevailing noise levels are primarily due to local road traffic. The noise impact assessment has focused on the potential outward impacts associated with the construction and operational phases of the proposed development on its surrounding environment.

During the main construction phase involving site clearance, excavation and building construction works, the assessment has determined that, while there is potential for short-term significant impacts while works are ongoing near the closest sensitive receivers adjacent to the site, the construction noise criteria can be complied with during the majority of the programme. A schedule of good practice measures including noise limits and screening will all be employed to reduce any noise and vibration impacts during this phase.

During the operational phase, the outward noise impact to the surrounding environment will include additional traffic on surrounding roads and plant noise from plant items serving the development. The impact assessment has concluded that additional traffic from the proposed development will have an imperceptible impact on the surrounding noise environment and that plant items will be designed to ensure any noise and vibration impacts during this phase will not exceed the recommended limit values. The resulting impact is of neutral, permanent, and imperceptible.

11 Air Quality and Climate

11.1 Introduction

AWN Consulting LTD has been commissioned to assess the likely impact on air quality and climate associated with the proposed development at Coolcarron, Fermoy, Co. Cork.

11.2 Description of Existing Environment

In terms of the existing air quality environment, data available from similar environments indicates that levels of nitrogen dioxide (NO₂), carbon monoxide (CO), particulate matter less than 10 microns (PM₁₀) and less than 2.5 microns (PM_{2.5}) and benzene are generally well below the National and European Union (EU) ambient air quality limit values.

11.3 Impact Assessment

11.3.1 Construction Phase Impact

The greatest potential impact on air quality during the construction phase is from construction dust emissions, PM₁₀ and PM_{2.5} emissions. In order to minimize dust emissions during construction, a series of mitigation measures have been recommended. When the dust minimization measures set out within this EIAR are implemented, the impact of fugitive emissions of dust from the site on nearby receptors will be short-term and not significant.

Due to the size and nature of the development, the impact of the proposed development on national greenhouse gas emissions is predicted to be insignificant in terms of Ireland's obligations under the EU 2030 target.

The mitigation measures that will be put in place during construction of the proposed development will ensure that the impact of the development complies with all ambient air quality legislative limit values and, therefore, the impact will be imperceptible with respect to human health.

11.3.2 Operational Phase Impact

The operational impact of the development was assessed based on emissions of the pollutants NO₂, CO, PM₁₀, PM_{2.5} and benzene using the UK Design Manual for Roads and Bridges screening model which is a recommended screening model for assessing the impact of traffic on air quality. The inputs to the air dispersion model consist of information on road layouts, receptor locations, annual average daily traffic movements, annual average traffic speeds and background concentrations. The climatic impact based on greenhouse gas (GHG) emissions of CO₂ was also assessed using the Design Manual for Roads and Bridges screening model.

Based on the modelling results, the impact of the proposed development on ambient air quality and climate is predicted to be long-term, negative, and imperceptible. The assessment demonstrates that the impact of the operational phase of the development complies with all ambient air quality legislative limit values which are based on the protection of human health and, therefore, the impact will be long-term and imperceptible with respect to human health.

11.3.3 Residual Impact

When the dust minimization measures detailed in the EIAR are implemented, fugitive emissions of dust from the site will be short-term and not significant. Impacts to climate during the construction phase are considered imperceptible and therefore no residual impacts of significance are predicted.

The results of the air dispersion modelling study demonstrate that the impact of the proposed development on air quality and climate is predicted to be imperceptible with respect to the operational phase. Therefore, no residual impacts of significance for air quality and climate are predicted for the operational phase of the proposed development.

11.3.4 Cumulative Impact

The dust minimisation measures outlined for the proposed development should be implemented throughout the construction phase for all developments in the vicinity of the site to avoid any nuisance dust impacts occurring. Once these minimisation measures are in place, the cumulative impact to air quality is considered short-term and not significant. The cumulative impact to climate from construction is considered imperceptible based on the nature and scale of the proposed works and due to the low volumes of machinery and vehicles required for the construction of the proposed development as well as the construction phase of nearby committed developments.

The local air quality impact assessment, regional air quality impact assessment and climate impact assessment conducted using the DMRB model for the operational phase of the proposed development have all been based on cumulative traffic data incorporating projected traffic for permitted developments in the vicinity of the development as a worst-case. As the outcomes of the assessments concluded that impacts from the cumulative scenario will be long-term and imperceptible with respect to air quality and climate, no further cumulative impact assessment is required for the proposed development.

11.4 Mitigation

11.4.1 Construction Phase

A series of dust mitigation measures are proposed within the EIAR. These dust mitigation measures shall be implemented during construction of the proposed development to ensure the formation of fugitive dust is minimised.

11.4.2 Operational Phase

No additional mitigation measures are required during the operational phase of the proposed development as it is predicted to have an imperceptible impact on ambient air quality and climate.

11.5 Monitoring

Monitoring of construction dust deposition at the site boundary and / or at nearby sensitive receptors during the construction phase of the proposed development is recommended to ensure the mitigation measures are providing adequate dust minimisation. This can be carried out using the Bergerhoff method in accordance with the requirements of the German Standard VDI 2119.

There is no monitoring recommended for the operational phase of the development as impacts to air quality and climate are predicted to be imperceptible.

12 Cultural Heritage and Archaeology

The proposed development site currently comprises four fields which have been in agricultural use since the time of the first Ordnance Survey; an unnamed stream to the east and a narrow strip of land to the north which is to provide for additional drainage, this area is located near housing and a public park. Aerial photographs confirm that the area has not been altered in the latter 20th century. The current proposal will significantly alter the agricultural character of the fields and the stream to the east. The proposed development site is located largely within the townland of Coolcarron, to the south of the Historic Town of Fermoy (CO035-107---), and in smaller areas of Fermoy and Duntahane townlands. Much of the proposed development site was used until recently for pasture while other wetter areas were left fallow, as observed during site visits in 2020 and 2021.

There are no recorded archaeological sites listed in the Record of Monuments and Places (RMP) within the proposed development area. The closest RMP site to the development area is the site of Uplands House (CO035-101---), c. 200m to the east. There are seven other archaeological sites in the vicinity of the development area. These are a school (CO035-103---), 380m to the north; the historic town (CO035-103---), 410m to the north; an abbey and graveyard (CO035-024---and CO035-024001-), 430m to the north; a fulacht fiadh (CO035-077---), 470m to the south; a holy well (CO035-023---), 500m to the northwest; and a bridge (CO035-073---), 500m to the northeast. None of the structures listed in the National Inventory of Architectural Heritage (NIAH) for County Cork or the Record of Protected Structures are located within the proposed development site. To the northwest of the site three structures (NIAH20820134-6), will not be affected, and two collections of NIAH structures 20820137-140 (the former military college) and buildings associated with the Loreto and Presentation Convents (NIAH 20820125-128) will not be affected either. The Fermoy Town ACA bounds the site to the north but will not be impacted.

To reduce impacts on any potential archaeological features, a geophysical survey of undisturbed greenfield areas followed by targeted archaeological test trenching, will be undertaken prior to the commencement of the construction phase within the footprint of the proposed development site. Any archaeological features identified during testing will be fully resolved to professional standards of archaeological practice, as outlined in Policy and Guidelines on Archaeological Excavation—Department of Arts, Heritage, Gaeltacht and the Islands (1999). Such material will be preserved in situ or preserved by record, following consultation with the National Monuments Service and the local authority. There will be no impact on any of the protected structures in the vicinity of the proposed development site. No protected structures listed in the Fermoy Town Council Development Plan (2009-2015) are located within the proposed development site. The remains of one ruined building are

located within the area to be developed for a proposed new drainage pipe in the north spur of the development site, towards Devlin Street which will result in the loss of this feature. It is recommended that prior to the commencement of the construction phase, a full photographic, drawn and written record of this structure will be made and submitted to Cork County Council. It is anticipated that with the implementation of the above proposed mitigation measures there will be no significant residual impacts on the archaeological, architectural and cultural heritage.

13 Population and Human Health Chapter

13.1 Introduction

The assessment of potential impacts on Population and Human Health is contained within Chapter 13 of Volume II of the EIAR. It also details the proposed mitigation measures where necessary. The 2014 EIA Directive (2014/52/EU) updated the list of topics to be addressed in an EIAR and 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 Planning and Development Regulations 2000 (as amended).

13.2 Existing Environment

13.2.1 Demography

Fermoy lies outside Cork's Metropolitan area and therefore is located within a 'ring town', designated by the National Spatial Strategy. These ring towns include the areas of Fermoy, Bandon, Kinsale, Macroom and Youghal. The designation defines these 'ring towns' as areas which support a substantial rural hinterland consisting of several villages, smaller settlements, and individual dwellings.

These areas provide an important contribution in ensuring a balance of development is achieved throughout the Greater Cork Ring area. Cork County's Development Plan notes that the provision of new housing in the Cork Ring areas is particularly important in order to accelerate the growth and critical mass of population to ensure towns such as Fermoy are maintained as areas that maximize their potential and attracts investment in its services and employment.

13.2.2 Population

Within the Cork County Development Plan, Fermoy's population was set to achieve a population target of approximately 7,442 by 2020. As per the core strategy, as the population for Fermoy town is set to grow in the near future, it shall be an objective to work with Cork County Council to ensure that the 'growth is planned and that there is adequate and sufficient appropriate lands zoned to accommodate such growth'.

The Cork CDP (2014) sets a population target of 620,622 for Cork City and County to be achieved by 2022, representing an increase of c. 15%. However, it is recognized that this will be revised to consider changes to the county boundary. Within this account, Fermoy is said to increase in its population from a figure of 6,489 in 2011 to a target of 7,589 by 2022. To cater for this, increase an estimated 938 units in total, will need to be provided to meet this population projection. Refer to Table 13.4.1 within the Population and Health Chapter.

13.2.3 Health

The baseline data for Fermoy indicates that in general the population is in good health. The proposed development will not result in any significant negative impacts to the health and wellbeing of the

existing population. In particular, the design of the scheme ensures that both future and existing residents within the local environs will benefit from proposed amenities.

13.3 Impact Assessment

In identifying potential impacts and receptors, consideration was given to the proposed mixed use residential scheme and the identified receiving environment. The principal potential receptors that will be affected by the development proposals include:

- Residential areas in proximity
- Community Facilities and services including schools and creches
- Local Amenity
- Economic Activity

13.3.1 Do Nothing Scenario

If the development were not to proceed there would be no immediate impact on the existing population, or economic activity for residents living in the area. However, it would also prevent the development of a greenfield site which will be a catalyst for the development of Fermoy. This would have a very significant negative long-term impact on both the Fermoy region, supporting environs and the wider Cork Metropolitan area as the critical mass of population growth would not be achievable, undermining the Core Strategy of the Cork County and City Development Plans.

This development will facilitate an appropriate, sustainable settlement pattern which will accommodate residential, community, leisure, and recreational facilities to satisfactorily match the level of population growth and household generation envisaged by the CDP.

The land would likely remain a vacant site. The impacts on land use are therefore envisaged to be neutral for the 'do-nothing' scenario.

13.3.2 Construction Phase Impacts

Generally, the potential impacts arising during the construction phase relate to quality of life including visual impact / amenity, noise, air quality and transport. Where relevant, these impacts have been considered in the relevant chapters of the EIAR and will be minimized or mitigated where appropriate.

No significant negative residual impacts have been identified once mitigation measures are put in practice. No significant impacts on economic activity or local amenity are anticipated as a result of the proposed development. The existing road network has been demonstrated to have sufficient capacity to accommodate construction traffic associated with the proposed development.

A preliminary Construction and Environmental Management Plan and Preliminary Construction Demolition Waste Management Plan have been prepared which set out the general measures which will be taken to ensure the site is secured and to ensure the health and safety of workers, on-site staff and those likely to be affected by the development including pedestrians, road users, neighbours and visitors to the site. The measures include:

- Health and Safety policies on the site, including a main contractor's construction stage health and safety plan will be prepared by the project supervisor for the construction stage
- Liaison with local residents and businesses to maintain a good relationship and minimise disruption
- Site security and suitable hoarding to separate the site from its surrounding roads and buildings
- A management plan for siting and using large machinery (cranes)
- Site compound and safe storage of materials, excavated materials, fuels, paints, cleaning agents etc.

Following implementation of these measures' adverse effects on human health during the construction phase of the project are not likely, and any effects will be neutral and short term.

13.4 Human Health

Many of the potential impacts on human health are addressed within the relevant discipline chapters of the EIAR. Human health risks not addressed elsewhere in the EIAR relate to Construction Health & Safety; and availability of Recreation and Amenity Facilities. It is considered that the greatest health and safety risks will be posed during the construction phase of the proposed development. As with any construction site, there will be potential risks to the health and safety in terms of injury or death of construction personnel on-site due to the usage of large, mobile machinery as well as heavy equipment and materials. Proposed mitigation measures include the management of the site in accordance with the Safety, Health and Welfare at Work (Construction) Regulations, 2013; the review of safety practices at both design stage and during construction; the implementation of corrective actions wherever necessary; and the restriction of access to the site area and construction compound.

13.5 Operational Phase

Due to the nature of the development, there will be few hazards associated with the operational phase of the development and therefore no potential significant negative impact in terms of health and safety. The potential impacts on cycling and pedestrians will be positive.

The provision of these amenity facilities within the proposed development will be of benefit to future residents and existing residents in the local environs. The operational phase of the proposed development, in terms of recreation and amenity facilities will, therefore, have a permanent significant positive impact on Human Health.

13.6 Mitigation

No likely negative impacts have been identified for population, or land use, accordingly no mitigation measures are required.

The proposed development has been designed to the highest building standards in accordance with current best practice guidance and incorporates sustainable development measures such as exhaust heat air pumps, and sustainable urban drainage features.

13.7 Monitoring

No specific monitoring is proposed. In general, monitoring will be undertaken by the Building Regulations certification process and by the requirements of specific conditions of a planning permission. Monitoring of compliance with Health & Safety requirements will be undertaken by the Project Supervisor for the Construction Process (PSCP).

13.8 Residual Impacts

The proposed mitigation measures will avoid, prevent, or reduce impacts on the human environment during the construction and operational phases of the proposed development. Residual impacts are those which remain following the implementation of the proposed mitigation measures; however no significant adverse residual impacts have been identified.

14 Interactions of the Foregoing

The construction, operational and cumulative impacts of the proposed development have been assessed within each chapter of the EIAR. This chapter describes the significant interactions of impacts identified in the previous chapters.

All potential inter-relationships impact between the various areas covered in the EIAR are listed and the key interactions and interrelationships are summarised. Mitigation measures outlined where required. With mitigation measures in place, no significant residual negative impacts are predicted.

A schedule of proposed mitigation measures and monitoring measures is presented in Chapter 15.

15 Schedule of Mitigation and Monitoring Measures

Chapter 15 of the Environmental Impact Assessment provides a summary of the construction and operational phase mitigation measures proposed for each discipline throughout the EIAR document. These are reflective of those measures identified in the preliminary Construction and Environmental Management Plan (CEMP) which sets out construction phase mitigation measures for the proposed development. It will be a requirement that all personnel will understand and implement the final agreed CEMP. A preliminary Construction and Demolition Waste Management Plan (CWMP) has also been prepared.

Some disciplines have proposed monitoring following their assessment of impacts and implementation of proposed mitigation measures. Monitoring will take place after consent is granted in order to demonstrate that the project in practice conforms to the predictions made during the EIA process. Monitoring provides assurance that proposed systems are operating as intended. This allows adjustments of operations to be made to ensure continued compliance with consent conditions such as emission limit values, conditions of operation, performance criteria/ indicators and detection of unexpected mitigation failures.

16 Risk of Major Accidents and Disasters

The potential of major risks and disasters as a result of the proposed development has been assessed, and a report is included as Chapter 16 of the EIAR.

AWN Consulting Limited has been commissioned to assess potential environmental effects due to risks of major accidents and/or disasters associated with the proposed residential development at Fermoy, County Cork.

There are no records of any flooding in this area of Fermoy in the OPW's floodinfo.ie database of maps and the development lies outside all flood zones shown in the Local Area Plan for the Fermoy Municipal District. The site of the new works lies within Flood Zone C (i.e., where the probability of flooding is less than 0.1% AEP or 1 in 1000 year for river flooding) as defined by the guideline document to Planning Authorities in relation to Flood Risk Management. No seismic events have been recorded in the immediate vicinity of the proposed development site.

No scenarios of concern have been identified during the construction phase. As such the predicted impact is considered to be short term, imperceptible and neutral.

During the operational phase, the proposed development is not located in an area prone to flooding or an area prone to seismic events. As such, these accident scenarios are not of concern. Therefore, the impact is considered to be long term, imperceptible and neutral.