ENVIRONMENTAL IMPACT ASSESSMENT REPORT – VOLUME III

NON-TECHNICAL SUMMARY (NTS)

STRATEGIC HOUSING DEVELOPMENT & VILLAGE CENTRE

AT

PRIORSLAND, CHERRYWOOD, DUBLIN 18

PREPARED BY

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INTRODUCTION

This Non-Technical Summary (NTS) of the Environmental Impact Assessment Report (EIAR) accompanies the planning application to An Bord Pleanála under Section 4 of the Planning and Development (Housing) and Residential Tenancies Act (2016) for a proposed Strategic Housing Development comprising a new Village Centre and Residential Development located at Priorsland, Cherrywood, Dublin 18.

The purpose of the NTS is to summarise, and explain in non-technical language, the likely and significant environmental affects arising from this project.

The EIAR has been prepared in accordance with the provisions of the Planning and Development Act (as amended) and the Planning & Development Regulations 2001(as amended), which give effect in national planning legislation to the EU Directives on EIA.

EIA requirements originate from Council Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 97/11/EC, 2003/35/EC and 2009/31/EC. The Directive and its amendments were subsequently codified and replaced by Directive 2011/92/EU, as amended in turn by Directive 2014/52/EU. This amending Directive was transposed into national planning consent procedures in September 2018 through the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018).

The objective of the EIA Directive is to ensure a high level of protection of the environment and human health, through the establishment of minimum requirements for environmental impact assessment prior to development consent being given, of public and private developments that are likely to have significant effects on the environment.

An EIA is mandatory for certain projects and for other projects that meet or exceed a stated threshold as set out in Annex I and Annex II of the Directive (and Part 1 and Part 2 of Schedule 5 of the Planning and Development Regulations 2001, as amended). Projects that do not meet or exceed a stated threshold are subject to Screening for the requirement, or not, for 'sub-threshold' EIA.

Notwithstanding that the size of the site and proposed number of residential units are below the thresholds in Development Class 10 of Part 2 of Schedule 5, having regard to Development Class 15, Schedule 7 and Section 172 of the Act, and with regard to the size and scale of the proposed development, the proposed use of natural resources, the relative environmental sensitivity of the location, and the types of potential impacts, it was deemed prudent to prepare an EIAR for the proposed development to accompany the planning application in this instance.

Each EIAR Chapter outlines the receiving environment; the potential impacts of the proposed development; the mitigation measures deemed necessary; and the predicted impacts once the mitigation measures are implemented. The purpose of the NTS is to summarise and explain in non-technical language, the likely and significant effects to the environments arising from this project.

SITE CONTEXT

The application site is located within the townlands of Carrickmines Great and Brennanstown. The Carrickmines Stream runs through the subject site in an easterly direction. To the northwest is the Carrickmines Luas Park & Ride and the Luas line to the north. To the southwest is the M50. There are third party lands between the subject site and the M50 and to west. To the east and south-east are third party lands which include Cherrywood SDZ Phase 1 road infrastructure and Beckett Park.

The subject site lies wholly within Development Area 3 Priorsland at the western extremity of the Cherrywood SDZ Planning Scheme lands. The site amounts to approximately 8.59 hectares and comprises in the majority land in the ownership of the applicant but includes a small portion of the existing TII Park & Ride facility which is on land controlled by the Smith family. These additional lands are included in order to facilitate the bus bridge proposal from Castle Street that will connect to the planned Transport Interchange at Carrickmines Luas Station and provide pedestrian and cyclist access in the short term.

The site is a low lying, relatively flat and generally open tract of land bounded by the M50 to the south, Luas line to the north and traversed from west to east by the Carrickmines Stream along its long axis. The site is distinguished by a number of dominant physical features. Apart from the stand of mature Turkey Oaks, which stretch along the Carrickmines stream, and some sections of hedgerow on the perimeter worthy of retention, the site is characterised by its open aspect and outward views. To the south and southwest is the Dublin Mountains with rolling countryside in the foreground, and to the north and northeast are areas of mature woodland.

Lands to the east and south are also located within the Cherrywood SDZ Planning Scheme and are controlled by Quintain Developments. The lands contain significant road infrastructure as was built by Hines Development including Castle Street. Quintain are currently completing residential development on its landholding and which will include for completion of Castle Street (and associated services) as far as the boundary with the application site.

Figure 1 Site Location

PROJECT DESCRIPTION

The development will comprise a mixed-use Village Centre and residential development as follows:

- 402 no. apartments (comprising 146 no. 1-beds; 218 no. 2-beds and 38 no. 3-beds) within 6 no. blocks (Blocks A-F) ranging in height up to 5 storeys with basement/undercroft parking areas.
- 41 no. terraced/semi-detached/detached houses (comprising 19 no. 3-beds and 22 no. 4-beds).
- A supermarket (c.1,306 sq.m), 7 no. retail/retail services units (c.715 sq.m total gross floor area); 2 no. non-retail/commercial units (c.213 sq.m total gross floor area); creche (c.513 sq.m), gym (c.155 sq.m), community space (c.252 sq.m), residential facilities (c.551.8 sq.m total gross floor area), Office/High Intensity Employment use (c.708 sq.m).
- Provision of car/ bicycle/ motorcycle parking at basement/ undercroft/ ground level. ESB sub-stations/switchrooms/kiosks, waste storage areas, plant areas.
- Provision of the first phase of Priorsland Public Park, a linear park along the Carrickmines Stream and additional public and communal open spaces.
- Provision of an acoustic barrier along the southern/south-western edge of the site adjacent the M50.
- Construction of Castle Street on the subject lands and two road bridges across the Carrickmines Stream, one to serve a future school site, the second to provide interim pedestrian and cyclist access to the Carrickmines Luas station and future Transport Interchange. Provision of a pedestrian bridge from the Village Centre to Priorsland Park.
- The proposed development includes for all associated site development works, landscaping, boundary treatments and services provision.

Figure 2 Site Layout Plan

Figure 3 CGIs of Village Centre

DATA REQUIRED TO IDENTIFY AND ASSESS THE MAIN EFFECTS WHICH THE PROPOSED DEVELOPMENT IS LIKELY TO HAVE ON THE ENVIRONMENT

Data is required to identify and assess the main impacts which the proposed development is likely to have on the environment. The following is a synopsis of the data and information available and sourced for this Environmental Impact Assessment.

This is in line with the following regulations and guidelines which were considered:

- The EU Directives and Irish regulations regarding Environmental Impact Assessment;
- Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017)
- Guidelines on the Information to be Contained in the Environmental Impact Assessment Reports – Draft (Environmental Protection Agency, 2017)
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning and Local Government, 2018)

Population and Human Health

To establish the existing receiving environment / baseline for the subject site, the methodology included site visits to evaluate the location and likely significant potential impact upon human sources in the area. Desk based study of Central Statistics Office Census data, the ESRI Quarterly Economic Commentary, and national, regional and local planning documents was also carried out. The following guidance was also examined in the preparation of this chapter:

- Environmental Impact Assessment of Projects – Guidance on the preparation of the Environmental Impact Assessment (European Union, 2017).
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, Draft August 2017).
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2002)
- United States (US) EPA Health Impact Assessment Resource and Tool Compilation (US EPA 2016);
- Institute of Public Health in Ireland (IPHI) Health Impact Assessment Guidance (IPHI 2009).
- IEMA's Health in Environmental Impact Assessment: a primer for a proportionate approach

<u>Population</u>

To establish the existing receiving environment/baseline for the subject site, the methodology included site visits to evaluate the location and likely significant potential impact upon the human population in the area. Desk based study included an analysis of the Central Statistics Office Census (CSO) data, the ESRI Quarterly Economic Commentary, and national, regional and local planning policy, school and creche enrolment figures.

Different local catchment areas were established for analysing population data, creche demand and capacity, and school demand and capacity. These areas were chosen to gather the most relevant data for each factor. A general local catchment area of 1km from the subject site forms the basis of most areas of analysis.

Human Health

To establish an existing baseline of the human health of the area, desk-based study including an analysis of the Central Statistics Office Census (CSO) data was undertaken. As referenced in the Department of Housing, Planning and Local Government (2018) Guidelines for Planning Authorities and An Bord Pleanála, (taken from the European Commission's Environmental Impact Assessment of Projects: Guidance on the Preparation of the Environmental Impact Assessment Report (2017)), human health is; "*a very broad factor that would be highly Project dependent. The notion of human health should be considered in the context of the other factors in Article 3(1) of the EIA Directive and thus environmentally related health issues (such as health effects caused by the release of toxic substances to the environment, health risks arising from major hazards associated with the Project, effects caused by changes in disease vectors caused by the Project, changes in living conditions, effects on vulnerable groups, exposure to traffic noise or air pollutants) are obvious aspects to study. In addition, these would concern the commissioning, operation, and decommissioning of a Project in relation to workers on the Project and surrounding population.*"

The WHO (World Health Organization) also define health as *"a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."*

Biodiversity

A pre-survey biodiversity data search was carried out in August 2020 and updated in April 2022. This included examining records and data from the National Parks and Wildlife Service (NPWS), National Biological Data Centre (NBDC) and the Environmental Protection Agency (EPA), in addition to aerial, 6 inch maps and satellite imagery. A habitat survey of the site was undertaken within the appropriate seasonal timeframe for terrestrial fieldwork. Field surveys were carried out as outlined in Table 5.1. All surveys by Altemar were carried out in the appropriate seasons. It should be noted however that a habitat survey was also conducted on 15th January 2019 by Maeve Maher-McWilliams ACIEEM, and Lauren Shinkwin of Scott Cawley Ltd. In addition, a Bushnell HD trail camera was installed to monitor activity at an adjacent badger sett on 21st February 2019, and collected on 1st March 2019. A fauna survey was conducted concurrent with the habitats and flora survey on 15th January 2019 by Scott Cawley.

Survey	Surveyors	Survey Dates
Terrestrial Ecology/ Aquatic Ecology/Avian Ecology	Bryan Deegan (MCIEEM) of Altemar	20th September 2020, 9th July 2021, 2nd April 2022
Bat Survey	Bryan Deegan (MCIEEM) of Altemar	20th September 2020, 9th July 2021
Mammal *Mammal / Amphibian Survey*	Scott Cawley Bryan Deegan (MCIEEM) of Altemar	15th January 2019 10th February 2021, 2nd April 2022
Wintering Bird Assessment	Hugh Delaney Ornithologist	22nd October 2020, 31st October 2020, 13th November 2020, 25th November 2020, 2nd December 2020, 18th December 2020, 6th January 2021, 19th January 2021, 4th February 2021, 22nd February 2021, 1st March 2021, 15th March 2021, 18th

		November 2021, 29th November 2021, 11th December 2021, 23rd December 2021, 6th January 2022, 22nd January 2022, 6th February 2022, 27th February 2022, 6th March 2022, 26th March 2022

Proximity to Designated Conservation Sites and Habitats / Species of Conservation Interest

The designated conservation sites within 15km of the site were examined for potential impact. Sites beyond 15km had no direct or indirect pathways and no potential impact is foreseen on these sites. This assessment included sites of international importance; Natura 2000 sites (Special Areas of Conservation (SAC), candidate Special Areas of Conservation (including candidate sites of Community importance and sites of Community importance) (cSAC), Special Protection Areas (SPA) and candidate Special Protection Areas (cSPA)) and Ramsar sites and sites of National importance ((Natural Heritage Areas (NHA), proposed Natural Heritage Areas (pNHA). Up to date GIS data (NPWS data shapefiles) were acquired and plotted against the proposed development site. A data search of rare and threatened species within 5 km of the proposed site (GIS shapefile), which in our professional opinion is deemed appropriate, was provided by NPWS. Additional information on rare and threatened species was researched through the National Biodiversity Data Centre maps.

The Carrickmines Stream traverses through the subject site. The Ticknick Stream flows along the eastern boundary of the subject site. In-stream works to the Carrickmines Stream and construction works proximate to the Carrickmines Stream and Ticknick Stream are proposed and as a result out of an abundance of caution, it is considered that there is a direct hydrological pathway to the Natura 2000 site (Rockabilll to Dalkey Islands SAC), as both watercourses outfall to the Shanganagh River, which outfalls to the marine environment that extends to the Rockabill to Dalkey Islands SAC. As a result, an AA Screening/Natura Impact statement was carried out for the project and is included with the supporting documentation for this application.

Terrestrial, Avian & Bat Ecology

A pre-survey data search was carried out in August 2020 and updated in December 2021. This included a literature review to identify and collate relevant published information and ecological studies previously conducted and comprised of information from the following sources; the National Parks and Wildlife Service, NPWS Rare and Protected Species Database, National Biodiversity Data Centre, EPA WMS watercourses data, in addition to aerial, 6 inch, satellite imagery. Following the desktop study, walk-over assessments of the site were carried out as outlined in Table 5.1. Habitat mapping was carried out according to Fossitt (2000) using AcrGIS 10.5 and displayed on Bing satellite imagery based on the 2nd April 2022 site visit. Any rare or protected species or habitats were noted. As part of the fieldwork an invasive species assessment was carried out. A Wintering Bird Assessment was also carried out on 22nd October 2020, 31st October 2020, 13th November 2020, 25th November 2020, 2nd December 2020, 18th December 2020, 6th January 2021, 19th January 2021, 4th February 2021, 22nd February 2021, 1st March 2021, 15th March 2021, 18th November 2021, 29th November 2021, 11th December 2021, 23rd December 2021, 6th January 2022, 22nd January 2022, 6th February 2022, 27th February 2022, 6th March 2022, and 26th March 2022 (Appendix 5.2).

In relation to bats, a desktop assessment and two bat detector surveys were carried out. There are no buildings on site.

Rating of Effects

The terminology for rating impacts is derived from the EPA Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (2017)

Magnitude of impact and typical descriptions.

Magnitude of impact (change)		Typical description
High	Adverse	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements.
	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.
Medium	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements
	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Low	Adverse	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring
Negligible	Adverse	Very minor loss or alteration to one or more characteristics, features or elements.
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features or elements.

The terminology for rating impacts is derived from the EPA Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (2017)

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	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring
Negligible	Adverse	Very minor loss or alteration to one or more characteristics, features or elements.

	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features or elements.

Criteria for Establishing Receptor Sensitivity/Importance

Importance	Ecological Valuation
International	Sites, habitats or species protected under international legislation e.g. Habitats and Species Directive. These include, amongst others: SACs, SPAs, Ramsar sites, Biosphere Reserves, including sites proposed for designation, plus undesignated sites that support populations of internationally important species.
National	Sites, habitats or species protected under national legislation e.g. Wildlife Act 1976 and amendments. Sites include designated and proposed NHAs, Statutory Nature Reserves, National Parks, plus areas supporting resident or regularly occurring populations of species of national importance (e.g. 1% national population) protected under the Wildlife Acts, and rare (Red Data List) species.
Regional	Sites, habitats or species which may have regional importance, but which are not protected under legislation (although Local Plans may specifically identify them) e.g. viable areas or populations of Regional Biodiversity Action Plan habitats or species.
Local/County	Areas supporting resident or regularly occurring populations of protected and red data listed-species of county importance (e.g. 1% of county population), Areas containing Annex I habitats not of international/national importance, County important populations of species or habitats identified in county plans, Areas of special amenity or subject to tree protection constraints.
Local	Areas supporting resident or regularly occurring populations of protected and red data listed-species of local importance (e.g. 1% of local population), Undesignated sites or features which enhance or enrich the local area, sites containing viable area or populations of local Biodiversity Plan habitats or species, local Red Data List species etc.
Site	Very low importance and rarity. Ecological feature of no significant value beyond the site boundary

Quality of Potential Impacts on Biodiversity

	Impact Description
Negative /Adverse Impact	A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem; or damaging health or property or by causing nuisance).
Neutral Impact	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
Positive Impact	A change which improves the quality of the environment (for example, by increasing species diversity; or the improving reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).

Significance of Impacts

Significance of Impact	Description of Potential Impact
Imperceptible	An effect capable of measurement but without significant consequences.
Not significant	An effect which causes noticeable2 changes in the character of the environment but without significant consequences.
Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant Effects	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
Profound	An impact which obliterates sensitive characteristics.

Duration of Impact

Duration of Impact	Description
Momentary	Effects lasting from seconds to minutes
Brief	Effects lasting less than a day
Temporary	Effects lasting less than a year
Short-term	Effects lasting one to seven years.
Medium-term	Effects lasting seven to fifteen years.
Long-term	Effects lasting fifteen to sixty years.
Permanent	Effects lasting over sixty years
Reversible	Effects that can be undone, for example through remediation or restoration

Possibility of Impacts

Possibility of Impact	Description
Likely Effects	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
Unlikely Effects	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.

Soils and Geology

The assessment of the potential impact of the activity on water and hydrology was carried out according to the methodology specified in the following guidance documents:

1) Environmental Protection Agency (EPA) Guidelines on the Information to be Contained in Environmental Impact Statements (2017);

The principal attributes (and impacts) to be assessed include the following:

1) Geological heritage sites in the vicinity of the perimeter of the subject site;

2) Landfills, industrial sites in the vicinity of the site and the potential risk of encountering contaminated ground;
3) The quality, drainage characteristics and range of agricultural uses of soil around the subject site;
4) Quarries or mines in the vicinity, the potential implications (if any) for existing activities and extractable reserves;
5) The extent of topsoil and subsoil cover and the potential use of this material on site or requirement to remove it off-site as waste for disposal or recovery;
6) High yielding water supply springs/ wells in the vicinity of the subject site to within a 2 km radius and the potential for increased risk presented by the proposed development;
7) Classification (regionally important, locally important) and extent of aquifers underlying the study area perimeter and increased risks presented to them by construction and operation related activities associated with aspects such as for example removal of subsoil cover, removal of aquifer (in whole or part), drawdown in water levels, alteration in established flow regimes, change in groundwater quality;
8) Natural hydrogeological/ karst features in the area and potential for increased risk presented by the activities at the proposed development site; and
9) Groundwater-fed ecosystems and the increased risk presented by the construction and operational phases of the proposed development both spatially and temporally.

The following sources of information were consulted to establish the baseline environment:

1) The Geological Survey of Ireland (GSI) online well card and groundwater records for the area were inspected, with reference to hydrology and hydrogeology;
2) EPA water quality monitoring data in the area;
3) EPA Geoportal website;
4) Site Investigation, IGSL Limited, Lands at Priorsland, Cherrywood, Report Reference No. 21319 dated 1st January 2019 (See Appendix 6.1)

From the GSI /EPA website, the following information was obtained:

1) Soil Map;
2) Bedrock Geology Maps;
3) Quaternary (Subsoils) Maps;
4) Well Card Database (Groundwater Wells);
5) Historical Geological 6 inch:1-mile maps;
6) Database of Site Investigations/Surveys;
7) Waste sites, mine sites and industrial locations; and
8) Geological heritage locations.

Water Services

The assessment of the potential impact of the activity on water and hydrology was carried out according to the methodology specified in the following guidance documents:

1) Environmental Protection Agency (EPA) Guidelines on the Information to be Contained in Environmental Impact Statements (2017);
2) EPA Advice Notes on Current Practice (in the Preparation of EIS) (2003)

The following sources of information were consulted to establish the baseline environment:-

1) The Planning System and Flood Risk Management – Guidelines for Planning Authorities - Department of the Environment, Heritage and Local Government (DoEHLG) and the Office of Public Works (OPW);

2) The Geological Survey of Ireland (GSI) well card and groundwater records for the area were inspected, with reference to hydrology;
3) Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors (CIRIA 532, 2001);
4) Base maps – Ordnance Survey of Ireland;
5) Flood Hazard Maps and flooding information for Ireland, www.floodmaps.ie - Office of Public Works (OPW);
6) CFRAM/ PFRA Maps (OPW);
7) Geological Survey of Ireland (GSI) maps on superficial deposits.
8) IGSL Priorsland Site Investigation Report January 2019
9) Cherrywood Planning Scheme April 2014 (As amended)

Noise and Vibration

Construction Phase

There is no published statutory Irish guidance relating to the maximum permissible noise level that may be generated during the construction phase of a project. Local authorities normally control construction activities by imposing limits on the hours of operation and may consider noise limits at their discretion.

In the absence of specific noise limits, appropriate criteria relating to permissible construction noise levels for a development of this scale may be found in the British Standard BS 5228 - 1: 2009+A1: 2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise.

The approach adopted here calls for the designation of a noise sensitive location into a specific category (A, B or C) based on exiting ambient noise levels in the absence of construction noise. This then sets a threshold noise value that, if exceeded, indicates a significant noise impact is associated with the construction activities.

Operational Phase

Due consideration must be given to the nature of the primary noise sources when setting noise emissions criteria. In this instance, there are four primary sources of noise associated with the development once operational. Criteria for noise from all of these sources, will be considered in terms of the $L_{Aeq,T}$ parameter (the equivalent continuous sound level).

There is no Irish Standard containing guidance that is applicable in this instance. In the absence of such standards, best practice dictates that the potential noise impact of the proposed development is assessed against appropriate British and/or International Standards.

Appropriate guidance is contained within BS8233 (2014): Guidance on Sound Insulation and Noise Reduction for Buildings. This British Standard sets out recommended noise limits for indoor ambient noise levels in residential dwellings.

Guidance relevant to acceptable vibration within buildings is contained in the following documents:

- British Standard BS 7385 (1993): Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from ground borne vibration

- British Standard BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites Part 2: Vibration

Climate and Air Quality

The general assessment methodology of the potential impact of the proposed development on air quality and climate has been devised in accordance with:

- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (DoHPLG, August 2018)
- 2017 EPA Guidelines on information to be contained in Environmental Impact Assessment Reports.
- Guidelines on Information to be Contained in an Environmental Impact Statement (EPA 2002).
- Advice Notes on Current Practice (in preparation of Environmental Impact Statements) (EPA 2003).
- Environmental Protection Agency, 2015. Revised Guidelines on the Information to be Contained in Environmental Impact Statements
- Environmental Protection Agency, 2015. Draft Advice Notes for Preparation of Environmental Impact Statements
- Environmental Impact Assessment (EIA), Guidance for Consent Authorities Regarding Sub-Threshold Development (DoEHLG 2003).
- Development Management Guidelines (DoEHLG, 2007).
- European Union (Planning & Development)(Environmental Impact Assessment) Regulations 2018**.**

Baseline Environment

The existing ambient air quality in the vicinity of the site has been characterised with information obtained from a number of sources as follows:

• EPA Annual Air Quality in Ireland Reports;
• Site specific air quality monitoring.

The ambient air quality data collected and reviewed for the purpose of this study focused on the principal substances (dust, vehicle exhaust emissions and boiler emissions) which may be released from the site during the construction and operation phases and which may exert an influence on local air quality.

Air Quality Standards and other Relevant Guidance

Air quality standards and guidelines are available from a number of sources. The guidelines and standards referenced in this report include those from Ireland and the European Union.

Landscape and Visual

This assessment has been prepared based on the following guidelines and documents:

- *Guidelines on the Information to be contained in and Environmental Impact Statement*, by the Environmental Protection Agency, 2002
- *Revised Guidelines on the information to be contained in Environmental Impact Statements*- Draft, by the Environmental Protection Agency, 2015
- *Advice Notes on Current Practice in the preparation of Environmental Impact Statements*, by the Environmental Protection Agency, 2015.
- *Guidelines on Environmental Impact Assessment*, Draft, by the Environmental Protection Agency, 2017.
- *Guidelines for Landscape and Visual Assessment*, 3rd Ed., Landscape Institute and Institute of Environmental Management and Assessment, 2013.
- *National Landscape Strategy for Ireland,* Department of Arts, Heritage and the Gaeltacht, 2015-25

- Dun Laoghaire Rathdown County Development Plan 2016-2022
- Cherrywood SDZ Planning Scheme (2014)(as amended)

The Landscape and Visual Assessment involved:

- Visiting the area.
- Undertaking a desk study of the subject site and its immediate environs in relation to its local and urban significance using the information gathered from site visits, studying aerial photography and Ordnance Survey mapping.
- Establishing and describing the receiving environment in terms of the existing landscape and its visual amenity.
- Assessing the nature, scale and quality of the proposed development through examination of the design team's drawings, illustrations and descriptions of the proposed scheme.

Once the receiving environment has been established, the proposed development is then applied to allow the identification of potential positive, negative and neutral impacts, prediction of their magnitude and the assessment of their significance on the environment. The magnitude of these impacts is categorised as 'slight', 'moderate', 'substantial' or 'no change'. Mitigation measures can then be identified, usually forming the main elements of the landscape masterplan, to reduce as far as possible any potential negative environmental impacts. The impacts of the proposal are considered during both the construction and operational phase of the proposed development.

Impact Description	**Definition**
Positive Impact	A change, which improves the quality of the existing landscape character.
Neutral Impact	A change, which does not affect the quality of the landscape character.
Negative Impact	A change, which reduces the quality of the existing landscape character.

Substantial Impact	Total loss or major alteration of key elements / features / characteristics of the baseline landscape character and / or introduction of features considered to be totally uncharacteristic when set within the receiving landscape and its level of sensitivity.
Moderate Impact	Partial loss or alteration of key elements / features / characteristics of the baseline landscape character and / or introduction of features that may be prominent but not necessarily considered to be substantially uncharacteristic when set within the receiving landscape and its level of sensitivity.
Slight Impact	Minor loss or alteration to one or more key elements / features / characteristics of the baseline landscape character and / or introduction of features that may not be uncharacteristic when set within the receiving landscape and its level of sensitivity.
No Perceived Change	Very minor loss or alteration to one or more key elements / features / characteristics / of the baseline landscapes approximating the no change situation.

Traffic and Transportation

The assessment is based on the Traffic and Transport Assessment and the following documents:

- TII's Traffic and Transport Guidelines PE-PDV-02045 (May 2014)
- Dun Laoghaire Rathdown County Council (DLRCC) Development Plan (2016 – 2022)
- Cherrywood SDZ Planning Scheme (2014) (as amended)

Waste Management

The assessment of the impacts of the proposed development arising from the consumption of resources and the generation of waste materials, was carried out taking into account the methodology specified in relevant guidance documents, along with an extensive document review to assist in identifying current and future requirements for waste management including national and regional waste policy, waste strategies, management plans, legislative requirements and relevant reports.

The primary legislative instruments that govern waste management in Ireland and applicable to the project are:

- Waste Management Act 1996 (No. 10 of 1996) as amended. Secondary legislation includes:
    - European Communities (Waste Directive) Regulations 2011 (SI 126 of 2011) as amended
    - Waste Management (Collection Permit) Regulations (S.I No. 820 of 2007) as amended
    - Waste Management (Facility Permit and Registration) Regulations 2007, (S.I No. 821 of 2007) as amended
    - Waste Management (Licensing) Regulations 2004 (S.I. No. 395 of 2004) as amended
    - Waste Management (Packaging) Regulations 2014 (S.I. 282 of 2014) as amended
    - Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997) as amended
    - Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015) as amended by S.I. No. 182 of 2019,reg 3
    - European Union (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149 of 2014)
      as amended
    - European Union (Batteries and Accumulators) Regulations 2014(S.I. No. 283 of 2014) as amended
    - Waste Management (Food Waste) Regulations 2009 (S.I. 508 of 2009), as amended
    - European Union (Household Food Waste and Bio-waste) Regulation 2015 (S.I. No. 430 of2015)
    - Waste Management (Hazardous Waste) Regulations, 1998 (S.I. No. 163 of 1998) as amended
    - Waste Management (Shipments of Waste) Regulations, 2007 (S.I. No. 419 of 2007) as amended
    - European Communities (shipments of Hazardous Waste exclusively within Ireland) Regulations 2011 (S.I. No.342/2011
    - European Communities (Transfrontier Shipment of Waste) Regulations 1994 (SI 121 of 1994)
    - European Union (Properties of Waste which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015)
- Environmental Protection Act 1992 (No. 7 of 1992) as amended.

- Litter Pollution Act 1997 (No. 12 of 1997) as amended.
- Planning and Development Act 2000 (No. 30 of 2000) as amended.

This Chapter is based on a consideration of the proposed development and addresses the following aspects:

- Legislative context;
- Demolition phase (Not applicable to this green field site);
- Construction phase (including site preparation, excavation and levelling); and,
- Operational phase.

A desk study was carried out which included the following:

- Review of applicable policy and legislation which creates the legal framework for resource and waste management in Ireland;
- Description of the typical waste materials that will be generated during the construction and operational phases; and
- Identification of mitigation measures to prevent waste generation and promote management of waste in accordance with the waste hierarchy.

Estimates of waste generation during the demolition, construction and operational phases of the proposed development have been calculated. The waste types and estimated quantities are based on published data by the EPA in the National Waste Statistics Summary Report for 2018 (published in September 2020 by the EPA), data recorded from similar previous developments, Irish and US EPA waste generation research, other available research sources and waste collection data from the current facilities on site.

Mitigation measures are proposed to minimise the effect of the proposed development on the environment during the construction and operational phases, to promote efficient waste segregation and to reduce the quantity of waste requiring disposal.

Legislation and Guidance

Waste management in Ireland is subject to EU, national and regional waste legislation which defines how waste materials must be managed, transported and treated. The overarching EU legislation is the Waste Framework Directive (2008/98/EC) which is transposed into national legislation in Ireland. The cornerstone of Irish waste legislation is the Waste Management Act 1996 (as amended).

In addition to Legislation, the Irish government issues policy documents which outline measures aimed to improve waste management practices in Ireland and help the country to achieve EU targets in respect of recycling and disposal of waste. The policy document A Waste Action Plan for a Circular Economy Ireland's National Waste Policy 2020-2025 was published on the 4th of September 2020. The 'Waste Action Plan for a Circular Economy' goes beyond the management of waste and addresses how we look at resources more broadly, capturing and maximising the value of materials that may in the past have been discarded. A key objective of this Action Plan is therefore to shift the focus away back up the product life cycle, to remove or design out harmful waste, to extend the life of the products and goods used and prevent waste arising in the first place – consistent with the concept of a zero-waste future.

The strategy for the management of waste from the construction and demolition phase is in line with the requirements of the Draft Best Practice Guidelines for the Preparation of resource management plans for construction & demolition projects published in April 2021. These draft guidelines will supersede the Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects published in 2006. The guidance document Construction and Demolition Waste Management: A handbook for Contractors and Site Managers was also consulted in the preparation of this assessment. There are currently no Irish guidelines on the assessment of operational waste generation and guidance is taken from industry guidelines, plans and reports, British Standards and other relevant studies and reports including BS 5906:2005 Waste Management in Buildings – Code of Practice, the Eastern-Midland Region Waste Management Plan 2015 – 2021, the EPA National Waste Database Reports 1998 – 2012 and the EPA National Waste Statistics Web Resource.

Cultural Heritage

This assessment determines, as far as reasonably possible from existing records, the nature of the cultural heritage resource within the footprint and a defined vicinity of the proposed development using appropriate methods of study.

As outlined by the Chartered Institute for Archaeologists, desk-based assessment is a programme of study of the historic environment within a specified area or site on land, the inter-tidal zone or underwater that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely heritage assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of heritage assets.

Desk based assessment leads to the following:

- Determining the presence of known archaeological and built heritage sites that may be affected by the proposed development;
- Assessment of the likelihood of finding previously unrecorded archaeological remains during the construction programme;
- Determining the impact (direct/ indirect) upon the known cultural heritage sites in the surrounding area (receiving environment);
- Identifying mitigation measures based upon the results of the above research; and
- Describing the residual impact on the archaeological, architectural and cultural heritage resource.
-

Research for this assessment has been undertaken in five phases. The first phase comprised a paper survey of publicly available archaeological, architectural, historical and cartographic sources. The second phase involved field inspections of the proposed development area in September 2018. The third phase involved a geophysical survey of the available lands in September 2018 (Nicholls 2018, licence 18R0197, Appendix 13.1). The fourth phase comprised archaeological test trenching undertaken in October 2018 (Kavanagh and Tobin 2018, licence 18E0650 18R0249, Appendix 13.2). The fifth, and final, phase consisted of an assessment of the Carrickmines Stream which was carried out in January 2019 by Rob Goodbody and Maeve Tobin (Goodbody 2019, Appendix 13.3).

GUIDANCE AND LEGISLATION

This assessment has been undertaken having regard to general EIA guidance as described in Chapter 1 and the following legislation and guidelines were also consulted as part of the assessment.

- National Monuments Act 1930 to 2014;
- The Planning and Development Acts 2000 to 2018;
- Planning & Development Regulations 2001–2018;
- Heritage Act, 1995, as amended;
- Heritage Act 2018;
- Frameworks and Principles for the Protection of the Archaeological Heritage, 1999, (formerly) Department of Arts, Heritage, Gaeltacht and Islands; and
- Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999 and the Local Government (Planning and Development) Acts 2000–2018.

STUDY AREA

The archaeological, architectural and cultural heritage receiving environment is defined as an area measuring 500m from the red line boundary for the proposed development. Measurements have been taken from the proposed development boundary (red line boundary) to the upstanding remains of a site or structure. Where there are no upstanding remains, the measurement is taken to the centre of the site as indicated within Figure 13.1.

SITE VISITS

Field inspection is necessary to determine the extent and nature of archaeological and architectural remains and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information. The archaeological and architectural field inspection was carried out during August 2018 and January 2019 and entailed:

- Noting and recording the presence of known and previously unknown features of archaeological, architectural or cultural heritage significance;
- Verifying the extent and condition of recorded sites and structures (RMPs/ RPS/ NIAH); and
- Visually investigating any suspect landscape anomalies to determine the possibility of their being anthropogenic in origin and of archaeological, architectural or cultural heritage significance.

CONSULTATION

Following the initial research, a number of statutory and voluntary bodies were consulted to gain further insight into the cultural background of the receiving environment and study area, as follows:

- Correspondence with the National Monument Service (NMS) of the Department of Culture, Heritage and the Gaeltacht (DCHG) in September and October 2018 regarding investigations at Priorsland.
- Meeting with representatives of the National Museum of Ireland on site to review findings of test investigations in November 2018.
-

The following were also informally consulted to gain baseline data for the study area in January 2019:

- Units in the DCHG including the Heritage Service, National Monuments and Historic Properties Section which include a number of datasets: Record of Monuments and Places; Sites and Monuments Record; Monuments in State Care Database; Preservation Orders; Register of Historic Monuments; Architectural Advisory Unit and Underwater Archaeology Unit;
- National Museum of Ireland, Irish Antiquities Division: topographical files of Ireland;
- National Inventory of Architectural Heritage: County Dublin; and
- Dun Laoghaire Rathdown County Council: Planning Section.

CATEGORISATION OF THE BASELINE ENVIRONMENT - PAPER SURVEY

A paper survey is a document search undertaken as part of the desktop study of the baseline data. The following sources were examined and a list of areas of archaeological, architectural and cultural heritage potential was compiled:

- Record of Monuments and Places for County Dublin;
- Sites and Monuments Record for County Dublin;
- National Monuments in State Care Database;
- Preservation Orders List;
- Topographical files of the National Museum of Ireland;
- Cartographic and written sources relating to the study area;
- Dun Laoghaire Rathdown County Development Plan 2016–2022;
- Strategic Environmental Assessment (SEA) Environmental Report for the Cherrywood Planning Scheme (2012);
- Cherrywood Planning Scheme (2014);
- National Inventory of Architectural Heritage County Dublin (Architectural & Garden Survey);
- Place name analysis;
- Aerial photographs; and
- Excavations Bulletin (1970–2018).

Further information is provided below on the key data sources.

Record of Monuments and Places (RMP): Section 12(1) of the National Monuments (Amendment) Act 1994 provides that the Minister for Arts, Heritage, Gaeltacht and the Islands (now the Minister for Culture, Heritage and the Gaeltacht) shall establish and maintain a record of monuments and places where they believe there are monuments. The record comprises of a list of monuments and relevant places and mapping showing each monument and relevant place in respect of each county in the State. Sites recorded on the RMP all receive statutory protection under the National Monuments Act.

Sites and Monuments Record (SMR): The SMR holds documentary evidence and records of field inspections of all known archaeological sites and monuments. Some information is also held about archaeological sites and monuments whose precise location is not known e.g., only a site type and townland are recorded. These are known to the National Monuments Section as 'un-located sites' and cannot be afforded legal protection. As a result, these are omitted from the RMP. SMR sites are also listed on a website maintained by the DCHG.

National Monuments in the State Care database: This is a list of all the National Monuments in the State guardianship or ownership. Each is assigned a National Monument number whether in guardianship or ownership and has a brief description of each monument.
A National Monument receives statutory protection and is described as 'a monument or the remains of a monument the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto' (National Monuments Act, 1930, Section 2).

The Minister for the Department of Environment, Heritage and Local Government (now the Minister for Culture, Heritage and the Gaeltacht) may acquire National Monuments by agreement or by compulsory order. The State or Local Authority may assume guardianship of any National Monument (other than dwellings). The owners of National Monuments (other than dwellings) may also appoint the Minister or the Local Authority as guardian of that monument if the State or Local Authority agrees. Once the site is in ownership or guardianship of the State, it may not be interfered with without the written consent of the Minister.
Preservation orders list: Preservation Orders and/or Temporary Preservation Orders, can be assigned to a site or sites that are deemed to be in danger of injury or destruction. Orders are allocated under

the National Monuments Act, 1930. Preservation Orders make any interference with the site illegal. Temporary Preservation Orders can be attached under the National Monuments Act, 1954. These perform the same function as a Preservation Order but have a time limit of six months, after which the situation must be reviewed. Work may only be undertaken on or in the vicinity of sites under Preservation Orders with the written consent, and at the discretion, of the Minister (DCHG).

Register of Historic Monuments: This register was established under Section 5 of the National Monuments (Amendment) Act 1987 and requires the Minister to establish and maintain such a record. Historic monuments and archaeological areas included in the register are afforded statutory protection pursuant to the regime under the National Monuments Acts 1930 to 2014. The register also includes sites under Preservation Orders and Temporary Preservation Orders. All registered monuments are included in the RMP.

Topographical Files of the National Museum of Ireland: This is the national archive of all known finds recorded by the National Museum of Ireland. This archive relates primarily to artefacts but also includes references to monuments and unique records of previous excavations. The find spots of artefacts are important sources of information on the discovery of sites of archaeological significance.

Cartographic Sources: These are important in tracing land use development within the receiving environment of the proposed development as well as providing important topographical information on areas of archaeological potential and the construction of buildings. Cartographic analysis of all relevant maps has been made to identify any topographical anomalies or structures that no longer remain within the landscape.
The cartographic sources consulted include:

- Down Survey Map, 1654–56, Barony of Rathdown;
- John Rocque's Exact survey of Dublin County, 1760;
- John Taylor's Map of the Environs of Dublin, 1816; and
- Ordnance Survey 6-inch and 25-inch maps of Dublin (1836, 1843, 1871, and 1909).

Documentary Sources: Documentary sources (as identified above) were consulted to compile background information on the archaeological, architectural and cultural heritage receiving environment of the proposed development.

Development Plan and Planning Scheme: Development Plans contain a catalogue of all the Protected Structures, archaeological sites and Architectural Conservation Areas within every county. The development plan of relevance that was examined as part of this assessment include the Dun Laoghaire Rathdown County Development Plan 2016–2022 the draft county plan (2022-2028) and The Cherrywood Planning Scheme, 2014.

The National Inventory of Architectural Heritage (NIAH): The NIAH is a government based organisation tasked with making a nationwide record of locally, regionally, nationally and internationally significant structures, which in turn provides county councils with a guide as to what structures to list within the Record of Protected Structures. The NIAH have also carried out a nationwide desk based survey of historic gardens, including demesnes that surround large houses.

Aerial Photographic Coverage: This is an important source of information regarding the precise location of sites and their extent. It also provides information on the terrain and its likely potential for archaeology. Ordnance Survey aerial photographs (1995, 2000, and 2005), Google Earth coverage (2003–2018) and Bing Maps (2011) were examined for this assessment.
Excavations bulletin: This is a summary publication that has been produced every year since 1970. This summarises every archaeological excavation that has taken place in Ireland during that year up

until 2010 and since 1987 has been edited by Isabel Bennett. This information is also available online from 1970–2018. Information from this resource is vital when examining the archaeological content of any area, which may not have been recorded under the SMR and RMP files.

GEOPHYSICAL SURVEY

Geophysical surveys are used to create 'maps' of subsurface archaeological features. Features are the non-portable part of the archaeological record, whether standing structures or traces of human activities left in the soil. Geophysical instruments can detect buried features when their electrical or magnetic properties contrast measurably with their surroundings. In some cases, individual artefacts, especially metal, may be detected as well. Readings, which are taken in a systematic pattern, become a dataset that can be rendered as image maps. Survey results can be used to guide excavation and to give archaeologists insight into the pattern of non-excavated parts of the site. Unlike other archaeological methods, the geophysical survey is not invasive or destructive. A geophysical survey was undertaken to inform this assessment in September 2018 within the proposed development area (Nicholls 2018, Licence 18R0197). A summary of the geophysical report is presented in Section 13.3 and the full text included in Appendix 13.1.

ARCHAEOLOGICAL TEST TRENCHING

Archaeological Test Trenching can be defined as 'a limited programme... of intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site on land or underwater. If such archaeological remains are present test trenching defines their character and extent and relative quality' (CIfA 2014a, 4). A program of archaeological testing based on the results of the geophysical survey was carried out in the proposed development area in October and November 2018. This was undertaken by Liza Kavanagh of IAC under licence 18E0650. A summary of the testing report is presented in Section 13.3 and the full text included in Appendix 13.2.

IMPACT ASSESSMENT METHODOLOGY

In order to assess, distil and present the findings of this study, the following definitions apply:

- 'Cultural Heritage' where used generically, is an over-arching term applied to describe any combination of archaeological, architectural and cultural heritage features, where;
- the term 'archaeological heritage' is applied to objects, monuments, buildings or landscapes of an (assumed) age typically older than AD 1700 (and recorded as archaeological sites within the Record of Monuments and Places);
- the term 'architectural heritage' is applied to structures, buildings, their contents and settings of an (assumed) age typically younger than AD 1700;
- the term 'cultural heritage', where used specifically, is applied to other (often less tangible) aspects of the landscape such as historical events, folklore memories and cultural associations. This designation can also accompany an archaeological or architectural designation or describe features that have a more recent origin, but retain cultural heritage significance; and
- For the purposes of this report the terms 'architectural heritage' and 'built heritage' have the same intended meaning and are used interchangeably.

The Impact Definitions identified in Section 3.7 of the draft 'Guidelines on the Information to be Contained in Environmental Impact Assessment Reports' (2017) are used.

Material Assets

With reference to the criteria set out in the Guidelines on Information to be Contained in an Environmental Impact Statement (EPA 2002), the Advice Notes On Current Practice (in preparation of Environmental Impact Statements) (EPA 2003) and the Draft EPA guidelines published in 2017 this

chapters assesses the “economic assets of human origin” based on a desktop study of material assets associated with the development site.

The four economic assets of human origin include biodiversity, land and soil, and water are also addressed within the EIAR located at Chapters 5, 6 and 7 respectively. With respect to this Chapter, a desktop study was carried out on the existing material assets of human origin in relation to the proposed development at Priorsland in the Cherrywood SDZ. The resource use during both construction and operational phases has been projected and will provide analysis of any related impacts, and the appropriateness of any mitigation measures.

PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT

Population and Human Health

The predicted impacts of the proposed development are assessed from a qualitative perspective, with the presumption that all mitigation measures are appropriately and successfully applied.

Construction Phase

Subject to the implementation of the remedial and mitigation measures proposed throughout this EIAR, then any adverse likely and significant environmental impacts will be avoided. Positive impacts are likely to arise due to an increase in employment and economic activity associated with the construction of the proposed development. The overall predicted likely and significant impact of the construction phase will be short-term, temporary and neutral.

Operational Phase

Upon completion of the mixed use development at Priorsland, the predicted impacts will be a positive contribution to new residential community and the surrounding environment. The new residential population will be served by a new Village Centre with a range of services and facilities, new open spaces, and connections to public transport and schools in the area.

The predicted impacts of the operation phase of the proposed development is considered to be long-term, permanent and positive to population and human health.

Biodiversity

Based on the implementation of the mitigation measures above there will be no significant impact on biodiversity as a result of the proposed development. The successful implementation of the measures outlined in the EIAR will be essential to the successful mitigation/offsetting of the loss of biodiversity on site.

The proposed development has satisfactorily addressed the current ecology on site into its design so that application of the mitigation measures outlined in this EIAR will help reduce its impact on the biodiversity to an adequate level. The integrity of the Carrickmines River, the Ticknick Stream and the treeline of Turkey Oaks will be retained. Mitigation measures will prevent significant downstream impacts from works on site. Where possible, biodiversity retention and enhancement measures have been implemented into design to enhance the overall biodiversity value of the site. As a result of the loss of certain biodiversity features on site of low biodiversity importance and the introduction of new buildings and increased human disturbance, in addition to the implementation of a sensitive landscaping strategy, with biodiversity enhancement measures it is considered that the overall impact on the ecology of the proposed development will result in a long term minor adverse not significant residual impact on the existing ecology of the site and locality overall. This is primarily as a result of the loss of some terrestrial habitats on site, increased disturbance in the area supported by the retention of key biodiversity areas and the creation of additional terrestrial biodiversity features, mitigation measures, and a sensitive lighting strategy. With bat mitigation measures the proposed development will potentially reduce its impact on local bat populations. If bat mitigation measures are strictly applied, the potential impact of the proposed development will be Permanent minor adverse impact. Therefore, the Residual Impact of the proposed development will be minor adverse, permanent, not significant, likely impact on biodiversity.

Soils and Geology

Construction Phase - Interim

The predicted impact at construction phase is limited to the excavations required to construct the various pad foundations and basement car park, as well as to install the proposed works. If mitigation elements are implemented, then the risk of impact is negligible. The filling of the lands are inherent to the requirements of the CPS given the requirement to form a Flood Containment Zone through Priorsland and to mitigate flood risk for the proposed development and a granted under the approved Cherrywood Strategic Development Zone.

Construction Phase - Permanent

The predicted impact at construction phase is limited to the excavations required to construct the Castle Street connection and the associated Ticknick Stream bridge structure. If mitigation elements are implemented, then the risk of impact is negligible. Please note that the form of construction of the Ticknick Stream bridge crossing is a clear spanning bridge with appropriate freeboard and riparian setback in accordance with Inland Fisheries Ireland requirements.

Operational Phase - Interim

As long as relevant impact mitigation measures are implemented, the impact on the operational phase would be negligible.

Operational Phase - Permanent

As long as relevant impact mitigation measures are implemented, the impact on the operational phase would be negligible.

Water Services

Construction – Interim

There are no predicted significant impacts arising from the construction phase due to the temporary nature of construction and the expected use of portable or temporary toilets only, which will be contracted out to an authorised disposal agent.

A wide range of mitigation measures have been specified for the construction and operational phases of the project. These mitigation methods seek to ensure that construction and operational discharges are controlled to prevent potential pollution impacts to all receiving surface water systems and their downstream catchment areas. Consequently, the mitigation measures detailed will also prevent potential impacts to the ecosystem of the Carrickmines river and the Ticknick stream.

Construction – Permanent

There are no predicted significant impacts arising from the construction phase due to the temporary nature of construction and the expected use of portable or temporary toilets only, which will be contracted out to an authorised disposal agent.

A wide range of mitigation measures have been specified for the construction and operational phases of the project. These mitigation methods seek to ensure that construction and operational discharges are controlled to prevent potential pollution impacts to all receiving surface water systems and their downstream catchment areas. Consequently, the mitigation measures detailed will also prevent potential impacts to the ecosystem of the Carrickmines river and the Ticknick stream.

Operational – Interim
No negative residual impacts are anticipated with the implementation of the construction and operational mitigation measures as stated.

Operational – Permanent
No negative residual impacts are anticipated with the implementation of the construction and operational mitigation measures as stated.

Noise and Vibration

Construction Phase
The application of the practicable noise control measures listed in the report and controlled hours of working will ensure that the impact of construction noise and vibration is within the criteria limits established in the chapter, below ambient noise levels in the vicinity of all adjacent noise sensitive locations and minimised as far as practicable.

No significant residual noise or vibration impact from construction noise is therefore predicted.

Operational Phase
The provision of the two building services mitigation measures detailed in the previous section will ensure that the proposed development's cumulative residual noise levels detailed in the chapter are achieved. These levels are within the criteria limits established in the chapter and below ambient noise levels in the vicinity of all adjacent noise sensitive locations.

No significant residual noise or vibration impact from operational phase noise is therefore predicted.

Climate and Air Quality

Construction Phase – Interim
Various elements associated with the construction phase of the proposed development have the potential to impact local ambient air quality, however the potential construction phase impacts shall be mitigated to ensure there is a minimal impact on ambient air quality for the duration of all construction phase works.

Construction Phase – Permanent
Various elements associated with the construction phase of the proposed development have the potential to impact local ambient air quality, however the potential construction phase impacts shall be mitigated to ensure there is a minimal impact on ambient air quality for the duration of all construction phase works.

Operational Phase
It is predicted that the operational phase of the development will not generate air emissions that would have an adverse impact on local ambient air quality or local human health.

Landscape and Visual

A series of 14 photomontages have been prepared to assess the visual amenity impact of the proposed development (including proposed landscaping) from a variety of locations in the wider landscape.

View	View Location	Predicted Impact (Operational Phase)
1	View looking south from Carrickmines Luas Park and Ride No. 1	Slight-Neutral
2	View looking south from Carrickmines Luas Park and Ride No. 2	Slight-Neutral
3	View looking south from Brennanstown Road	No Perceived Change
4	View looking south-east from Golf Lane No. 1	Moderate - Positive.
5	View looking south-east from Glenamuck Road Roundabout	No Perceived Change.
6	View looking south-east from Carrickmines Luas station	No Perceived Change
7	View looking south-east towards Glenamuck Road Roundabout	No Perceived Change
8	View looking south-east towards Glenamuck Road Roundabout	Moderate - Positive
9	View looking south-east over M50	Substantial - Positive
10	View looking south along Glenamuck Road North	No Perceived Change
11	View looking south from Golf Lane no. 2	Substantial - Positive
12	View looking west from the Barrington's Road/Castle Street junction	Substantial - Positive
13	View looking west from Barrington's Road	Moderate - Positive
14	View looking north-east along the M50	Substantial - Positive

At local level the proposed residential development will constitute a significant intervention in the local setting replacing existing vacant field with a large residential and Village Centre development. However, in most cases the impact on local views is significantly mitigated by existing/planned development and vegetation. Immediate to the site, particularly from the Cherrywood lands, the visual change will be significant but ameliorated by the quality of the building design and landscaping.

Within the wider landscape, views of the proposed development site are generally constrained by a combination of variation in topography and existing mature vegetation. Where views of the proposed development are significant the design qualities associated with the proposed development in terms of positioning and heights of buildings and landscape treatments, will serve to reduce the impact.

In the long term the maturation of boundary planting will further screen the residential scheme at the small number of locations where the development will be visible in the wider landscape. Overall, the impact in considered acceptable in light of the quality of the design and the site's designation in the Cherrywood SDZ Planning Scheme.

Traffic and Transportation

Construction Phase – Interim

There will be a short-term insignificant negative impact to local traffic during the construction phase.

Construction Phase – Permanent

The increase in traffic volumes as a result of construction vehicles visiting the site in the permanent scenario is considered negligible.

Operational Phase - Permanent
There will be a long-term slight impact to local traffic. But this arrangement will reflect and be consistent with the final SDZ traffic configuration.

Waste Management

The implementation of the mitigation measures outlined in Section 12.6 will ensure that a high rate of reuse, recovery and recycling is achieved at the development during the construction phases as well as during the operational phase. It will also ensure that European, National and Regional legislative waste requirements with regard to waste are met and that associated targets for the management of waste are achieved.

Construction Phase
A carefully planned approach to waste management as set out in Section 12.7 and adherence to the CDWMP during the construction phase will ensure that the impact on the environment will be *short-term, neutral* and *imperceptible.*

Operational Phase
During the operational phase, a structured approach to waste management as set out in Section 12.7 will promote resource efficiency and waste minimisation. Provided the mitigation measures are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted impact of the operational phase on the environment will be *long-term, neutral* and *imperceptible*.

Cultural Heritage

Construction Phase

- The zone of notification for mill and enclosure DU026-080, within the eastern part of site, has been investigated through geophysical survey and targeted by 11 test trenches. This area had been heavily disturbed by 19th and 20th century services (foul and water) and drainage. A review of the documentary sources and field inspection has indicated that the only evidence for the site of a mill at this location is based on the sketch maps from the 1830s and that these are not reliable in terms of scale and accuracy. While it cannot be entirely dismissed, current evidence suggests that the location of the mill was misidentified, and the actual location could be situated further to the northeast beyond the application site boundary.

  There is a low possibility that truncated remains of the former mill may be preserved in areas not suitable for geophysical survey or testing to the northeast however the extensive ground works carried out for the previous services in this area will have significantly impacted on any surviving sub-surface remains. Notwithstanding this there may be a negative direct impact on any surviving elements of the mill or enclosure DU026-080, if present, caused by the construction works associated with the proposed extension of Castle Street, diversion of trunk water mains, village centre and the green infrastructure. Prior to the application of mitigation negative impacts could range from moderate to very significant in nature.

- Testing revealed seven previously unrecorded areas of archaeological significance, which have been designated as Archaeological Areas 1–7. These comprise a probable Bronze Age penannular ditch enclosing at least six cremation pit burials (AA1), two single pits (AA2 and AA3) and four areas containing disturbed spreads of burnt mound material (AA4–7). Emergency excavation of the features exposed in Trench 37 (within the core of AA1) was carried out in late November 2018 as advised by the NMI and NMS; however, the burial monument extends beyond this trench as

indicated by the geophysical signature and there is high potential that further burials exist outside of the investigated test trench.

The archaeology in AA1–7 lie within the footprint of proposed buildings and the access road. Development densities and layout of the infrastructure has been prescribed in the Cherrywood Planning Scheme. Ground works associated with the proposed development, such as topsoil stripping and excavation (prior to the application of mitigation), would have a very significant direct negative impact on the archaeological features or deposits in AA1–7 and associated remains.

- This investigation has confirmed the accuracy of the geophysical survey. The potential remains that previously unrecorded archaeology to survive beneath the current ground surface, outside of the investigated trenches in areas that were not accessible for survey (i.e. beneath overhead wires and along hedgerows). Small ephemeral features, such as the pits in AA2 and AA3, do not have a geophysical signature. Ground works associated with the proposed development, such as topsoil stripping and excavation, would have a direct negative impact on previously unrecorded archaeological features or deposits that have the potential to survive. Prior to the application of mitigation negative impacts may range from moderate to significant in nature.

- Sections of the existing 19th century stone-faced stream channel will be impacted to facilitate two crossing points of the watercourse. Groundworks may also have a direct negative impact on any archaeological features surviving beneath the current ground surface, such as that identified in AA7 (noted above) to the north of the stream. Prior to the application of mitigation negative impacts may range from moderate to significant in nature.

Operational Phase
There are no predicted impacts to the proposed development during the operational phase following completion of the mitigation measures.

Material Assets

TRANSPORT INFRASTRUCTURE

Construction Phase – Interim:
There will be a short-term insignificant negative impact to local traffic during the construction phase.

Construction Phase – Permanent:
The increase in traffic volumes as a result of construction vehicles visiting the site in the permanent scenario is considered negligible.

Operational Phase - Permanent
There will be a long-term slight impact to local traffic. But this arrangement will reflect and be consistent with the final SDZ traffic configuration.

WATER SUPPLY, FOUL AND SURFACE WATER

Construction – Interim
There are no predicted significant impacts arising from the construction phase due to the temporary nature of construction and the expected use of portable or temporary toilets only, which will be contracted out to an authorised disposal agent.

A wide range of mitigation measures have been specified for the construction and operational phases of the project. These mitigation methods seek to ensure that construction and operational discharges are controlled to prevent potential pollution impacts to all receiving surface water systems and their downstream catchment areas. Consequently, the mitigation measures detailed will also prevent potential impacts to the ecosystem of the Carrickmines river and the Ticknick stream.

Construction – Permanent
There are no predicted significant impacts arising from the construction phase due to the temporary nature of construction and the expected use of portable or temporary toilets only, which will be contracted out to an authorised disposal agent.

A wide range of mitigation measures have been specified for the construction and operational phases of the project. These mitigation methods seek to ensure that construction and operational discharges are controlled to prevent potential pollution impacts to all receiving surface water systems and their downstream catchment areas. Consequently, the mitigation measures detailed will also prevent potential impacts to the ecosystem of the Carrickmines river and the Ticknick stream.

Operational – Interim
No negative residual impacts are anticipated with the implementation of the construction and operational mitigation measures as stated.

Operational – Permanent
No negative residual impacts are anticipated with the implementation of the construction and operational mitigation measures as stated.

ELECTRICAL / GAS / TELECOMS
Construction Phase
There will be a short-term insignificant negative impact to local residents when connection to services may impact local residences for a short period of time.

Operational Phase
Fallon Design M&E Engineers have been in liaison with all main services providers in relation to future servicing of this development and no restrictions to providing these services are foreseen at this stage.

WASTE
Construction Phase
A carefully planned approach to waste management as set out in Section 12.7 and adherence to the CDWMP during the construction phase will ensure that the impact on the environment will be *short-term, neutral* and *imperceptible.*

Operational Phase
During the operational phase, a structured approach to waste management as set out in Section 12.7 will promote resource efficiency and waste minimisation. Provided the mitigation measures are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted impact of the operational phase on the environment will be *long-term, neutral* and *imperceptible*.

INTERACTIONS

Where an interaction is considered to be both likely and significant, it is given a reference number in the matrix and detail of the interaction is recorded below. The interactions are listed in numerical sequence, purely for referencing purposes.

	Biodiversity	Soils/ Geology	Water	Noise	Air/ Climate	Landscape	Cultural Heritage
Biodiversity	*	1	*	2	3	4	*
Soils/Geology	1	*	5	*	6	7	*
Water	*	5	*	*	*	*	*
Noise	2	*	*	*	*	*	*
Air Climate	3	6	*	*	*	*	*
Landscape	4	7	*	*	*	*	*
Cultural Heritage	*	*	*	*	*	*	*

1. Soils & Geology / Biodiversity

The proposed works include the removal of existing topsoil, re-profiling and importing of fill which will have some impact to the biodiversity of the site. These impacts may be felt by the local badger, reptile and amphibians located on the site, as well as habitats located adjacent to vegetation and hedgerows and within proximity to the Carrickmines and Ticknick Streams. Features such as the Turkey Oaks treeline, hedgerows, woodland and watercourses (Ticknick and Carrickmines Stream) have been assessed as having high ecological value. The provided mitigation measures will ensure that during the construction and operation phases, impacts to the local flora and fauna are mitigated to an acceptable level.

2. Biodiversity / Noise

Both the construction and operation phases will lead to activities on site that will generate noise which may impact on local wildlife. The disturbance will be an increase from the existing disturbances generated from the current agricultural land use. The provision of the noise barrier will reduce the noise generated from the M50 entering the site, as well as providing a barrier to prevent wildlife from entering the motorway. The noise implications associated with the proposed development are not expected to be significant and will be short term in duration.

3. Biodiversity /Air

The construction phase may give rise to an increase in dust emissions generated by the increase in construction traffic and groundworks, whilst both phases will see a localised increase in emissions through increased population and traffic. These minor negative impacts will be short term, localised and can be appropriately mitigated, whilst the increase in landscaping will improve the above concerns in the long term. As a result the impact is considered to be minimal to the flora and fauna on site.

4. Landscape / Biodiversity

he landscape will be considerably altered from existing fields to an urban environment with the proposed mixed use development. Given there will be minimal change to the existing vegetation and hedgerows on site, along with the protection of natural habitats in the Carrickmines and Ticknick Streams, the overall impact of the changes in landscape to the local flora and fauna will be low to medium impact. The proposed development also provides for open space and a significant landscaping scheme which will further enhance the habitat opportunities on the site in comparison to the predominantly open fields.

5. Soils & Geology / Water

During the construction phase the use of appropriate secondary containment for the storage of fuels, and other potentially hazardous materials on the site will minimise the risk of accidental release of these compounds to the soil and Carrickmines Stream.

When soil is exposed after vegetative clearance there will be increased run-off and evaporation. Mitigation measures will be implemented during construction to prevent this run-off water from discharging directly to watercourses in the wider vicinity.

The proposed works include the removal of existing topsoil, re-profiling and importing of fill may affect the way in which water flows across the site at both the construction and operation phase.

Due to the presence and proximity of the Carrickmines Stream to the proposed development, appropriate measures will be taken to ensure contaminated soils and/or water runoff does not enter the Stream during the construction phase or through drainage infrastructure during the operation of the development.

6. Soils & Geology /Air

Exposed soil during the construction phase of the proposed scheme may give rise to increased dust emissions. The increase of population on the site particularly during the construction phase will see an increase in construction traffic which as a result may lead to an increase in dust emissions from the site. Due to the stripping of top soil, re-profiling and the importation of fill onto the site, dust management and dust control measures will be implemented as required to mitigate significant dust emissions from the site that may impact in the surrounding local population.

7. Soils & Geology / Landscape

The proposed works include the removal of existing topsoil, re-profiling and importing of fill which to an extent, slightly alter the existing landscape. In conjunction with the development, landscaping will also be a key change with the inclusion of new soil and designated areas for increased landscaping.