

Environmental Impact Assessment Report Vol. III (Non-Technical Summary)

STRATEGIC HOUSING DEVELOPMENT AT
PARKSIDE 4

PREPARED BY



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1 INTRODUCTION

This is the Non-Technical Summary (NTS) of the Environmental Impact Assessment Report (EIAR) relating to a Strategic Housing Development application to An Bord Pleanála for a new residential development on a site of 3.17ha at a site to the north of Parkside Boulevard and east of Balgriffin Park, Dublin 13.

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

This 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.

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 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.

Furthermore, it is noted that under Article 299A of the Regulations, where a planning application for a sub-threshold development is accompanied by an EIAR and a request for a determination under section 7(1)(a)(i)(I) of the Act of 2016 was not made, the application shall be dealt with as if the EIAR had been submitted in accordance with section 172(1) of the Act.

2 PROJECT DESCRIPTION

The proposed development will comprise a residential scheme of 282 residential units in 4 apartment blocks ranging in height from 3 to 7 storeys. The development will include 94 no. 1 bed apartments, 8 no. 2 bed (3 person) apartments, 167 no. 2 bed (4 person) apartments and 13 no. 3 bed apartments. Apartments will have north/south/ east/ west facing balconies/terraces. The proposed development also includes residential amenity facilities (530sqm) incorporating concierge, media centre, and gymnasium. 277 no. car parking and 289 no. cycle parking spaces will be provided in the basement along with basement stores, plant, waste management areas, motor bike spaces and EV charging points. There will be an additional 134 no. surface cycle parking spaces for visitors along with 9 no. surface car parking spaces.

The proposed development provides for the continuation and completion of the Mayne River Linear Park as well as public open space and communal open spaces between the buildings.

Vehicular access is from Parkside Boulevard. Pedestrian and cycle access are from Mayne River Linear Park, Balgriffin Road and Parkside Boulevard.

All associated site development works (including site re-profiling), landscaping, boundary treatments and services provision including ESB substations.

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

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

3.1 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.

3.2 Biodiversity

The assessment was carried out in accordance with the following best practice methodology: draft 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports (Environmental Protection Agency, 2017) and 'Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland' by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018).

A site visit was carried out on the 29th of January 2019 and May 28th 2019. The site was surveyed in accordance with the Heritage Council's Best Practice Guidance for Habitat Survey and Mapping (Smith et al., 2010). Habitats were identified in accordance with Fossitt's Guide to Habitats in Ireland (Fossitt, 2000).

The nomenclature for vascular plants is taken from The New Flora of the British Isles (Stace, 2010) and for mosses and liverworts A Checklist and Census Catalogue of British and Irish Bryophytes (Hill et al., 2009).

May lies within the optimal survey period for general habitat surveys (Smith et al., 2010) and so it was possible to classify all habitats on the site to Fossitt level 3. January is within the optimal season for surveying large mammals while May is optimal for surveying breeding birds.

3.3 Land, Soil & Geology

This assessment meets the requirements for an EIAR as outlined in the relevant National and EU legislation. It should be noted that there is no Irish implementing legislation as yet and so

compliance at an EU level is best practice. This chapter has been prepared in accordance with the Environmental Protection Agency (EPA) Draft guidance document 'Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, 2017ii, EPA guidance documents 'Guidelines on the Information to be Contained in Environmental Impact Statements, 2002iii, 'Advice Notes on Current Practice in the Preparation of Environmental Impact Statements, 2003iv, and the Institute of Geologists of Ireland guidance document 'Guidelines for Preparation of Soils, Geology, Hydrogeology Chapters of Environmental Impact Statements'. The description of the baseline environment and the assessment of the likely impact of the proposed development on soils and geological environment has been informed by the following exercises:

- Preliminary Ground Investigations.
- Review of information available on the Geological Survey of Ireland (GSI) online mapping service.

A Preliminary Ground Investigations for the proposed development was carried out by Ground Investigations Ireland Limited between May and June 2019 (refer to Appendix 6.A) and included the following scope of work within the subject site:

- 8 No. Trial Pits.
- 2 No. Infiltration Tests.
- 9 No. Window Sample Boreholes.
- 1 No. Slit Trenches.
- 7 No. Cable Percussion Boreholes.
- 4 No. Rotary Core Follow-on Boreholes.
- 4 No. Groundwater Monitoring Wells.
- Laboratory testing

3.4 Hydrology & Water Services

This assessment meets the requirements for an EIAR, as outlined in the relevant National and EU legislation, and has been prepared in accordance with the Environmental Protection Agency (EPA) guidance documents 'Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, 2017'

The appraisal methodology considered a description of the impact i.e. the "quality" of the effects (i.e. whether it is adverse or beneficial), the "significance" of the effects (i.e. the magnitude of the effect in terms of the environment), the "probability" of the event occurring, and the "duration" of the effects (i.e. whether it is short or long term) and also considers the significance/sensitivity of the existing environment. Terminology for describing the quality, significance, extent, probability and duration of effects is set out in Section 3.7.3 of the EPA EIAR guidance.

Sources of information

Assessment of the likely impact of the proposed development on the surrounding surface water and hydrogeological environments included the following activities:

- Review of existing topographic survey information.

- Preliminary Ground Investigation carried out by Ground Investigations Ireland Limited between May and June 2019 (refer to Chapter 6 Appendix 6.A).
- Review of 'as built' records of adjacent developments.
- Review of information available on the Environmental Protection Agency (EPA) online mapping service.
- Review of information available on the Geological Survey of Ireland (GSI) online mapping service.
- Review of the Office of Public Works (OPW) National Flood Hazard Mapping and Catchment Flood Risk Assessment and Management Studies (CFRAM Studies).
- Review of Dublin City Development Plan (2016-2022).
- Review of DBFL Infrastructure Design Report for Parkside 4
- Review of DBFL Site Specific Flood Risk Assessment for Parkside 4

Water Services

Assessment of the likely impact of the proposed development, surface water runoff, foul drainage discharge and water usage calculations were carried out in accordance with the following guidelines:

- Greater Dublin Strategic Drainage Study (GDSDS).
- Method outlined in Irish Water Code of Practice for Wastewater Infrastructure.
- Method outlined in Irish Water's Code of Practice for Water Infrastructure.

Assessment of the likely impact of the proposed development on existing water services in the vicinity of the site included:

- Review of 'as built' records of adjacent developments.
- Consultation with Irish Water and Dublin City Council.
- Submission of a Pre-Connection Enquiry Application to Irish Water.

3.5 Noise & Vibration

The noise assessment was prepared using the following methodology:

- A baseline Noise survey has been conducted in the vicinity of the development site to establish noise climate and the main sources of noise contributing to the existing environment.
- A Review of the most relevant standards and guidelines has been undertaken for the project in order to identify appropriate noise criteria for the site.
- (The Noise and vibration impact of the proposed development has been predicted for both the construction and operational phases of the project). Noise calculations for construction activity have been conducted in accordance with ISO 9613 (1996): Acoustics – Attenuation of sound during propagation outdoors – Part 2@ General Method of calculation using noise source data from BS5228 (2009 +A1 2014): Code of Practice for Noise Control on construction and open sites – Part 1, Noise.
- Noise calculations for the operational phase have been assessed in general accordance with ISO 9613 Attenuation of Sound during Propagation Outdoors and the UK calculation of Road Traffic Noise (CRTN), 1988.
- A series of recommended noise and vibration mitigation measures have been proposed, where necessary, to ensure the proposed development does not result in any significant impact on its surrounding environment

3.6 Air & Climate

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.

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.

3.7 Landscape & Visual

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

- *Clongriffin – Belmayne Local Area Plan 2012 – 2018*, Dublin City Council.
- *Dublin City Development Plan 2016-2022*, Dublin City Council.
- *Guidelines for Landscape and Visual Impact Assessment*, 3rd edition, 2013, Landscape Institute and Institute of Environmental Management and Assessment.
- *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*, 2017, Environmental Protection Agency.
- *Townscape Character Assessment, Technical Information Note 05/2017*, Landscape Institute.
- *Urban Design Manual – A Best Practice Guide*, Department of Environment, Heritage and Local Government, 2009.
- *Urban Development and Building Height Guidelines for Planning Authorities*, December 2018, Department of Housing, Planning and Local Government.

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.

3.8 Traffic & Transportation

The assessment has been prepared based on the following policy and guidance:

- 'Traffic and Transport Assessment Guidelines' (May 2014) National Road Authority;
- 'Traffic Management Guidelines' Dublin Transportation Office & Department of the Environment and Local Government (May 2003);
- 'Guidelines for Traffic Impact Assessments', The Institution of Highways and Transportation (1994);
- Clongriffin – Belmayne LAP 2012; and
- Dublin City Council Development Plan 2016 – 2022.

The traffic and transportation assessment involved:

- **Site Audit:** A site audit was undertaken to quantify the existing road network and identify the local infrastructure characteristics, in addition to establishing the level of accessibility to the site in terms of walking, cycling and public transport.
- **Traffic Counts:** Traffic Counts were conducted in 2018 at number of junctions on the surrounding road network. These were undertaken with the objective of establishing the local traffic characteristics on the road network.
- **Trip Generation:** A trip generation exercise has been carried out to establish the potential level of vehicle trips generated by the proposed development.
- **Trip Distribution:** A distribution exercise has been undertaken for the generated development traffic onto the local road network. The development traffic has, where available, been distributed based on both the existing traffic characteristics and the network layout in addition to the spatial/land use configuration and density of the urban structure across the catchments area of the development.
- **Network Analysis:** Further to quantifying the predicted impact of vehicle movements across the local road network, more detailed analysis simulations have been undertaken at the junctions exceeding the impact threshold to assess the operational performance of these junctions in the post development future scenarios.

3.9 Material Assets

A desktop study was conducted in relation to the material assets associated with the proposed development and their capacities. Projections of the resources were made for the construction and operational phase of the development. The Guidelines on information to be contained in an Environment Impact Statement (EPA 2002), the advice notes on current practice and Draft EPA guidelines published in 2017 requires assessment of 'economic assets

of human origin' to be included in the impact study as a desktop study of material assets associated with the development.

3.10 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. Sub-ordinate 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)
 - Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015)
 - European Union (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149 of 2014)
 - 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. 191 of 2015)
 - 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
 - Waste Management (Movement of Hazardous Waste) Regulations, 1998 (S.I. No. 147 of 1998)
 - 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.

3.11 Cultural Heritage

Research for this report was undertaken in two phases. The first phase comprised a paper survey of all available archaeological, historical and cartographic sources:

- 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;
- Dublin City Development Plan 2016–2022;
- Aerial photographs;
- Excavations Bulletin (1970–2018)

The second phase involved a field inspection of the site:

- Walking the proposed development and its immediate environs.
- Noting and recording the terrain type and land usage.
- Noting and recording the presence of features of archaeological or historical significance.
- Verifying the extent and condition of any recorded sites.
- Visually investigating any suspect landscape anomalies to determine the possibility of their being anthropogenic in origin.

4 PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT

4.1 Population and Human Health

Construction Phase

Any adverse and significant environmental impacts will be avoided by the implementation of the remedial and mitigation measures proposed throughout this EIAR. 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

The proposed development will contribute to further growth and expansion of the neighbourhood contributing to the existing and future populations. The predicted impacts of the Operational Phase are considered to be long term and positive to population and human health.

4.2 Biodiversity

Construction Phase

After mitigation, no significant residual effects are likely to arise to biodiversity arising from the construction phase of this project

Operational Phase

After mitigation, no significant residual effects are likely to arise to biodiversity arising from the operation phase of this project.

4.3 Land, Soil & Geology

Construction Phase

Implementation of the measures outlined in Section 6.7 of the EIAR will ensure that the potential impacts of the proposed development on soils and the geological environment do not occur during the construction phase and that any residual impacts will be short term.

The primary unavoidable impact, given the nature of the proposed development, is the removal of material unsuitable for reuse as fill material.

Operational Phase

There are no predicted impacts arising from the operational phase.

4.4 Hydrology & Water Services

Construction Phase

Implementation of the measures outlined in Section 7.7 of the EIAR will ensure that the potential impacts of the proposed development on hydrology and water services do not occur during the construction phase and that any residual impacts will be short term.

Operational Phase

As water services design has been carried out in accordance with the relevant guidelines, there are no predicted residual impacts on the water and hydrogeological environment arising from the operational phase.

4.5 Noise & Vibration

Construction Phase

During the construction phase of the project there is the potential for significant and moderate impacts on nearby noise sensitive properties due to noise emissions from site activities. The application of binding noise limits, hours of operation, along with implementation of appropriate noise and vibration control measures, will ensure that noise

and vibration impact will have a negative, moderate and short-term impact on the surrounding environment.

Operational Phase

Additional Vehicular Traffic

The predicted change noise levels associated with additional traffic is predicted to be of imperceptible impact along the existing road network. In the context of the existing noise environment, the overall contribution of induced traffic is considered to be of neutral, imperceptible and long-term impact to nearby residential locations.

Mechanical Plant

Noise levels associated with operational plant (vehicles, service rooms and heating units, etc.) are expected to be well within the adopted day and night-time noise limits at the nearest noise sensitive properties considering the site layout, the nature and type of units proposed and distances to nearest residences. Assuming the operational noise levels do not exceed the adopted design goals, the resultant residual noise impact from this source will be of neutral, Imperceptible, long term impact.

4.6 Air & Climate

Construction Phase

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 as detailed in Section 9.7 of the EIAR 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.

4.7 Landscape & Visual

Townscape

Construction Phase

The proposed development is anticipated to be constructed over a 2-3 year period. The construction process would entail the following:

- Set up site perimeter hoarding;
- Site clearance;
- Excavation;
- Site services installations (drainage, power, water etc.);
- Construction of new buildings frames and envelopes;
- Interior fit-out of buildings;
- Exterior streetscape, landscaping and site boundary works.

During construction the site and immediate environs would be heavily disturbed by the above activities and the incremental growth of the buildings on site. The magnitude of change to

the townscape would be medium (this takes into account the recent disturbance of the site by the removal of the school buildings). Overall, the sensitivity of the townscape can be considered medium. Therefore the effects on the townscape would be ‘moderate’ and negative, although temporary.

Operational Phase

Townscape Receptor	Sensitivity	Magnitude of Change	Description of Change & Significance
Topography	High	Low	<p>The main development area on the site is already disturbed and the changes in this area (including excavation) would not be significant.</p> <p>The key and most sensitive topographic features of the site – the Mayne River and the flood zone in the eastern part of the site - would be retained and their condition improved and protected by the development. Significance: <u>Moderate, positive.</u></p>
Urban grain	Low	Low	<p>There would be no change to the surrounding urban grain except the reinforcement (perceptual) of the status of Parkside Boulevard and its junction with Balgriffin Park.</p> <p>The arrangement of buildings and spaces on the site (i.e. the internal grain) responds appreciably to the strong grid theme of the Clongriffin-Belmayne area to the south east and south west (as opposed to the more organic grain of Castlemoyne to the north).</p> <p>The location of the site entrances and the provision (and alignment) of public paths across the site open space responds to all likely approaches and desire lines, and improves the pedestrian permeability and navigability of the wider townscape. Significance: <u>Low, positive.</u></p>
Land use pattern, plot/building typologies and architecture	Medium	Medium	<p>A disused site in a strategic development area within walking distance of two urban district centres, public transport services and ample public open space would be developed at a sustainable density.</p> <p>The high density cluster of up to seven storeys would be introduced to the Parkside Boulevard/Marrsfield Avenue corridor adjacent to a key junction (a gateway to the Northern Fringe), complementing the developments currently under construction or permitted around the junction. Parkside Boulevard/Marrsfield Avenue is a high order urban street with an established pattern of higher density/taller buildings (up to seven storeys), including accent elements at junctions.</p>

			<p>The existing mix of building type and scale in the area is such that the development could not be considered out of character. However, there would be a pronounced difference in type and height between the site and the houses of Castlemoyne and Parkside (two and three storeys respectively). In this regard the separation distance between the development and the neighbouring estates is important, with 45m between the blocks and the nearest house in Castlemoyne, and 35m between the blocks and the nearest houses in Parkside. There is also existing and proposed tree planting in the areas between the houses and the blocks. The wide separation distances and the trees would ensure that any perception of dominance is avoided.</p> <p>It is also a factor that increased density/height in well serviced urban areas is encouraged by national planning policy and guidelines. There is particular recognition of the potential to achieve this along urban thoroughfares and beside open spaces.</p> <p>Significance: <u>Moderate, positive.</u></p>
<p>Landscape/ Green infra- structure</p>	<p>High</p>	<p>High</p>	<p>The condition of the Mayne River as both an ecological asset and an amenity would be significantly improved (contributing to the realisation of the LAP objective of developing a greenway along the river).</p> <p>The path along the river corridor would connect to Belmayne Park to the west, the Castlemoyne open space to the north, and to the footpaths along Balgriffin Park and Parkside Boulevard to the east and south.</p> <p>The flood zone area, currently used as a car park, would also be significantly enhanced, the car park replaced by amenity lawn and meadow areas, and substantial areas of native tree planting – with an urban plaza-type edge where the area transitions to the street.</p> <p>The courtyards and edges around the buildings would be appropriately planted with more ornamental vegetation and with a privacy screening objective. The roofs of the building are proposed to be sedum covered, providing habitat and water management benefits.</p> <p>Overall, the volume of vegetation/habitat on the site would be increased, the condition of the landscape would be improved and the key principles of green infrastructure (connectivity and multifunctionality) are clearly manifest in the proposals.</p> <p>Significance: <u>Very significant, positive.</u></p>

Perceptual & aesthetic factors	Low	Medium	The aesthetic of the area would be enhanced by the introduction of a development of evident design and material quality. Legibility would be improved by the creation of a new, recognisable built element at a key junction. Navigability would be improved by improvements, extensions and connections in the pedestrian route network. Significance: <u>Moderate, positive.</u>
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Table 1: Predicted Impacts on the Townscape during Operation Phase.

Visual Amenity

Construction Phase

During construction the site and immediate environs would be heavily disturbed by construction activities and haulage, and the incremental growth of the buildings on site. The most significantly affected views would be those from the houses of Parkside and Castlemoyne facing the site, and from the public open spaces to the north and west. The sensitivity of these visual receptors is medium (while the viewers are susceptible to change, currently the site is in brownfield condition, therefore the expectation of visual amenity is reduced). The magnitude of change to these views would range from medium to high, depending on proximity to the site/proposed buildings. The significance of the effects would range from moderate to significant and the effects would be negative, although temporary.

The significance of the effects on views from the streets approaching and passing by the site would be moderate to slight (the visual receptors are of lower sensitivity and the magnitude of visual change would be lower, also reducing with distance).

It should be recognised that in a new urban district of the scale of Clongriffin-Belmayne, development will happen incrementally. It is unavoidable that visual receptors in the completed areas (e.g. Castlemoyne and the existing Parkside estate) and will experience negative visual impacts while the urban area is completed.

Operational Phase

No.	Location	Sensitivity	Magnitude of Change	Significance & Quality of Visual Effects
1	Junction of Parkside Boulevard and Balgriffin Park	Medium	High	Significant, Positive
2	Marrsfield Avenue East of Site at Fr Collins Park Entrance	Medium	Medium	Moderate, Positive
3	House at Northern Edge of Parkside Estate	Medium	High	Significant, Positive
4	Junction of Parkside Way and Parkside Crescent	Medium	Medium	Moderate, Positive
5	Parkside Boulevard West of Site	Medium	Medium	Moderate, Positive
6	St Sampson's Square	Medium	Medium	Moderate, Positive

7	Castlemoyne North West of Site	Medium	Medium	Moderate, Positive
8	Castlemoyne North of Site	Medium	High	Significant, Positive
9	Castlemoyne Open Space	Medium	Medium	Moderate, Positive
10	Castlemoyne North East of Site	Medium	Medium	Moderate, Positive
11	Junction of Balgriffin Park and Moyne Road	Medium	Low	Moderate, Positive
12	Moyne Road north east of site	Medium	Medium	Moderate, Positive

Table 2: Predicted Impacts on the Visual Amenity during Operational Phase

4.8 Traffic & Transportation

Construction Phase

At this initial stage, it is expected that the proposed residential dwellings will be constructed at a rate of 100 units per year (subject to market forces). It is envisaged that the full scheme is not likely to be fully completed until before 2022.

All construction activities will be governed by the Construction Traffic Management Plan (CTMP) submitted separately with this application. The number of staff will fluctuate, as mentioned previously, however, based on similar project experience, a development of this type and scale would on average necessitate approximately 20 – 30 staff on site at any one time, subsequently generating no more than 10 – 15 two – way vehicle trips during the AM and PM peak hour periods with construction workers using shared transport.

In terms of deliveries to the site, it is not yet known the number of deliveries per day, however, it can be assumed, as a conservative assessment, that there will be 3 loads per hour. With a 10 hour working day, this equates to 30 loads per day approximately. This results in 60 vehicular movements per day over a 10 hour period, which equates to 6 vehicle movements per hour.

Operational Phase

Trip Generation & Distribution

The trips generated for this proposed development were based on previous planning applications of the adjacent phases of the Parkside development. The trip rates and traffic generation for the 282 no. residential units are outlined in Table 3 below for the Phase 4 residential development.

Land Use	Period	Trip Rates (per unit)		Traffic generation	
		Arr	Dep	Arr	Dep
Residential	AM	0.055	0.239	16	66
	PM	0.207	0.069	58	19

Table 3: Predicted Development Trip Rates and Vehicle Trips Generation

Due to the relocation of the former two schools located on the subject site, the trips associated with the schools have been redistributed throughout the road network. This redistribution has been examined within the TTA report.

The trips generated from the committed developments, as identified above, have been distributed onto the road network as per the TTA reports undertaken for each application.

Impact of Proposals

The NRA/TII document entitled Traffic and Transport Assessment Guidelines (2014) provides thresholds in relation to the impact of a proposed development upon the local road network. It is considered material when the level of traffic it generates surpasses the thresholds of 10% and 5% on normal and congested networks respectively. When such levels of impact are generated a more detailed assessment should be undertaken to ascertain the specific impact upon the network's operational performance.

The following junctions were assessed with regard to proposed impact from the development:

- Junction 1 - Priority Control – Site Access / Parkside Boulevard;
- Junction 2 - Priority Control – Parkside Boulevard / Belmayne Avenue;
- Junction 3 - Roundabout – R139 / Belmayne Avenue / Clarehall; and
- Junction 4 - Priority Control – Parkside Boulevard / Malahide Road.

The percentage impact for each junction is shown below in Table 4 for the predicted Opening Year 2021 and the future horizon year 2036 for both the AM and PM peak hour.

Junction ID	Location	2021		2036	
		AM Peak	PM Peak	AM Peak	PM Peak
1	Site Access / Parkside Boulevard	25.5%	22.3%	22.9%	19.9%
2	Parkside Boulevard / Belmayne Avenue	5.5%	8.6%	4.7%	7.6%
3	R139 / Belmayne Avenue / Clarehall	1.0%	1.3%	0.9%	1.2%
4	Parkside Boulevard / Malahide Road	1.5%	1.5%	1.3%	1.3%

Table 4: Network Impact through Key off Site Junctions

The junctions were assessed based on the impact threshold of 10%. Results show that Junction 2, Junction 3 and Junction 4 are below the impact threshold and therefore are not required for further analysis. Junction 1, the Site Access/Parkside Boulevard junction displays percentages that exceeds the 10% impact threshold for all scenarios assessed.

In order to determine whether the proposed site access priority junction would cater for the predicted level of traffic generated from the proposed development, a PICADY model was developed and the junction was analysed for all design scenarios including Opening Year 2021 as well as subsequent Future Design Year of 2036.

Results of the analysis show that the proposed site access junction will operate within capacity for all scenarios assessed.

4.9 Material Assets

Construction Phase

On the basis that the specified mitigation measures are incorporated during the construction of the proposed development, the predicted impact will be neutral.

Operational Phase

Whilst the demand on water services, power, telecommunications and transport infrastructure will all increase due to the development, on the basis that the specified mitigation measures are incorporated then the operation of the proposed development is predicted to have a neutral-long term impact on material assets.

4.10 Waste Management

The implementation of the mitigation measures outlined in Section 13.7 of the EIAR 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 13.7 of the EIAR and adherence to the CWMP 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 13.7 of the EIAR 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*.

4.11 Cultural Heritage

Construction Phase

Following the implementation of the above mitigation measures, there will be no predicted residual impacts to the archaeological resource.

Operational Phase

No impacts upon the archaeological resource have been identified as a result of the operation of the proposed development.

5 INTERACTIONS

Where an interaction is 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.

	<i>Population</i>	<i>Biodiversity</i>	<i>Soils/ Geology</i>	<i>Water</i>	<i>Noise</i>	<i>Air Climate</i>	<i>Landscape</i>	<i>Cultural Heritage</i>
<i>Population</i>								
<i>Biodiversity</i>								
<i>Soils</i>	1	7						
<i>Water</i>	2	8	11					
<i>Noise</i>	3	9						
<i>Air Climate</i>	4		12					
<i>Landscape</i>	5	10	13					
<i>Material Assets</i>	6							
<i>Cultural Heritage</i>							14	

Table 5: Interactions Considered of effects of the Proposed Development

1. Population & Human Health / Soils

There is potential for dust generation during construction works which under dry and windy conditions could lead to localised dust impacts for the small number of properties proximate to the development site. However, the implementation of dust management and dust control measures will ensure that the proposed development will not give rise to the generation of any significant quantities of dust. Therefore, there will be minimal impacts on local residents.

2. Population & Human Health / Water

Failure or mismanagement of the potable water supply could lead to its contamination during the construction phase. A range of mitigation measures will be put in place during the construction phase of the development to ensure this does not occur.

3. Population & Human Health / Noise

Increased noise levels during the construction phase will be temporary and are not expected to have a long-term significant adverse effect upon the local population. Construction noise will be audible at a low level in the ambient noise. However, the impact is predicted to be minor. The impact due to the increased traffic associated with the operational development is expected to be minor.

4. Population & Human Health / Air

The completed development will generate additional emissions to the atmosphere due to traffic associated with the development. However, air quality in the vicinity of the site is expected to remain within air quality standards.

During construction, there may be potential for slight dust nuisance in the immediate vicinity of the site. However, dust control measures, such as wheel washes, covering of fine material etc. will minimise the impacts on air quality.

5. Population & Human Health / Landscape

Existing residents and visitors to the Belmayne Area interact with the landscape, such that they will be aware of a significant change at this site from agricultural fields to a new residential development with a mix of unit types, open spaces, roads, etc. Such a transformation, whilst significant, is designated for this site under the City Development Plan. It is expected that the design of the proposed scheme will over time integrate with the adjoining eastern suburbs of the city.

6. Population & Human Health / Materials Assets

It is expected that the proposed development will benefit the materials assets with the additional population helping to sustain and generate improvements to the physical infrastructure of the area.

7. Biodiversity / Soils

Potential construction stage effects arising from the general loss and fragmentation of some habitats and reduction of associated opportunities for biodiversity are considered neutral to slight negative during the construction phase, while potential operational stage effects are considered imperceptible neutral as new planting/landscaping matures.

8. Biodiversity / Water

As concluded in the Natura Impact Statement submitted with the application there are no elements of the proposed development that are likely to give rise to significant effects on the local Natura 2000 sites.

The implementation of construction and operational phase soils and water management proposals, together with the site drainage design will adequately reduce such potential impacts arising from the development site on these aquatic habitats in the wider area. Potential construction and operational phase effects on biodiversity associated with aquatic habitats in the wider area are considered imperceptible neutral with the implementation of soils and water management proposals.

9. Biodiversity / Noise

Increased noise levels during the construction phase will only be temporary and are not expected to have a long-term significant adverse effect upon remaining fauna within the wider landscape.

Operational noise will be audible at a low level in the ambient noise and the impact is predicted to be minor.

10. Biodiversity / Landscape

The landscape masterplan proposed as part of the development will retain and enhance the existing features of the Mayne River's floodplain.

New boundary planting is planned and the riverside zone is to become an amenity space. This will include a walking track and play area for children. There will be some planting of native trees but no significant intervention along the riparian zone, which is to be maintained in a naturalised manner. This is considered to have a positive effect.

11. Soils / Water

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

12. Soils / Air

Exposed soil during the construction phase of the proposed scheme may give rise to increased dust emissions. However, the implementation of dust management and dust control measures will ensure that the proposed development will not give rise to the generation of any significant quantities of dust.

13. Soils/Landscape

Residual soils arising as a result of excavation at the development site will be used in landscaping works in the proposed public open space as much as possible rather than transporting off-site.

14. Landscape/Cultural Heritage

Careful consideration has been given to minimizing the visual impact of the proposed scheme on architectural heritage in the wider area.