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EIAR Non-Technical Summary

IN RELATION TO

**Ballykeeran Gardens LRD
Proposed Residential Development**

March 2023

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1 INTRODUCTION

This Environmental Impact Assessment Report (EIAR) has been commissioned by Akiyda Limited (the "Applicant"), in respect of a residential development for lands at Cornamaddy and Ballykeeran, Athlone.

The EIAR reports the environmental impact assessment (EIA) undertaken. An EIA is an assessment and analysis of potential impacts on the receiving environment that may arise as a result of the proposed development. An EIAR is required to accompany a planning application for development of a class set out in Schedule 5, Part 1 of the Planning and Development Regulations 2001 which exceeds a limit, quantity or threshold set for that class of development.

Schedule 5, Part 2 of the Planning and Development Regulations 2001 defines projects that are assessed on the basis of set mandatory thresholds for each of the project classes including:

"Schedule 5, Part 2 - Infrastructure projects

10(b)(iv) Urban development which would involve an area greater than 2 hectares in the case of a business district, 10 hectares in the case of other parts of a built-up area and 20 hectares elsewhere.

(In this paragraph, "business district" means a district within a city or town in which the predominant land use is retail or commercial use.)

The proposed development constitutes an "urban development" as it is a housing development. According to the Interpretation of Definitions of Project Categories of Annex I and II Document (European Commission, 2015), "*Housing developments, in particular, are frequently included in the 'urban development projects' category*".

The site of the proposed development is located within the functional area of the Athlone Town Development Plan 2014-2020 and is zoned as:

- Proposed residential;
- Existing residential; and
- Open space.

Based on the above zoning the site is not classed as business district as the predominant land use is not retail or commercial use. The site can then be categorised as "*other parts of a built-up area*" and accordingly the 10-hectare area threshold applies. The total area of the proposed development site is approximately 12.28 ha which is greater than the 10-hectare threshold for a built-up area and accordingly, a mandatory EIAR is being prepared as part of this application.

This Non-Technical Summary describes the proposed development and summarises the key environmental impacts arising from each of the environmental assessments carried out by a panel of experts in accordance with best practice. The environmental assessments involved desktop studies, site visits, surveys, and site-specific investigations. This report also outlines

the mitigation and monitoring measures proposed along with a list of any residual impacts that may occur from the proposed development.

2 OVERVIEW OF THE PROPOSED DEVELOPMENT

The Applicant is seeking planning permission for 332 no. new homes and associated features. The planning description is:

- a) Site excavation works to facilitate the Proposed Development to include excavation and general site preparation works.
- b) The provision of a total of 172 no. residential dwellings which will consist of 152 no. 3 bed units and 20 no. 4 bed units.
- c) The provision of a total of 160 no. apartments/duplex units consisting of 36 no. 1 bed units, 99 no. 2 bed units and 25 no. 3 bed units.
- d) Provision of a creche.
- e) Provision of associated car parking at surface level via a combination of in-curtilage parking for dwellings and via on-street parking for the creche, duplexes and apartment units.
- f) Provision of electric vehicular charge points with associated Site infrastructure ducting to provide charge points for residents throughout the Site.
- g) Provision of associated bicycle storage facilities at surface level throughout the Site and bin storage facilities.
- h) Provision of a new link road via adjacent lands to the west to provide for vehicular, pedestrian and cyclist access.
- i) The provision of internal culverts and associated two bridges along with a realignment of a section of an existing drainage channel within the Site to facilitate internal access roads along with associated crossing points across the drainage channel (to facilitate pedestrian and vehicular crossing points).
- j) The creation of a pedestrian footpath alongside the local road which will connect to the existing footpath aligning the N55 National Road.
- k) Provision of associated open space areas, residential communal open space areas to include a formal play area along with all hard and soft landscaping works for private gardens and amenity spaces along with public lighting, planting and boundary treatments to include boundary walls, railings and fencing.
- l) Provision of 2 no. ESB substations.
- m) Internal Site works and attenuation systems.
- n) All ancillary Site development/construction works to facilitate foul, water and service networks for connections to the existing foul, water and ESB networks.

2.1 Site Location

The site is located within the townlands of Ballkeeran and Cornamaddy Athlone, County Westmeath. The proposed development lies within the Westmeath jurisdiction. It lies to the north-western side of the N55 road. The site is currently a greenfield site with surrounding land use comprised of residential, commercial, and civic land use. Immediately adjacent to the site boundary is the BMW Athlone site and residential developments. Currently the site of the proposed development is characterized by open and undulating farmland with hedgerows along the perimeter. The topographical survey of the site indicates that the overall topography

ranges from approximately 48.75m above ordnance datum (mAOD) in the southwest to approximately 39.65m AOD to the central west of the site. In general, the site is gently sloping from east to west.

The main vehicular entrance location for the site is off a new access road from the N55 round about which also provides access for the permitted Glenveagh development. The site area is 12.28 hectares.

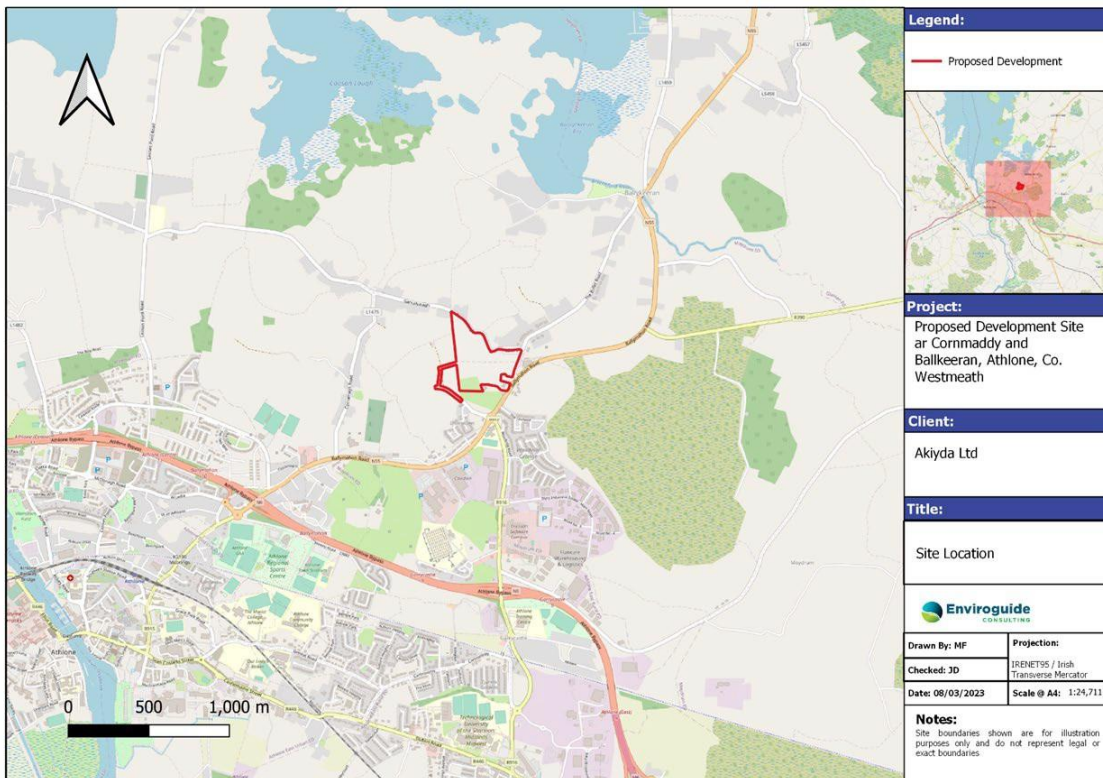


Figure 2-1 Site Location

2.2 Construction Phase

The proposed development will be constructed in three phases.

Phase 1 will take three and half years to complete and include:

- Construction of 152 residential units housed in single family houses and apartment buildings.
- Construction of a creche.
- Construction of a link road and associated cycle/pedestrian links;
- Provision of ancillary planting and landscape works and child play areas.
- Provision of open space within this phase to ensure play/green spaces for new residents.

Phase 2 will take two and a half years to complete and include:

- Construction of 148 residential units within apartments and duplex units.
- Completion of the access road and ancillary landscaped spaces.
- Completion of the proposed development's open space network and green corridors.

Phase 3 will take two years to complete and will include

- Construction of 32 houses.
- Completion of associated access road and ancillary landscaped spaces.
- Completion of developments open space network and green corridors.

2.3 Operational Phase

Once completed, the Proposed Development will operate as a typical housing development with a creche facility.

3 PLANNING AND POLICY

The planning and policy context gives an overview of the relevant legislation that supports the Proposed Development at a local, regional and national level, and sets out the strategic and statutory context governing the planning and development of the Proposed Development. Chapter 3 Planning and Policy describes how the Proposed Development complies with the stated and statutory requirements of Westmeath County Council (WCC) with respect to planning and sustainable development. The relevant local planning policy with which the Proposed Development complies primarily comprises the Westmeath County Development Plan 2021-2027.

4 ENVIRONMENTAL IMPACTS

The potential environmental impacts of the proposed development are addressed under the following headings as prescribed under the EIA Directive:

- Population and Human Health;
- Biodiversity;
- Land and Soils;
- Hydrology and Hydrogeology;
- Air Quality and Climate;
- Noise and Vibration;
- Landscape and Visual;
- Archaeology and Cultural Heritage; and
- Material Assets: Traffic, Waste and Utilities

Additionally, Risk Management and interactions between environmental factors have been examined, and a programme of mitigation and monitoring measures has been set out.

4.1 Population and Human Health

Human beings are an important element of the environment to be considered. One of the principal concerns in any proposed development is that the local population experiences no reduction in the quality of life as a result of the proposed development on either a permanent or temporary basis. The impacts of the proposed development on the Population and Human Health have been examined, with a focus on population, employment and human health impacts.

The proposed development is located in the Moydrum electoral division however for the most thorough assessment the following electoral divisions have been selected as the study area: Moydrum, Athlone East Rural, Athlone West Rural, Athlone East Urban; and Athlone West Urban (Figure 4-1). A baseline assessment of the population of the study area was carried out using data obtained from the Central Statistics Office for the purpose of the 2016 Census (population values for 2022 are currently available at a county and state-wide level only).

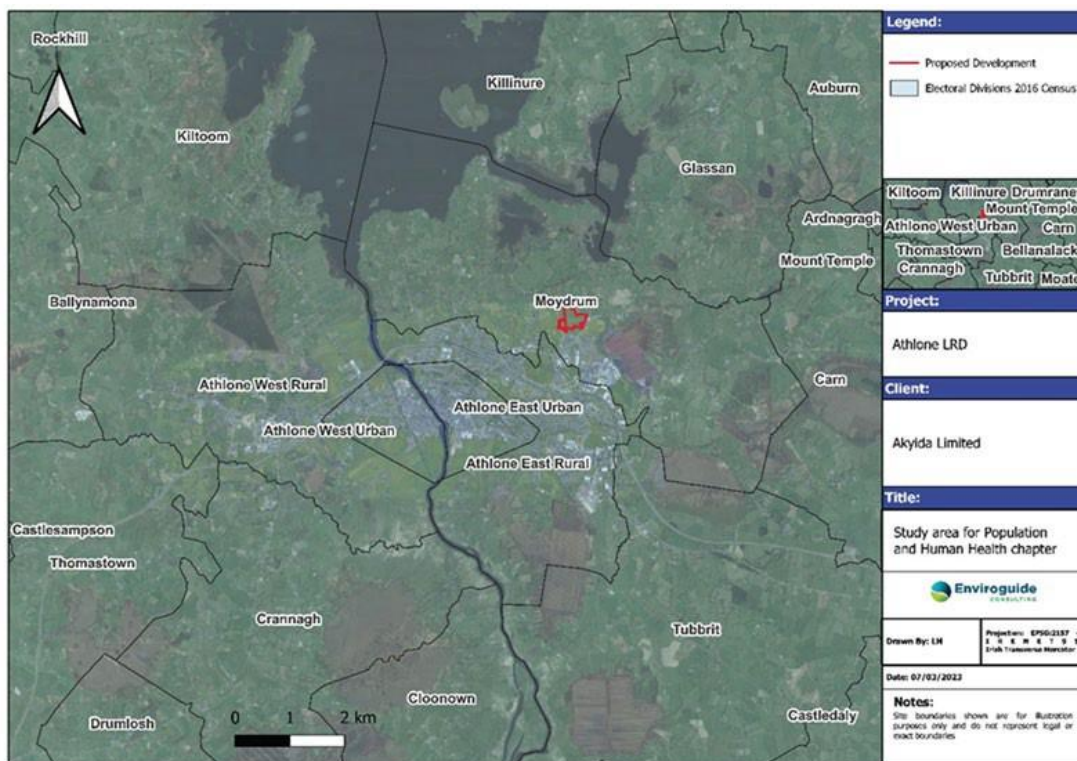


Figure 4-1: Map of the Population and Health study area including Moydrum, and Athlone Urban and Rural electoral divisions (site location marked in red)

Construction Phase

The construction phase related activities have the potential to positively impact the local population by the creation of new employment. It is anticipated that up to approximately 150 no. construction staff will be employed during the peak of the construction phase. This will have direct and indirect, positive socio-economic impacts with suppliers, drivers delivering supplies to and from the site and construction workers utilising local shops and other businesses in the surrounding areas. Nuisance dust emissions from construction activities,

including traffic, are a common and well recognised problem which can negatively impact air quality. Residential dwellings within 100m of the site have been identified as high-sensitivity receptors for significant dust soiling. Chapter 8 (Air Quality) of this EIAR has concluded that there will be no significant impacts on air quality as a result of the proposed development and as such there will be no significant impact on human health. Noise exposure can cause a variety of human health effects including annoyance, sleep disturbance, raised stress levels, work impacts for commercial receptors or individuals who work from home. 6 no. Noise Sensitive Locations have been identified which are located approximately 20m to 60m from the site boundary, all of which are residential properties. When taking account of local terrain, predicted noise levels at the closest residential noise sensitive locations will experience impacts that are negative, short term and not significant.

Operational Phase

The operational phase activities have the potential to positively impact the local population by the creation of new employment. It is estimated that during the operational phase a minimum of approximately 6 staff and a maximum of approximately 16 staff will be employed giving an average of approximately 11 staff. This will have a slight positive and short to long term socio-economic impact depending on the operational duration of the creche. The greatest potential effect on air quality during the operational phase of the proposed development is from traffic-related air emissions. An air quality assessment has been carried out as part of this EIAR which concluded that the impact of the proposed development on NO₂ concentrations in the locality is likely to be long-term, negative and imperceptible. As such the impact of air quality and climate on human health will be neutral, long term and not significant. The proposed development will result in an increase in the population of the area and thus an increase in the number of people utilising the local road network. This has the potential to cause congestion thus impacting the human health of road users. The existing N55 / R916 / L8048 roundabout will continue to operate within capacity and as such there will be no significant adverse impact on population and human health.

The residential aspect of the development is not expected to generate any significant noise sources over and above those which form part of the existing environment at neighbouring residential areas. The majority of the apartment units achieve the recommendations outlined under the BRE guidelines in terms of daylight and sunlight however where all of the requirements of the daylight provisions have not been met, compensatory measures have been incorporated into the design. In relation to community amenity, the proposed development will be located in a well-provided for neighbourhood and within a short distance of a wide range of services for future residents. The creche will provide approximately 48 childcare spaces to accommodate the proposed development plus additional headroom of 20% if required to serve the wider area. The demand for primary and post primary school places generated by the proposed development will likely be absorbed by the surrounding schools in the Athlone region and should not cause additional demand that cannot be catered for.

No specific mitigation or monitoring measures are required during the Construction or operational phase.

4.2 Biodiversity

An assessment of the likely effects on biodiversity (flora and fauna) arising due to the Proposed Development at Ballykeeran & Cornamaddy, Athlone, Co. Westmeath was undertaken by Enviroguide Consulting. The assessment involved several steps and was conducted by suitably qualified ecologists.

Firstly, baseline ecological surveys were undertaken to assess the nature conservation importance of the Proposed Development Site. Secondly, the direct, indirect, and cumulative ecological implications or impacts of the Proposed Development during its lifetime were assessed. Finally, where possible, mitigation measures to remove or reduce negative impacts during the Construction and Operational Phases of the Proposed Development were proposed.

For this Biodiversity Chapter, baseline ecological surveys involved a combination of both desk-based and field studies. A desk study was conducted to assess existing information relating to the Site's natural environment. A range of appropriate field surveys were undertaken, including habitat surveys, invasive species survey, winter and breeding bird surveys, bat surveys, mammal surveys, and scoping for, amphibian, reptile, and fish species as incorporated into the field surveys. All surveys were conducted following standard and/or best practice protocols.

Habitats within the Site were coded and categorised as per Fossitt (2000). The primary habitat types located within the Site of the Proposed Development comprised improved agricultural grassland (GA1), dry meadows and grassy verges (GS2) and boundary hedgerows (WL1) and treelines (WL2). A small area of mixed broadleaved woodland (WD1) lies at the southeast corner of the Site and an area of immature woodland lies (WS2) adjacent to the Garrynafela Stream at the northwest corner of the Site. The Garrynafela Stream, a depositing/lowland river (FW2), is mapped by the EPA as running along the western Site boundary and transecting the Site.

The potential for the Proposed Development to impact on nearby protected areas is also considered in this Biodiversity Chapter. Ireland aims to conserve habitats and species through the designation of conservation areas. The Proposed Development Site itself is not designated as a Special Area of Conservation (SAC), Special Protection Area (SPA), Natural Heritage Area (NHA) or proposed Natural Heritage Area (pNHA). Potential impacts to these sites have been addressed in this chapter and in the Appropriate Assessment (AA) Screening and Natura Impact Statement (NIS) accompanying this application. The closest designated site to the Proposed Development is Lough Ree SAC, SPA and pNHA (0.9km from the Proposed Development Site). These protected sites are hydrologically connected to the Proposed Development via the Garrynafela Stream. The Garrynafela Stream flows away from the Site at the northwestern point, flowing in a northern direction for approximately 1.7 river km before discharging into Ballaghkeeran Bay, a designated part of Lough Ree SAC, SPA and pNHA.

The value of the ecological resource of the Site i.e., the habitats and species present or potentially present, was determined using the ecological evaluation guidance provided in the National Roads Authority's Ecological Assessment Guidelines (NRA, 2009). Key Ecological Receptors (KERs) are those ecological features which are evaluated as Locally Important (higher value) or higher and that are likely impacted significantly by the Proposed Development. This evaluation scheme has been adapted here to assess the value of the habitats and fauna at the Site. The value of habitats on Site is assessed based on the

condition, size, rarity, conservation, and legal status. The value of fauna is assessed on its biodiversity value, legal status, and conservation status. Biodiversity value is based on its national distribution, abundance or rarity, and associated trends. Using the evaluation criteria described above, the habitats and species identified as being present or potentially present were assessed. As per the NRA guidelines, impact assessment is only undertaken of KERs.

No rare or protected flora was encountered on Site. The following species were identified as KERs: bats, birds, otter (*Lutra lutra*), badger (*Meles meles*), pygmy shrew (*Sorex minutus*), hedgehog (*Erinaceus europaeus*), stoat (*Mustella erminea Hibernica*), red squirrel (*Sciurus vulgaris*) and pine marten (*Martes martes*), common lizard (*Lacerta vivipara*), and amphibians. The following habitats were identified as KERs: mixed broadleaved woodland (WD1), immature woodland (WS2) wet grassland (GS4), hedgerows (WL1), treelines (WL2), drainage ditches (FW4) and depositing/lowland rivers (FW2). This Site is noted to hold habitats that are common and widespread in the locality but are likely to be locally important to foraging, nesting, roosting and commuting species in the wider area such as birds and mammals (including bats).

Potential impacts arising from the Construction and/or Operational Phase of the Proposed Development, in the absence of mitigation, can be summarised as follows:

- Water quality impacts to the Garrynafela Stream and downstream designated sites arising from surface water run-off (Lough Ree SAC, Lough Ree SPA, Lough Ree pNHA).
- Semi-natural habitat loss.
- Disturbance and/or mortality to fauna within the Site.
- Loss of potential commuting, foraging, nesting, roosting and breeding habitat for birds, small mammals, amphibians and reptiles.
- Regarding flora and invasive species, no species of flora included in Annex II of the EU Habitats Directive, or the Flora Protection Order 2022, are recorded within the Site. No invasive species listed on Schedule III of the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011, as amended) were recorded at the Site, hence no likely impacts are envisaged.
- Noise and dust emissions from the Site during the Construction Phase.
- Light disturbance to nocturnal fauna during the Construction and Operational Phases.

Potential impacts of the Proposed Development were predicted to range from neutral to significant at the local scale only and can be readily addressed with the mitigation measures proposed.

A range of mitigation measures are outlined in this Biodiversity Chapter to ensure that there will be no significant impact on habitats and local fauna at the Site. An Ecological Clerk of Works (ECoW) will be employed to oversee the implementation of the mitigation measures at the Site. The ECoW will provide reports and written correspondence as requested to demonstrate compliance with the measures outlined in the Biodiversity Chapter. The proposed mitigation measures for the Site include:

- Construction Phase surface water management.

- Protection and enhancement of retained and proposed habitats.
- Mammal protection.
- Invasive species management/prevention.
- Reduction of noise related impacts.
- Reduction of dust related impacts.
- Wildlife friendly lighting.

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To address impacts arising from surface water discharges, a range of mitigation measures to protect surface water quality (and therefore the European sites in Lough Ree) are provided. These surface water mitigation measures will treat the source (e.g., removal of silt from surface waters via silt fences, silt-traps, specific measures in relation to culvert placement) or remove the pathway (e.g., no release of wastewater generated on Site into nearby drainage ditches or the Garrynafela Stream).

The loss of semi-natural habitat at the Site is addressed by retaining as much of the treelines and hedgerows on Site as possible and including large areas of green open space in the landscape design. Native pollinator friendly species are included in the landscape design to enhance the biodiversity value at the Site. The identified treelines to be retained on Site will be protected by protective Harris fencing. Barriers will be fit for the purpose of excluding construction activity.

Disturbance and/or mortality of local fauna within the Site (e.g., bats, non-volant mammals, common lizard, amphibians and birds) is addressed in this Biodiversity Chapter. The mitigation measures outlined ensure that there will be no significant impact on local fauna at the Site. The mitigation measures address the source of impacts (e.g., night-time light pollution, dust, noise, vegetation clearance).

To mitigate against the loss of potential nesting and roosting habitat for birds and bats, boundary vegetation will be retained and protected according to the Tree Protection Plan for the Site and a further 420 trees will be planted on Site. It is also proposed to install a number of bird and bat boxes on Site, the placement of which will be overseen by the appointed Ecological Clerk of Works.

To address impacts on the surrounding environment due to increased noise levels and dust emissions, several noise and dust suppressing measures which treat the source of the impact (e.g., construction traffic, excavations etc) are included in the report. To address impacts of increased lighting at the Site a number of wildlife friendly lighting measures are included in the project design and will ensure the Site retains dark buffer zones. Dark buffer zones separate important habitats (treelines) from the increased lighting as a result of the Proposed Development by forming dark perimeters around them. Night-time lighting at the Site will be kept to a minimum, once satisfying health and safety requirements and will enable wildlife to safety and effectively commute through the Site.

Provided all mitigation measures are implemented in full and remain effective throughout the lifetime of the Proposed Development, no significant residual negative impacts on the local ecology or on any designated nature conservation sites are expected from the Proposed Development.

If the Proposed Development were not to go ahead, habitats at the Site would continue to naturally evolve. The woodland, treelines and hedgerows would continue to provide foraging, nesting, roosting and commuting habitat for birds, bats and mammals and the grasslands would continue to offer resources to local pollinators.

4.3 Land and Soils

This chapter assesses the likely significant effects that the proposed development may have on land and soils and sets out the mitigation measures proposed to avoid, reduce or offset any potential significant effects that are identified.

The assessment was carried out following appropriate national guidelines and standards for Environmental Impact Assessment using data collected from a detailed desk study, results of the ground investigation, a site walkover survey and review of all relevant drawings and documents pertaining to the Proposed Development. The results of the assessment provided information on the baseline conditions at the Site. A detailed assessment of the potential impacts was undertaken, and appropriate avoidance and mitigation measures were identified to reduce any identified potential impact associated with the Proposed Development.

The Proposed Development will result in a land take from greenfield undeveloped lands to mixed use residential. The change of land use and required land take will result in an unavoidable, negative, significant, and permanent impact on the land. Construction will involve excavation to construct foundations, roads and surface water drainage. The Proposed Development will require the import of aggregates for the construction of utilities and roads. It is anticipated that all excavated materials will be re-used on site.

The excavation and re-use of soil onsite and removal of any surplus soil deemed to be unsuitable for use during construction. Soil excavated will be subject to control procedures which will include soil quality test to ensure suitability for use on-site in accordance with engineering and environmental specifications for the Proposed Development. Appropriate environmental soil testing will be undertaken prior to removal of any surplus from the site to ensure that material is appropriately managed in accordance with all statutory obligations including waste management legislation. There is a potential risk associated with the use of cement, fuels, and from spillage from untreated foul water to ground during emptying of temporary facilities on Site. All works during the Construction Phase of the Proposed Development will be undertaken in accordance with the requirements of the Construction and Environmental Management Plan and Resource and Waste Management Plan. Emergency procedures will be developed by the appointed Contractor in advance of works commencing and spillage kits will be available on-site. Construction staff will be trained in emergency procedures in the event of accidental spillages. Remedial action will be immediately implemented to address any potential impacts in accordance with industry standards and legislative requirements.

Foundation solutions will be designed to suit ground conditions and detailed design will be specified by an appropriately qualified engineer for the construction of foundations at the Site to ensure that ground conditions are engineered and controlled appropriately.

The Site is identified as not being located within a High Radon Area however, standard building design measures to prevent ingress of radon and other ground gases including the installation of appropriate membranes as necessary. The site investigation results for the Site did not

reference any issues associated with pyrite for in-situ materials. All aggregates imported to the Site for use in the Proposed Development will be subject to strict quality control procedures in accordance with the design specification and relevant Building Regulations therefore avoiding any potential issues with pyrite in aggregates.

There are no identified geotechnical or geological hazards associated with the land soil and geological condition associated with the Proposed Development)or that may impact on the Operational Phase of the Proposed Development of human health of the occupants of the Proposed Development.

A Construction Environmental Management Plan will be in place including management actions relating to stockpiling of soil and pollution prevention. This will reduce construction effects, apart from land take, to non significant (imperceptible or slight).

During the Operational Phase of the Proposed Development there is no identified potential for any direct adverse impact on the receiving land, soil and geological environment at the Proposed Development Site taking account of the proposed design measures for the Proposed Development.

The design and construction of the Proposed Development in accordance with current Building regulations will ensure that the Site will be suitable for use for the Operational Phase as a residential development taking account of the geological site setting including the identified potential ground stability issues.

4.4 Hydrology and Hydrogeology

This chapter assesses the likely significant effects that the proposed development may have on hydrology and hydrogeology and sets out the mitigation measures proposed to avoid, reduce or offset any potential significant effects that are identified.

The assessment was carried out taking following appropriate national guidelines using data collected from a detailed desk study, the results of the ground investigation, a site walkover survey and review of all relevant drawings and documents pertaining to the Proposed Development. The results of the assessment provided information on the baseline conditions at the Proposed Development Site. A detailed assessment of the potential impacts was undertaken, and appropriate avoidance and mitigation measures were identified to reduce any identified potential impact associated with the Proposed Development.

The Site is located within the Shannon (Upper)_SC_090 Water Framework Directive (WFD) Sub-catchment and within the Upper Shannon WFD Catchment. The Garrynafela stream flows through the Site in an east to west direction, before being routed to the north along the western boundary of the Site. The Garrynafela stream is culverted within a 900mm diameter concrete pipe as it exits the Site to the north. The stream is culverted under the existing road.

The potential receptors within the receiving water environment associated with the Site are: Garrynafela stream and downstream to the Ballaghkeeran Lake, the underlying gravel aquifer and bedrock aquifers. During the Construction Phase, soil and subsoils will be exposed and excavated with an increase in the potential of infiltration rainfall to the underlying aquifer where the thickness of the subsoils is reduced. This will be reduced over the course of the construction of the Proposed Development with an overall increase in impermeable areas and reduced infiltration potential from the surface. Shallow groundwater was encountered between 1.3 and 2.7m depth during the ground investigation at the Site. The required maximum depth of excavation is 5m for surface water sewers and foul water connections. Thus, It is anticipated

that shallow groundwater will be encountered during trench excavation for the utility infrastructure. Localised dewatering may be required, where water must be pumped from the excavation, it is considered there will be a temporary drawdown of local groundwater levels. However, as appropriate management measures will be in place for the Construction Phase the extent of the impacts will be temporary and localised to the immediate area surrounding the excavation.

In-stream works are required where sections of the Garrynafela stream will be culverted. The culverting will occur at the onset of the construction works and will follow the methodology set out in the Construction and Environmental Management Plan to prevent any risk to the water quality of the stream.

There will be no unauthorised discharge of water (groundwater or surface water runoff) to ground, drains or water courses during the Construction Phase of the Proposed Development and sandbagging of gullies may be required during specific works in the vicinity of the existing site drainage. Water will be pumped from excavations to temporary on-site drainage system prior to overland discharge through vegetation. The discharge will be pumped through a silt bag at the pump outlet and through a series of silt traps as required. Silt fencing will be erected on ground sloping towards the watercourses at the stream crossings. These will be embedded in local soils to ensure all site runoff water is captured and filtered.

The Construction Environmental Management Plan and a Resource Waste Management Plan will be implemented by the appropriate contractor to ensure, site-specific procedures and mitigation measures to monitor and control environmental impacts throughout the Construction Phase of the project.

During the operational phase, no residual significant effects are predicted. Foul water from the Proposed Development will connect to the existing Irish Water sewer eventually discharging to Athlone Wastewater Treatment Plant. Water supply for the Proposed Development will be provided from the existing Irish Water infrastructure. Confirmation of capacity for both the foul and water connection was confirmed by Irish Water (COF: CDS200001202). The Water Framework Directive assessment concluded that the Proposed Development will not cause a deterioration in the status of water bodies hydraulically connected with the Proposed Development including the Athlone Gravels groundwater body, the Inny groundwater body, the Shannon (Upper), Lough Ree Lakes, Shannon (Lower), Limerick Dock, Shannon Estuary or Mouth of Shannon coastal water body, taking account of design avoidance and mitigation measures that will be implemented. The Proposed Development will not jeopardise objectives to achieve good surface water status or good ecological potential. Interceptors onsite will lead to a positive impact on water quality.

Overall, there will be no significant adverse impacts as a result of the Proposed Development on the receiving groundwater and surface water environment following adoption of in-built mitigation measures.

4.5 Air Quality and Climate

This chapter examines the potential for the proposed development to impact upon air quality and climate within the vicinity of the proposed development. This chapter also describes and assesses the impact of the proposed development on local climate and on global climate in a wider context.

The primary sources of dust identified during the construction phase of the proposed

development include soil excavation works, demolition, bulk material transportation, loading

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and unloading, stockpiling materials, cutting and filling, and vehicular movements (HGVs and on-site machinery).

According to Transport Infrastructure Ireland guidelines (TII, 2011), it is difficult to accurately quantify dust emissions arising from construction activities. Therefore, it is not possible to easily predict changes to dust soiling rates or particulate matter (PM₁₀) concentrations. TII guidelines recommend a semi-quantitative approach to determine the likelihood of significant impact in this instance. This should also be combined with an assessment of the proposed mitigation measures. In order to account for a worst-case scenario, the proposed development can be considered major in scale due to the size of the site and the duration of construction activities. Therefore, it can be assumed that there is potential for significant dust soiling 100m from the site. There are a number of high-sensitivity receptors (residential dwellings) located within 100m of the site boundary; these are situated to the north, west, south and east of the site. Therefore, in the absence of mitigation, it is considered that there is potential for dust impacts to occur at these locations. Appropriate mitigation measures have been recommended and will be implemented at the site in order to minimise the risk of dust emissions arising during the construction phase, provided such measures are adhered to, it is not considered that significant air quality impacts will occur.

Construction vehicles and machinery during this phase will temporarily and intermittently generate exhaust fumes and consequently potential emissions of volatile organic compounds, nitrogen oxides, sulphur oxides, and particulate matter (dust). Dust emissions associated with vehicular movements are largely due to the resuspension of particulate materials from ground disturbance. According to the Institute of Air Quality Management (IAQM, 2014), experience from the assessment of exhaust emissions from on-site machinery and site traffic suggests that they are unlikely to make a significant impact on local air quality, and in the vast majority of cases they will not need to be quantitatively assessed. Air pollutants may increase marginally due to construction-related traffic and machinery from the proposed development; however, any such increase is not considered significant and will be well within relevant ambient air quality standards. According to TII guidance (2011), the significance of impacts due to vehicle emissions during the construction phase will be dependent on the number of additional vehicle movements, the proportion of HGVs and the proximity of sensitive receptors to site access routes. If construction traffic would lead to a significant change (> 10%) in Annual Average Daily Traffic (AADT) flows near to sensitive receptors, then concentrations of nitrogen dioxide, PM₁₀ and PM_{2.5} should be predicted in line with the methodology as outlined within TII guidance. Construction traffic is expected to result in a significant change (> 10%) in AADT flows near to sensitive receptors. Therefore, concentrations of nitrogen dioxide (NO₂) and particulate matter (PM₁₀) have been predicted in the opening year of the development (2027).

The air dispersion modelling concluded that the proposed development is likely to result in a long-term increase in traffic on the roads surrounding the site; however, this increase in traffic has been determined to have an overall insignificant impact in terms of local air quality. Furthermore, the increase in traffic has been determined as marginal with regard to climatic impacts. Therefore, no adverse residual impacts are anticipated from the proposed development in the context of air quality and climate.

There is the potential for combustion emissions from onsite machinery and traffic derived pollutants of carbon dioxide (CO₂) and nitrous oxide (N₂O) to be emitted during the construction phase. However, due to the size and duration of the construction phase, and the mitigation measures proposed, the effect on national greenhouse gas (GHG) emissions will be insignificant in terms of Ireland's obligations under the Kyoto Protocol and therefore will have no considerable impact on climate. Overall, climatic impacts are considered to be short-term and imperceptible.

All construction phase monitoring will be carried out in line with the Construction Environmental Management Plan (CEMP) for the site. The monitoring of construction dust during the construction phase is recommended to ensure that impacts are not experienced beyond the site boundary.

Due to the negligible impact on air quality and climate from the operational phase of the proposed development, no specific monitoring is considered necessary.

4.6 Noise and Vibration

The likely noise and vibration impacts associated with the proposed development have been evaluated, and changes that are likely to impact the surrounding environs have been considered.

The primary noise impacts associated with this proposed development is noise due to:

- Site clearance works (construction phase);
- Building construction works (construction phase);
- Trucks entering and existing the site (construction phase); and
- Traffic along local road network (construction and operational phase).

Based on a review of the guidance documents and the baseline noise environment, the following daytime noise criteria are recommended for the proposed development:

Table 4-1 Recommended Noise Limit Criteria

| Parameter | Emission Standard | Basis of Standard |
|--|-------------------------------------|---|
| Monday to Friday (07.00 to 19.00 hours) | <70 dB(A) L _{Aeq} (1 hour) | BS 5228-1; Transport Infrastructure Ireland (TII) |
| Saturday (09.00 to 13.00) | <65 dB(A) L _{Aeq} (1 hour) | |

The nearest noise sensitive locations are residential properties which are located approximately 20 to 60m from the site boundary. Noise prediction calculations have been completed for noise from the use of onsite plant up to 60m from the source using the inverse square law. According to the inverse square law, for each doubling of distance from a point source, the sound pressure level decreases by approximately 6 dB.

There is the potential for the adopted criteria to be exceeded by both the loading shovel and the dozer during the construction works at the nearest sensitive receptors. However, there are hedgerows on the intervening lands between the site boundary and the residential dwellings. It is important to recognise that the sound intensity from a point source will obey the inverse

square law if there are no reflections or reverberation. If there are barriers between the source and the point of measurement, you are likely to get less than what the inverse square law predicts. Therefore, when taking account of local terrain, predicted noise levels at the closest residential noise sensitive locations are expected to be lower than what is predicted. Nevertheless, mitigation measures will be implemented to reduce any potential impacts. During the works the contractor will comply with the requirements of BS 5228-2:2009+A1:2014 (Code of Practice for Noise and Vibration Control on Construction and Open Sites) and the mitigation measures outlined within the Construction Management Plan (CEMP), will be implemented during the construction phase.

No traffic routes are predicted to experience increases of more than 25% in total traffic flows during the operational phase and therefore no detailed assessment is required as per the Design Manual for Roads and Bridges (DMRB) Guidelines.

4.7 Landscape and Visual

The purpose of the landscape assessment is to evaluate the existing landscape character of the site and surroundings, to assess the landscape and visual impact of the proposed development and to identify landscape designations and planning policies that may concern the subject site and its environs.

The LVIA chapter has assessed the Landscape Impact Assessment and the Visual Impact Assessment of the proposed development.

The local context of the site is defined by a combination of residential, commercial and civic land uses, with the significant Blyry Industrial Estate nearby. Currently the site is characterized by open and undulating farmland with hedgerows along the perimeter. Being a low-lying site, views of the site are confined to the immediate locality.

The lands across the site are zoned "*Residential*", "*Open Space*" and "*Existing Residential*", under the *Athlone Town Development Plan 2014-2020*. It is considered, in the context of the Development Plan zoning, the proposed development is a continuation of existing trends in the local area.

The Landscape Character Type that defines the area of the site of the proposed development is Character Area 6 - *Lough Ree/Shannon Corridor*. Within the Westmeath County Development Plan, this area is deemed be of Medium Landscape Value, Medium Landscape Sensitivity and Local Landscape Importance.

The site is excluded from any "*Special Area of Conservation*", "*Special Protection Area*", "*High Amenity Area*" or "*Natural Heritage Area*" of the Westmeath County.

A number of different elements on the ground have a bearing on the visibility of the proposed development:

- The site is currently a mix of a greenfield site and agricultural fields, criss-crossed by hedgerows;
- There is a stream (*Garrynafela Stream*) that runs along the western site boundary and transects the site, flowing east to west;

- The site is bounded by hedgerows from almost all boundaries, that prevent most of the visibility for the interior of the site. The only exception is on the eastern boundary that have several openings in the transition with the *Blyry Ct*;
- The setting is in a residential area with surrounding land uses of agriculture, and some green areas. There are dense residential areas, south of the site, mainly east of the R916 Road;
- The *Colm Quinn BMW Athlone* building and car parking, east of the site, turns out to be the most prominent element in the surrounding landscape.

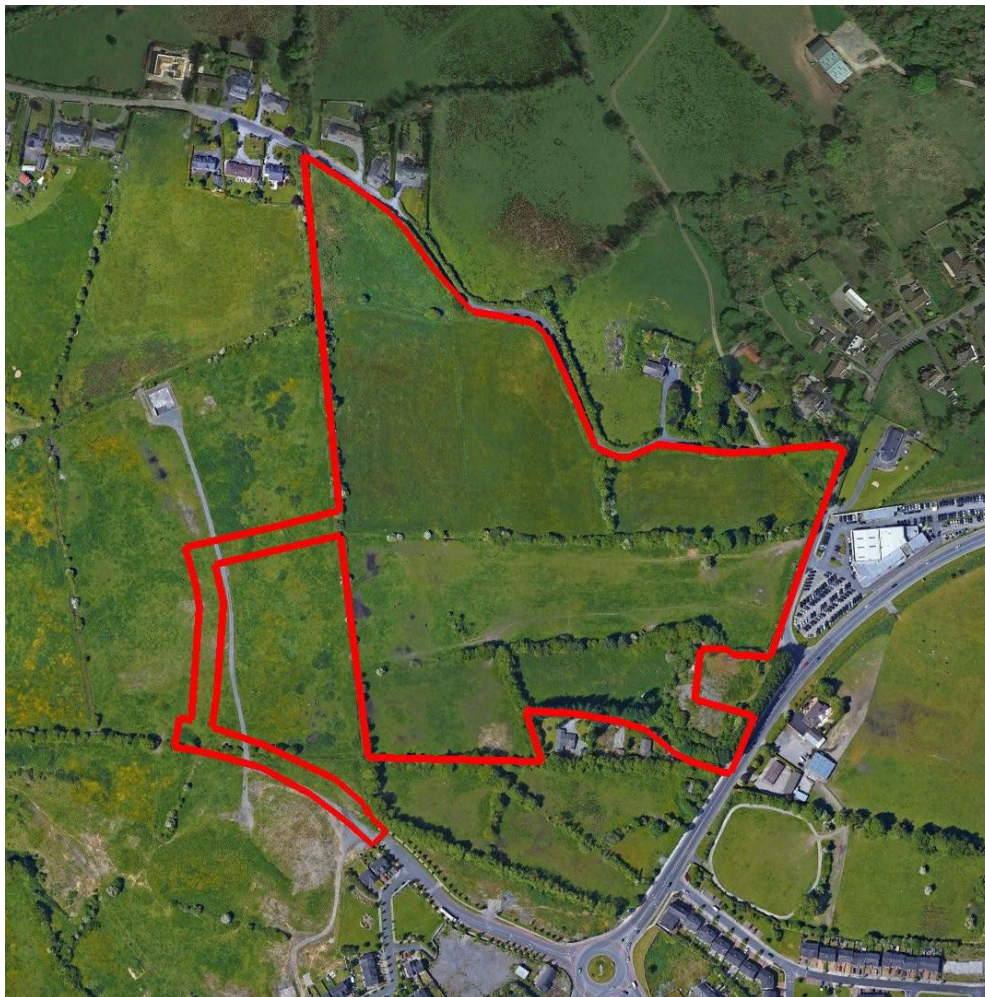


Figure 4-2 Aerial View with the limits of the proposed development in red

In terms of the landscape impact assessment, the landscape of the area will undergo some moderate changes due to the construction of the new buildings, the removal of some existing trees and shrubs, the removal of some hedgerows and the installation of the proposed green structure. The majority of the existing trees are kept, felling only 38 of a total of 111 existing trees, the majority being evaluated with “poor” conditions. It is considered that 420 new trees will over time provide a clear landscape benefit.

The predicted landscape impacts will reduce rapidly with distance from the site boundaries. Intervening hedgerows, open park spaces, and existing buildings will further reduce the impacts to minor to negligible, negative and short term for the construction phase. It is concluded that the proposed development will have a minor, negative and short to medium-term impact on the landscape character of the site during the construction phase. It is not

expected that the operational phase of the proposed development will cause any negative impact.

For the visual impact assessment, nine viewpoints were assessed, chosen by sensitivity of the view's through site visits and viewsheds analysis. As it can be seen by the conclusion on the visual effects, of the nine selected viewpoints, three will have temporary visual impacts and three will have short-term or short to medium-term visual impacts. Six of the viewpoints are considered to experience neutral effects and three will experience minor to moderate or moderate visual impacts. No viewpoints are considered as having a significant, negative and long-term impact. It's concluded that the proposed landscaping and green infrastructure will mitigate, in the medium-term, the identified moderate visual impacts.

The proposed development will not have any landscape or visual impact in any Protected View, Scenic Route or Protected Structure identified in the Westmeath County Development Plan 2021-2027.

The key landscape and visual mitigation measures used during the construction phase have been incorporated into the layout of the site and design of the proposed buildings. The buildings will be low height (two to four storey). Height and massing of the proposed development has been given careful consideration and is considered appropriate having regard to the site's outer suburban location whilst also respecting the local context and the sloping topography of the site.

Park Hood Chartered Landscape Architects submitted a landscape design strategy and comprehensive and detailed proposals considering the proposed green structure of the site. The new planting, combined with the retention of most of the hedgerows, work as the best mitigation measure in landscape and visual impacts. For those trees proposed for retention, all necessary mitigation measures will be put in place in order to prevent or reduce its impact as far as practicable.

In terms of cumulative landscape effects, there are three developments have have been submitted for planning within proximity to the proposed development: (a) the Glenveagh Development; (b) a Creche and (c) a School. The Glenveagh Development ends up continuing the trend of housing developments in this area. It links the proposed development in the west and is connected to the proposed new road connection. The effects on the landscape will be the same level as those identified in the proposed development, with the maintenance of hedgerows in the periphery and the creation of several new green areas. It will unify the green spaces east of this Development and west of the proposed development. This development will end up creating a visual barrier to the west of the proposed development and mitigate all the visual impacts identified to the west.

4.8 Archaeology and Cultural Heritage

An assessment of the baseline Archaeological, Architectural and Cultural Heritage conditions of the surrounding environment for the proposed development was completed, in order to determine any significant impacts that may arise as a result of the development and highlight any potential effects this may have on these resources.

The assessment involved a desktop study/paper survey which considered all available archaeological, architectural, historical and cartographic sources. This information was used in order to assess any potential impact on the receiving environment and to identify measures to ensure the conservation of any monuments or features.

There are no records of any recorded monuments within the site boundary of the proposed development. There were 13 no. recorded Monuments and Places within a 2 km radius of the site of the proposed development. These comprise 1 no. Rabbit Warren (WM029-004), 1 no. Children's burial ground (WM029-023), 1 no. Military Camp (WM029-022), 1 no. Standing Stone – pair (WM029-002), 2 no. Promontory Fort – inland, 1 no. Castle – unclassified (WM022-039), 1 no. Earthwork (WM029-003), 1 no. Pier/Jetty (WM022-041003), 2 no. House – indeterminate date, 1 no. Burial Mound (WM022-041004-), and 1 no. Barrow – mound barrow (WM029-041). None of the above recorded Monuments and Places will be affected by the proposed development.

A search in the topographical files in the National Museum of Ireland produced 1 no. results for the study area. This was a socketed axehead/five coins located 1.7 km southwest of the proposed development.

The historic six-inch ordnance survey map and historic twenty-five-inch Ordnance Survey Map show similar field layout and indicate that the site of the proposed development and the surrounding lands were historical used predominantly for agricultural purposes.

There are a total of 25 no. Architectural Conservation Areas (ACAs) in Westmeath. The nearest ACA is St. Mary's Place within the Athlone Settlement, located 2.2 km southwest of the proposed development. There are 3 no. Protected Structures located within a 2km radius of the proposed development, including a detached four-bay single-storey vernacular house (RPS No. 029-010) and a detached four-bay single-storey thatched cottage (RPS No. 029-011), both located 1.1 km northeast of the proposed development.

The National Inventory of Architectural Heritage (NIAH) was reviewed, and 3 No. features of architectural significance was located with 2km of the site. The closest Protected Structures are a house dating from 1800-1840 (Reg. No. 15402920) and a House dating from 1800-1850 (Reg. No. 15402921) both located 1.1 km northeast of the proposed development. None of the above recorded Protected Structures or features of architectural significance will be adversely affected by the proposed development.

It is possible that excavation works associated with the proposed development may have an adverse impact on small or isolated previously unrecorded archaeological features or deposits that have the potential to survive beneath the current ground level. It is therefore recommended that if any archaeological remains are discovered during this project, all works will cease and an expert archaeologist will be brought to the site and all future works will be carried out under the supervision of the archaeologist.

4.9 Material Assets; Waste and Utilities

This chapter of the EIAR provides an assessment of the potential impacts of the proposed development on materials assets or the physical resources in the environment, including built services and infrastructure comprising electricity, gas supply, information and communications

technology, surface water/stormwater drainage, water supply, the foul water network and waste management infrastructure.

Electricity Supply

Construction related activities will require temporary connection to the local electrical supply network. The Main Contractor will apply for a power supply from ESB Networks to power both the compound and the construction site. The size of supply will be calculated to ensure it is sufficient to power both the site compounds and construction site activities. Connecting a new multi-unit housing development to the electricity distribution system must be carried out in accordance with ESB Networks specifications. A temporary suspension of the network locally to facilitate the connection works may be required during the construction phase. The potential impact from the construction phase of the proposed development on the local electrical supply network is likely to be slight, temporary and negative to neutral, depending on the length of temporary network suspensions.

Electricity will be required to provide public lighting, domestic lighting, power supply and heating for each individual unit for the proposed development. Electric car charging facilities will be provided in the car park in line with Government policy. Two ESB substations will be provided. The impact of the operational phase of the proposed development on the electricity supply network is likely to be to increase demand to the existing supply. The potential impact from the operational phase on the electricity supply network is likely to be neutral, long term and not significant.

Gas Supply

There are no gas requirements during the construction or operational phase of the proposed development and there will be no connections made to the natural gas network as part of the proposed development. Heat pumps (exhaust air heat pump and air source heat pump) powered by electricity will be used for space heating and domestic hot water during the operational phase. As such, the potential impact on the gas supply network is likely to be permanently neutral and imperceptible.

Information and Communications Technology (ICT)

Connections may be required to the existing ICT network during the construction phase of the proposed development. New connections will be controlled by the network provider in accordance with standard protocols. Due to the temporary nature of the construction phase, the likely effect of the construction phase on the local telecoms network will be neutral, imperceptible, and temporary. The likely effect of the operational phase of the proposed development on the local telecommunications network is to be a marginal increase in demand. The site of the proposed development is partially located within an area where high speed broadband is available and the closest mobile communications mast at Dubarry Park approximately 1.1km west of the proposed development (Vodafone, Three, Meteor). The likely effect of the operational phase on the local telecoms network will be neutral, and imperceptible in the long term.

Water Supply and Demand

Site offices and construction activities will create a demand for water supply to the site. A temporary connection is required to facilitate on-site works for all housing developments which will therefore result in a net increase in the water demand for the site of the proposed

development. The proposed development will be connected to the existing mains water supply subject to agreement from Irish Water who issued a Confirmation of Feasibility (CoF) for the connection on the 13th of November 2020. New connection works may cause water supply disruptions during the construction phase however these disruptions will be controlled by Irish Water and Westmeath County Council in accordance with standard protocols. Due to the nature of the works during the construction phase, the likely effect will be negative, not significant and temporary.

During the operational phase of the proposed development there will be a demand for water from the public water supply. The mains water supply is operated in accordance with relevant existing statutory consents. Water supply to the proposed development will be provided by the existing Irish Water infrastructure by adding a new 150mm connection to the existing 150mm diameter watermain running along the N55. Confirmation of feasibility was received from Irish Water on the 13th of November 2020 (Ref; CDS200001202). The water connection is “*feasible without infrastructure upgrade by Irish Water*”.

The likely effect of the increase in mains water demand will be neutral, not significant, and long-term on mains water supply.

Hydrology and Surface Water Drainage

There will be no unauthorised discharge of water (groundwater or surface water runoff) to ground, drains or water courses during the construction phase of the proposed development. The impact will therefore be ‘neutral’, ‘imperceptible’ and ‘temporary’.

The Surface Water Drainage Strategy for the site of the proposed development has been prepared by EOBMS Consulting Engineers Ltd (2023). Rainwater harvesting will be utilised on site, collected rainwater will be used for care and upkeep of the lawns and gardens which will infiltrate to ground and recharge. There will be some discharge to ground via SuDs (permeable paving and bio- retention areas) as well as rainfall which falls on unpaved areas. During operation, sections of the Garrynafela stream running through the site will be culverted.

Overall, the likely effect of the surface water drainage strategy for the proposed development will result in a neutral, imperceptible, long-term impact on receiving surface water quality.

Wastewater Management

A temporary connection is required to facilitate on-site works for all housing developments. Commencement of construction will therefore result in a net increase in the foul water produced at the site of the proposed development. Foul water sewers will be constructed strictly in accordance with Irish Water requirements. Due to the temporary and phased nature of the construction phase the likely effect of the proposed development on the existing foul water network during this phase is considered to be negative, slight and temporary.

During the operational phase, foul water from the proposed development will be connect to the existing Irish Water Manhole to the northwest of the site. Foul water from the site will be to mains sewer and discharge will be treated at the Athlone Wastewater Treatment Plant prior to discharge to the Shannon River. This increase in wastewater being discharged to the public sewer will have a neutral and imperceptible impact. Confirmation of feasibility was received

from Irish Water on the 13th of November 2020 (Ref; CDS200001202). The wastewater connection is 'Feasible without infrastructure upgrade by Irish Water'.

Waste Management

A Resource and Waste Management Plan has been prepared and submitted as part of the planning application. This plan provides the information necessary to ensure that the management of construction waste at the site. All waste generated during the construction phase will be segregated onsite to enable ease in re-use and recycling, wherever appropriate. In general, the priority of the plan shall be to promote recycling, reuse and recovery of waste and diversion from landfill wherever possible. Approximately 4,100m³ of soil, stones, gravel and clay will be excavated to facilitate construction of new foundations and underground services. It is expected that all of the excavated material is to be reused on site (pending environmental soil testing).

An Operational Waste Management Plan for the proposed development has been prepared and submitted as part of the planning application. A waste generation model has been used to predict waste types, weights and volumes arising from operations within the proposed development. Wastes will be segregated based on waste types to ensure compliance with waste legislation and guidance while maximising the re-use, recycling and recovery of waste with diversion from landfill wherever possible. Provided the mitigation measures detailed in the Resources and Waste Management Plan and Operational Waste Management Plan are implemented, and a high rate of re-use, recycling and recovery is achieved, the likely effect of the Construction and operational phases on the environment will be neutral and imperceptible in the long term.

4.10 Risk Management

Risk is one of the most important elements to be considered as part of a development. It is critical that any project is screened against potential risks which it might encounter and/or impose on the nearby environment during its construction and operational phase. This chapter of the EIAR sets out the assessment of the vulnerability of the proposed development at Ballkeeran and Cornamaddy Athlone, County Westmeath to risks of major accidents and/or disasters.

In order to understand the potential consequences and predicted impacts of any major accident or disaster due to the proposed development and the vulnerability of the project, a desk study was undertaken. The assessment reviewed:

- The vulnerability of the project to major accidents or disasters.
- The potential for the project to cause risks to human health, cultural heritage and the environment, as a result of that identified vulnerability.

A methodology has been used including the following assessment:

- Identifying and screening the hazards;
- Phase 2: Screening the hazards;
- Identifying the impact;
- Assessing the likelihood of the major accident or disaster occurring, and

- Assessing any risks that remain.

The design has considered the potential for flooding, road accidents, invasive species or fire within the design methodology. From this, it is considered that the vulnerability of the proposed development to major accidents and/or disasters is not significant.

4.11 Traffic

A transport impact assessment has been carried out by Roadplan Consulting.

A traffic count was undertaken to obtain survey data on the existing N55 / R916 and L8048 roundabout. A traffic assessment was carried out to estimate future year traffic volumes in the study area. An assessment was completed for the opening year of development, five and 15 years after opening.

The assessment concluded that the existing N55 / R916 / L8048 roundabout currently operates within capacity with small queues and delays during the AM and PM peak hours. The existing N55 / R916 / L8048 roundabout will continue to operate within capacity with small queues and delays when the proposed residential development is completed in 2027, year of opening, 2032, five years after opening and in 2042, fifteen years after opening.

The existing N55 / R916 / L8048 roundabout will continue to operate within capacity with small queues and delays when the proposed residential development and the future residential developments adjacent to the development are complete in 2042, fifteen years after opening.

A total of 414 parking spaces will be provided to cater for the proposed development, including eight spaces for the creche. This is within the maximum number of parking spaces stipulated by the Westmeath County Development Plan (442).

4.12 Interactions

Interrelationships between various environmental aspects must be considered when assessing the impact of the proposed development, as well as individual significant impacts. The significant impacts of the proposed development and the proposed mitigation measures have been detailed in the relevant chapters of this report. However, as with all developments that poses potential environmental impacts, there also exists potential for interactions/interrelationships between the impacts of different environmental aspects. The results may exacerbate or ameliorate the magnitude of impacts.

When considering interactions, the assessor has been vigilant in assessing pathways – direct and indirect – that can magnify effects through the interaction. In practice many impacts have slight or subtle interactions with other disciplines. However, the EIAR concludes that most inter-relationships are neutral in impact when the mitigation measures proposed are incorporated into the operation of the proposed development in line with the proposed EPA licence for the site.

4.13 Mitigation and Monitoring Measures

This EIAR has assessed the impacts and resulting effects likely to occur as a result of the proposed development on the various aspects of the receiving environment.

The proposed development will be operated in a manner that will ensure that the potential impacts on the receiving environment are avoided where possible. In cases where impacts or potential impacts have been identified, mitigation measures have been proposed to reduce the significance of particular impacts. These mitigation recommendations are contained within each chapter exploring specific environmental aspects.

The mitigation and monitoring chapter of the EIAR collates and summarises the mitigation commitments made in EIAR Chapters 4 to Chapter 13



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