# Environmental Impact Assessment Screening Report

## Proposed Residential Development at Drumlark, Cavan, Co. Cavan

**Report For:**

**Drumlark Investments Ltd.**

**Prepared By:**

**Patrick McCabe B.Sc., M.Sc.**

**Date:**

**20th February 2024**

**Project No. 15300**

**Report No. 15300-03 REV.A**

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# 1.0 INTRODUCTION

## 1.1 Project Background

On behalf of the applicant Drumlark Investments Ltd., Hydrec Environmental Consulting have prepared the following Environmental Impact Assessment (EIA) Screening Report to support a planning application for construction of a 145-unit Large-scale Residential Development (LRD) at Drumlark, Cavan, Co Cavan (see Plate 1).


**Plate 1. Location of proposed residential development at Drumlark, Cavan, Co. Cavan (site boundary defined by red polyline).**

## 1.2 Project Requirement / Planning Statement

In summary the proposed development provides for 145 no. residential units and crèche on lands zoned 'Proposed Residential', 'Proposed Low Density Residential' and 'Residential Strategic Reserve' in the Cavan County Development Plan 2022-2028.

Accordingly, the proposed development comes within the definition of Large-Scale Residential Development (LRD) as provided in the Planning and Development (Amendment) (Large Scale

Residential Development) Act 2021 (i.e. 'development of 100 or more houses on lands zoned for residential use'). In this context the aim of the proposal is to support this development of Cavan Town as a self-sustaining growth town and deliver a residential scheme centred around sustainable movement, high quality public realms and improved pedestrian and cycling access to the town centre.

The accompanying Planning Statement produced by Genesis Planning Consultants, notes that the National Planning Framework (NPF) recognises the need for towns such as Cavan Town to grow wherein it states:

*'To develop cities and towns of sufficient scale and quality to compete internationally and be drivers of national and regional growth, investment and prosperity.'*

*'Regenerate and rejuvenate cities, towns and villages of all types and scale as environmental assets, that can accommodate changing roles and functions, increased residential population and employment activity and enhanced levels of amenity and design quality, in order to sustainably influence and support their surrounding area.'*

An assessment completed by Genesis Planning Consultants notes that the population growth experienced both at county level (54.3%), and at a local level in Cavan Town (51.4%) both exceed the growth rate in the state (41.69%) and the GDA (48.2%) during the same period (1996-2022) and that despite this growth, there has been a severe shortage of new residential developments provided in the last 10 years. On that basis, it was concluded that there is a need for more residential units to be provided to accommodate the growing population within County Cavan and in central urban locations such as the project site.

## 1.3 Purpose of Report

There is a mandatory requirement for an Environmental Impact Assessment Report (EIAR) to accompany a project for certain types of development that meet or exceed the relevant "thresholds" prescribed in Schedule 5 to the Planning and Development Regulations 2001 (as amended). In addition to the mandatory requirement, there is a case-by-case assessment necessary for sub-threshold developments as they may be likely to have significant effects on the environment.

If a sub-threshold development is determined to be likely to have a significant effect on the environment, then an EIAR will be required. The proposed development and component parts

have been considered, as documented in Section 2, against the thresholds for EIA as outlined in Schedule 7 of the Planning and Development Regulations 2001 (as amended).

## 1.4 Project Team and Contributors to the EIA Screening Report

The preparation of this EIAR was project managed, co-ordinated and produced by Hydrec Environmental Consulting. Principle author Patrick McCabe is a graduate of University College Dublin with a BSc in Applied Environmental Science. Additionally, Patrick has graduated from Dundalk Institute of Technology (Centre for Freshwater Studies) with a MSc focusing on freshwater ecology and catchment science / hydrology. He has over 10 years' experience in environmental consultancy, acting as project manager on a range of environmental, ecological and hydrological assessments within the agricultural, industrial, residential and waste sectors. Patrick has also spoke on such topics at a number of national conferences (e.g. EPA National Water Conference, International Association of Hydrogeologists (IAH), Irish Group, Annual Conference 2021) and given guest lectures on the subject to third level education institutions (e.g. NUI Galway - MSc Programme in "Marine and Freshwater Resources: Management).

Furthermore, this EIA Screening Report has been informed by the studies/assessments undertaken by various additional specialist professionals / consultants commissioned during the design phase of the development (see Table 1). Additionally, Hydrec Environmental Consulting have prepared a Natura Impact Statement (NIS) and Ecological Impact Assessment (EcIA) to accompany the planning permission application.

**Table 1. Project Team**

| Role | Contributor |
|---|---|
| Architectural Design | Michael Fitzpatrick Architects Ltd. |
| Planning Consultancy | Genesis Planning Consultants |
| Civil Engineering Design | Cronin & Sutton Consulting Engineers |
| Flood Risk Assessment | Cronin & Sutton Consulting Engineers |
| Traffic Impact Assessment | Cronin & Sutton Consulting Engineers |
| Tree Survey Report | Dr. Philip Blackstock |
| Landscape Architects | Park Hood |
| Archaelogical Impact Assessment | Archaeological Consultancy Services Unit |
| Construction Environmental Management Plan | Cronin & Sutton Consulting Engineers |

# 2.0 EIA SCREENING METHODOLOGY

## 2.1 Legislation & Guidance

The screening process followed in this report is in accordance with the EIA Directive 2011/92/EU of the European Parliament and of the Council as amended by 2014/52/EU and as transposed into Irish Legalisation, within the Planning & Development Act 2000 (as amended) and the Planning & Development Regulations 2001 (as amended). The guidance listed below has informed this report and the method to EIA Screening:

- Guidelines on the information to be contained in Environmental Impact Assessment Reports 2022 – Environmental Protection Agency (EPA), 2022;
- Environmental Impact Assessment (EIA) Guidance for Consent Authorities regarding Sub-threshold Development, Department of Housing, Local Government and Heritage, 2020;
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment, Department of Housing, Planning and Local Government, 2018; and
- Environmental Impact Assessment of Projects: Guidance on Screening, European Commission, 2017.

## 2.2 Mandatory EIA Threshold

Schedule 5 of the Planning and Development Regulations 2001, as amended, sets out a number of classes and scales of development that require EIA. In considering the wider context and the component parts of the project the proposed development the thresholds of relevance to the proposal from Part 2 of Schedule 5 are set out below:

Under Part 2 of Schedule 5, in relation to Infrastructure projects, Class 10(b)(i) of Part 2 refers to residential developments as follows:

*10. Infrastructure projects -*

*(b)(i) Construction of more than 500 dwelling units;*

*iv) Urban development which would involve an area greater than 2 hectares in the case of 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 total site area for the proposed works is c. 4.98 hectares (ha), and the proposed development comprises 145 residential units and creche. The site location is not within a business district (i.e. proposed residential). The proposed development site is not equal to, nor does it exceed the limit, quantity or threshold set out in Class 10(B) (i) and (iv); therefore, an EIA is not mandatory.

## 2.3 Sub Threshold EIA

Furthermore, an EIA is still required by Schedule 5, Part 2, Class 15 of the Regulations for sub-threshold development which would be likely to have significant effects on the environment, having regard to the criteria set out in Schedule 7.

*15. Any project listed in this Part which does not exceed a quantity, area or other limit specified in this Part in respect of the relevant class of development but which would be likely to have significant effects on the environment, having regard to the criteria set out in Schedule 7.*

Said criteria for assessing sub-threshold development under the EIA Directive (schedule 7 of PDRs) are grouped under three headings:

i. characteristics of Proposed Development;
ii. location of Proposed Development; and
iii. characteristics of Potential Impacts.

Correspondingly, this document here-after will present the information required by Schedule 7A under these headings.

# 3.0 CHARACTERISTICS OF PROPOSED DEVELOPMENT

## 3.1 Size and Design of Proposed Development

The development will consist of the provision of a total of 145no. residential units along with provision of a crèche across a 5 ha site. Particulars of the development comprise as follows:

- Site excavation works to facilitate the proposed development to include excavation and general site preparation works;
- The reprofiling of ground levels within the site and provision of retaining walls as required;
- The provision of a total of 91no. residential dwellings which will consist of 25no. 2 bed units, 55no. 3 bed units and 11no. 4 bed units. The dwellings range in height from single storey to two storey;
- The provision of a total of 54no. duplex apartment units consisting of 15no.1 bed units and 39no. 2bed units. The duplex apartment blocks range in height from two storey to three storey in height;
- Provision of a 2 storey creche with associated parking, bicycle and bin storage;
- 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 and duplex apartment units;
- Provision of electric vehicle charge points with associated site infrastructure ducting to provide charge points for residents throughout the site;
- Provision of associated bicycle storage facilities at surface level throughout the site and bin storage facilities;
- Creation of a new access point from the public road with associated works to include for a connections to the existing public footpath along with provision of a pedestrian crossing point with a raised table;
- The provision of a new shared cycleway and footpath to serve the site;
- Provision of internal access roads and footpaths and associated works to include for retaining walls and regrading of site levels as required;
- Provision of residential communal open space areas to include formal play areas along with all hard and soft landscape works with public lighting, planting and boundary treatments to include boundary walls, railings & fencing;
- Internal site works and attenuation systems which will include for provision of a hydrocarbon and silt interceptor prior to discharge;
- Installation of culverts and headwalls to facilitate crossing over the existing watercourse aligning the site boundary with associated works;
- All ancillary site development/construction works to facilitate foul, water and service networks for connection to the existing foul, water and ESB networks.

Plate 2. highlights the phased approach to development whereby construction phase 1 consists of units 1- 55, construction phase 2 comprising of units 110-123, 126-145 and creiche with construction phase 1 containing units 56-109, 124 and 125.

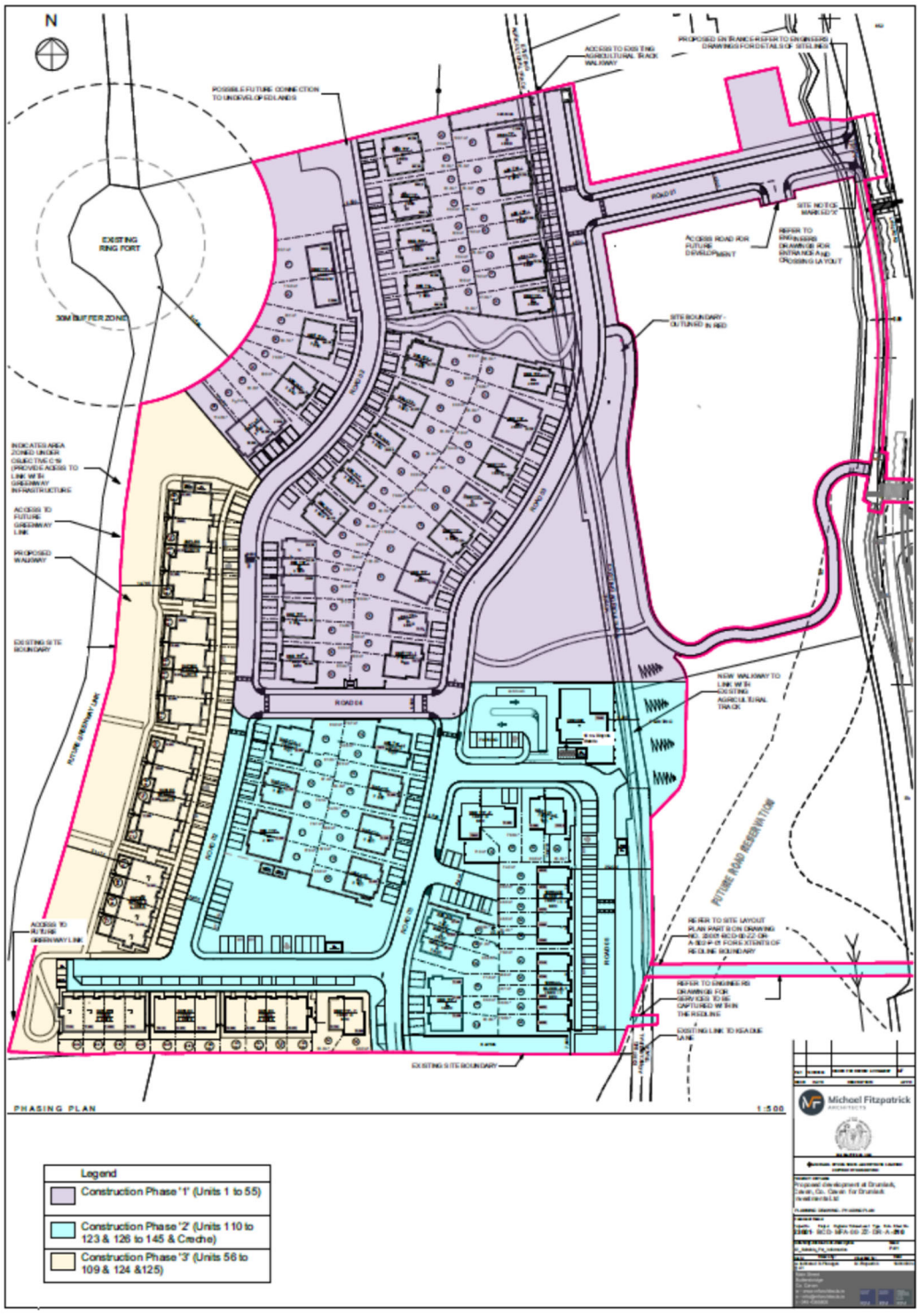


**Plate 2. Proposed phased approach to development at Drumlark, Cavan.**

### 3.2 Cumulation With Other Existing or Permitted Development

Section 5.10 of this document addresses the potential cumulative impact of the proposed development with other existing or permitted developments.

### 3.3 Nature of any Associated Demolition Works

No demolition works are proposed as part of this application.

### 3.4 Use of Natural Resources

This section describes the proposed development in terms of the use of natural resources, in particular land, soil, water, and biodiversity. Other resources used will be construction materials which will be typical raw materials used in construction of residential developments. The scale and quantity of the materials used will not be such that would cause concern in relation to significant effects on the environment.

Development of the proposed scheme will necessitate the stripping of topsoil and excavation of subsoils to facilitate the proposal. It is intended to retain the majority of material to be re-used on-site as landscaping materials, subject to testing to verify its suitability. Where excess spoil or soil material is left over from the landscaping works, this material will be brought to a permitted/licensed waste facility for disposal following appropriate waste classification.

It is not envisaged that the construction and operation of the project will use a volume of water to cause concern in relation to significant effects on the environment. During construction of the scheme, water will be required for offices and welfare facilities, this will be provided by either tanker or temporary connection to the public main by agreement between the main contractor and Uisce Éireann. Once the development is completed and the development is occupied there will be a water primary demand for domestic for usage for showers, toilets and cooking, as well as for commercial consumption (i.e. creche). There is no proposed extraction of groundwater at the site during the construction or operational phase.

### 3.5 Production of Wastes

Best practice procedures in general will minimise waste generated on site. Measures including good site management will be taken to limit the quantity of waste generated during the construction phase. During the construction phase, waste will be produced from surplus materials such as broken or off-cuts of timber, plasterboard, concrete, tiles, bricks, etc. Waste from packaging (cardboard, plastic, timber) and oversupply of materials may also be generated. The construction contractor will be required to ensure that oversupply of materials is kept to a minimum and opportunities for reuse of suitable materials is maximised.

Waste will also be generated from construction workers e.g., organic/food waste, dry mixed recyclables (wastepaper, newspaper, plastic bottles, packaging, aluminium cans, etc.) mixed non-recyclables and potentially sewage sludge from temporary welfare facilities provided onsite during the construction phase. The aforementioned waste must be disposed of via a registered contractor.

In addition to the typical waste materials that will be generated at the development on a daily basis (i.e. similar to that generated by construction workers), some additional waste types generated less frequently (i.e. in smaller quantities) which will need to be managed separately including:

- Green / garden waste may be generated from external landscaping;
- Batteries (both hazardous and non-hazardous);
- WEEE (both hazardous and non-hazardous);
- Printer cartridges / toners;
- Chemicals (paints, adhesives, resins, detergents, etc.);
- Light bulbs;
- Textiles;
- Waste cooking oil; and
- Furniture

Wastes should be segregated into the above 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. All waste contractors collecting waste from the Site must hold a valid collection permit to transport waste must be held by each waste contractor which is issued by the National Waste Collection Permit Office (NWCPO) and waste will only be brought to suitably registered/permitted/licenced facilities.

## 3.6 Pollution and Nuisances

There are potential short-term nuisances such as dust, noise, as well as the potential for pollution of groundwater associated with construction activities. The construction activities shall only take place in accordance with standard construction. No activity, which would reasonably be expected to cause annoyance to residents in the vicinity, will take place outside of these hours. If there is any occasion when work must be complete outside these hours advance notice will be provided to the local authority, businesses and residents in the vicinity.

A CEMP will be prepared by the construction contractor to include the measures set out within this EIA Screening report as well as best practice construction measures for the mitigation and management of air quality control (dust), noise and vibration, surface water runoff, dewatering of excavations, traffic, spills and leaks and sediment control that will be undertaken during the construction phase. All mitigation measures outlined therein will be implemented.

Said CEMP will be maintained by the contractors during the construction and operational phases and covers all potentially polluting activities and include an emergency response procedure. All personnel working on the Site will be trained in the implementation of the procedures.

## 3.7 Risk of Major Accidents and/or Disasters

### *3.7.1 Landslides, Seismic Activity and Volcanic Activity*

According to the GSI's landslide event records, there have been no recorded landslide events at the site. Additionally, the GSI's assigns a low landslide susceptibility classification to the site. There is a very low risk of seismic activity to the proposed development site. There are no active volcanoes in Ireland so there is no risk from volcanic activity.

### *3.7.2 Flooding/Sea Level Rise*

A Site-Specific Flood Risk Assessment (FRA) has been prepared by CS Consulting Group to assess the potential risk of flooding on the Site. It can be concluded that the development type is classed as a highly vulnerable development defined by The Planning System and Flood Risk Management – Guidelines for Planning Authorities and the overall development site is located on lands classified to Flood Zone C (low probability). A review of the Catchment Flood Risk Assessment and Management (CFRAM's) maps and Cavan County Council's Flood Mapping indicate that the subject land is deemed to be located outside the 0.1% AEP fluvial floodplain (see Plate 3). The risk of fluvial flooding impacting upon the residential properties within the subject development is therefore negligible up to a 1-in-1000- year flooding event, thus no mitigation measures are required.

### *3.7.3 Major Accidents/Hazards*

The proposed development is not within the consultation distance of any Seveso Site, nor is the proposed development a Seveso/COMAH establishment. The closest active Seveso establishment to the proposed development is the Ecolab site, an Upper Tier establishment located over 65km south of the development site. The proposed development is not within the consultation distance of the site, therefore due to the separation distance there is no interaction with the proposed development at this location.

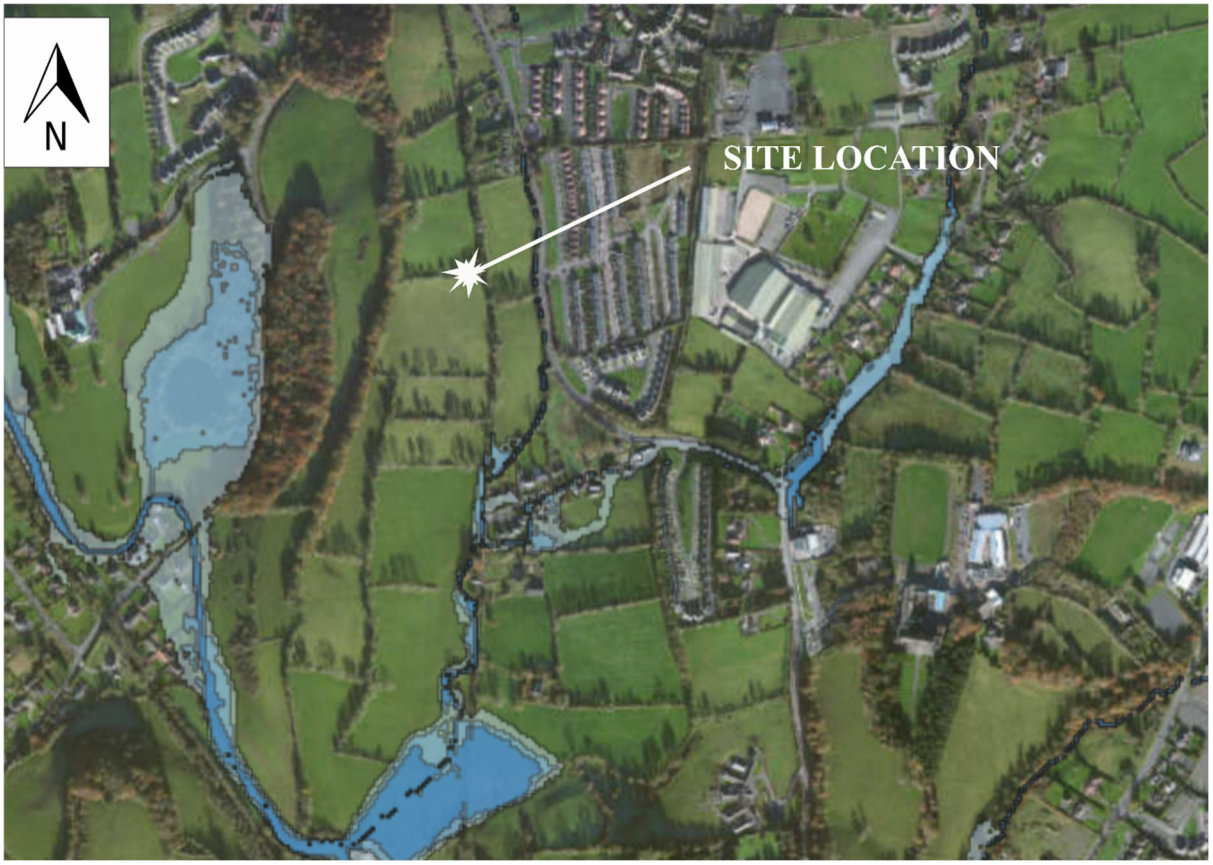


**Plate 3. Extract from CFRAM – Cavan Town Model (with aerial view underneath)**

### *3.7.4 Minor Accidents/Leaks*

There is a potential impact on the receiving environment as a result of minor accidents/leaks of fuel/oils during the construction. However, the implementation of the mitigation measures set out in this report and the Outline CEMP accompanying the application will ensure that the residual effect on the environment is imperceptible.

## 3.8 Risk to Human Health

The EPA guidance explains that the scope of population and human health is project dependant but should consider significant impacts likely to affect aspects such as: convenience (expanded range of transport options); nuisance/ disturbance from lighting; displaced settlement patterns (residential); employment opportunities; settlement patterns; land use patterns; access for tourism, amenity, health impacts and/or nuisance due to noise, dust or water pollution; and health and safety.

The characteristics of the proposed development, in terms of the risks to human health (for example, due to water contamination or air pollution) have been considered. The primary potential impacts of the proposed development on human health would be the potential for increased air pollution, noise, or pollution of groundwater/watercourses as a result of the

proposed development during the construction phase. Once the proposed development is operational there are potential impacts in respect of visual impact and traffic.

The CEMP will include the measures set out within this EIA Screening report as well as best practice construction measures for the mitigation and management for the control of dust generation, traffic and noise, as well as the management of impacts on groundwater or the existing drainage ditches during the construction phase. Any impacts associated with construction dust generation, traffic, and noise will be short term.

There will be no significant negative impact on local parks. It is not anticipated that the proposed development will have a significant negative on local tourism or shopping amenities.

Geological Survey of Ireland (GSI) and National Federation of Group Water Scheme (NFGWS) data indicates that the proposed development location does not lie within a drinking water protection area (i.e. groundwater zone of contribution or surface water catchment). The area is serviced by mains water supply therefore it is unlikely that any wells are used for potable water supply. The proposed mitigation measures during the construction phase, including the implementation of a CEMP will ensure that there are no impacts on groundwater or the stormwater mains. The proposed development design includes an appropriately designed stormwater network that will ensure that during the operational phase the risk from diesel spills through the carparks is minimised. Foul wastewater from the proposed development will be of domestic origin and will connect to mains supplies that will be treated off-site.

## 4.0 LOCATION OF PROPOSED DEVELOPMENT

### 4.1 Existing and Approved Land Use

The proposed development site is a greenfield site located in Drumlark, Cavan, Co. Cavan. The site is currently used as agricultural grassland and is identified by the Corine Land Cover 2018 mapping as an agricultural area consisting of pastures (see Plate 4). According to the Cavan Development Plan 2022 – 2028, the proposed development site has been strategically zoned as ‘Proposed Residential’ (see Plate 5).


**Plate 4. Corine Land Cover 2018 Map with respect to the proposed development site**

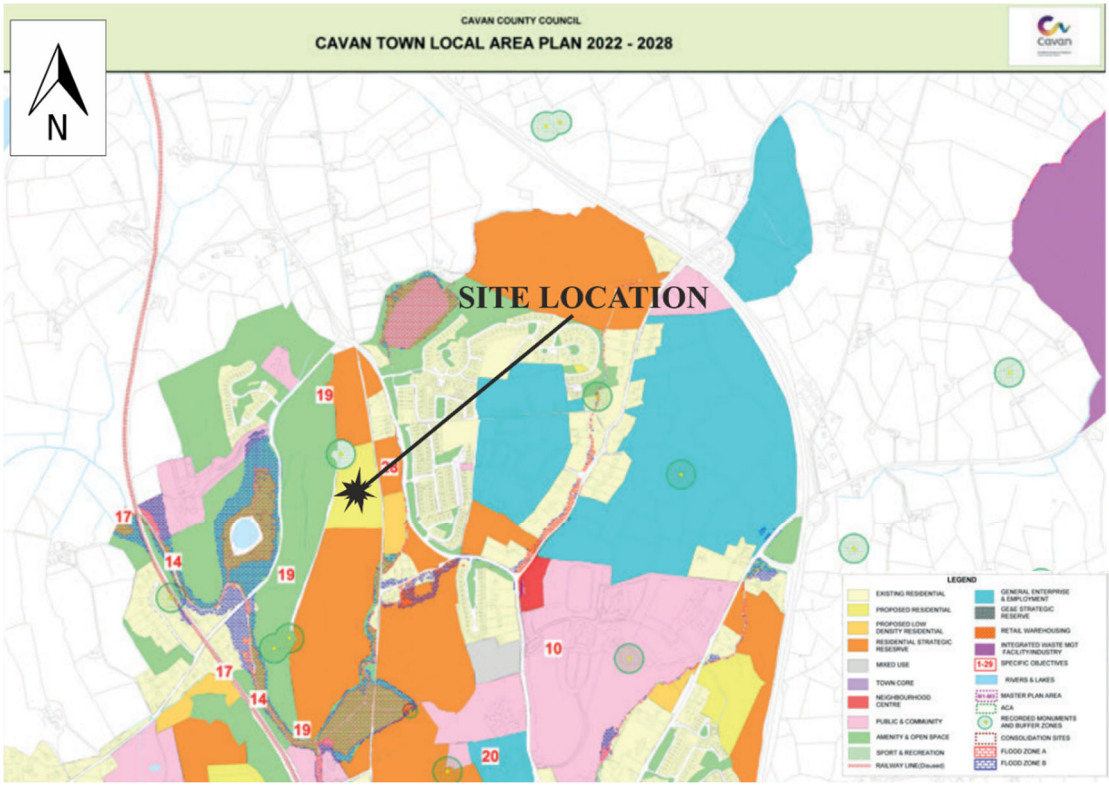


**Plate 5. Extract from Cavan Town Local Area Plan 2022 – 2028 Map**

## 4.2 Relative Abundance, Availability, Quality and Regenerative Capacity of Natural Resources in the Area and its Underground

### *4.2.1 Hydrology*

With the publication of Ireland's second River Basin Management Plan (RBMP), the RBMP 2018 – 2021 defines the entirety of the island of Ireland as a single River Basin District (RBD). This single RBD has been broken down into 46 catchment management units. These units are mainly based on the hydrometric areas in use by the local authorities. Each of the 46 catchment management units have been further broken down into 583 sub-catchments. The proposed development site is located within the Erne Hydrometric Area WFD Catchment. Additionally, the site is located within the Cavan_SC_010 WFD Sub-catchment.

The Poles Stream (1st Order) which flows adjacent to the site's eastern boundary is the closest watercourse to the proposed development. This stream rises in Drumgola Lough (c. 320m to the north), flows in a general southern orientation where it merges with the Swellan Upper Stream (1st Order) c. 240m downstream to form the Swellan Upper Stream (2nd Order). Thereafter, the Swellan Upper Stream discharges into the Cavan River a further 580m downstream.

### *4.2.2 Geology and Hydrogeology*

According to the Teagasc and EPA soils map, AminPD - Acid Deep Poorly Drained Mineral soils belonging to the Surface Water Gley / Groundwater Gley soil group are found within the entirety of the site.

In Ireland, the parent material underlying the majority of the country is comprised of quaternary sediments with the remainder composed of bedrock outcrop. These quaternary sediments have resulted from glacial movement, melting and deposition. The Teagasc and EPA subsoil maps identify that TLPSsS – Sandstone and shale till subsoil of predominately clayey texture are found to underly the poorly draining soils.

Based on the GSI's 1:100k bedrock formation mapping, the entirety of the site is underlain by the Cooldaragh Formation which comprises of pale brown-grey siltstones and mudstones and muddy siltstones. Bedrock outcrops are not found within the curtilage of the site, with the closest identified c. 600m to the north. Similarly, and according to the National Karst Database, no karst features are present within the site's boundary or locality.

The Geological Survey of Ireland (GSI) have reviewed the 1,200 geological Formations and Members defined within the Republic of Ireland and reduced them into 27 'Rock Unit Groups' (RUGs) based on their hydrogeological properties and significance. Based on the GSI's generalised bedrock RUG mapping, the *Dinantian (early) Sandstones, Shales and Limestones* RUG exists within the entirety of the site. A LI – Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones is associated with this RUG and underlies the site.

Groundwater Vulnerability is a term used to represent the intrinsic geological and hydro-geological characteristics that determine the ease with which groundwater may be contaminated by human activities. Groundwater vulnerability maps are based on the type and thicknesses of subsoils (sands, gravels, glacial tills (or boulder clays), peat, lake and alluvial silts and clays), and the presence of certain karst features. Groundwater is most at risk where the subsoils are absent or thin and, in areas of karstic limestone, where surface streams sink underground at swallow holes. The northern / western portion of the development site is classified as *'L – Low'* vulnerability. The north-eastern, central and southern areas are classified as '*M – Moderate'* vulnerability, whilst the south-eastern corner has a '*H – High'* vulnerability assigned. The groundwater underneath the site is within the Killashandra Groundwater Body (GWB) and is classified as being of 'Good' status.

### *4.2.3 Biodiversity*

The potential ecological impacts of proposed development have been considered in terms of the sensitivity of the location through a Natura Impact Statement (NIS) and Ecological Impact Assessment (EcIA) prepared by Hydrec Environmental Consulting.

As part of the assessment a habitat survey was carried out by Patrick McCabe of Hydrec on the 07th of July 2023. Habitat types found onsite included:

- GA1 – Improved Agricultural Grassland;
- FW4 - Drainage ditches;
- WL1 – Hedgerows;
- WL2 – Treelines;
- ED2 Spoil and bare ground; and
- ED3 Recolonising bare ground.

Furthermore, no high impact invasive floral species were recorded during the site survey. Despite recordings of the Eurasian Badger (*Meles meles*) within 1km of the site, no evidence of badger habitat or activity (e.g. badger latrines) recorded within the confines of the site during the time of the survey. Each mature tree on site was assessed to determine if any Red Squirrel dreys were present. A particular focus was placed on the tree forks. No dreys were observed during the time of the survey. Similarly, no evidence of bat activity around the vegetation scheduled for removal was recorded during the survey period. Thus, it was concluded that maternity roosts are unlikely to be present at said locations.

Figure 1. within the accompanying NIS, illustrates that there are four Natura 2000 sites situated within 15km of the proposed works (the closest being Lough Oughter & Associated Loughs SAC c. 1.3km to the west). The closest proposed National Heritage Area (pNHA) to the site relates to that of the Drumkeen House Woodland pNHA (65m). The NIS identifies mitigation measures that will ensure avoidance of these effects; so that the structure and functions of the Natura 2000 Network and local ecology / biodiversity are not affected.

### 4.3 Absorption Capacity of the Natural Environmental

The proposed development due to its size and localised nature will not have any significant negative effect on coastal zones and the marine environment, mountain and forest areas, nature reserves and parks, densely populated areas or wetlands.

For instance, on the 06th of July 2023, Patrick McCabe (Certified Small Stream Risk Score (SSRS) Assessor) completed an SSRS assessment on the Poles Stream. A score of 4.0 which signifies a '*Stream at risk'*, was recorded. Overall species diversity and abundance was very low. For instance, no mayfly or stonefly species were recorded in the sample whilst a single family of caddisfly *(Glossosomatidae)* was recorded. Furthermore, aquatic vegetation within the channel was limited. No threatened bryophyte species were recorded (i.e. no threatened moss or scaleworts recorded.

During the river survey work a search for evidence of otter activity / habitat was completed along both banks of the Poles Stream for a 300m stretch. No otter holts were recorded on the periphery of the stream. Given the width of the stream (c. <1.5m) it is not envisaged that watercourse would be considered a suitable otter feeding site.

It is also noted that the development site is not located within or adjoining a High Landscape Area, County Heritage Site or Geological Heritage Area (see Plate 6). Similarly, the proposed development site is not covered by protected views, scenic routes or viewpoints.

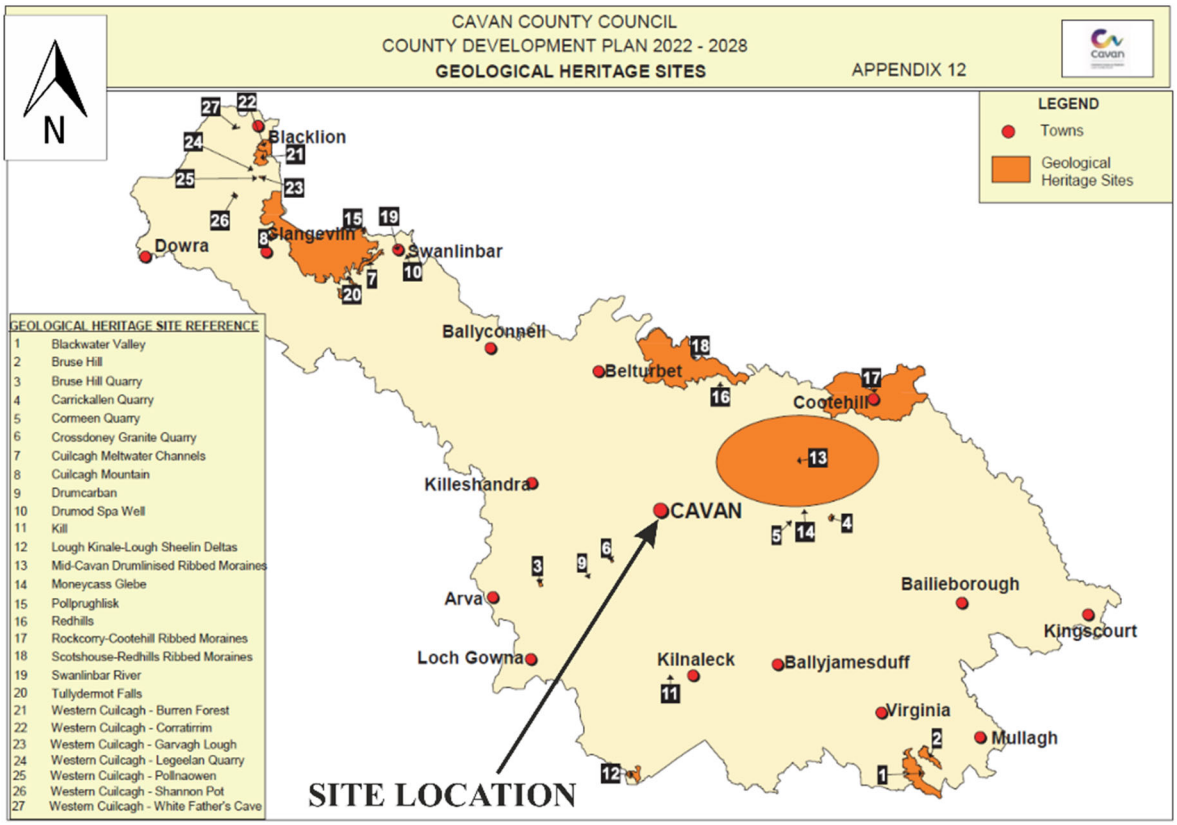


**Plate 6. Extract from Cavan County Development Plan 2022 – 2028 Geological Heritage Site Map**

## 5.0 CHARACTERISTICS OF POTENTIAL IMPACTS

### 5.1 Population & Human Health

#### *5.1.1 Construction Phase*

The potential impacts of the proposed development on population human health and populations would be nuisances such as possible short-term increased air pollution (dust), noise, traffic, and visual impact of the construction phase. These potential short-term impacts during the construction will be mitigated in accordance with the CEMP, and through implementation of binding hours of construction. Said measures pertaining to noise and dust mitigation are further detailed in Sections 5.4 and 5.5. Similarly, measures outlined in the

CEMP and discussed in Section 5.2, will ensure that there is no significant risk of pollution of soil, groundwater or watercourses associated with the proposed development. Furthermore, the proposed development site is not located within a public water supply (PWS) or group water scheme (GWS) abstraction catchment / zone of contribution (ZOC) (see Plate 7).

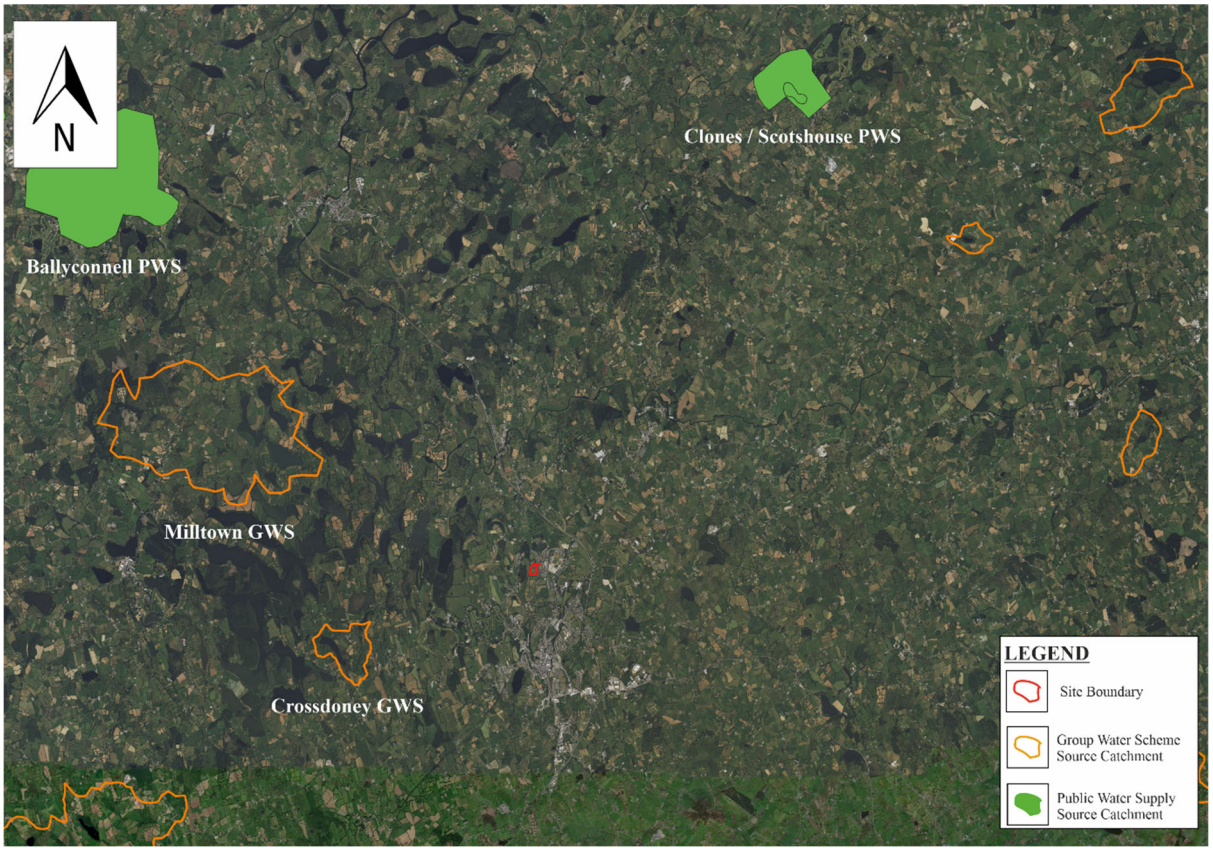


**Plate 7. Location of proposed development site in relation to neighbouring PWS & GWS supplies.**

Thus, the residual impact of the proposed development with respect to population human health during the construction phase and post mitigation will result in an overall 'Imperceptible' impact.

### *5.1.2 Operational Phase*

Emissions to air from the residential development will be insignificant, ensuring a negligible impact on air quality and maintaining a healthy living environment for both residents and surrounding communities. Noise can have adverse effects on human health, including stress, sleep disturbance, and even more severe issues like hearing loss if exposure is prolonged and excessive. The sources of noise of the proposed residential units are inherently low, will not generate significant noise that may affect human health or populations beyond the site boundaries. Thus, no significant negative impacts are likely.

## 5.2 Land, Soils, Geology, Hydrogeology & Hydrology

### *5.2.1 Construction Phase*

Land clearing, earthworks and excavations will be required to facilitate site clearance, construction of new buildings, foundations and installation of services. This will include site levelling, construction, building foundation excavation which will necessitate the removal of vegetation cover and the excavation of soil and subsoils.

The ongoing introduction of impermeable surfaces and the compaction of soils across the construction site will reduce the infiltration capacity and increase the rate and volume of direct surface run-off. The potential impact of this is a possible increase in surface water run-off and sediment loading, which could potentially impact local drainage/watercourses if not adequately mitigated.

There is potential for water (rainfall and/or discontinuous perched groundwater) to become contaminated with pollutants associated with construction activity. Contaminated water which arises from construction sites can pose a significant short-term risk to water quality for the duration of the construction if contaminated water is allowed percolate to the aquifer or accidental discharges into the adjacent surface waterbody. Additionally, machinery activities on site during the construction phase may result in run off of contaminated waters into surface water networks or ground water. Potential impacts could arise from accidental spillage of fuels, oils, paints, cement, etc. which could impact surface water if allowed to runoff into surface water systems and/or receiving watercourses or groundwaters.

Welfare facilities will be provided for the contractors on site during the construction works. During construction, portable sanitary facilities will be provided with waste collected and disposed of appropriately. There are no predicted adverse impacts on wastewater during construction.

The implementation of the mitigation measures defined within the Outline CEMP accompanying the application and described below will ensure that the residual effect on the on land, soils, geology, hydrogeology, and hydrology is imperceptible;

- All existing surface water drainage elements (including adjacent watercourses) will be maintained free from waste materials generated during the construction of the proposed development, including the initial site clearance and excavation. Routine visual inspections by the contractor shall reduce any risk of excess construction materials causing obstructions to surface water drainage and any potential flooding occurring.
- A maintenance schedule and operational schedule must be established by the contractor for silt and pollution control measures during the construction period. This should be undertaken in consultation with the relevant statutory authorities.
- Run-off from the working site or any areas of exposed soil shall be channelled and intercepted at regular intervals for discharge to silt traps or lagoons. A temporary positive drainage system shall be installed prior to the commencement of the construction works, to collect surface water runoff from the site during construction.
- A series of geotextile-lined cascading, high level outfall settling basins will be installed upstream of an agreed discharge point, the location of which is to be determined by the contractor as part of their detailed Construction and Environmental Management Plan and approved by Cavan County Council. This temporary surface water management facility will throttle runoff and allow suspended solids to be settled out and removed before being discharged in a controlled manner to the agreed outfall.
- All inlets to the cascading settling basins will be riprapped to prevent scour and erosion in the vicinity of the inlet.
- Pouring of concrete shall be carried out in the dry and allowed to cure. Mixer washings and excess concrete shall not be discharged to surface water.
- Oil storage tank(s) and the associated filling area and distribution pipe work shall be separated by at least 10m from surface watercourses. Storage tanks shall have secondary containment provided by means of an above ground bund to capture any oil leakage, irrespective of whether it arises from leakage of the tank itself or from associated equipment (such as filling and off-take points, sighting gauges, etc.), all of which should be located within the bund. The bund specification should conform to the current best practice for oil storage (Enterprise Ireland BPGC5005).
- Weather conditions and seasonal weather variations shall also be taken account of when planning stripping of topsoil and excavations, with an objective of minimising soil erosion.
- Hazardous construction materials shall be stored appropriately to prevent contamination of watercourses or groundwater. Spill kits shall be kept in designated areas for re-fuelling of construction machinery.

- If any contaminated material is encountered, it will need to be segregated from clean/inert material, tested and classified as either non-hazardous or hazardous in accordance with the EPA publication entitled 'Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous' using the HazWasteOnline application (or similar approved classification method). The material will then need to be classified as clean, inert, nonhazardous or hazardous in accordance with the EC Council Decision 2003/33/EC, which establishes the criteria for the acceptance of waste at landfills.
- Paints, glues, adhesives and other known hazardous substances will be stored in designated areas away from watercourses. They will generally be present in small volumes only and associated waste volumes generated will be kept to a minimum. Wastes will be stored in appropriate receptacles pending collection by an authorised waste contractor. In addition, WEEE (containing Construction and Demolition Waste Management Plan 11 hazardous components), printer toner/cartridges, batteries (Lead, Ni-Cd or Mercury) and/or fluorescent tubes and other mercury containing waste may be generated during construction activities. These wastes (if encountered) will be stored in appropriate receptacles in designated areas of the site pending collection by an authorised waste contractor.
- It will not be permitted to discharge into any newly constructed storm water systems or watercourse without adhering to the conditions of the discharge licence and agreeing the same with the Design Team, Site Manager and Local Authority Area Engineer.
- Only approved storage system for oil / diesel within the site will be permitted, (i.e., all oil / diesel storage to be located within a designated area placed furthest away from adjacent watercourses and contained within constructed bunded areas e.g., placed on 150mm concrete slab with the perimeter constructed with 225mm solid blockwork rendered internally). The bunded area will accommodate the relevant oil / diesel storage capacity in case of accidental spillage. Any accidental spillages will be dealt with immediately on site however minor by containment/removal from site. Re-fuelling will be contained within a designated area adjacent to the storage area.
- The washing out of concrete trucks on site will not be permitted as they are a potential source of high alkalinity in watercourses. Consequently, it is a requirement that all concrete truck washout takes place back in the ready-mix depot.
- The Site Management Team will maintain a record of all receipts for the removal of toilet or interceptor waste off site to insure its disposal in a traceable manner.

### *5.2.2 Operational Phase*

The design of the stormwater drainage network for the proposed development has taken cognisance of the guidelines and requirements set out by Cavan County Council which requires all new developments to incorporate the principles of SUDS. The proposed SUDS method of water disposal at the site (i.e. combination of treepits, bioretention areas, swales and Stormtech attenuation tanks) will ensure that no negative impacts to stormwater leaving the Site will arise due to the attenuation measures planned, with the proposal improving the water environment at the location. The proposed development design includes an appropriately designed stormwater network that will ensure that during the operational phase the risk from diesel spills through the carparks is minimised.

Foul wastewater from the proposed development will be of domestic origin and will connect to mains supplies that will be treated off-site at Cavan Wastewater Treatment Plant (WWTP). Consultation has taken place with Uisce Éireann (UÉ) to confirm capacity, and UÉ have confirmed the Cavan WWTP has capacity to deal with the additional demand.

The residual impact on land, soils, geology, hydrogeology, and hydrology during operation is considered to be neutral, imperceptible and short-term.

## 5.3 Biodiversity

### *5.3.1 Construction Phase*

The potential impact from the proposed development on biodiversity with particular attention to species and habitats protected under the Habitats Directive and the Birds Directive has been considered as a part of the Natura Impact Statement (NIS) and Ecological Impact Assessment (EcIA) that have been prepared by Hydrec Environmental Consulting. The additional measures outside of those defined in the CEMP and associated with the construction phase required to avoid or reduce any potential harmful effects on biodiversity are set out below;

- No high impact invasive plant species have been recorded onsite. Therefore, there is a low risk of invasive species spread during the initial ground disturbance works. Any sightings of invasive species during the operation phase should be recorded. This may be supplemented by future ecological surveys. In the event that invasive species are recorded, an ecologist should be engaged to prepare an Invasive Species Management Plan;
- One medium impact species namely, Sycamore (*Acer pseudoplatanus*), were found onsite. It is understood that some of these trees require removal to allow for the development to proceed. It is imperative that any trees / hedgerows scheduled for

removal are felled outside of the period from the 1st of March to the 31st of August. Whilst this regulation is stipulated to prevent impact on nesting birds, the removal of this deciduous species in the winter period will prevent seed dispersal when disturbed also;

- It is recommended that Ash (*Fraxinus excelsior*) trees are not included in the project's landscaping plan given the prevalence of ash dieback in the area;
- The construction of the site entrance, scheduled to traverse the Poles Stream should be constructed in accordance with Inland Fisheries Ireland (IFI) and Office of Public Works (OPW) guidance;
- It is recommended that a further check for badger setts and red squirrel dreys is completed prior to the commencement of the site clearance works. Should any setts / dreys be found, suitable commensurate mitigation will be required. Similarly, a further check for bats should be completed during the summer months of 2024; and
- Adherence to each of the arboricultural method statements as specified by Dr. Philip Blackstock in the tree survey report produced for the development.

#### *5.3.2 Operational Phase*

The proposed development will result in small areas of habitat loss within the proposed development boundary. Considering the relatively small areas of habitat lost and the proposed retention of mature treeline habitat on the site's western boundary and proposed landscaping and opening spaces, a significant impact on biodiversity will not occur.

### 5.4 Noise & Vibration

#### *5.4.1 Construction Phase*

During the construction phase it is expected that there will be some temporary increases in noise emissions from the plant equipment required for construction. The magnitude of noise generated will be dependent on a number of factors including the construction methods employed, the selection of plant and the construction programming. There is no published statutory Irish guidance relating to the maximum permissible noise level that may be generated during the construction phase of a project.

The application of avoidance measures, such as binding hours of construction, along with implementation of appropriate noise and vibration control measures, will ensure that noise and vibration impact will not be excessively intrusive. Any impacts will be short term in duration for the construction phase. The accompanying Outline CEMP prepared includes the following measures to ensure nuisance noise arising from, site clearance and construction activities is prevented where possible and managed in accordance with best practice (BS 5228, Noise

Control on Construction and open sites part 1 and comply with BS 6187 Code of Practice for Demolition):

- Avoid unnecessary revving of engines and switch off equipment when not required.
- Minimise drop height of materials;
- Start-up plant sequentially rather than all together;
- Loading and unloading will occur within designated loading areas as far from noise receptors as possible;
- Equipment will be fitted with appropriate silencers where possible;
- Regular and effective maintenance by trained personnel is carried out to reduce noise and / or vibration from plant and machinery;
- Hours are limited during which site activities likely to create high levels of noise and vibration are carried out – no noisy activities will be carried out outside of the permitted construction hours;
- A site representative responsible for matters relating to noise and vibration will be appointed prior to construction on site. This individual will be responsible for engagement with local residents, advance notice for noisy activities and the maintenance of a complaints register/record; and
- A noise and vibration monitoring specialist will be appointed to carry out independent monitoring of noise and vibration during critical periods at sensitive locations.

### *5.4.2 Operational Phase*

The operation of the proposed development will remain consistent with the residential area and activity of the surrounding area. The proposed development will give rise to additional road traffic on public roads; however as concluded by the Traffic Impact Assessment (and as further discussed in Section 5.7), the proposed development shall not generate excessive vehicular traffic flows, thus, no significant negative impacts are likely.

## 5.5 Air Quality & Climate

### *5.5.1 Construction Phase*

Construction stage traffic is expected to be the dominant source of greenhouse gas emissions because of the construction phase of the development. Construction vehicles, generators etc., may give rise to some CO2 and N2O emissions. However, due to short-term nature of these works, the impact on climate will be not significant, and temporary.

Notwithstanding this some site-specific mitigation measures will be implemented during the construction phase of the proposed development to ensure emissions are reduced further. Measures such as ensuring equipment/machinery are switched off when not required has the mutual benefit of reducing emissions as well as noise.

The greatest potential impact on air quality during the construction phase of the proposed development is from construction dust emissions and the potential for nuisance dust and $PM^{10}/PM^{2.5}$ emissions. While construction dust tends to be deposited within 350m of a construction site, the majority of the deposition occurs within the first 50m based on Transport Infrastructure Ireland (TII) guidance (2011).

The key sensitive receptor are the residences located directly to the north of the site's boundary and to the east of the Local Road - L1592 (>50m in distance from proposed construction works). Thus, the project has limited potential for dust impacts to the residences to the east during the construction stage due to the separation distances achieved. The Outline CEMP sets out a series of measures that will ensure impacts to the dwelling houses to the north is insignificant:

- The contractor will continuously monitor dust over the variation of weather and material disposal to ensure the limits are not breached throughout the project. It should be noted that there are currently no national or European Union standards of air quality with which levels of dust deposition can be compared. Thus, the minimum criteria to be maintained will be in accordance with the German Standard Method for determination of dust deposition rate (VDI 2119), which is a maximum deposition of 350mg/$m^2$/day as measured using Bergerhoff type dust deposit gauges;
- Ensuring construction vehicles have a clean surface to travel on within the site (i.e., haul road);
- Providing a "Full-Body Self Contained" wheel wash, constructed and located within the site confines; and
- Ensuring an appropriate wheel or road washing facility is provided as and when required throughout the various stages of construction on site. If conditions require it then a manned power washer will be put in place to assist the wheel wash system.

### *5.5.2 Operational Phase*

In relation to the operational phase of the proposed development, the proposed development will not result in any significant emissions of air quality pollutants or greenhouse gases once operational. Therefore, the potential impact to air quality from the operational phase of the

proposed development is expected to be insignificant. Therefore, no site-specific mitigation measures are required.

Current EPA guidance states that a development may have an influence on global climate where it represents "a significant proportion of the national contribution to greenhouse gases" (EPA, 2003). The "Guidelines On The Information To Be Contained In Environmental Impact Assessment Reports" (EPA 2022) states that impacts relevant to adaptation to climate change should be assessed and that projects should be assessed in terms of their vulnerability to climate change Therefore, the impact to climate from the operational phase of the proposed Project is expected to be imperceptible in terms of national CO2 emissions and Ireland's agreed limit under the Kyoto Protocol (Framework Convention on Climate Change, 1997, 1999) and the EU Effort Sharing Agreement ("20-20-20" Targets). The proposed Project will not result in any impacts relevant to adaptation therefore the project will not be vulnerable to climate change.

On the basis of the above the potential effects on Air Quality are neutral for the operational phase. Therefore, the residual impact of the proposed project on ambient air quality is deemed to be imperceptible.

## 5.6 Cultural Heritage

### *5.6.1 Construction Phase*

There are no protected structures nor architectural heritage structures within the proposed development area or within a 350m radius from the site. The nearest such structure is a single-arch stone road bridge, built c.1800, having slightly humped deck over Cavan River (Reg. Nr. 13900412 – Regional Importance), located c. 350m to the south-west (See Plate 8).


**Plate 8. Location of Archaeological Sites and Monuments and National Architectural Heritage Sites in proximity to the proposed development.**

A review of the historic mapping for the area, completed by Archaeological Consultancy Services Unit Ltd. identified that the monument adjacent the northwest portion of the site is depicted and labelled as a 'fort' on the 1834 map but by the time of the1909 OS 25-inch map it is shown with hachures only. A follow up site visit completed by Archaeological Consultancy Services Unit Ltd found the monument to have a low earthen bank and fosse, both along the east. Subsequently, a geophysical survey was conducted by Donald Murphy, Robert Breen and Jeanne Rochford of Archaeological Consultancy Services Unit Ltd. (ACSU) under licence 23R0552 issued by the Department of Housing, Local Government and Heritage. A full detailed gradiometer survey was undertaken throughout the application area using a Bartington GRAD 601-2 dual-sensor fluxgate gradiometer cart system. The geophysical survey was carried out to inform the planning process, to assess the site and to verify if any subsurface remains of the ringfort - rath (CV020-037) extend within the site. No definite signs of archaeology were identified.

It is noted in the archaeological assessment that anomalies of archaeological potential were recorded, including a curvilinear anomaly that could represent an enclosure, anomalies that could represent historic field systems not depicted on examined mapping, and anomalies corresponding with former buildings shown on the 1834 map.

The archaeological assessment outlines that further assessment in the form of test trenching is warranted prior to construction in that area. This will ensure that impacts upon archaeological and cultural heritage are negligible.

### *5.6.2 Operational Phase*

The operational phase of the proposed development is not predicted to have any impact on archaeological, architectural and cultural heritage. In this regard any impacts upon archaeological and cultural heritage are considered to be neutral, imperceptible and short-term in nature.

## 5.7 Material Assets

### *5.7.1 Construction Phase*

During the construction phase of the proposed development, there will be additional traffic movements to/from the Site from construction personnel, security staff, professional staff (i.e. design team, utility companies), excavation plant, dumper trucks and deliveries/removal of materials (waste/spoil).

It is predicted that under a worst-case scenario vehicular traffic to and from the development site during the construction phase shall comprise the following:

- 10no. HGV arrivals and 10no. HGV departures in each of the peak hours;
- 10no. LGV arrivals and 10no. LGV departures in each of the peak hours;
- 10no. car arrivals (construction personnel) in the AM peak hour; and
- 10no. car departures (construction personnel) in the PM peak hour.

Haulage vehicle movements should be fully coordinated to comply with the requirements set out in the Outline CEMP. Furthermore, a detailed project specific traffic management plan will be developed by the Contractor for approval with Cavan County Council prior to works commencing on site.

Following the implementation of a Construction Traffic Management Plan the potential impacts on Traffic and Transportation are for the construction phase will be imperceptible.

### *5.7.2 Operational Phase*

A traffic and transport assessment has been produced for the proposed development on the performance of the surrounding road network, and assesses the development's internal layout; car, bicycle, and motorcycle parking provision; cyclist and pedestrian facilities; and servicing arrangements. It was concluded that;

- The proposed development shall not generate excessive vehicular traffic flows. Total vehicle trips (arrivals and departures combined) of 147 PCU are predicted during the AM peak hour, and total vehicle trips of 90 PCU in the PM peak hour;

- All the surveyed junctions (E1-E6) and the proposed development access junction (P1) have been modelled. All the junctions are shown to continue operating within their effective capacities past the design year 2041;

- The proposed provision of car, motorcycle, and bicycle parking within the development (including disabled-accessible car parking spaces) complies with Local Authority development plan standards;

- The proposed development's internal layout has been designed to facilitate pedestrian and cyclist movement and to avoid excessive vehicle speeds, in accordance with the principles of the Design Manual for Urban Roads and Streets;

- Swept path analyses have been conducted for a fire tender and a refuse vehicle. These indicate that the design of the development's internal layout can accommodate these vehicle movements where required.

Thus, the assessment indicates that the proposed development can be supported by the existing road infrastructure, that the parking provision for the proposed development confirms to the relevant standards, and that the development access design and internal layout are fit for purpose and comply with the Design Manual for Urban Roads and Streets.

Following the implementation of a Construction Traffic Management Plan the potential impacts on Traffic and Transportation are for the construction phase will be imperceptible.

## 5.8 Landscape and Visual Impact

### *5.8.1 Construction Phase*

The change of use of the site from its existing use to that of a construction site will give rise to short term and substantially localised effects on landscape character. The initial construction operations created by the clearance of the Site and the construction of the proposed buildings will give rise to short-term impacts on the landscape character, through the introduction of new structures, machinery, ancillary works etc. There will also be a slight change to the landscape character as a result of a land-use change. It is likely that construction equipment will be visible from the site during construction. This will have a temporary slight negative impact. As mentioned previously, the development site is not located within or adjoining a High Landscape Area, County Heritage Site or Geological Heritage Area nor is the proposed development site covered by protected views, scenic routes or viewpoints. The retention of the mature treeline habitat to the west of the site will prevent any visual impact on the nearby Drumkeen House Woodland pNHA during the construction phase.

The residual impact on landscape and visual impact during demolition and construction will be neutral to negative, slight, and temporary.

### *5.8.2 Operational Phase*

The retention of the mature treeline habitat to the west of the site will also continue to prevent a visual impact on the nearby Drumkeen House Woodland pNHA once the project is developed. This supplemented by the landscaping proposal designed by Park Hood (chartered landscape architects) which includes features such as additional meadow, shrub and tree planting will ensure the residual impact on landscape and visual impact during the operational phase will be imperceptible.

## 5.9 Assessment of Potential Impacts From Interactions

This section discusses the potential interactions and inter-relationships between the environmental factors discussed in the preceding sections. It covers both the construction phase and operational phases of the proposed development. In accordance with the guidance not only are the individual significant impacts required to be considered when assessing the impact of a development on the environment, but so must the interrelationships between these factors be identified and assessed.

### *5.9.1 Land, Soils, Geology & Hydrogeology*

Should soil contamination occur during the construction or operational phase of the development, it has the potential to cause an adverse impact on the underlying hydrogeology and subsequently on the locater *Water Quality & Hydrology* (i.e. via baseflow), *Biodiversity* (i.e. aquatic and terrestrial) and Human Health & Population (i.e. potential future drinking water borehole installations). Subsequent to the proposed mitigation measures being implemented the aforementioned inter-relationships will have a neutral impact on the environment.

### *5.9.2 Water Quality & Hydrology*

Should contamination or nutrient enrichment occur during the construction (i.e. temporary welfare facilities) or operational phase of the development, it has the potential to cause an adverse impact on the *Biodiversity* (i.e. aquatic ecology) of the Poles Stream. Consequently, algal blooms caused due to eutrophication, has the potential to adversely impact on the landscape. Subsequent to the proposed mitigation measures being implemented the aforementioned inter-relationships will have a neutral impact on the environment.

### *5.9.3 Biodiversity*

Excessive *Air* or *Noise* emissions during the construction or operational phase of the development, it has the potential to cause an adverse impact on the *Biodiversity* (i.e. both aquatic and terrestrial ecology). The inter-relationships between *Biodiversity* and the other environmental factors have been acknowledged under the previous headings. Subsequent, to the proposed mitigation measures being implemented the aforementioned inter-relationships will have a neutral impact on the environment.

### *5.9.4 Archaeological & Cultural Heritage*

Where archaeological and cultural heritage sites are affected, it has the potential to have an adverse impact on the *Landscape.* No impact to the archaeological and cultural heritage resource was found, hence mitigation in this instance was not proposed.

### *5.9.5 Noise & Vibration*

Should noise emissions occur during the construction phase of the development, it has the potential to cause an adverse impact on the surrounding *Population and Human Health.* Noise emissions also have the potential to have an adverse impact on *Biodiversity*. Subsequent to the proposed mitigation measures being implemented the aforementioned inter-relationships will have a neutral impact on the environment.

### *5.9.6 Air & Climate*

Should odour / dust emissions occur during the construction phase of the development, it has the potential to cause an adverse impact on the surrounding *Population and Human Health.* In addition, dust emissions also have the potential to have an adverse impact on Biodiversity. Subsequent to the proposed mitigation measures being implemented the aforementioned inter-relationships will have a neutral impact on the environment.

### *5.9.7 Landscape & Visual Impact*

Improper waste handling/storage (i.e. *Material Assets*) can impact on the surrounding landscape (i.e. infilling to unsuitable elevations). The inter-relationships between *Landscape and Visual Assessment* and the other environmental factors have been acknowledged under the previous headings. Subsequent, to the proposed mitigation measures being implemented the aforementioned inter-relationships will have a neutral impact on the environment.

### *5.9.8 Material Assets*

As can be seen from Table 2, *Material Assets* (i.e. waste) has the potential to interact with each of the environmental factors. In relation to *Material Assets* (i.e. traffic), poor traffic management can have an adverse impact with *Population & Human Health (*e.g. impact on employment and social assets). However, given that a negative impact on traffic is not predicated as a consequence of the project an interlinked impact on *Population & Human Health* is not anticipated.

### *5.9.9 Population & Human Health*

The inter-relationships between population and human health and the other environmental factors have been described under the previous headings (e.g. contaminated groundwater, noise and dust nuisances etc.).

## 5.10 Assessment of Potential Impacts For Cumulative Impacts

As part of the assessment of the proposed development, the likelihood of potential cumulative impact of the proposed development has been considered with any future development (as far as practically possible) and the cumulative impacts with developments in the locality (including planned and permitted developments). Cumulative impacts are those impacts that relate to incremental / additive impacts of the planned development in addition to historical, present or foreseeable future actions.

Mitigation is included in the project design to minimise impacts on the receiving environment. Furthermore, cumulative impacts on biodiversity/ecology have been specifically addressed in

# Table 2. Matrix Indicating Inter-Relationships Between EIA Factors

| Interaction | Soils, Geology & Hydrogeology | | Water Quality & Hydrology | | Biodiversity | | Archaeological & Cultural Heritage | | Noise & Vibration | | Air & Climate | | Landscape & Visual Impact | | Material Assets | | Population & Human Health | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cons. | Op. | Cons. | Op. | Cons. | Op. | Cons. | Op. | Cons. | Op. | Cons. | Op. | Cons. | Op. | Cons. | Op. | Cons. | Op. |
| **Soils, Geology & Hydrogeology** | | | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Water Quality & Hydrology** | | | | | ✓ | ✓ | × | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Biodiversity** | | | | | | | × | × | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Archaeological & Cultural Heritage** | | | | | | | | | × | × | × | × | ✓ | × | ✓ | ✓ | ✓ | ✓ |
| **Noise & Vibration** | | | | | | | | | | | × | × | × | × | ✓ | ✓ | ✓ | ✓ |
| **Air & Climate** | | | | | | | | | | | | | × | × | ✓ | ✓ | ✓ | ✓ |
| **Landscape & Visual Impact** | | | | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ |
| **Material Assets** | | | | | | | | | | | | | | | | | ✓ | ✓ |
| **Population & Human Health** | | | | | | | | | | | | | | | | | | |

| | |
|---|---|
| Cons. | Construction Phase |
| Op. | Operational Phase |
| × | No Interaction |
| ✓ | Interaction Identified |

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Section 4.3.3 of the accompanying N.I.S and Section 5.4 of the associated EcIA. The supporting Traffic Impact Assessment also takes into account a cumulative traffic impact in accordance with Unit 5.5 of the TII Project Appraisal Guidelines (Link-Based Traffic Growth Forecasting) As stated previously, all the approaches to the modelled junction are shown to continue operating within their effective capacities till the assessment year 2035. Stormwater infrastructure for the development has been designed to ensure that the storm discharge off site is limited to the existing site's greenfield run off rate, thus flood exacerbation will not occur as a consequence of the proposed development.

Each project currently permitted in the wider area is subject to planning conditions which include appropriate mitigation measures to minimise environmental impacts. Provided that mitigation measures for other developments are implemented as permitted, there will be no significant cumulative effects. Any future development will be required to incorporate appropriate mitigation measures (e.g., noise management, dust management, traffic management, management of water quality in run-off water, landscape, etc) during the construction phase as such any cumulative development will not have a significant effect on human health, material assets, land, soils, geology, hydrogeology, and hydrology.

Any future development proposed on the surrounding lands should be cognisant with the zoning and will be subject to the EIA process and/or planning conditions which include appropriate mitigation measures to minimise environmental impacts.

Based on the assessment of the environmental sensitivities in the existing environment and consideration of potential cumulative impacts, it is concluded that there are no likely cumulative environmental impacts which would warrant preparation of an EIAR.

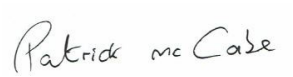
## 6.0 CONCLUSIONS

On the basis of the evaluation set out in Section 2.0 an EIA for the proposed Project is not mandatory. The proposed project is considered to be a sub-threshold development and therefore it is required to assess whether the proposed development is likely to have significant effects on the environment in order to determine whether the submission of an EIAR is required.

The various reports submitted with the application address a variety of environmental issues and assess the impact of the proposed development, in addition to cumulative impacts with regard to other permitted developments in proximity to the site, and demonstrate that, subject to the various construction and design related mitigation measures recommended, the proposed development will not have a significant impact on the environment.

It is concluded having regard to the nature, scale and location of the subject site, there is no real likelihood of significant effects on the environment arising from the proposed development on the environment (direct, indirect or cumulatively with other development) and therefore it is considered that the requirement for sub-threshold EIA does not arise.

Signed:



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(P.I insurance details available on request)