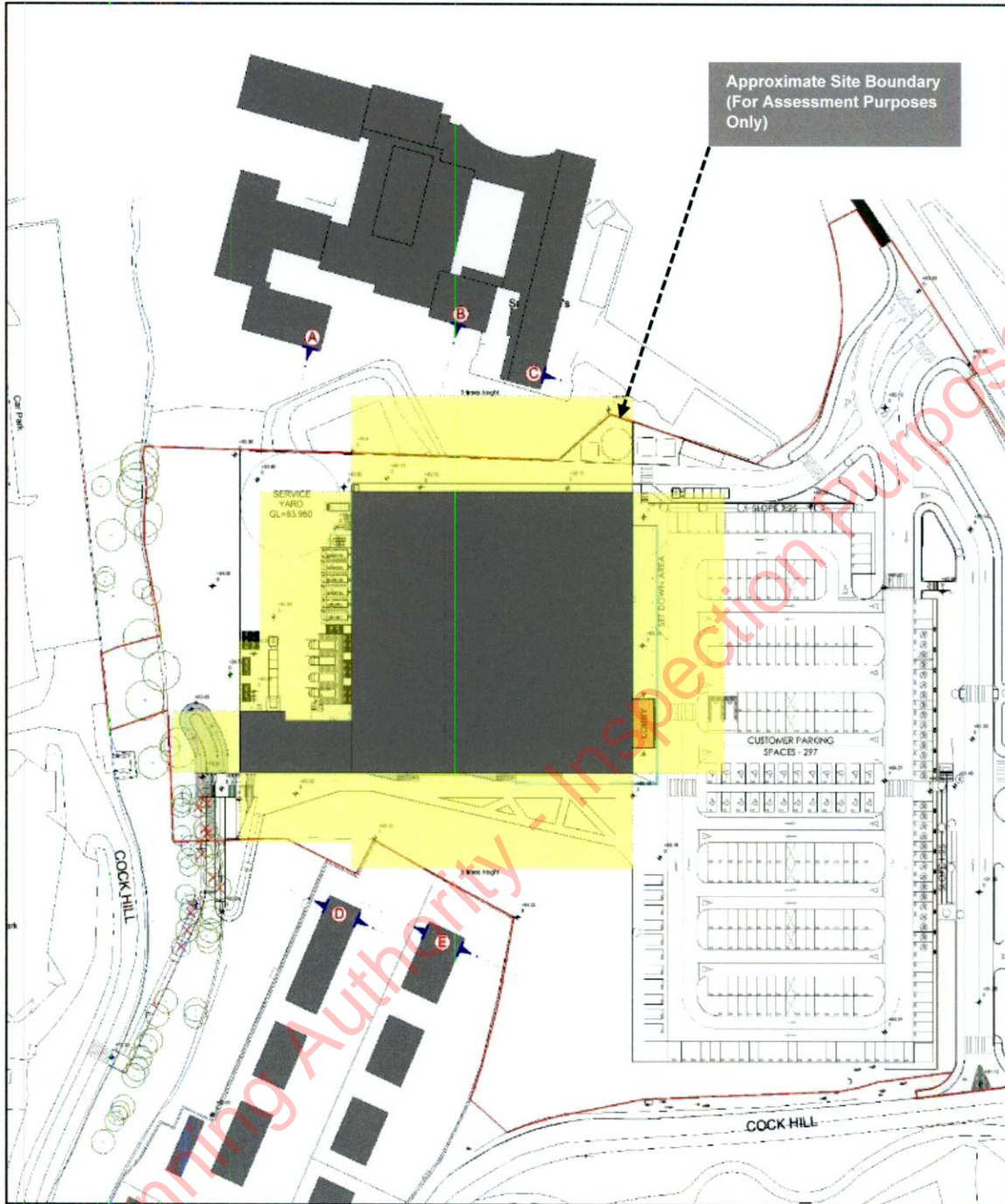


Figure 13.5 Proposed site plan outlining potential receptors



**Wind - Pedestrian Comfort**

Potential receptors for the wind assessment are all pedestrian circulation routes, building entrances and leisure open areas within the site and in neighbouring adjacent areas. Strong winds have the potential to have a significant effect on other receptors, including air quality, biodiversity and water quality. Such impacts are dealt with in other chapters within this study hence pedestrian comfort has been identified as the only receptor within this chapter, with respect to wind.

**13.6.3 Potential Effects – Construction Phase**

Potential construction phase effects with respect to microclimate are considered in detail below and summarised in **Table 13.9**.

**Daylight Sunlight and Overshadowing**

The site is currently vacant, so there is no demolition phase. The likely effects on the daylight and sunlight to adjacent properties would steadily increase over the construction phase, given that the completed mass of the building would cause an increased level of obstruction.

During the works the presence of a crane or bore equipment would be considered to be **neutral, imperceptible** due to their size and **temporary** nature.

**Wind**

The wind screening assessment revealed that the average wind speeds expected to occur on site at ground level were measured at 3.4m/s, representing a “gentle breeze”. The proposed development is a single-storey building with a height of approx. 7.8 metres above ground level.

An increase to the prevailing windspeeds is not anticipated during the construction phase of the proposed development. Referring to the “Wind Analysis Criteria” listed in **Table 13.5**, the prevailing wind speeds (3.4m/s) present “acceptable for occasional outdoor seating” conditions for site workers. Considering construction workers are more likely to possess suitable weatherproof clothing than the average member of the public, the impact anticipated is not significant.

Overall, the predicted effects of wind speed on operatives during the construction phase are **neutral, insignificant, and temporary**.

**Table 13.9 – Construction Phase Effects (Unmitigated)**

Receptor	Potential Environmental Effects	Quality	Significance	Duration
Adjacent Units	Decreased daylight for adjacent receptors	Neutral	Imperceptible	Temporary
Construction Workers	Strong Breeze affecting site operative’s ability to work	Neutral	Insignificant	Temporary

**13.5.3 Potential Effects – Operational Phase**

Potential operational phase effects are considered in detail below and summarised in **Table 13.11**.

**Daylight**

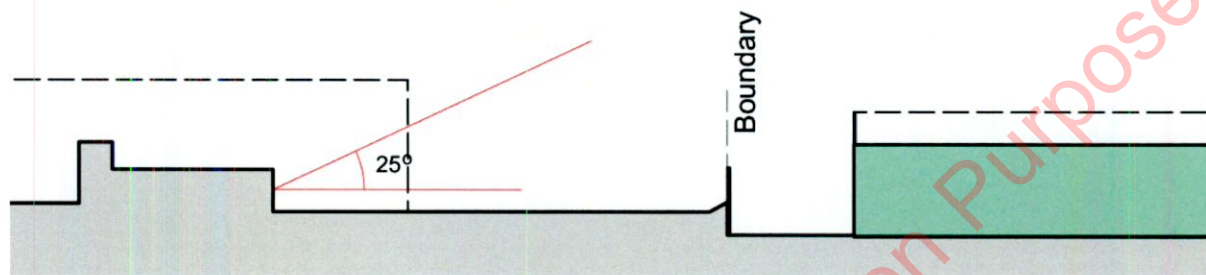
The BRE guidelines recommend that loss of light to existing windows need not be assessed if the distance of each part of the new development from the existing window is three or more times its height above the centre of the existing window. The zone of influence 3 times the height of the proposal is plotted in yellow in **Figure 13.5**, above.



This preliminary analysis indicates that the projection of 3 times the height of the proposed development does not reach the window wall of any adjacent dwelling, any part of the school building or any other building.

**Figure 13.5** also notes the direction of the walls with windows in the adjacent residential properties to the south and the school to the north. Locations A – C are through the windows of classrooms in the school and Locations D & E are through the windows of the closest houses No.13 & 14 St. Francis's, Cock Hill.

**Figure 13.6: Section perpendicular to window wall at location B indicated in Fig 13.5**



Locations A & C through Classrooms in St. Clare's National School: The windows do not face towards buildings in the proposed development, indicating any reduction in available daylight will be negligible.

Location B through a classroom in St. Clare's National School: The section through this window is shown in Figure 2. The 25° line would not be subtended by the proposed development, indicating any reduction in available daylight will be negligible.

Locations D & E through the windows in No. 13 & 14 St. Francis's, Cock Hill: The windows in habitable rooms do not face towards buildings in the proposed development, indicating any reduction in available daylight will be negligible.

Any reduction in available daylight from the proposed development will be negligible and meets the recommendations of the BRE guidelines BR209:2022 (third edition).

### Sunlight

The BRE guidelines (2022) recommend assessing the main living rooms and conservatories if they have a window wall facing within 90° of due south. If the proposed development is fully north of the existing window, then sunlight need not be assessed.

**Figure 13.5** shows that the proposed development is north of the dwellings in St. Francis's. The proposed development would have no impact on the sunlight in these dwellings.

The BRE document indicates that for an amenity area to have good quality sunlight throughout the year, 50% should receive in excess of 2 hours sunlight on the 21st of March. It also states that front gardens need not be assessed for sunlight.

St Clare’s National School has planning permission with playing fields to the south of their site. This area has been assessed with a calculation of Sun on the Ground. The findings are illustrated in **Figure 13.7**, below.

**Figure 13.7: Existing & Proposed Radiation map of amenity areas, showing available sunlight on 21st March. Scale represents the percentage of daylight received from 0-8 hrs.**

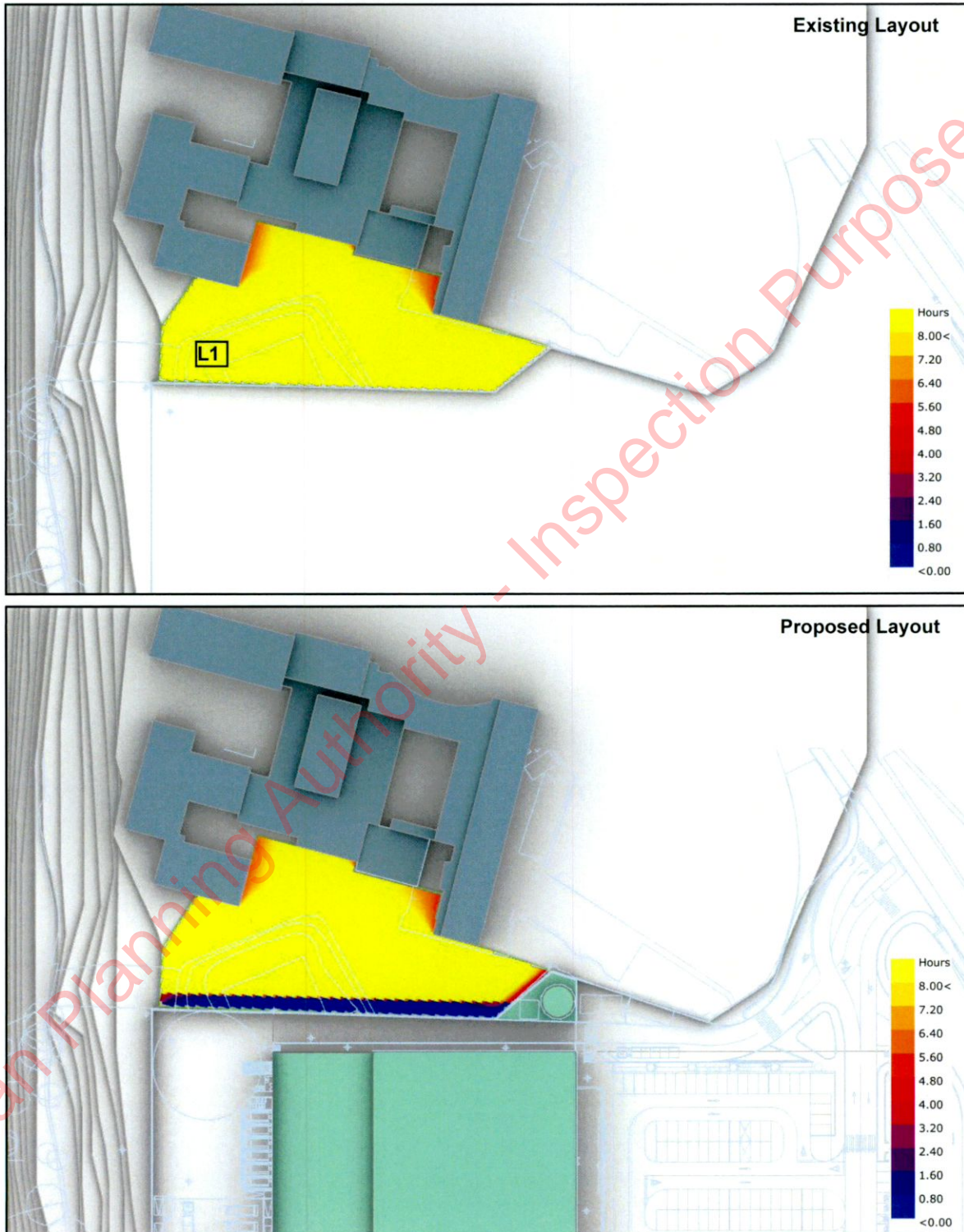




Table 13.10 Sun on the Ground to amenity areas

ID	Location	% Area receiving 2 hours sunlight on		Ratio of Proposed: Existing	Result
		Existing	21st March Proposed		
L1	Rear of St. Clare's National School	100%	89.7%	89.7%	Meets Criteria

The amenity spaces to the rear of St. Clare's National School will not perceive a reduction below the current sunlight levels on the 21st of March. The area will exceed 2 hours of available sunlight over 50% of the amenity space and will not be reduced below 80% of the current value. The proposed development meets the recommendations of the BRE guidelines for gardens and open spaces.

### **Overshadowing**

Shadow plots are included in **Appendix 13.1**. Shadow diagrams are a visual aid to understand where possible shading may occur. The use of shadow diagrams as an assessment method should be taken over the course of the day and not a specific time due to the transient nature of the sun and the shade caused by obstructions. The site is a greenfield site, there are no shadows cast from any structures on the site at present. The shadow study shows that there is no additional shading on any of the adjacent buildings. The impact of the proposed development is considered negligible.

### **Wind**

The tallest structure proposed will be the retail unit, the apex of which will be ca. 7.8m in height. The peak of this roof will be 3-4 metres lower than the existing residential housing estate located to the southwest of the site. This building would not be considered a "tall building" (>25m in height) as described in Wind Microclimate Guidelines (2019). All buildings are sufficiently spaced so as not to create "urban canyons" or wind tunnel features which can result in wind acceleration. Furthermore, there is an existing residential housing estate located to the southwest of the proposed development site which is significantly taller than the tallest point of the proposed development. The residential estate is located in the path of the prevailing wind of the site which emerges from the southwest, offering the proposed site an added level of shelter.

Due to the low-rise nature of the development, it is considered unlikely that any of the buildings would contribute to any perceptible acceleration of wind speed due to either a vortex between buildings; due to wind speeds accelerating in the corner streams around either side of a building; or due to creation of a wind tunnel.

It is concluded that the proposed development would have no significant impact on windspeeds in the area.

Pedestrian comfort due to wind speeds can be expected to be "acceptable" with average wind speeds typically corresponding to a "gentle breeze" on the Beaufort Scale.

Overall, the predicted effects of wind speed on pedestrian comfort is **neutral, insignificant** and **long-term**.

**Table 13.11 – Operation Phase Effects Summary (Unmitigated)**

Receptor	Potential Environmental Effects	Quality	Significance	Duration
Adjacent Units	Decreased daylight for adjacent receptors	Neutral	Insignificant	Long-Term
Pedestrian Comfort	Gentle Breeze creating Acceptable for occasional outdoor seating, e.g. general public outdoor spaces.	Neutral	Insignificant	Long-Term

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## 13.7 Mitigation Measures

### 13.7.1 Construction Phase

#### Daylight Sunlight and Overshadowing

During the construction phase all scaffolding, hoarding and cranes would only be in use for as long as necessary to facilitate the construction of the proposed development. The impact of these is considered negligible. No additional mitigation is required.

#### Wind

A Construction Environmental Management Plan (CEMP) will be prepared and implemented by the main contractor during the construction phase. This is a practical document which will include detailed procedures to address the main potential effects on the local environment caused by the local wind conditions.

All relevant Health and Safety measures and controls, relating to any periods of elevated winds due to adverse weather on site during the construction phase, shall be followed and implemented by the nominated contractor.

With consideration of standard good practice Health and Safety measures that are required to be followed on site, wind impacting on the construction phase of the proposed development is not considered to represent a significant risk.

### 13.7.2 Operational Phase

#### Daylight Sunlight and Overshadowing

During the design process the position, finished floor level, height and massing of the proposed development were technically assessed to reduce and mitigate any potential effect on the daylight, sunlight and overshadowing of the adjacent properties. This informed the final design. The impact of the proposed development is considered negligible.

#### Wind

The impact of the proposed development on microclimate will be insignificant, thus, no site-specific mitigation measures are required.

### 13.8 Monitoring

Daylight / Sunlight / Overshadowing or Wind monitoring during the construction or operational phases of the proposed development is not considered necessary as no significant impacts are expected during either phase.

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## 13.9 Residual Effects

According to Environmental Protection Agency guidelines, a residual Impact is described as ‘the degree of environmental change that will occur after the proposed mitigation measures have taken place.’ The mitigation strategy above recommends actions which can be taken to reduce or offset the scale, significance and duration of the effects on the surrounding receptors from effects posed by microclimate (daylight impacts / wind impacts) .

### 13.9.1 Construction Phase

A summary of the predicted effects associated with the construction phase in terms of quality, significance, and duration, along with the proposed mitigation measures and resulting residual effects are summarised in **Table 13.12**.

The overall impact anticipated by the construction phase of the project following the implementation of suitable mitigation measures is considered to be **neutral to negative, imperceptible to slight, and temporary**.

### 13.9.2 Operational Phase

A summary of the predicted effects associated with the operational phase in terms of quality, significance, and duration, along with the proposed mitigation measures and resulting residual effects are summarised in **Table 13.13**.

The overall impact anticipated by the operational phase of the project following the implementation of suitable mitigation measures is considered to be **neutral to negative, slight, and short term to long term**. There are no controlled or uncontrolled emissions anticipated as a result of the proposed development.

**Table 13.12: Summary of predicted construction phase impacts, mitigation measures and residual impact**

Potential Source	Environmental Receptor	Impact Description	Quality	Significance	Duration	Mitigation	Residual Impact
Daylight, Sunlight & Overshadowing	Adjacent Units	Decreased daylight for adjacent receptors	Neutral	Imperceptible	Temporary	<ul style="list-style-type: none"> <li>No Mitigation Measures Required</li> </ul> <p>Site specific CEMP to be drafted and implemented during construction phase which will include the following measures relating to wind.</p> <ul style="list-style-type: none"> <li>All operatives to have a valid Safepass / relevant CSCS card.</li> <li>All site workers to undergo site induction to ensure they are aware of all hazards posed by the development to environmental receptors.</li> <li>All operatives to wear appropriate PPE, including safety boots, hard hats, hi-vis &amp; gloves, as a minimum.</li> <li>Suitably sized hoarding to be erected around the entire construction site to prevent impact on off-site receptors.</li> <li>Due care to be taken when undertaking dust generating activities in windy conditions, including protection of public realm.</li> <li>All stockpiles to be covered over or stored in a sheltered area of the site.</li> </ul>	Neutral, Imperceptible, Temporary
Local Wind	Construction Worker Comfort	Construction works subjected to gentle breezes and occasional adverse wind conditions	Neutral	Insignificant	Temporary		Neutral, Imperceptible, Temporary



**Table 13.13: Summary of predicted operational phase impacts, mitigation measures and residual impact**

Potential Source	Environmental Receptor	Impact Description	Quality	Significance	Duration	Mitigation	Residual Impact
Daylight, Sunlight & Overshadowing	Adjacent Units	Decreased daylight for adjacent receptors	Neutral	Insignificant	Temporary	• TBC	Neutral, Insignificant, Temporary
Local Wind	Pedestrian Comfort	Gentle Breeze creating Acceptable for occasional outdoor seating, e.g. general public outdoor spaces.	Neutral	Insignificant	Long-Term	The impact of the proposed development on microclimate will be insignificant, thus, no site-specific mitigation measures are required.	Neutral, Imperceptible, Temporary

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### 13.9.3 Summary of Significant Impacts – Daylight, Sunlight & Overshadow

During the design process the position, finished floor level, height and massing of the proposed development were technically assessed to reduce and mitigate any potential effect on the daylight, sunlight and overshadowing of the adjacent properties. This informed the final design. The impact of the proposed development is considered negligible.

### 13.9.4 Summary of Significant Impacts - Wind

Impacts to local wind conditions posed by the proposed development are not anticipated to be significant.

The development will not impact or lead to negative or critical wind speed profiles at the nearby adjacent roads, or nearby buildings.

The development will not impact or lead to a negative impact on pedestrian comfort levels.

### 13.9.5 Statement of Significance

The significance of impact upon local Daylight, Sunlight & Overshadow conditions have been assessed for both during the construction and operational phases. In both instances the anticipated impacts are **negligible**.

The significance of impact upon local wind conditions have been assessed for both during the construction and operational phases. In both instances the anticipated impacts are **not significant**.



### 13.10 Reinstatement

Not Applicable.

### 13.11 Interactions and Potential Cumulative Effects

#### 13.11.1 Interactions

It is not expected that any significant effects with respect to daylight, sunlight or overshadowing effects will arise due to interactions with any other environmental factor.

Local Wind Conditions interact with other environmental attributes as follows:

- Land, Soil, Geology (Chapter 7) - Stockpiling of dry, loose sediments can lead to generation of wind-blown dust. Poor housekeeping can lead to wind blown rubbish.
- Hydrology & Hydrogeology (Chapter 8) - Stockpiling of dry, loose sediments can lead to generation of wind-blown dust, causing the sediments to become entrained in local water receptors. Poor housekeeping can lead to windblown rubbish, causing rubbish to become entrained in local water receptors.
- Air Quality (Chapter 12) – Wind conditions can have an influence of the dispersion of any contaminants or emissions generated as a result of the proposed development.

#### 13.11.2 Cumulative Effects

The cumulative assessment is concerned with the potential effects of the proposed development, in combination with any other projects or plans that are likely to be associated with the receiving environment to the proposed development, or that are likely to occur in the foreseeable future.

There are no proposed developments within the vicinity of this site which would create a cumulative effect on the daylight, sunlight or overshadowing of the adjacent properties.

In terms of future projected projects, there are 4 no. proposed developments set within the vicinity of the proposed development likely to commence during the project construction phase, as summarised in **Table 13.14**. It is not expected that any significant cumulative impacts will arise due to local wind conditions in either the developments construction or operational phases.

Table 13.14. Proposed Developments within the site vicinity

Reg. Ref.	Location	Description of Development	Decision	Distance	Anticipated Cumulative Effect
CCC Reg. Ref. 21528	Aghnaskerry, Co. Cavan	Demolish existing derelict dwelling house and erect 26 no. 3-bed semi-detached dwellings	Permission Granted by CCC 26/05/2022  Subject of current appeal with ABP	ca. 317m NE	<b>No Impact Anticipated</b>
CCC Reg. Ref. 2163	Gaelscoil Bhrefne Tullymongan Lower and Aghnaskerry, Cavan	Single storey extension to existing school, alterations to site layout with a new access via service road	Permission Granted by CCC 21/05/2022  Development commenced 08/07/2021	ca. 180m N	<b>No Impact Anticipated</b>
CCC Reg. Ref. 20145	Aghnaskerry, Tullymongan Lower, Cavan	Change of use of existing dwelling to pre/after school care facility with associated alterations to elevations, outdoor play area and pedestrian path access from adjoining Gaelscoil Bhrefne	Permission Granted by CCC 22/10/2021	ca. 180m N	<b>No Impact Anticipated</b>
CCC Reg. Ref. 20376	Gaelscoil Bhrefne Tullymongan Lower and Aghnaskerry, Cavan	Construct new roadway and entrance junction along the L2543 Cavan Town Eastern Access Road/ Cock Hill Road, alterations to existing public roadway to include new right turn lane and footpath, safety barrier, public playground area, pathways, public lighting, landscaping, boundary treatments and all ancillary site works	Permission Granted by CCC 03/03/2021	Adjacent to the site boundary to the NE	<b>No Impact Anticipated</b>
CCC Reg. Ref. 18141	Tullymongan Lower, Cavan, Co. Cavan	Change of use of existing residential convent building to educational school building	Permission Granted by CCC 18/08/2018  Development commenced 08/07/2021	ca. 180m N	<b>No Impact Anticipated</b>



## 14 Landscape and Visual Impact Assessment

### 14.1 Introduction

This Landscape/Townscape and Visual impact Assessment report has been prepared in respect of a proposed Tesco Store and associated petrol filling station and car park at Cock Hill to the east of Cavan Town Centre, County Cavan. This report describes the townscape/visual context of the proposed development and assesses the likely impacts of the scheme on the receiving environment, in terms of both townscape character and visual amenity.

Landscape/townscape assessment relates to changes in the physical environment, brought about by a proposed development, which may alter its character. This requires a detailed analysis of the individual elements and characteristics of a landscape/townscape that go together to make up the overall character of that area. By understanding the aspects that contribute to this character it is possible to make judgements in relation to its quality (integrity) and to identify key sensitivities. This, in turn, provides a measure of the ability of the landscape/townscape in question to accommodate the type and scale of change associated with the proposed development, without causing unacceptable adverse changes to its character.

Visual Impact Assessment relates to changes in the composition of views as a result of changes to the landscape/townscape, how these are perceived and the effects on visual amenity. Such impacts are population-based, rather than resource-based, as in the case of landscape impacts.

#### 14.1.1 Statement of Authority

This Landscape and Visual Assessment report was prepared by Richard Barker, Principal Landscape Architect at Macro Works Ltd of Cherrywood Business Park, Loughlinstown, Dublin 18; a consultancy firm specialising in Landscape and Visual Assessment and associated maps and graphics. Relevant experience includes a vast range of infrastructural, industrial and commercial projects since 1999, including numerous residential mixed-used development projects.

### 14.2 Consultation

Pre-planning meetings were held with Cavan County Council on 6<sup>th</sup> August 2020, 13<sup>th</sup> October 2020, 30<sup>th</sup> September 2021 and 8<sup>th</sup> November 2022.

### 14.3 Legislation, Policy and Guidance

#### 14.3.1 Methodology

Production of this Landscape/ townscape and Visual Impact Assessment involved:

- A desktop study to establish an appropriate study area and relevant landscape and visual designations in the Cavan County Development Plan (2022-2028)
- Fieldwork to study the receiving environment;
- Assessment of the significance of the landscape impact of the proposed development as a function of landscape sensitivity weighed against the magnitude of the landscape impact;



- Assessment of the significance of the visual impact of the proposed development as a function of visual receptor sensitivity weighed against the magnitude of the visual impact.

This document uses methodology as prescribed in the Institute of Environmental Management and Assessment (IEMA) and landscape Institute (UK) 'Guidelines for Landscape and Visual Impact Assessment' (GLVIA-2013).

Although this is principally a 'townscape' assessment, it utilises the same outline methodology as would be employed for the more familiar Landscape and Visual Impact Assessment (LVIA) of developments in rural settings. The justification for this approach is provided below.

It is important to note that the Guidelines for Landscape and Visual Impact Assessment' (GLVIA-2013) follow the European Landscape Convention (ELC) definition of landscape: *'Landscape is an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors' (Council of Europe, 2000). Thus, GLVIA-2013 covers all landscapes from "high mountains and wild countryside to urban and fringe farmland (rural landscapes), marine and coastal landscapes (seascapes) and the landscapes of villages towns and cities (townscapes)" - whether protected or degraded.*

In the case of this project, the study area is overwhelmingly that of an urban setting or 'townscape' and this is defined in GLVIA-2013 in the following manner (Section 2.7):

*" 'Townscape' refers to areas where the built environment is dominant. Villages, towns and cities often make important contributions as elements in wider-open landscapes but townscape means the landscape within the built-up area, including the buildings, the relationships between them, the different types of urban spaces, including green spaces, and the relationship between buildings and open spaces. There are important relationships with historic dimensions of landscape and townscape, since evidence of the way the villages, towns and cities change and develop over time contributes to their current form and character."*

#### 14.3.1.1 Landscape/Townscape Impact Assessment Criteria

When assessing the potential impacts on the townscape resulting from a proposed development, the following criteria are considered:

- Landscape/townscape character, value and sensitivity;
- Magnitude of likely impacts;
- Significance of landscape effects.

The sensitivity of the townscape to change is the degree to which a particular setting can accommodate changes or new elements without unacceptable detrimental effects to its essential characteristics. Landscape/townscape Value and Sensitivity is classified using the following criteria set out in Table 14.1



**Table 14.1 Landscape/Townscape Value and Sensitivity**

Sensitivity	Description
<b>Very High</b>	Areas where the townscape character exhibits a very low capacity for change in the form of development. Examples of which are high value townscapes, protected at an international or national level (e.g. World Heritage Site), where the principal management objectives are likely to be protection of the existing character.
<b>High</b>	Areas where the townscape character exhibits a low capacity for change in the form of development. Examples of which are high value townscapes, protected at a national or regional level, where the principal management objectives are likely to be considered conservation of the existing character.
<b>Medium</b>	Areas where the townscape character exhibits some capacity and scope for development. Examples of which are townscapes, which have a designation of protection at a county level or at non-designated local level where there is evidence of local value and use.
<b>Low</b>	Areas where the townscape character exhibits a higher capacity for change from development. Typically, this would include lower value, non-designated townscapes that may also have some elements or features of recognisable quality, where management objectives include, enhancement, repair and restoration.
<b>Negligible</b>	Areas of townscape character that include derelict sites and degradation where there would be a reasonable capacity to embrace change or the capacity to include the development proposals. Management objectives in such areas could be focused on change, creation of townscape improvements and/or restoration.

The magnitude of a predicted landscape/townscape impact is a product of the scale, extent or degree of change that is likely to be experienced as a result of the proposed Development. The magnitude takes into account whether there is a direct physical impact resulting from the loss of landscape/townscape components and/or a change that extends beyond the immediate setting that may have an effect on the townscape character. Table Table 14.2 refers.

**Table 14.2 Magnitude of Landscape/Townscape Impacts**

Sensitivity	Description
<b>Very High</b>	Change that would be large in extent and scale with the loss of critically important landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to an overall change of the townscape in terms of character, value and quality.

<b>High</b>	Change that would be more limited in extent and scale with the loss of important townscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to an overall change of the townscape in terms of character, value and quality.
<b>Medium</b>	Changes that are modest in extent and scale involving the loss of landscape characteristics or elements that may also involve the introduction of new uncharacteristic elements or features that would lead to changes in landscape character, and quality.
<b>Low</b>	Changes affecting small areas of landscape character and quality, together with the loss of some less characteristic landscape elements or the addition of new features or elements.
<b>Negligible</b>	Changes affecting small or very restricted areas of landscape character. This may include the limited loss of some elements or the addition of some new features or elements that are characteristic of the existing landscape or are hardly perceivable.

The significance of a landscape/townscape impact is based on a balance between the sensitivity of the landscape receptor and the magnitude of the impact. The significance of landscape impacts is arrived at using the following graph set out in Table 14.3

**Table 14.3 Impact Significance Matrix**

Scale/Magnitude	Sensitivity of Receptor				
	Very High	High	Medium	Low	Negligible
Very High	Profound	Profound-substantial	Substantial	Moderate	Slight
High	Profound-substantial	Substantial	Substantial-moderate	Moderate-slight	Slight-imperceptible
Medium	Substantial	Substantial-moderate	Moderate	Slight	Imperceptible
Low	Moderate	Moderate-slight	Slight	Slight-imperceptible	Imperceptible
Negligible	Slight	Slight-imperceptible	Imperceptible	Imperceptible	Imperceptible

Note: The significance matrix provides an indicative framework from which the significance of impact is derived. The significance judgement is ultimately determined by the assessor using professional judgement. Due to nuances within the constituent sensitivity and magnitude judgements, this may be up to one category higher or lower than indicated by the matrix. Judgements of Substantial (negative) and above are considered to be 'significant impacts' in EIA terms.



#### 14.3.1.2 Landscape/Townscape Impact Assessment Criteria

As with the landscape/townscape impact, the visual impact of the proposed Development will be assessed as a function of sensitivity versus magnitude. In this instance the sensitivity of the visual receptor, weighed against the magnitude of the visual effect.

#### 14.3.1.3 Sensitivity of Visual Receptors

Unlike landscape sensitivity, the sensitivity of visual receptors has an anthropocentric (human) basis. It considers factors such as the perceived quality and values associated with the view, the landscape/townscape context of the viewer, the likely activity they are engaged in and whether this heightens their awareness of the surrounding landscape. A list of the factors considered by the assessor in estimating the level of sensitivity for a particular visual receptor is outlined below to establish visual receptor sensitivity at each VRP:

#### **Susceptibility of Receptors**

In accordance with the Institute of Environmental Management and Assessment (“IEMA”) Guidelines for Landscape and Visual Assessment (3rd edition 2013) visual receptors most susceptible to changes in views and visual amenity are:

- *“Residents at home;*
- *People, whether residents or visitors, who are engaged in outdoor recreation, including use of public rights of way, whose attention or interest is likely to be focussed on the landscape and on particular views;*
- *Visitors to heritage assets, or to other attractions, where views of the surroundings are an important contributor to the experience;*
- *Communities where views contribute to the landscape setting enjoyed by residents in the area;*
- *Travellers on road rail or other transport routes where such travel involves recognised scenic routes and awareness of views is likely to be heightened”.*

Visual receptors that are less susceptible to changes in views and visual amenity include;

- *“People engaged in outdoor sport or recreation, which does not involve or depend upon appreciation of views of the landscape;*
- *People at their place of work whose attention may be focussed on their work or activity, not their surroundings and where the setting is not important to the quality of working life”.*

#### **Values Typically Associated with Views**

**Recognised scenic value of the view** (County Development Plan designations, guidebooks, touring maps, postcards etc). These represent a consensus in terms of which scenic views and routes within an area are strongly valued by the population because in the case of County Developments Plans, for example, a public consultation process is required;

**Views from within highly sensitive townscape areas.** These are likely to be in the form of Architectural Conservation Areas, which are incorporated within the Development Plan and therefore

subject to the public consultation process. Viewers within such areas are likely to be highly attuned to the townscape around them;

**Primary views from residential receptors.** Even within a dynamic city context views from residential properties are an important consideration in respect of residential amenity;

**Intensity of use, popularity.** This relates to the number of viewers likely to experience a view on a regular basis and whether this is significant at a national or regional scale;

**Viewer connection with the townscape.** This considers whether or not receptors are likely to be highly attuned to views of the townscape i.e. commuters hurriedly driving on busy roads versus tourists focussed on the character and detail of the townscape;

**Provision of vast, elevated panoramic views.** This relates to the extent of the view on offer and the tendency for receptors to become more attuned to the surrounding landscape at locations that afford broad vistas;

**Sense of remoteness and/or tranquillity.** Receptors taking in a remote and tranquil scene, which is likely to be fairly static, are likely to be more receptive to changes in the view than those taking in the view of a busy street scene, for example;

**Degree of perceived naturalness.** Where a view is valued for the sense of naturalness of the surrounding landscape it is likely to be highly sensitive to visual intrusion by distinctly manmade features;

**Presence of striking or noteworthy features.** A view might be strongly valued because it contains a distinctive and memorable landscape / townscape feature such as a cathedral or castle;

**Historical, cultural and / or spiritual significance.** Such attributes may be evident or sensed by receptors at certain viewing locations, which may attract visitors for the purposes of contemplation or reflection heightening the sense of their surroundings;

**Rarity or uniqueness of the view.** This might include the noteworthy representativeness of a certain townscape type and considers whether the receptor could take in similar views anywhere in the broader region or the country;

**Integrity of the townscape character.** This looks at the condition and intactness of the townscape in view and whether the townscape pattern is a regular one of few strongly related components or an irregular one containing a variety of disparate components;

**Sense of place.** This considers whether there is special sense of wholeness and harmony at the viewing location;

**Sense of awe.** This considers whether the view inspires an overwhelming sense of scale or the power of nature.



Those locations which are deemed to satisfy many of the above criteria are likely to be of higher sensitivity. No relative importance is inferred by the order of listing. Overall sensitivity may be a result of a number of these factors or, alternatively, a strong association with one or two in particular.

#### 14.3.1.4 Visual Impact Magnitude

The visual impact magnitude relates to the scale and nature of the visual change brought about by the proposal and this is reflected in the criteria contained in **Table 10.4** below.

**Table 10.4: Magnitude of Visual Impacts**

Criteria	Description
Very High	The proposal alters a large proportion or critical part of the available vista and is, without question, the most distinctive element. A high degree of visual change is generated, directly and strongly altering the visual amenity of the scene
High	The proposal alters a significant proportion or important part of the available vista and is one of the most noticeable elements. A considerable degree of visual change is generated that directly influences the visual amenity of the scene
Medium	The proposal represents a moderate alteration to the available vista, introducing a degree and quality of visual change that directly influences the visual amenity of the scene
Low	The proposal alters the available vista to a minor extent and may not be noticed by a casual observer and/or would not have a marked effect on the visual amenity of the scene
Negligible	The proposal would be barely discernible within the available vista and would have an immaterial effect on the visual amenity of the scene

#### 14.3.1.5 Visual Impact Significance

As stated above, the significance of visual impacts is a function of visual receptor sensitivity and visual impact magnitude. This relationship is expressed in the same significance matrix and applies the same EPA definitions of significance as used earlier in respect of townscape impacts (**Table 1-3** refers).

#### 14.3.1.6 Quality and Duration of Effects

In addition to assessing the significance of landscape/townscape effects and visual effects, EPA Guidance for EIAs requires that the quality of the effects is also determined. This could be negative/adverse, neutral, or positive/beneficial.

Whereas, the introduction of new built elements into countryside areas more often results in negative landscape and visual effects, in urban settings, development proposals are often replacing one built feature with another or developing 'brownfield' sites. The consequence for the townscape character and visual amenity is often beneficial, or may be a combination of positive effects and negative effects for different receptors. In the context of this assessment, the judgment of the quality of the effects is made in combination with the significance judgement for both landscape/townscape impacts and visual impacts e.g. Moderate / Positive or Moderate / Negative.

EPA Guidance for EIA also requires consideration of the duration of effects and provides a range of classifications from Temporary (less than one year) to Permanent (more than 60 years). In terms of duration the proposed development will result in short-term (1-7 year) construction stage impacts and thereafter impacts will be permanent.

#### 14.3.1.7 Extent of Study Area

It is anticipated that the proposed development is not likely to give rise to significant landscape/townscape or visual impacts beyond approximately 1km. As a result, a 1km-radius study area is used in this instance.

### 14.3.2 **Planning Context**

#### 14.3.2.1 Cavan County Development Plan (2022-2028)

The recently adopted Cavan County Development Plan (July 2022) places the site in the same 'Town Core' land use zone as the previous CDP did. Major Retail, Commercial Carpark and Public Transport Station/ Depot are all identified as development types that are 'permitted in principle' within this generally robust and permissive zoning objective.

There are no specific planning objectives relating to the site and nor is there any designated landscape or scenic views designations relevant to the site. There is a potential flood zone identified in the eastern corner of the site, but this is not of consequence to the landscape and visual assessment and will be addressed elsewhere in the EIAR.



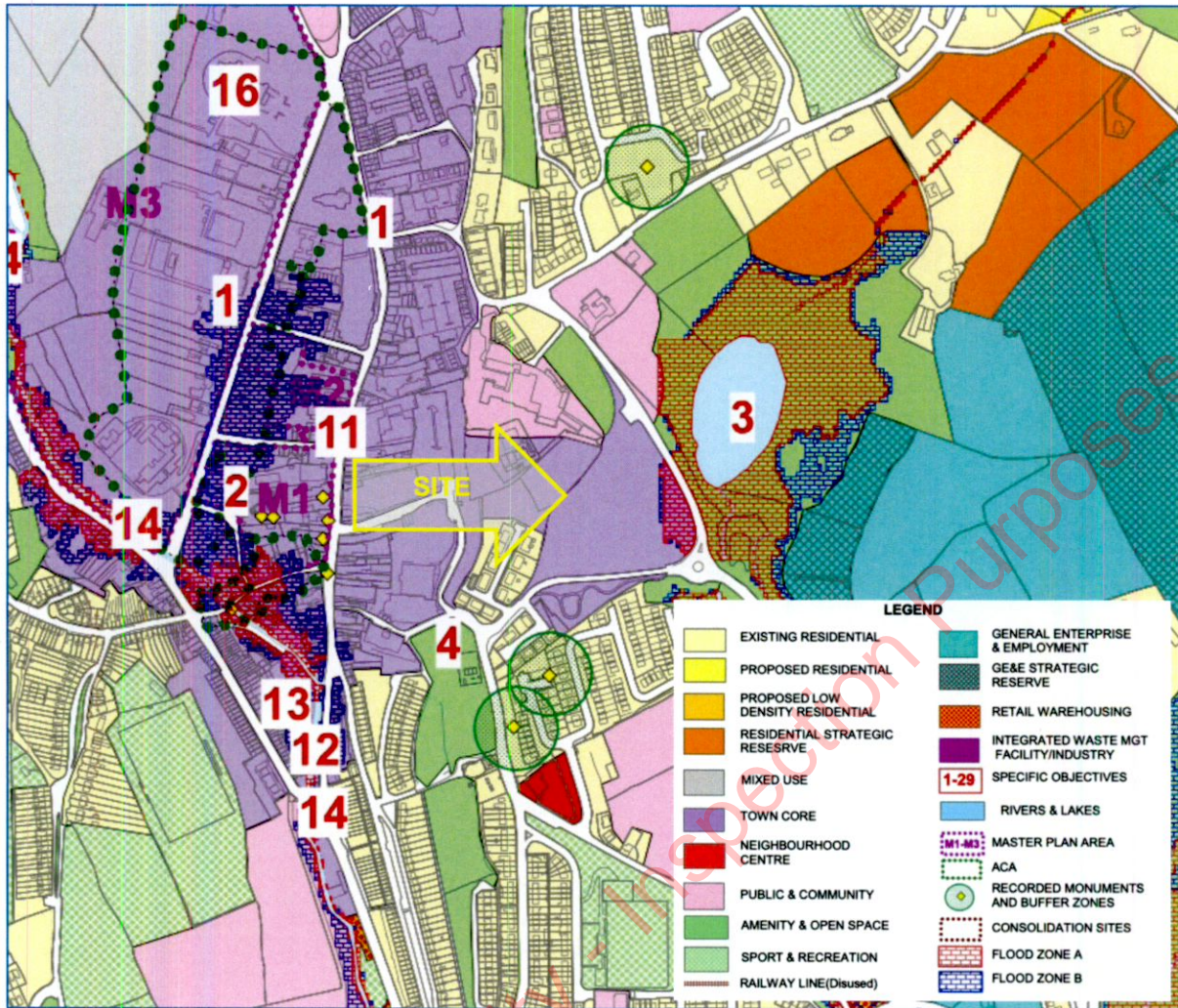


Figure 14.1 Site and Central Study area looking westwards (Google Earth 3D terrain)

In Chapter 2 – Settlement Strategy of the Cavan County Development Plan, Cavan Town is identified as the ‘Key Town’ of the County and wider region and all associated planning objectives relate to high quality, plan-led development of the settlement to achieve sustainable growth. Three masterplan areas are identified for Cavan Town but none of these relate specifically to the site.





Figure 14.2 Study area for the proposed development (Google Earth)



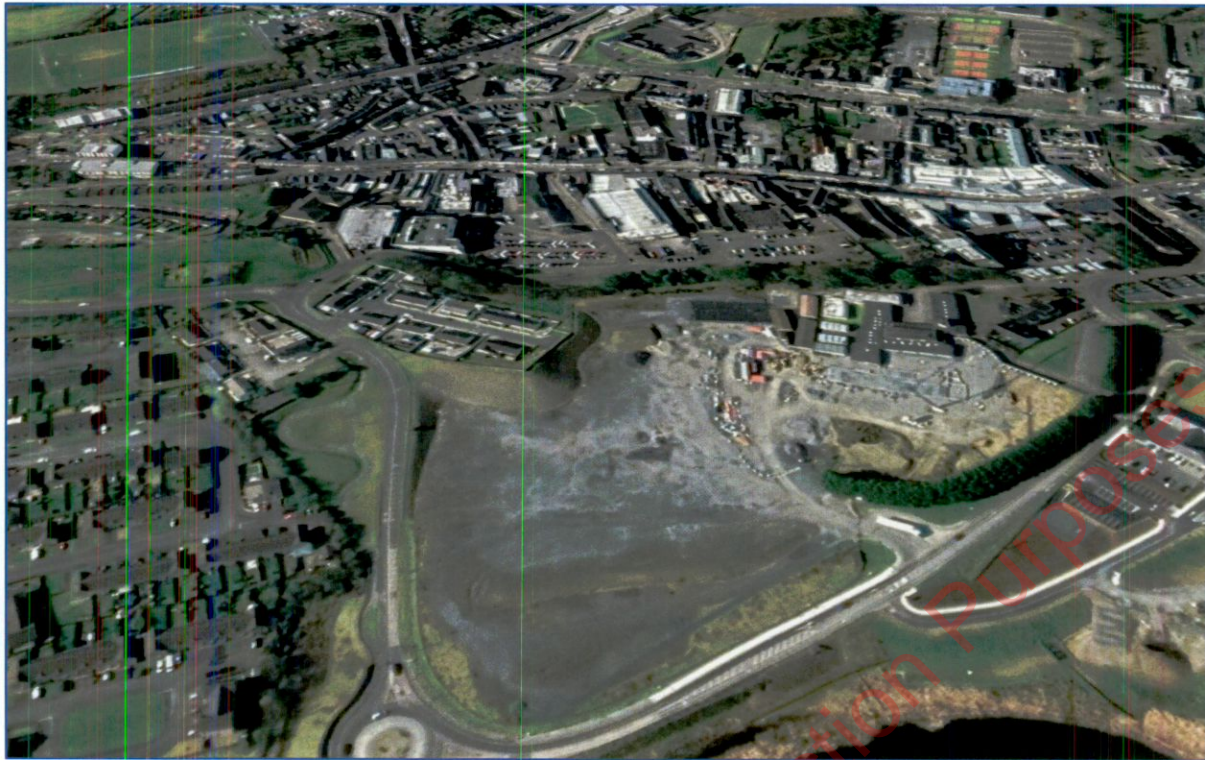


Figure 14.3 Site and Central Study area looking westwards (Google Earth 3D terrain)

## 14.4 Receiving Environment

The landscape/townscape baseline represents the existing context and is the scenario against which any changes to it, brought about by the proposed development, will be assessed. A description of the landscape/townscape context of the proposed site and wider study area is provided below. Although this description forms part of the landscape/townscape baseline, many of the elements identified also relate to visual receptors i.e. places from which viewers can potentially see the proposed Development.

### 14.4.1 Baseline Environment

#### 14.4.1.1 Immediate Site Context

The site itself is essentially a brownfield site relating to former water works that has been since been prepared and terraced in anticipation of strategic scale urban development. The site lies on the eastern side of a ridge (Cock Hill) that divides the main core of Cavan Town from the less developed peri-urban setting to the east of the site. Directly to the north is St. Clare's National School and to the north east lies Killymooney Lough with its associated wetland complex. Immediately to the south are the St. Francis and Lakeview housing estates.

#### 14.4.1.2 Wider Study Area

Cavan Town is the principal town of, and located centrally within, the border county of Cavan. The town is located within a valley created by a number of surrounding hills and the land use of the wider landscape is predominantly agricultural. The N3 national road bypasses the town to the east. Urban development tends to track the major routes that converge on the town i.e. the N3 which enters from the east and the R212 which extends from the N3 and forms the main throughfare through Cavan Town



as it tracks in a horse shoe from the southeast to the north of the study area. The R198 diverges northwest from the R212 near the centre of the settlement. The upgraded Cock Hill Road and roundabout skirt the site to the east and separate it from Killymooney Lough. The main commercial core of Cavan Town occurs throughout the west central portion of the study area, whereas the northern and southern portions are generally contained in mid to low density housing estates. The outer eastern portions of the study area are predominantly contained in agricultural farmland and Sweelan Lough penetrates into the western periphery of the study area surrounded by marginal farmland.

#### 14.4.1.3 Historic Context and Evolution

In terms of layout, the street patterns date back to the medieval period although very little of the architecture from this period remains due to a number of sackings and fires throughout the town's history. The town's Georgian character can be attributed to the Maxwell family who built Farnham street in the early 19th century and are responsible for many of the Georgian buildings within the Town. Much of the character of these early periods has been retained within the town core, however expansion in modern times is best described as peri-urban and mainly consists of residential housing estates and retail parks on the outskirts of the town.

#### 14.4.2 **Identification of Viewshed Reference Points as a Basis for Assessment**

Viewshed Reference Points (VRP's) are the locations used to study the likely visual impacts associated with the proposed development. It is not warranted to include each and every location that provides a view as this would result in an unwieldy report and make it extremely difficult to draw out the key impacts arising from the proposed development. Instead, the selected viewpoints are intended to reflect a range of different receptor types, distances and angles. The visual impact of a proposed development is assessed using up to 6 categories of receptor type as listed below:

- Key Views - from features of national or international importance;
- Designated Scenic Routes and Views;
- Local Community views;
- Centres of Population;
- Major Routes;
- Amenity and heritage features.

The Viewshed Reference Points selected in this instance are set out in Table 14.4 and shown on Figure Figure 14.4 below.





Figure 14.4 Viewpoint Selection Map

Table 14.4 Outline Description of Selected Viewshed Reference Points (VRPs)

VRP No.	Location	Direction of view
VP1	Cathedral of Saints Patrick and Felim	SE
VP2	Corner of R212 and Thomas Ashe Street	SE
VP3	Corner of R212 and Town Hall Street	E
VP4	Cock Hill Road at entrance to Gaelscoil Bheifne	SW
VP5	Corner of Farnham Street and Abbey Street	E
VP6	Main Street	E
VP7	Main Street Carpark	E
VP8	Cock Hill Roundabout	NW



VP9	Lakeview Amenity Area 1	NE
VP10	Lakeview Housing Estate	N
VP11	Lakeview Amenity Area 2	NE

## 14.5 Description of the Proposed Development

The development will consist of the construction of a single storey retail unit of c. 5,197 sq.m gross floor area (c. 2,194 sq.m convenience net sales area and c. 957 sq.m comparison net sales area) including a licensed alcohol sales area and service yard; a drive thru café unit (c.174 sq.m gross floor area) with external seating and 5 no. car parking spaces and 2 no. set down bay areas; a petrol filling station including car wash/jet wash (c. 89 sq.m), a forecourt canopy (covers c. 255 sq.m. and 4.8m in height); signage including elevational and 2 no. totem signs; 297 no. car parking spaces and 120 no. cycle parking spaces; a "Click and Collect" facility; Grocery Home Shopping delivery vehicle docking area; access points from Cock Hill Road; pedestrian linkages with the Town Centre by way of the provision of a sloped pedestrian walkway and steps on the western boundary of the site with 4 no. pedestrian crossings on Cock Hill Road and; all ancillary site development works, landscaping, fencing, enabling works and site services.

Please refer to Chapter 2 for the full description of development.

## 14.6 Predicted Effects of the Proposed Development

As outlined in the introduction, Landscape/Townscape impacts will be assessed separately to visual impacts and the significance of both will be based on a balance of receptor sensitivity and impact magnitude.

### 14.6.1 Landscape/Townscape Impacts

#### 14.6.1.1 Landscape/Townscape value and sensitivity

In accordance with Section 5.5 of the GLVIA-2013, a townscape character assessment requires a particular understanding of, among other criteria, "the context or setting of the urban area and its relationship to the wider landscape."

In this instance the site is a brownfield site, but one that has been prepared and primed from a civil engineering perspective to accommodate a large scale urban development. This is reinforced by the presence of the Cock Hill distributor Road on the eastern side of the site, which also appears primed to service a higher quantum of traffic than it currently does. Thus, there is a sense of latency associated with the site itself, which is also surrounded by existing urban development to the north, south and west. The landscape to the east of the Cock Hill Road, which is a mix of agricultural farmland and incorporates the Killymooney Lough wetland area, is more sensitive to development. However, the Cock Hill Road



serves as the obvious physical and perceptual divide between the urban area of Cavan Town and its eastern rural hinterland.

In addition to physical and townscape character observations above, the site is zoned as 'Town Core' which illustrates a clear intention for its urban transformation. Based on the zoning maps and objectives there is a clear intent to provide dense urban development eastward from the current town centre of Cavan towards the Cock Hill distributor road. In such a scenario the proposed development site becomes more central to the core and will reduce the perceptual divide of the ridge that currently contains the town centre on its eastern side above the Main Street carpark. Though not overtly relating to townscape sensitivity, these factors provide a forward planning context in which the development of this site to serve the core of Cavan Town is the desired outcome and this adds a strong degree of robustness.

For the reasons outlined above, the townscape sensitivity of the site and its immediate surrounds to the west of the Cock Hill Road and Killymooney Lough is deemed to be **Low**.

#### 14.6.1.2 Magnitude of Landscape/townscape effects

##### **Construction Phase**

There will be permanent physical effects to the land cover of the site, which are not readily reversible. During the construction stage of the proposed development there will be intense construction-related activity within and around the site. This will include, but is not limited to:

- HGVs transporting materials to and from the site;
- Movement of heavy construction machinery and tower cranes on-site;
- Temporary storage of excavated materials and construction materials on-site;
- Gradual emergence of the incomplete supermarket and filling station complex, and associated works;
- Security hoarding and site lighting.

Whilst the physical impacts to the site's land cover will be permanent, and not readily reversible, the site is already a much-modified, industrial site that has been primed for a development such as that proposed. There are currently no sensitive land cover elements or landscape features on the site. Construction stage impacts on landscape/townscape character will be 'short-term' (i.e. lasting 1-7 years), in accordance with the EPA definitions of impact duration. Furthermore, the context of this construction activity is within an industrial / urban area where HGV movements are frequent.

There will be impacts on the character of the surrounding area due to the scale and intensity of construction stage activities including the presence of tall tower cranes above the skyline and as the proposed buildings emerge to their full height, but present as unfinished. However, there is considerable screening from existing vegetation and land form around the site, particularly to the west, and in combination with site hoarding, much of the ground based clutter and activity of construction stage works will be out of view and perceptually contained within the site context.



On the basis of the reasons outlined above, the magnitude of the Short-term construction stage landscape/townscape impacts is deemed to be **Medium** and of a **Negative** quality.

### **Operational Phase**

Following the completion of the proposed works, landscape/townscape impacts will relate entirely to the development's impact on the character of the receiving landscape/townscape and whether this is positive or negative.

The most notable landscape/townscape impacts of the proposed development will result from the permanent presence of the substantial scale Tesco Supermarket building, the broad expanse of surface car parking and the filling station / car wash at the western side of the car park. These are all a typical scale and familiar form of development in an urban core or urban fringe townscape context. Although elevated, the supermarket building is not excessively tall or prominent in the context of the ridge that backs it to the west. Instead, it appears nestled into the terracing slope and the car park and filling station is contained at the lower level where it will avail from the softening and screening of proposed perimeter planting. Thus, the development appear well designed in terms of its physical landscape context and well sited in terms of its urban core function. Furthermore, there will be new, high quality pedestrian links between the proposed development and the existing urban core of Cavan Town (Main Street Car Park).

In the broader townscape context and at a strategic and plan-led development level, the proposed development represents the overdue development of this site which is a key piece of the urban development puzzle for Cavan Town centre. It currently reads as a perceptual 'void' in urban fabric terms and its latency for development is ripe. There is clear intent (in zoning terms) to develop the town core eastward out to the Cock Hill distributor road and development of the proposed site as a supermarket and filling station will achieve that objective. It will perceptually expand the urban core eastward beyond the ridge that currently contains it in an elongated pattern. The scale and intensity of development will be substantially increased but in an appropriate and long expected manner.

For the reasons outlined above, the magnitude of operational stage landscape impacts is deemed to be **Medium**, but of a **Positive** quality.

#### 14.6.1.3 Significance of Landscape/townscape effects

In summary, construction stage townscape impacts will be experienced in the form of clutter and intensity of movement of workers and machinery coupled with the constantly evolving, partially completed development. These are familiar and short term effects that will be perceptually contained within the hoarding of the construction site, despite being visible from further afield. The combination of a Low townscape sensitivity judgement with a Medium magnitude of townscape impact judgement is considered to result in a Slight significance of impact. This impact is deemed to be of a Negative quality and thus, the overall construction stage significance is Slight/ Negative.

Once completed and operational, the proposed development will achieve what it has been designed to achieve and will fill a latent perceptual void in accordance with the zoning Objectives of the Cavan



County Development Plan. Coupled with the Low sensitivity judgement, the Medium magnitude of impact is deemed to result in a Slight significance of impact. Unlike the negative construction stage effect, the operational stage effect is deemed to be of a Positive quality. The resulting significance of impact is therefore **Slight/Positive**.

#### 14.6.2 Visual Impact Assessment

##### 14.6.2.1 Visual Receptor Sensitivity

In this instance all of the viewpoints are located within relatively close proximity to each other and the site. However, the context varies depending on whether the viewpoint is contained within the long established urban core that is contained by landform to the west of the site, or the partially developed peri-urban fringe to the east. The latter are generally considered to have a Medium-low degree of visual sensitivity and marginally higher in the case of the view from the Cavan Cathedral. Views from the new / upgraded roads to the east of the site that currently have a view of the undeveloped brownfield site are deemed to be of Low Sensitivity. However, residential enclaves and amenity areas in the immediate vicinity of the site are generally deemed to be of Medium-low sensitivity, even if the brownfield site currently forms part of the outlook. There is an elevated view from a recognised lookout point over the town (VP11) and this is assigned a Medium sensitivity.

##### 14.6.2.2 Magnitude of Visual Effect

The assessment of visual impacts at each of the selected viewpoints is aided by photomontages of the proposed development. Photomontages are a 'photo-real' depiction of the scheme within the view, utilising a rendered three-dimensional model of the development, which has been geo-referenced to allow accurate placement and scale. For each viewpoint, the following images have been produced:

1. Existing View
2. Montage View (Pre-mitigation establishment – year 1)
3. Montage View (Pre-mitigation establishment – year 7)

Table 14.5 Visual Impact Assessment for selected viewpoints

VP No.	Title and description of existing view	Receptor Sensitivity	Description and Magnitude of Visual impact	Significance of Visual Impact
VP1	<p><b>Cathedral of Saints Patrick and Feim</b></p> <p>This is a view from the front steps of the Cavan Cathedral looking across Farnham Street towards Urney Church and its associated parkland surrounds and tall trees. There are two storey dwellings lining the near side of the street to the south and urban development rises upslope beyond the Church.</p>	M	The proposed development will not be visible from here as it is substantially screened by intervening terrain and partly by vegetation. The magnitude of visual impacts will be Negligible by default.	Imperceptible/ Neutral
VP2	<p><b>Corner of R212 and Thomas Ashe Street</b></p> <p>This is an enclosed street scene from Farnham Street looking along Thomas Ashe Street which affords potential views in the direction of the site. The modern Gaelscoil Bhreifne building sits alongside heritage stone buildings and semi-detached tow storey dwellings in this mixed use context.</p>	ML	The proposed development will not be visible from here as it is screened by foreground buildings. The magnitude of visual impacts will be Negligible by default.	Imperceptible/ Neutral
VP3	<p><b>Corner of R212 and Town Hall Street</b></p> <p>This is another similar view from within the urban core of Cavan Town looking along Town Hall Street in the direction of the site. It is an eclectic mix of new and old buildings of 2-3 storeys in height.</p>	ML	The proposed development will not be visible from here as it is screened by foreground buildings. The magnitude of visual impacts will be Negligible by default.	Imperceptible/ Neutral
VP4	<p><b>Cock Hill Road at entrance to Gaelscoil Bhreifne</b></p> <p>This is a view across the recently constructed / upgraded Cock Hill Distributer Road and is dominated by the vacant</p>	L	The planted embankment to the front of the site is what dominates the south-westerly view even in its early establishment stage immediately post-construction. Just above the embankment and	Slight/ Neutral-positive/ Long-term



	<p>brownfield site subject of this proposal. Beyond can be seen a scattering of residential housing estates lining the ridge above the town centre and to the north is St Clare's primary School which is currently undergoing extension works. On the same side of the road as the viewer to the southeast is Killymooney Lough (not depicted).</p>	<p>along the site access road can be seen the top of the supermarket building rising just above the profile of the ridge that it sits upon. Further south, the canopy of the filling station and the carwash enclosures can be seen in a similar manner. By the time the foreground planting establishes over a 4-5 year period there will be little to see of the development at all. The main effect is therefore the enclosure / foreshortening of the view, but it is not a view of particular amenity in any event. Furthermore, the planted embankment will provide a pleasant semi-natural aesthetic that signals a more abrupt transition for the urban core to the farmland and wetland associated with Killymooney Lough on the near side of the road.</p> <p>On balance of the reasons outline above, the magnitude of visual impact is deemed to be Medium and the quality of the effect marginally positive i.e. Neutral-Positive.</p>	
<p><b>VP5</b></p>	<p><b>Corner of Farnham Street and Abbey Street</b> This is another in the sequence of views from Farnham Street in the core of Cavan Town centre looking eastward along adjoining streets (Abbey Street in this case) which afford some potential to see the propose development due to the break in foreground buildings.</p>	<p>The proposed development will not be visible from here as it is screened by foreground buildings. The magnitude of visual impacts will be Negligible by default.</p>	<p><b>Imperceptible/ Neutral</b></p>
<p><b>VP6</b></p>	<p><b>Main Street</b> This view is afforded to those approaching the Main Street car park and existing Tesco Store. It is a slightly ascending street scene, which is terminated by a low ridge that host shrubs and mature trees providing a sense of enclosure.</p>	<p>The uppermost roof profile of the proposed supermarket would be potentially visible above the vegetated slope, but only as a minor and barely noticeable built feature. Together with the proposed pedestrian access to the site over the vegetated ridge there will be more a sense of development beyond rather than a view of it. In the context of this busy and complex street scene the proposed</p>	<p><b>Imperceptible/ Neutral</b></p>

			development will not have a material bearing on visual amenity – Negligible / Neutral.	
<b>VP7</b>	<p><b>Main Street Carpark</b> This view has a similar context to VP6, but it is more open and dominated by the sloping foreground car park. This ascends towards the same vegetated embankment / ridge as can be seen in VP6.</p>	L	<p>Whilst there is some minor potential to see a small section of the roof profile of the proposed supermarket this will be substantially, if not completely screened by ridgetop vegetation which is to be retained. The direct pedestrian stairway and alternative zigzagging ramp will be discernible ascending the nearby slope, particularly as new planting becomes established. Once established these will be assimilated features that do not draw from visual amenity in any event. Overall, the magnitude of visual impact is Negligible and the quality of effect Neutral.</p>	<b>Imperceptible/ Neutral</b>
<b>VP8</b>	<p><b>Cock Hill Roundabout</b> This view is very similar in nature to VP4 as it is dominated by the vacant brownfield site in question as well as the roundabout in the Cock Hill distributor road. The site contains a foreground embankment along the roadside and in the background is large engineered slope at the back of the site. Killymooney Lough can be seen in the lower ground to the east of the road that runs away from the viewer to the northwest.</p>	L	<p>The Most prominent aspect of the proposed development from here is the foreground planted embankment and unlike for VP4 it already exists to some degree and the sense of enclosure is less. Just beyond the embankment is the filling station canopy and car wash structures, which lie between the viewer and the main supermarket building. The roof profile of the supermarket is visible, but most of the lower portion is screened from view. These features represent notable, but not dramatic visual change to a somewhat unsightly brownfield site that has been primed for development. Therefore, the magnitude of visual change is deemed to be Medium and the quality of the effect is marginally positive.</p>	<b>Slight/ Neutral-positive/ Long-term</b>
<b>VP9</b>	<p><b>Lakeview Amenity Area 1</b></p>	ML	<p>The upper sections of the proposed supermarket will be visible from here just beyond the foreground estate, the cul-de-sac of</p>	<b>Moderate-slight/ Neutral-negative/</b>



	<p>This is a view along the very ridgeline that divides the core of the town centre from the sporadically developed hinterland to the east where the proposed site represents the key void of development within a prepared brownfield site that is partially visible from here on alignment with the road that descends to the northeast. The view itself is from a residential greenspace that tops the ridge and serves the residential estates that spread throughout the foreground.</p>		<p>which is oriented in the direction of the site (but not the dwellings). The more open view downhill along the road to the northeast mainly reveals the car park that lies between the supermarket and the filling station. Thus, the proposed development represents an increase in the intensity and diversity of the urban fabric that is visible from here, but not a dramatic increase in its scale. There is also a stronger sense of consolidation in the design and distribution of built form with a more abrupt, but legible transition to the farmland that rises to the east. Once mitigation planting becomes established between the supermarket buildings and the foreground dwellings the former will be substantially screened. The car park will also be softened by perimeter tree planting. Overall, the magnitude of visual change is deemed to be Medium-low and the quality of effect is deemed to be marginally Negative.</p>	<p><b>Long-term</b></p>
<p><b>VP10</b></p>	<p><b>Lakeview Housing Estate</b> This is an enclosed view along a small cul-de-sac in Lakeview Housing estate. The view is flanked by modern two-storey terraced dwellings and truncated by fencing, a treeline and power poles.</p>	<p><b>ML</b></p>	<p>The upper section of the front of the proposed Super market building will be partially visible from here through and above the existing trees and fencing at the end of the cul-de-sac and the visual exposure will likely reduce during summer months when the trees are in-leaf. It is a slightly ambiguous view of the proposed development rising partially into view where no other built form is present and where the full context is not revealed. However, this is diluted by the low degree of visual presence and the fact that this is not a section of the view that provides visual amenity to local residents.</p> <p>Overall, the magnitude of visual impact is deemed to be Low and of a Negative quality.</p>	<p><b>Slight/ Negative/ Long-term</b></p>

<p><b>VP11</b></p>	<p><b>Lakeview Amenity Area 2</b>                  This view is from slightly further uphill and away from the site as VP9. It is from a local lookout point that affords broad panoramic views cross Cavan Town and like VP9 it highlights the dividing influence of the ridge it sits upon in terms of the existing town centre and its peri-urban hinterland to the east.</p>	<p><b>M</b></p>	<p>The proposed development can be seen as a slice of new urban form and surface car parking that knits into the urban fabric to the northeast. The super market has a more consistent and broad form than the finer grain and more textured appearance of the predominantly residential development that lies before and beyond it. However, it also benefits from simplicity and it will not rise above the surrounding development in terms of its profile, because it occupies lower ground. The proposed car park will be also visible in a lower section of the view where the current scenario already appears like a car park. This will be softened and screened by proposed perimeter planting and the filling station is just out of view to the east.</p> <p>For the reasons outlined above, the magnitude of visual impact is deemed to be Low and the quality of effect will be Neutral.</p>	<p><b>Slight/ Neutral/ Long-term</b></p>
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## 14.7 Mitigation Measures

Other than those embedded elements of the design that respond to its immediate setting in terms of perimeter planting around the site and internal walkways, there are no specific townscape and visual mitigation measures considered necessary in this instance. Landscape and urban design measures are integral to the development and will help to soften and assimilate the built form within its surrounding context in a general sense whilst adding to the quality of the development. However, it is not a case where the consideration of landscape and visual impacts before and after landscape planting would result in a materially different impact judgements.

## 14.8 Monitoring

### 14.8.1 Construction Phase

Landscape tender drawings and specifications will be produced to ensure that the landscape work is implemented in accordance with best practice. This document will include tree work procedures, soil handling, planting and maintenance. The contract works will be supervised by a suitably qualified landscape architect.

The planting works will be undertaken in the next available planting season after completion of the main civil engineering and building work.

All tree protection requirements will be installed on commencement of the development and removed on a phased basis as stages of the development are completed.

### 14.8.2 Operational Phase

This will consist of weed control, replacement planting, pruning etc. All landscape works will be in an establishment phase for the initial three years from planting. The company responsible for site management of the scheme will be responsible for the ongoing maintenance of the site after this three-year period is complete. The Open Space, greenway and some roads will be taken in charge by Fingal County Council.

All works will be monitored on an ongoing basis to ensure the quality of the development is maintained as later phases are developed and on completion overall.

## 14.9 Residual Effects

There will be townscape and visual impacts that are specific to the construction stage in the form of clutter and intensity of movement of workers and machinery coupled with the constantly evolving, partially completed development. These are familiar and short-term effects that are considered to result in **Slight / Negative** significance of effect.

Once operational, the proposed development can be judged in terms of its permanent imprint on the townscape fabric of the receiving environs. In this regard it represents an appropriate scale, function and design quality for this latent brownfield site that currently reads as a perceptual void in the urban fabric of Cavan Town. It will form a more consolidated and legible transition between the urban form of



the settlement and its eastern rural hinterland which also includes the valued habitat area of Killymooney Lough. The resulting significance of impact is therefore judged to be **Slight/Positive**.

Visual impacts were assessed at eleven viewpoints selected within the surrounding area to cover a range of viewing distances, viewing angles and visual receptor types. The visual receptor sensitivity ranged between Medium at Cavan Cathedral and an elevated lookout point in an amenity area within the Lakeview residential estate, to Medium-low for typical urban and suburban. Low sensitivity was applied to those receptors where the current view is dominated by the vacant, but prepared, brownfield site.

The magnitude (scale) of visual change ranged between 'Medium' and 'Negligible' depending on proximity and the degree of intervening screening, but what is perhaps more important to consider is the quality of those impacts and whether the effect is a positive, neutral or negative one. Where the proposed development is substantially revealed and the well-considered integration between the design and the townscape setting is most apparent, the quality of effect is deemed to be positive (VP4 and VP6). In other instances, such as VP10, where a partial view of the proposed development is introduced to the scene without its full context, it represents simply an increased scale and intensity of built development. In such cases the quality of effect is negative. Most commonly the proposed development is not visible, barely discernible and/or it does not make a material contribution to visual amenity, either positively or negatively and therefore, the quality of visual change is neutral.

#### **14.9.1 Overall Significance of Impact**

Overall, it is considered that the proposed Tesco development will not result in any significant / negative townscape or visual impacts. Instead, it is considered that it is an appropriate scale and form of development for this site and the quality of the design and materials will generally make a positive contribution to an urban setting that is in need of (and zoned for) appropriate infill.

#### **14.10 Reinstatement**

The proposed landscape development works in the form of tree and shrub planting will be used to reinstate the site, post-construction. These works will be carried out by an appointed landscape contractor and will be supervised by a suitably qualified landscape architect or manager.

#### **14.11 Interactions**

The main interactions associated with the Townscape and Visual assessment relate to;

- Cultural and Architectural Heritage – Design treatment of perimeter wall and visual relationship of newly proposed and retained structures.
- Architectural design - Scale, massing, setback and façade treatments and how these contributes to / ameliorates landscape and visual impacts.
- Landscape design – Retention of existing mature trees / provision of new planting and how this contributes to / ameliorates landscape and visual impacts.
- Population and Human Health - Potential effects arising from visual effects upon surrounding existing dwellings



#### 14.12 Cumulative Effects

Several consented developments are located throughout the study area and tend to be of a small scale than the proposed development. The principal effect of these consented developments in combination with the proposed development is that of an increase in the intensity of built development in the local landscape context. Even if viewed in combination, the proposed and consented development will not result in any notable cumulative landscape and visual effect. Overall, it is not considered that this marginal increase in the quantum of built development in an urban centre such as this will result in significant cumulative landscape and visual impacts.

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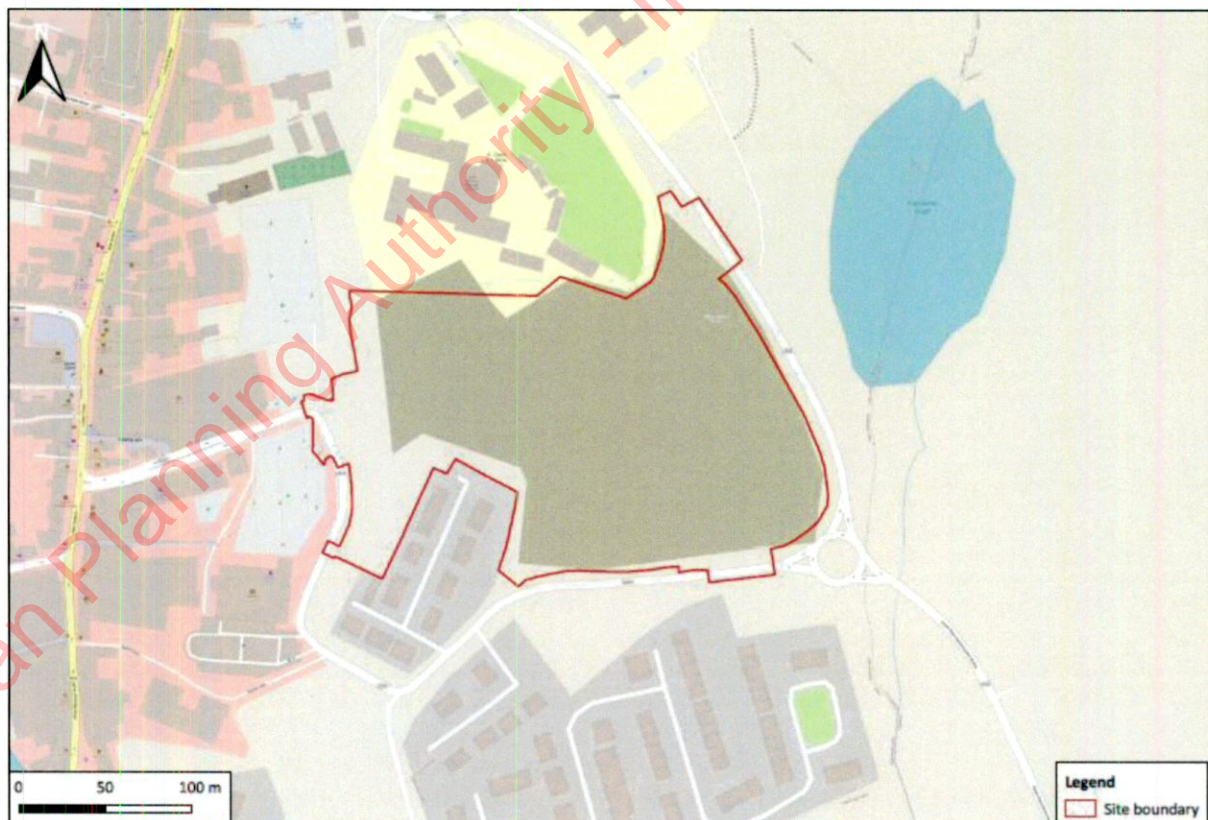
## 15.0 Archaeology, Architectural and Cultural Heritage

### 15.1 Introduction

#### 15.1.1 General

IAC Archaeology has prepared this chapter on behalf of Tesco Ireland to assess the impact, if any, on the archaeological, architectural and cultural heritage resource of a proposed development located within the townlands of Townparks and Tullymongan Lower, County Cavan (ITM 642296,804787; Figure 15.1). The assessment was undertaken by Faith Bailey (MA, BA (Hons), MIAI, MCIfA) and Christina O'Regan (MSc, BA (Hons), MIAI). Faith Bailey is an Associate Director and Senior Archaeologist and Cultural Heritage Consultant. She holds an MA in Cultural Landscape Management (archaeology and built heritage) and a BA in single honours archaeology from the University of Wales, Lampeter. She is a licence eligible archaeologist, a member of the Chartered Institute of for Archaeologists, of the Institute of Archaeologists of Ireland and has over 19 years' experience working in the commercial archaeological and cultural heritage sector. Christina O'Regan graduated from University College Cork in 2001 with a Bachelor of Arts in Archaeology with History and from Queen's University Belfast in 2003 with a Masters of Science in Environmental Archaeology. She has been working as a professional archaeologist since 2001 and has been eligible to hold excavation licences in Northern Ireland since 2007 and in the Republic of Ireland since 2019.

Figure 15.1 Proposed development area





This study determines, as far as reasonably possible from existing records, the nature of the archaeological, architectural and cultural heritage resource in and within the study area of the proposed development using appropriate methods of study. The study area is defined as measuring c. 250m from the proposed development area. Desk-based assessment is defined as a programme of study of the historic environment within a specified area or site that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphics, photographic, and electronic information in order to identify the likely heritage assets, their interest and significance and the character of the study area, including appropriate consideration of the settings of the heritage assets.

This leads to the following:

- Determining the presence of known archaeological/architectural heritage assets that may be affected by the proposed development;
- Assessment of the likelihood of finding previously unrecorded archaeological remains during the construction programme;
- Determining the effect upon the setting of known cultural heritage sites in the surrounding area; and
- Suggested mitigation measures based upon the results of the above research.

#### 15.1.2 Definitions

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

'*Cultural Heritage*' where used generically, is an over-arching term applied to describe any combination of archaeological, architectural and, cultural heritage features, where –

- The term '*archaeological heritage*' is applied to objects, monuments, buildings, or landscapes of an (assumed) age typically older than AD 1700 (and recorded as archaeological sites within the Record of Monuments and Places);
- The term '*architectural heritage*' is applied to structures, buildings, their contents and settings of an (assumed) age typically younger than AD 1700;
- The term '*cultural heritage*', where used specifically, is applied to other (often less tangible) aspects of the landscape such as historical events, folklore memories and cultural associations.

#### 15.1.3 Significance of Effects

Significance of Effects as defined by the Environmental Protection Agency (2022) Guidelines (pg. 50).

##### *Imperceptible*

An effect capable of measurement but without significant consequences.

##### *Not significant*

An effect which causes noticeable changes in the character of the environment but without significant consequences.

##### *Slight Effects*



An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.

#### *Moderate Effects*

An effect that alters the character of the environment in a manner that is consistent with existing and emerging trends.

#### *Significant Effects*

An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment.

#### *Very Significant*

An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment.

#### *Profound Effects*

An effect which obliterates sensitive characteristics.

## **15.2 Consultations**

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

- Pre-application meetings with Cavan County Council (13/10/2020 and 08/11/2022).
- Department of Housing, Local Government and Heritage (DoHLGH) – the Heritage Service, National Monuments: Record of Monuments and Places; Sites and Monuments Record; Monuments in State Care database and Preservation Orders.
- National Museums of Ireland, Irish Antiquities Division: topographical files of Ireland;
- Cavan County Council: Planning Section;
- Trinity College Dublin, Map Library: Historical and Ordnance Survey Maps.

Pre-planning meetings were held with Cavan County Council on 6th August 2020, 13th October 2020, 30th September 2021 and 8th November 2022.

## **15.3 Legislation, Policy and Guidance**

The following legislation, standards and guidelines were consulted as part of the assessment:

- National Monuments Act, 1930–2014;
- Planning and Development Act, 2000 (as amended);
- Heritage Act, 1995;
- Environmental Protection Agency (EPA) 2015 Draft Advice Notes on Current Practice (in the preparation of Environmental Impact Statements). Dublin, Government Publications Office;

- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EIAR) (EPA 2022). Dublin, Government Publications Office;
- Frameworks and Principles for the Protection of the Archaeological Heritage, 1999 (formerly) Department of Arts, Heritage, Gaeltacht and Islands;
- Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act; and
- Architectural Heritage Protection Guidelines for Planning Authorities (2011).

### 15.3.1 Assessment Methodology

Research has been undertaken in two phases. The first phase comprised a paper survey of all available archaeological, architectural, historical and, cartographic sources. The second phase involved a field inspection of the proposed development area.

#### 15.3.1.1 Paper Survey

The following sources were examined and a list of areas of archaeological, architectural and cultural heritage potential was compiled:

- Record of Monuments and Places for County Cavan;
- Sites and Monuments Record for County Cavan;
- National Monuments in State Care database;
- Preservation Orders List;
- Topographical Files of the National Museum of Ireland;
- Cartographic and written sources relating to the study area;
- Cavan County Development Plan, incorporating a Local Area Plan for Cavan Town 2022–2028;
- Aerial photographs;
- Placename analysis;
- Excavations Bulletin (1970–2022); and
- National Inventory of Architectural Heritage.

**Record of Monuments and Places (RMP)** is a list of archaeological sites known to the National Monuments Section, which are afforded legal protection under Section 12 of the 1994 National Monuments Act and are published as a record.

**Sites and Monuments Record (SMR)** holds documentary evidence and field inspections of all known archaeological sites and monuments. Some information is also held about archaeological sites and monuments whose precise location is not known e.g. only a site type and townland are recorded. These are known to the National Monuments Section as 'un-located sites' and cannot be afforded legal protection due to lack of locational information. As a result, these are omitted from the Record of Monuments and Places. All recorded archaeological sites are also listed on a website maintained by the Department of Housing, Local Government, and Heritage (DoHLGH) – [www.archaeology.ie](http://www.archaeology.ie).



**National Monuments in State Care Database** is a list of all the National Monuments in State guardianship or ownership. Each is assigned a National Monument number whether in guardianship or ownership and has a brief description of the remains of each Monument.

The Minister for the DoHLGH may acquire national monuments by agreement or by compulsory order. The state or local authority may assume guardianship of any national monument (other than dwellings). The owners of national monuments (other than dwellings) may also appoint the Minister or the local authority as guardian of that monument if the state or local authority agrees. Once the site is in ownership or guardianship of the state, it may not be interfered with without the written consent of the Minister.

**Preservation Orders List** contains information on Preservation Orders and/or Temporary Preservation Orders, which have been assigned to a site or sites. Sites deemed to be in danger of injury or destruction can be allocated Preservation Orders under the 1930 Act. Preservation Orders make any interference with the site illegal. Temporary Preservation Orders can be attached under the 1954 Act. These perform the same function as a Preservation Order but have a time limit of six months, after which the situation must be reviewed. Work may only be undertaken on or in the vicinity of sites under Preservation Orders with the written consent, and at the discretion, of the Minister.

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

**Cartographic sources** are important in tracing land use development within the development area as well as providing important topographical information on areas of archaeological potential and the development of buildings. Cartographic analysis of all relevant maps has been made to identify any topographical anomalies or structures that no longer remain within the landscape.

Sir William Petty, Down Survey Map, 1654-56, *Barony of Upper Loughree*

Ordnance Survey 6" maps of County Cavan (1837, 1876, 1908)

**Documentary sources** were consulted to gain background information on the archaeological, architectural and cultural heritage landscape of the proposed development area.

**Aerial photographic coverage** is an important source of information regarding the precise location of sites and their extent. It also provides initial information on the terrain and its likely potential for archaeology. Several sources were consulted including aerial photographs held by the Ordnance Survey, Bing Maps, and Google Earth.

**Place Names** are an important part in understanding both the archaeology and history of an area. Place names can be used for generations and in some cases have been found to have their root deep in the historical past.

**Development Plans** contain a catalogue of all the Protected Structures and archaeological sites within the county. The Cavan County Development Plan, incorporating a Local Area Plan for Cavan Town



2022–2028 was consulted to obtain information on cultural heritage sites in and within the immediate vicinity of the proposed development.

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

**Excavations Bulletin** is a summary publication that has been produced every year since 1970. The hard copy publication summarises every archaeological excavation that has taken place in Ireland during that year up until 2010 and since 1987 has been edited by Isabel Bennett. This information is vital when examining the archaeological content of any area, which may not have been recorded under the SMR and RMP files. The information is also available online and includes years from 2011 to the present ([www.excavations.ie](http://www.excavations.ie)).

#### *15.3.1.2 Field Inspection*

Field inspection is necessary to determine the extent and nature of archaeological, architectural, and historical remains and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information.

The field inspection entailed:

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

## **15.4 Receiving Environment**

### **15.4.1 Historical Background**

The proposed development area is located within the townlands of Townparks and Tullymongan Lower, on high ground to the immediate east of Cavan Town. Killymooney Lough is located to the immediate east of the site and the area is bordered to the east and south by the Cavan Town Centre Eastern Access Road. A modern school is located to the north, whilst modern residential development is located to the south and southwest.

The western part of the proposed development area is located within the zone of archaeological potential for Cavan Town, which is a recorded monument (RMP CV020-055). However, there are no individual sub-constraints associated with this zone located within the proposed development area. The closest individual site is CV020-087, which is classed as a ringditch site, located c. 110m south of the proposed development area (Figure 15.2). This site was excavated in 2003 and is now covered in residential units.



The closest Protected Structures to the proposed development area consist of BH 1, a chapel located c. 130m to the north-northwest and BH 11, a retail unit, located c. 140m west. These structures are also listed in the NIAH survey and are associated with the historic core of Cavan Town.

### Prehistoric Period

During the Neolithic period (c. 4000–2500BC) communities became less mobile and their economy became based on the rearing of stock and cereal cultivation. This transition was accompanied by major social change. There was a greater concern for territory, which saw the construction of large communal ritual monuments called megalithic tombs, which are characteristic of the period. Although the Neolithic is represented within the wider county, there are no megaliths or Neolithic settlement sites within the vicinity of the proposed development area. Two polished stone axeheads were discovered in Cavan Town (NMI 1933:5075) and Urney (NMI 1938:17), which may date to this period and show the presence of a transient population.

The Bronze Age (c. 2500–800BC) in Ireland is marked using metal for the first time. As with the transition from Mesolithic to Neolithic, the transition into the early Bronze Age was accompanied by societal changes. Megaliths were replaced by individual, subterranean cist or pit burials that occurred either in isolation or in small cemeteries. Earthen barrows of varying forms were also being constructed during this period, as well as ceremonial monuments such as henges. A Bronze Age ringditch is recorded c. 110m south of the proposed development area (CV020-087), which has subsequently been subject to archaeological excavation.

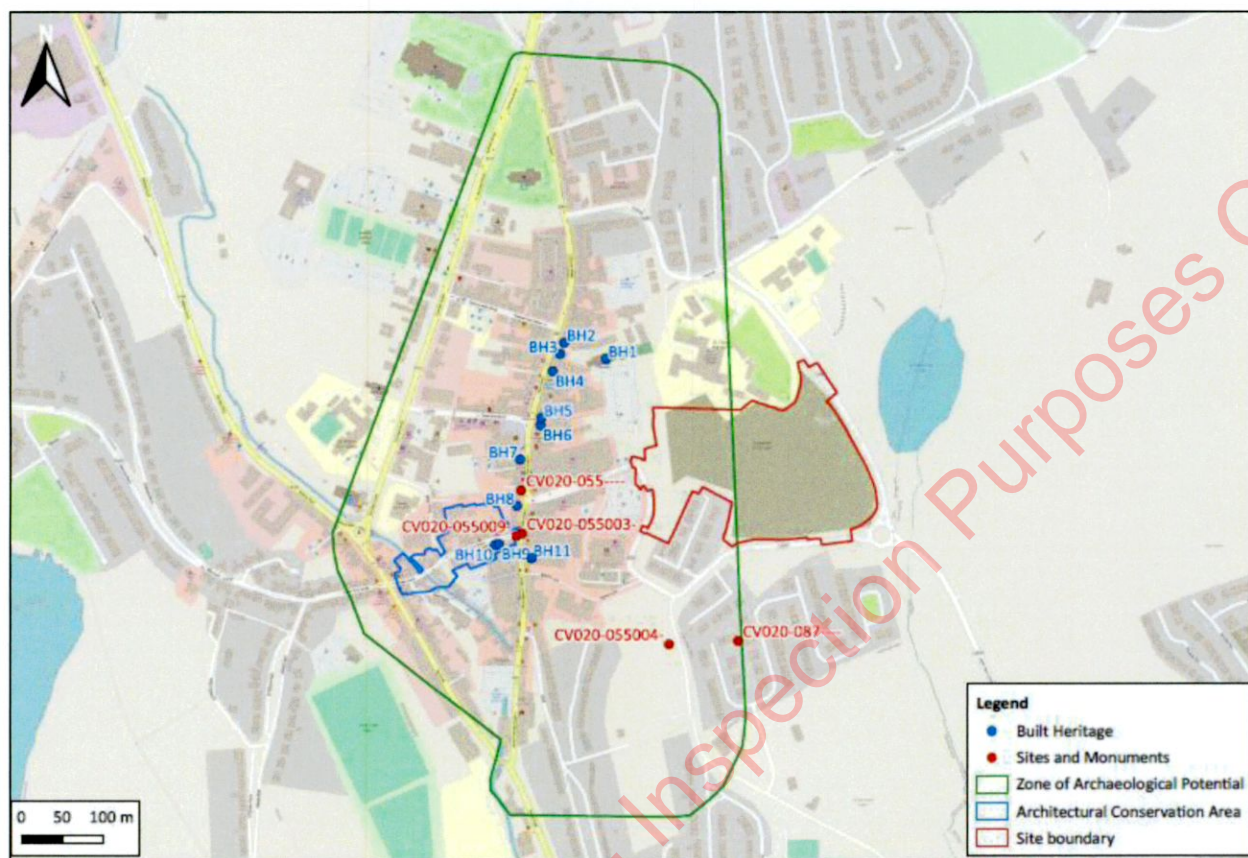
The Bronze Age landscape is also defined by other monuments such as standing stones, stone rows and stone circles. The only known site of similar type recorded in the locality is a small standing stone situated in the townland of Pollamore Near (CV025-102). Standing stones date from the late Neolithic or Bronze Age and may have possessed a ritual function, although many may be much more recent in origin; they are often confused with scratching stones erected by farmers for livestock.

A range of bronze weapons such as two flat axeheads (NMI 1933:5076-77), a looped and socketed axehead (NMI 1933:5079) and a bronze palstave (NMI 1933:5078) have been found near Cavan town and indicate human activity in the region from the early to the late Bronze Age.

Bronze Age activity is further evidenced by the presence of *fulachta fiadh* or burnt mounds in the landscape. Over 7000 *fulachta fiadh* or burnt mounds have been recorded in the country making them the most common prehistoric monument in Ireland. Burnt mounds comprise a mound of burnt stone commonly in a horseshoe shape, usually associated with a sunken trough and are typically found in low lying marshy areas or close to streams. They are traditionally thought to have been used for cooking though they may also have served as bathing sites. These sites are generally uncovered in or near riverine and waterlogged environments which provide the ideal circumstances for the construction and preservation of burnt mounds (*fulachta fiadh*). A burnt mound is recorded c. 175m south of the proposed development area (CV020-088).



**Figure 15.2 Proposed development area showing surrounding recorded archaeological and built heritage sites**



Archaeological investigations undertaken in connection with the eastern access route have revealed the presence of a Bronze Age population making use of the landscape immediately adjacent to the proposed development area (O’ Donovan, Licence Ref.: 10E0433). The investigations, which also included the excavation of test trenches across the proposed development area, revealed a total of eight previously unknown archaeological sites. Four burnt mound sites (Tullymongan Lower 1, 3, 5 and Killynebber 3); a possible ditch and charcoal spread (Tullymongan Lower 4) and three areas of burning were identified (Tullymongan Lower 2, Killynebber 1, 2) (Licence Refs.: 11E024 and 11E027). Of these sites, Tullymongan Lower 2, 4 and 5 were located within the proposed development area, whereas Tullymongan Lower 3 was partially located within it. These sites have all since been subject to archaeological excavation.

**Early Medieval period**

Ireland underwent radical change from the 5th century AD. A combination of factors led to a revolution in the landscape. Foremost amongst these was the introduction of Christianity in the early 5th century. The new religion was readily accepted and it spread throughout the country in the 5th, 6th and later centuries presenting a catalyst for change. County Cavan emerged in the early historic period as part of a territory called *Breifne* (Cavan, Leitrim and Longford). The topography of this region was characterised by drumlins, lakes and woodlands.



Population expansion was also central to the transformation that swept across Ireland around this time which resulted in a complete, if uneven, spread of settlement across the country. Secular habitational sites in the early medieval period include *crannógs*, cashels and ringforts.

Increased pasture and arable farming is evidenced by an upsurge in grasses and weeds in the pollen record. The ringfort or *rath* is the most common indicator of settlement during the early medieval period, a time which is depicted in the surviving sources as entirely rural, characterised by the basic territorial unit known as the *túath*. The ringfort is usually defined as a defended farmstead with a broadly circular enclosure delimited by a bank and ditch. Entrance to the sites was usually by means of a causeway across the ditch or in the case of platform ringforts, by means of a ramp. Entrances are often located at the southeast quadrant of the enclosure. Ringforts can be divided into three broad categories – univallate, bivallate/multi-vallate and raised. The most common structures found within ringforts are the remains of buildings, generally houses, either circular or rectangular.

County Cavan boasts a particularly high density of ringforts as they tend to take advantage of the high and consequently well-drained positions on the drumlins. There are three ringforts within the landscape surrounding the proposed development area, the closest of which is CV020-085 located c. 290m to the north.

### Anglo Norman Period

The beginning of the medieval period was characterised by political unrest that originated from the death of Brian Borumha in AD 1014. *Diarmait MacMurchadha*, deposed King of Leinster, sought the support of mercenaries from England, Wales and Flanders to assist him in his challenge for kingship. Norman involvement in Ireland began in AD 1169, when Richard de Clare and his followers landed in Wexford to support *MacMurchadha*. Two years later de Clare (Strongbow) inherited the Kingdom of Leinster and by the end of the 12th century the Normans had succeeded in conquering much of the country (Stout & Stout 1997, 53). The initial stage of the invasion of the country was marked by the construction of Motte and Bailey castles, which were later replaced with stone fortifications.

As the centre of East Breifne, Cavan and Tullymongan were often subject to English raids. In AD 1405 an indulgence was granted to the Friary, the house having been burned and many of its members slain in the recent wars. The Friary had a turbulent history, being burnt down in AD 1451 through the carelessness of an inebriated friar; by the English in AD 1468 and in AD 1576 the monastery, town and castle were also burnt (Gwynn and Hadcock 1988, 245). The castle is depicted on Netherclift's plan of Cavan town (c. 1593), but it was demolished in 1815. All that remains of this monument today is a three-storey square tower.

There are two records dating to the 16th century detailing castles in the vicinity of Cavan town (RMP File). They are in the townlands of Lurganboy (CV20-05505) and Tullymongan Upper (CV20-05504) and are marked as 'Fort' on the first edition OS maps. This castle at Tullymongan Upper was the site of a late 14th-century O'Reilly castle, destroyed by the English in AD 1427. It was apparently rebuilt, as a castle stood here as late as the early 17th century. There are no longer any visible surface remains of the monument (CRDS 2009).



Whilst the western part of the proposed development area is located within the zone of archaeological potential for Cavan town (CV020-055), none of these sites are located within the immediate vicinity. The majority of the sites within the town are located at its centre, c. 150m down-slope to the west of the site.

### **Post Medieval Period**

The plantation of County Cavan began in the early 17th century following the accession of James I. Previous to this the area had already been enclosed as a borough, as was also enacted at Belturbet and Tullaghrahan (Davies 1948, 99). Although Cavan was neither as large nor as prosperous as Belturbet, it had been the seat of the O'Reilly chiefs and was thus marked out as the county town and granted borough status, with 500 acres of land held by the corporation. The right to hold a weekly market was granted to John Bingle in 1603 (Davies 1948, 100). The town continued to grow and in 1611 a 'vicus novus' or 'new street', perhaps identifiable with High Street, featured in corporation deeds (Hunter 1971, 72). The Charter of James I was the governing charter of the borough until 1840 when the town corporation was dissolved (Smyth 1979, 359) (CRDS 2009).

The precincts of Cavan Abbey, established during the medieval period, were confiscated during the Elizabethan period and intermittently occupied by a garrison. In the early 17th century, the Plantation commissioners ordered that the abbey be converted into a parish-church and a free school (CV020-05507). The school was to be built using the stones of Tullymongan Castle and the first master was appointed in 1623 (Davies 1948, 101). The abbey-church did become a parish church but was demolished in 1815 (RMP File).

#### **15.4.2 Summary of Previous Archaeological Fieldwork**

A review of the Excavations Bulletin (1970-2022) has revealed that a large amount of fieldwork has been undertaken within Cavan Town and within the proposed development area itself. This is summarised below.

Archaeological testing was carried out in 2010 as part of the Cavan Town Centre Eastern Access Road project and this work included the proposed development area (O' Donovan 2010, Licence Ref.: 10E0433). A total of 2,779 linear metres of test trenches were excavated within the area of proposed development and to the immediate east and southeast. The investigations revealed a total of eight archaeological sites, many of which were initially thought to date to the Bronze Age (Tullymongan Lower 1, 2, 3, 4 and 5 and Killynebber 1, 2 and 3).

The most recent program of works involved the archaeological excavation of the eight sites, which was carried out in 2011. Tullymongan Lower 2, 4 and 5 were located within the proposed development area, whereas Tullymongan Lower 3 was partially located within it (Kyle 2011, Licence Ref.: 11E024). Tullymongan Lower 2 comprised an area of oxidised natural clay interpreted as evidence for modern burning and vegetation clearance. Tullymongan Lower 3 comprised a burnt mound with an associated trough of late Neolithic/ early Bronze Age date. Tullymongan Lower 4 comprised an oval-shaped spread of heated stone and charcoal-rich clay, which dated to the early medieval period. Tullymongan Lower



5 comprised a spread of burnt mound material with an associated trough. Charcoal from the burnt mound dated this site to the early Bronze Age period.

Killynebbber 1, 2 and 3 were located to the southeast of the proposed development area, along the path of the town access road (Kyle 2011b, Licence Ref.: 11E027). No evidence of Killynebbber 1 could be identified during the excavation work. Killynebbber 2 was confirmed as a non-archaeological band of silt deposits. Killynebbber 3 comprised four burnt mound spreads and two small pits filled with burnt mound material, which was dated to the late Bronze Age period.

In 2003 excavations 100–175m to the south of the proposed development area in Tullymongan Lower revealed a ringditch (CV020-087) along with a burnt mound (CV020-088) and ditches (Gilmore 2003; Licence Ref.: 03E0385). These sites have since been added to the Sites and Monuments Record and are detailed in Appendix 15.1 of this report.

Of the remaining excavations most were located within confines of Cavan Town c. 100-300m west of the proposed development area. Of the 27 excavations listed within the Excavations Bulletin, 23 revealed no features of archaeological significance. The remainder identified human remains at the site of the medieval abbey in Cavan (Licence Ref.: 01E0019); evidence of a fosse at the site of a ringfort CV020-05501 at Kinnypottle (Licence Ref.: 05E0026) and two sites containing post medieval urban activity on the Main Street in Cavan (Licence Ref.: 01E0896) and College Street (Licence Ref.: 03E1470).

#### 15.4.3 Cartographic Analysis

##### **Sir William Petty, Down Survey Map, 1654-56, Barony of Upper Loughtee**

This map lacks topographical detail as it was meant to depict land ownership. As a result, major rivers and towns are often indicated, along with large buildings. Whilst *Tullemogan Lower* and *Killynebbber* are shown, no buildings are indicated in the area. Cavan town is not shown on this map.

##### **Sir William Petty, Map of County Cavan, 1685**

This map shows the position of Cavan town and the townland of Tullymongan is also marked and is shown as two symbols, which may represent either churches or castles or alternatively large structures. It is not clear from the scale or detail within the map as to what these buildings may represent.

##### **First Edition Ordnance Survey Map, 1837, scale 1:10560**

This map represents the first detailed cartographic representation of the proposed development area (Figure 15.3). The area of proposed development crosses eight separate plots of land, all of which are shown as greenfields. A trackway enters the northern part of the site to the west of the existing roadway. A townland boundary divides the area of proposed development with Townparks to the west and Tullymongan Lower to the east. Killymooneys Lough is shown in similar form to today immediately east of the site. Three forts are shown in proximity to the area of proposed development to the north in Kinnypottle (CV020-085), southeast in Killynebbber (CV020-054) and south in Townparks. The area of proposed development is bordered to the west by a line of well laid-out garden plots running east-west



from the Main Street in Cavan Town. However, no indication of the steep slope in this area is given in the mapping. Despite the discovery of several archaeological sites within the area of proposed development, no features are marked in or within the immediate vicinity of the development area that could be considered as possessing archaeological potential.

**Second Edition Ordnance Survey Map, 1882, scale 1:10560**

There are no major changes to note with the cartography of this map that relate to the area of proposed development.

**Ordnance Survey Map, 1911, scale 1:2500**

By the time of this edition, the Cavan Water Works are shown beyond the northern limit of the proposed development area, although they are not as large as the extant site. A small building is shown adjacent to the townland boundary c. 90m to the east of the water works. To the west Cavan town is shown as being larger in size. The slope from the proposed development area to the town is not depicted on this map.

**Figure 15.3 Extract of the first edition OS map of 1837, showing the proposed development area**



**15.4.4 County Development Plan**

**Archaeological Heritage**

**Cavan County Development Plan, incorporating a Local Area Plan for Cavan Town 2022–2028**



The plan recognises the statutory protection afforded to all RMP sites under the National Monuments Legislation (1930-2004). Furthermore, it states that any previously unrecorded sites of archaeological importance that are discovered by accident are also subject protection. The western part of the proposed development area is located within the zone of archaeological potential for Cavan Town (CV020-055). However, there are no sub-constraints associated with this zone located within the proposed development area. The closest separate site is CV020-087, which is classed as a ringditch site located c. 110m south of the development area (Figure 15.2). This site was excavated in 2003 and is now covered in residential units.

### Architectural Heritage

#### Cavan County Development Plan, incorporating a Local Area Plan for Cavan Town 2022–2028

The County Development Plan recognises the statutory protection afforded to all Protected Structures under the Planning and Development Act 2000, which are listed within the Register of Protected Structures (Appendix 19 of Development Plan). A protected structure is defined as follows:

*A Protected Structure, unless otherwise stated in the RPS, includes the interior of the structure, the land lying within its curtilage, any other structures lying within that curtilage and their interiors, plus all fixtures and features which form part of the interior or exterior of any of these structures. Structures, or parts of structures, can be added to the Record if they are deemed of special interest under one or more of the following headings: architectural, artistic, historic, archaeological, cultural, scientific, social, technical.*

A review of the Cavan County Development Plan, incorporating a Local Area Plan for Cavan Town 2022–2028 has revealed that there are 11 groups or individual Protected Structures located within the study area of the proposed development (labelled BH 1–11; Figure 15.2). It should be noted that none of the protected structures are accompanied by a detailed description within the development plan, nor depicted within a map. These buildings are all located to the west of the development area, within the town centre.

The closest Protected Structures to the proposed development area consist of BH 1, a chapel located c. 130m to the north-northwest and BH 11, a retail unit, located c. 140m west. The proposed development area overlooks the town centre from the high ground to the east and as such will not impact on the streetscape or rooflines of the environment containing the protected structures. Protected structures are listed in Appendix 15.2 of this EIAR.

Within Cavan town there are two Architectural Conservation Areas (ACAs). The eastern end of the Bridge Street ACA (Appendix 20 of the Development Plan) intersects with the current study area.

Within the wider environs, most protected structures in Cavan town are located on Farnham Street. The appearance of Cavan was improved in the early 19th century by the Lords Farnham, a local landlord family and in 1842 they built a new, wide street that still bears their name. Farnham Street was lined with comfortable town houses, public buildings (such as the Court house of 1825) and churches (including Cavan parish church of 1807-25).

**Table 15.1 List of Protected Structures and NIAH Structures in the study area**

BH Number	RPS/NIAH Number	Name	Building Type	Street	Interest Area
BH1	CV0822/ 40000266	St. Clare's	Chapel	Main Street	Architectural, Historical, Social
BH2	CV0823/ 40000269	National Irish Bank (former convent)	Commercial Offices	Main Street	Architectural, Historical, Social
BH3	CV0821/ 40000265	Chapter One Café and Sports Shop	Retail/ Apartments	Main Street	Architectural, Historical, Social
BH4	CV0820/ 40000263	Cavan Sky	Retail	Main Street	-
BH5	CV0819/ 40000257	Cavan Travel	Retail	Main Street	Architectural, Technical
BH6	CV0818/ 40000256	Ulster Bank	Bank	Main Street	Architectural, Social
BH7	40000335	Bank of Ireland	Bank	Main Street	Architectural, Social
BH8	40000341	Fox Footwear Specialist	Retail	Main Street	Architectural
BH9	CV0816/ 40000209	Infinitif Boutique & Hair Gallery	Retail	3 Bridge Street	Architectural
BH10	CV0815/ 40000208	Absolute Gifts	Retail	4 Bridge Street	Architectural
BH11	40000236	Sally West & Mr James for Men	Retail	Main Street	-

#### 15.4.5 National Inventory of Architectural Heritage

##### 15.4.5.1 Building Survey

There are 11 structures listed in the NIAH for the vicinity of the proposed development area. Eight of these are also listed in the Record of Protected Structures (see Table 15.1, Figure 15.2).

##### 15.4.5.2 Garden Survey

No demesne landscapes have been identified from NIAH Garden Survey during the course of this assessment that are located within the study area of the proposed development.



#### 15.4.6 Aerial Photographic Analysis

Inspection of the aerial photographic coverage of the proposed development area held by the Ordnance Survey (1995-2013) and Google Earth (2008-2022) revealed no previously unrecorded features of archaeological potential in or within the immediate vicinity of the proposed development area. Figure 15.4 shows that the site has been cleared and hardcore laid down.

#### 15.4.7 Cultural Heritage Sites

The term 'cultural heritage' can be used as an over-arching term that can be applied to both archaeology and architecture. However, it also refers to more ephemeral aspects of the environment, which are often recorded in folk law or tradition or possibly date to a more recent period. There are no specific sites of this nature located in or within the study area of the proposed development area.

**Figure 15.4 Google Earth coverage (2022), showing the proposed development area**



#### 15.4.8 Placename Analysis

Townland and topographic names are an invaluable source of information on topography, land ownership and land use within the landscape. They also provide information on history; archaeological monuments and folklore of an area. A place name may refer to a long-forgotten site, and may indicate the possibility that the remains of certain sites may still survive below the ground surface. The Ordnance Survey surveyors wrote down townland names in the 1830s and 1840s, when the entire country was mapped for the first time. Some of the townland names in the study area are of Irish origin and through time have been anglicised. The main reference used for the place name analysis is *Irish Local Names*



Explained by P.W Joyce (1870). A description and possible explanation of each townland name in the environs of the proposed development are provided in the below table.

**Table 15.2 Placenames within the study area**

Name	Derivation	Possible Meaning
Townparks	-	Anglo origin, referring to the town centre
Tullymongan Upper/Lower	<i>Tullach</i> (hill) <i>Mongain</i> (possibly referring to a name)	The hill of Mongan
Killynebber	<i>Coill</i> (wood) <i>an obair</i> (Miry/wet place)	Miry wood
Kinnypottle	<i>Ci ne Potail</i>	Pottle of the tribe
Lurganboy	<i>Lurgan Bu (Bi) Dhe</i>	Long low ridge or Long narrow hill
Abbeylands	-	Anglo origin, referring to the land surrounding medieval abbey

#### 15.4.9 Townlands

The townland is an Irish land unit of considerable longevity as many of the units are likely to represent much earlier land divisions. However, the term townland was not used to denote a unit of land until the Civil Survey of 1654. It bears no relation to the modern word 'town' but like the Irish word *baile* refers to a place. It is possible that the word is derived from the Old English *tun land* and meant 'the land forming an estate or manor' (Culleton 1999, 174). The proposed development area occupies part of two townlands, Tullymongan Lower and Town Parks.

Gaelic land ownership required a clear definition of the territories held by each sept and a need for strong, permanent fences around their territories. It is possible that boundaries following ridge tops, streams or bog are more likely to be older in date than those composed of straight lines (*ibid.* 179).

Most townlands are referred to in the 17th century, when land documentation records begin. Many of the townlands are mapped within the Down Survey of the 1650s, so called as all measurements were carefully 'laid downe' on paper at a scale of forty perches to one inch. Therefore, most are in the context of pre-17th century landscape organisation (McErlean 1983, 315).

In the 19th century, some demesnes, deer parks or large farms were given townland status during the Ordnance Survey and some imprecise townland boundaries in areas such as bogs or lakes, were given more precise definition (*ibid.*). Larger tracks of land were divided into several townlands, and named Upper, Middle or Lower, as well as Beg and More (small and large) and north, east, south and west



(Culleton 1999, 179). By the time the first Ordnance Survey had been completed a total of 62,000 townlands were recorded in Ireland.

Although not usually recorded as archaeological monuments in their own right, townland boundaries are important as cultural heritage features as they have indicated the extents of the smallest land division unit in the country—the townland—which has been mapped since the 19th century. It remains unclear how old these land units actually are, though it has been convincingly argued that they date to at least the medieval period and may be significantly older than this (McErlean 1983; MacCotter 2008).

It is probable that Tullymongan Lower was once part of a larger parcel of land, which included Tullymongan Upper to the immediate south. Today, the townland boundary that once divided Tullymongan Lower and Townparks has been removed due to modern development.

**15.4.10 Field Inspection**

The field inspection sought to assess the site, its previous and current land use, the topography and whether any areas or sites of archaeological potential were present. During the field investigation the proposed development area and its immediate surrounding environs were inspected for known or previously unknown archaeological sites or structures of architectural heritage merit.



Plate 15.1 Proposed development facing east–southeast

The entirety of the proposed development area is characterized by a raised compacted hardcore surface, laid down following test trenching and excavations which took place in 2010/11 as part of works associated with the Cavan Town Centre Eastern Access Road (Plates 1–3). No sites or features of archaeological interest were identified during the field inspection. The extent of disturbances within the development area are also illustrated in Figure 15.4.





Plate 15.2 Proposed development facing south-southeast



Plate 15.3 Proposed development facing northwest

#### 15.4.11 Conclusions

The proposed development area is located within the eastern environs of Cavan Town across the townlands of Tullymongan Lower and Townparks. The area is currently characterised by a single plot of land artificially raised with hardcore. The western section of the proposed development area is located within the zone of archaeological potential for Cavan Town (CV020-055). However, there are



no sub-constraints located in this area. The closest individual recorded site is located c. 110m south of the development area (CV020-087). This is classed as a ringditch, which was excavated in 2003 and is now covered in residential units. There are no protected structures located within the proposed development area, although eight structures are located within c. 250m. All eight of these features are also listed in the NIAH Survey. There are no specific cultural heritage sites recorded within the proposed development area or surrounding study area.

A review of Excavations Bulletin (1970–2022) has revealed that archaeological testing and excavation has taken place within the limits of the proposed development area. Archaeological investigations undertaken in connection with the eastern access route, which borders the development area to the east, involved the excavation of trenches across the proposed development area (O' Donovan Licence Ref.: 10E0433) and subsequent archaeological excavations (Kyle 2011a/b, Licence Refs: 11E024/027).

Analysis of the available cartographic resources depicts the proposed development area as primarily agricultural greenfield throughout the course of the post medieval period.

A field inspection of the proposed development area failed to identify any previously unrecorded areas of archaeological potential. Furthermore, a review of the historical mapping of the area, along with aerial photographs held by the Ordnance Survey failed to identify any further sites of potential. Both the field inspection and aerial photographic analysis confirmed that the site has been stripped of topsoil and hardcore laid down.

## 15.5 Characteristics of the Proposed Development

The development will consist of a single storey retail unit of c. 5,197 sq.m gross floor area (c. 2,194 sq.m convenience net sales area and c. 957 sq.m comparison net sales area) including a licensed alcohol sales area and service yard; a drive-thru café unit (c. 174 sq.m gross floor area) with external seating and 5 no. car parking spaces and 2 no. set down bay areas; a petrol filling station including car wash/ jet wash (c. 89 sq.m), a forecourt canopy (covers c. 255 sq.m and 4.8m in height); signage including elevational and 1no. totem sign; 297 no. cycle parking spaces; a "Click and Collect" facility; Grocery Home Shopping delivery vehicle docking area; access points from Cock Hill Road; pedestrian linkages with the Town Centre by way of the provision of a sloped pedestrian walkway and steps on the western boundary of the site with 4 no. pedestrian crossings on Cock Hill Road; and ancillary site development works, landscaping, fencing, enabling works and site services.

Please refer to Chapter 2 for the full description of the development.

## 15.6 Predicted Effects of the Proposed Development

### 15.6.1 Construction Phase

#### 15.6.1.1 Archaeology

Archaeological testing and excavation have already taken place within the footprint of the proposed development and the site has been stripped and built up with layers of hardcore. As a result of these

works, no direct or indirect negative effects are predicted upon the archaeological resource as a result of the construction of the proposed development.

#### **15.6.1.2 Architecture**

No potential negative effects upon the architectural heritage resource are predicted as a result of the construction of the proposed development.

#### **15.6.1.3 Cultural Heritage**

No potential negative effects upon the cultural heritage resource are predicted as a result of the construction of the proposed development.

### **15.6.2 Operational Phase**

#### **15.6.2.1 Archaeology**

No potential negative effects upon the archaeological resource are predicted as a result of the operation of the proposed development.

#### **15.6.2.2 Architecture**

A review of the landscape and visual assessment and the associated photomontages have confirmed that there is very limited intervisibility between the proposed development and the protected structures within Cavan town historic core. As such no potential negative effects upon the architectural heritage resource are predicted as a result of the operation of the proposed development.

#### **15.6.2.3 Cultural Heritage**

No potential negative effects upon the cultural heritage resource are predicted as a result of the operation of the proposed development.

### **15.7 Mitigation Measures**

#### **15.7.1 Construction Phase**

##### **15.7.1.1 Archaeology**

As there are no predicted effects on the archaeological resource, no mitigation is deemed necessary.

##### **15.7.1.2 Architecture**

As there are no predicted effects on the architectural resource, no mitigation is deemed necessary.

##### **15.7.1.3 Cultural Heritage**

As there are no predicted effects on the cultural heritage resource, no mitigation is deemed necessary.

#### **15.7.2 Operational Phase**

##### **15.7.2.1 Archaeology**

As there are no predicted effects on the archaeological resource, no mitigation is deemed necessary.

##### **15.7.2.2 Architecture**

As there are no predicted effects on the architectural resource, no mitigation is deemed necessary.

##### **15.7.2.3 Cultural Heritage**

As there are no predicted effects on the cultural heritage resource, no mitigation is deemed necessary.



### 15.7.3 'Worst-Case' Scenario

No worst-case scenarios have been identified, as overall the proposed development will not result in any negative effects upon the archaeological, architectural or cultural heritage resource.

### 15.7.4 'Do Nothing' Impact

If the proposed development were not to proceed there would be no negative effects on the archaeological, architectural or cultural heritage resource of the subject lands.

### 15.8 Monitoring

As there are no effects predicted upon the archaeological, architectural or cultural heritage resources, no monitoring is required.

### 15.9 Residual Effects

There are no effects predicted upon the archaeological, architectural or cultural heritage resource and as such there will be no residual effects.

### 15.10 Reinstatement

Reinstatement is not applicable to this assessment.

### 15.11 Interactions and Cumulative Effects

As no effects are predicted upon the archaeological, architectural or cultural heritage resource as a result of the proposed development going ahead, it follows that no cumulative effects have been identified.

No interactions between the archaeological, architectural or cultural heritage resource and other disciplines within the EIAR have been identified.

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[www.osi.ie](http://www.osi.ie) – Ordnance Survey aerial photographs (1995-2013) and historic OS mapping (first edition 6" and 25")

[www.booksulster.com/library/plnm/placenamesC.php](http://www.booksulster.com/library/plnm/placenamesC.php) - Contains the text from *Irish Local Names Explained* by P.W Joyce (1870)



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## 16.0 Material Assets

### 16.1 Introduction

Any resource that is valued and is intrinsic to a specific location can be referred to as “Material Assets”. They can have two origins; human or natural origin and their value may arise for either economic or cultural reasons. Assessment objectives may vary considerably according to the type of assets, those for economic assets being concerned primarily with ensuring equitable and sustainable use of resources. Assessments of cultural assets are more typically concerned with securing the integrity and continuity of both the asset and its necessary context.

Material Assets are defined in the ‘Advice Guidelines on the Information to be contained in Environmental Impact Assessment Reports’ (EPA, 2022) as ‘built services and infrastructure’. This can include roads and traffic, electricity, telecommunications, gas, water supply and waste management infrastructure.

The objectives of this chapter are.

- To provide a baseline assessment of the receiving environment in terms of material assets.
- To identify any potential negative effects posed by the construction and operational phases of the proposed development.
- To propose suitable mitigation measures to prevent or reduce the significance of the negative effects identified.
- To consider any significant residual effects of cumulative effects posed by the proposed development.

### 16.2 Consultation

ORS have been commissioned to assess the potential impacts of the proposed development in terms of material assets during the construction and operational phases.

The principal members of the ORS EIA team involved in this assessment include the following persons:

- **Project Scientist & Lead-Author:**  
Ross Kearney – PG.Dip Env. (Post Graduate Diploma in Environmental Protection), MCIWEM.  
Current Role: Senior Environmental Consultant. Experience ca. 7 years
- **Co-Author & Reviewer:**  
Alan Kiernan - BEnvSc, PG.Dip Env Engineering, MCIWEM. Current Role: Associate Environmental Consultant. Experience ca. 20 years

Consultation between ORS and other members of the planning/design team was made in order to obtain information required to assess the potential construction and operational phase impacts on local material assets. Pre-planning meetings were held with Cavan County Council on 6th August 2020, 13th October 2020, 30th September 2021 and 8th November 2022.

## 16.3 Legislation, Policy and Guidance

The methodology used to produce this chapter included a review of relevant guidance documentation, a desk study, an evaluation of potential effects, an evaluation of significance of the effect and an identification of measures to avoid and mitigate effects.

### 16.3.1 Desktop Study

A comprehensive desk study was undertaken to assess the material assets associated with the proposed development and their capacities. The baseline information that is detailed in this section of the assessment was obtained from publicly available information.

The following documents and sources were referenced;

- Google Earth
- Search of GSI and Cavan County Council files
- 1:50,000 Discovery Series Maps and 6" maps
- Cavan County Development Plan
- Environmental Protection Agency (EPA)
- OSI Mapping and Aerial Photography to classify land use and identify amenity sites
- Advice Guidelines on the Information to be contained in Environmental Impact Assessment Reports DRAFT' (EPA, 2017)
- Information to be Contained in an Environmental Impact Statement (EPA 2002)
- Advice Notes On Current Practice (in preparation of Environmental Impact Statements) (EPA 2003)
- "Dial Before you Dig" online platforms.

This chapter has been prepared with reference to the specific criteria set out in the Guidelines on Information to be Contained in an Environmental Impact Statement (EPA 2002) and the Advice Notes On Current Practice (in preparation of Environmental Impact Statements) (EPA 2003). This chapter also has regard to EIA Directive 2014/52/EU and the Draft EPA guidelines published thereon in 2017. These draft guidelines include information on the assessment of the effects of developments on the environment and advises on the nature of the aspects which should be examined as part of the preparation of an EIAR. The following Material Assets are assessed in this Chapter of the EIAR Document:

- Economic Assets of Natural Origin
- Economic Assets of Human Origin

Economic assets of natural origin, which include, land & soil, water, and biodiversity are addressed elsewhere in this EIAR, in chapters 7, 8 and 9 respectively. As noted previously, Cultural Assets of a Physical Type and Cultural Heritage of a Social Type are addressed in a designated chapter of this EIAR document.



Economic assets of human origin are considered in this chapter. A desktop study was carried out on existing material assets of human origin associated with the site of the proposed development. Projections of resource use were undertaken for both the construction and operational phases of the proposed development, and the impacts assessed. Mitigation measures are proposed where appropriate.

### 16.3.2 Site Investigation

No field work was undertaken as part of the assessment contained within this chapter.

### 16.3.3 Impact Assessment Methodology

Once the identification of the baseline environs was conducted, the available data was then utilised to identify and assess the potential impacts posed by the development on the material assets within the area.

#### Impacts Appraisal

- **Direct Impact:** where the existing baseline in the immediate vicinity of the proposed development is altered by activities associated with the construction or operational phases of said development.
- **Indirect Impact:** where the baseline beyond the proposed development is altered by activities associated with the construction or operational phases of said development.
- **No Significant Impact:** The proposed development has neither a positive or negative impact upon the material assets.

## 16.4 Receiving Environment

### 16.4.1 Background

This section of the chapter provides the baseline information in relation to material assets that exists in the vicinity of the proposed development. The subject site occupies a total area of approximately 4.126 ha and is situated in Cock Hill, Tullymongan Lower, Co. Cavan.

The proposed site is located on the east side of Cavan town at Cock Hill. Cavan town is located approximately 13km south of the border with Northern Ireland and ca. 95km northwest of Dublin. The town is located on the junction of two national routes, the N3 to Dublin and N55 to Athlone. The National Development Plan provides for a major upgrading of the route with an M3 motorway from Kells to Dublin (completed and officially opened on 4 June 2010) and type 2 dual carriageway from Whitegate on the Meath border to Cavan. The N3 and N55 eastern bypass around Cavan town was fully completed in March 2006, eliminating the need for heavy traffic to pass through an already congested town.

The material assets of human origin within the receiving environment of the proposed development are described below under the following headings:

- Ownership & Access
- Urban Settlements
- Foul and Surface Water Disposal
- Potable Water Supply
- Transport Infrastructure
- Natural Gas Supply
- Electrical Supply
- Telecommunications
- Municipal Waste

### 16.4.2 Ownership & Access

The proposed development site is currently in private ownership on an area of land ca. 4.126 Ha in total. It is located just to the east of the Cavan town centre. There is no public access into or across the lands currently any no other parties have a Right of Way. The site is bounded by the road known as "Cock Hill" on its eastern and southern side, this road connects the site to the R122 which in turn is connected to the national route (N3) just on the southeast corner of Cavan town, which connects Cavan to Dublin, Athlone, and Northern Ireland. The ground of St. Clare's National school is along the northern side of the proposed site and there are residential properties and Cavan town centre to the west.

### 16.4.3 Urban Settlements

The lands are currently unoccupied but have been re-profiled on as the ground currently in place is permeable and manmade. It is currently zoned as a "Town Core" within the Cavan County Development



Plan 2022-2028. The lands to the west of the proposed site are also zoned as “Town Core”, “Amenity/Open space” and “Public/Community”.

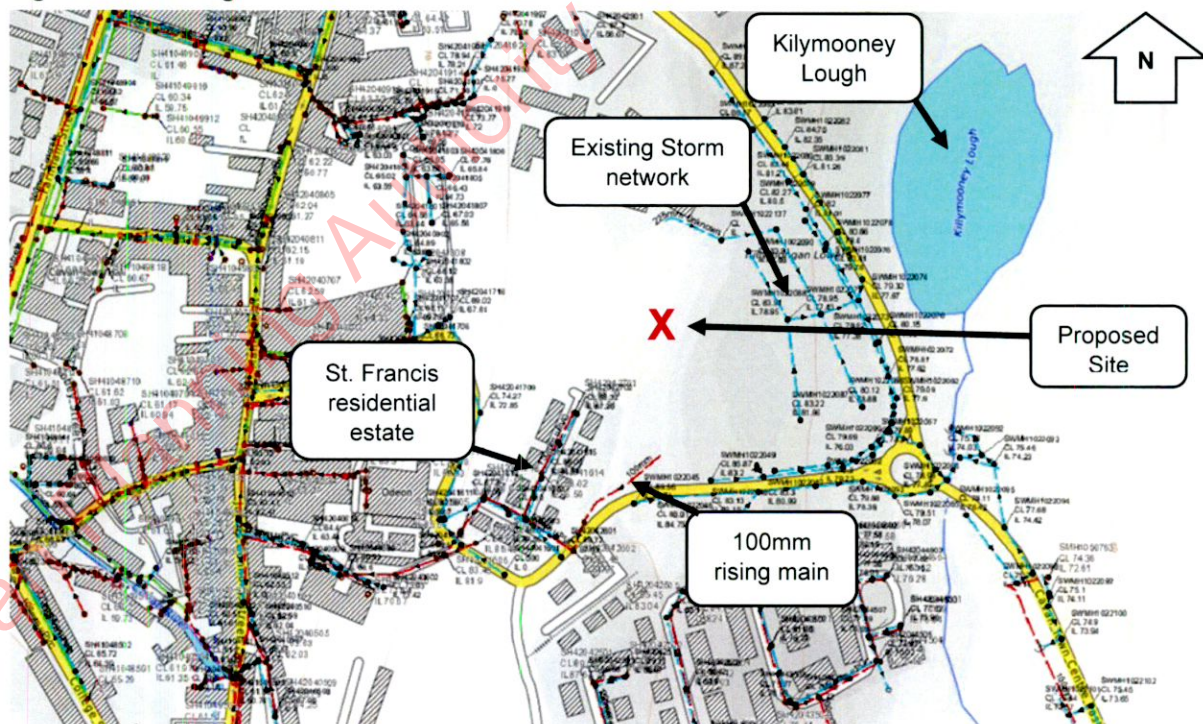
The lands to the west consist of residential properties with a mix of houses and Cavan Town Centre, St. Clare’s national school directly located to the north, the east and south of the site is bounded by the road known as “Cock Hill”. The land in the opposite side of the road is currently undeveloped. The next closest major town to Cavan town is Ballinagh also in Co. Cavan, ca. 7.8 km south of Cavan town centre. Cavan Town is a gateway from Dublin, the midlands, and the North of Ireland. Dublin which is connected to Cavan via the N3 is approx. 95km to the southeast, Athlone connected via the N55 is ca. 72km southwest and Enniskillen connected via the N3/A509 in county Fermanagh is 42km northwest of Cavan town centre.

16.4.4 Foul and Surface Water Disposal

There is no existing sewer network within the site borders, according to the as-constructed survey information the closest network is 150mm line located in the St. Francis residential estate to the west. A 100mm rising main extends onto the proposed site in the southwest corner and is connected to the foul network that eventually discharges into Cavan Wastewater Treatment Plant (WWTP).

With regards to storm water, there is an existing 225mm network that run along eastern side of the site which connect into a 525mm line that runs north to south eventually discharging into Kilymooney Lough. Please refer to Figure 16.1 for an overview of the existing foul and surface water networks.

Figure 16.1 Existing Foul and Storm Water Networks

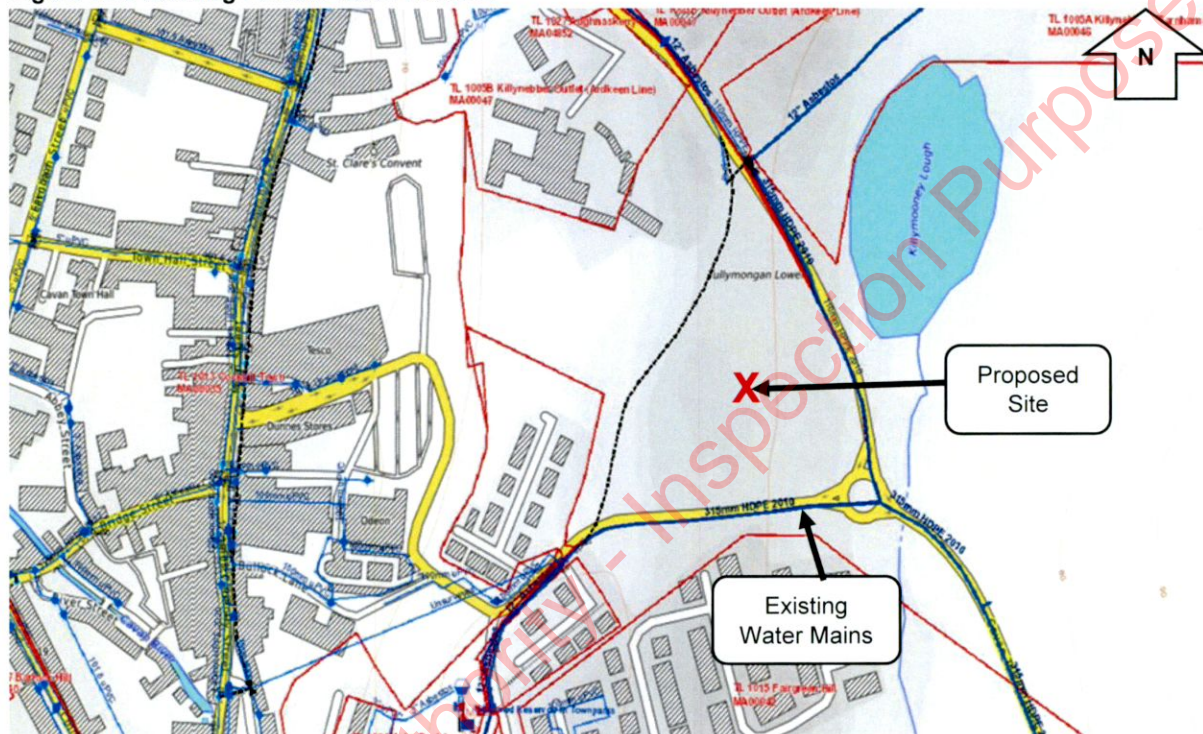




### 16.4.5 Potable Water Supply

There is an existing 300mm High Density Polyethylene (HDPE) public watermain line that runs along Cock Hill on the eastern and southern side of the proposed site. Based on this information there is no concern regarding potable water supply for the proposed development. This material assets will be discussed in greater detail in chapter 7 “Hydrology and Hydrogeology”. Please refer to **Figure 16.2** for an overview of the existing potable water supply network. There are more detailed civils drawings of all proposed underground drainage services available for review in **Appendix 8.5**.

**Figure 16.2 Existing Potable water network**



### 16.4.6 Transport Infrastructure

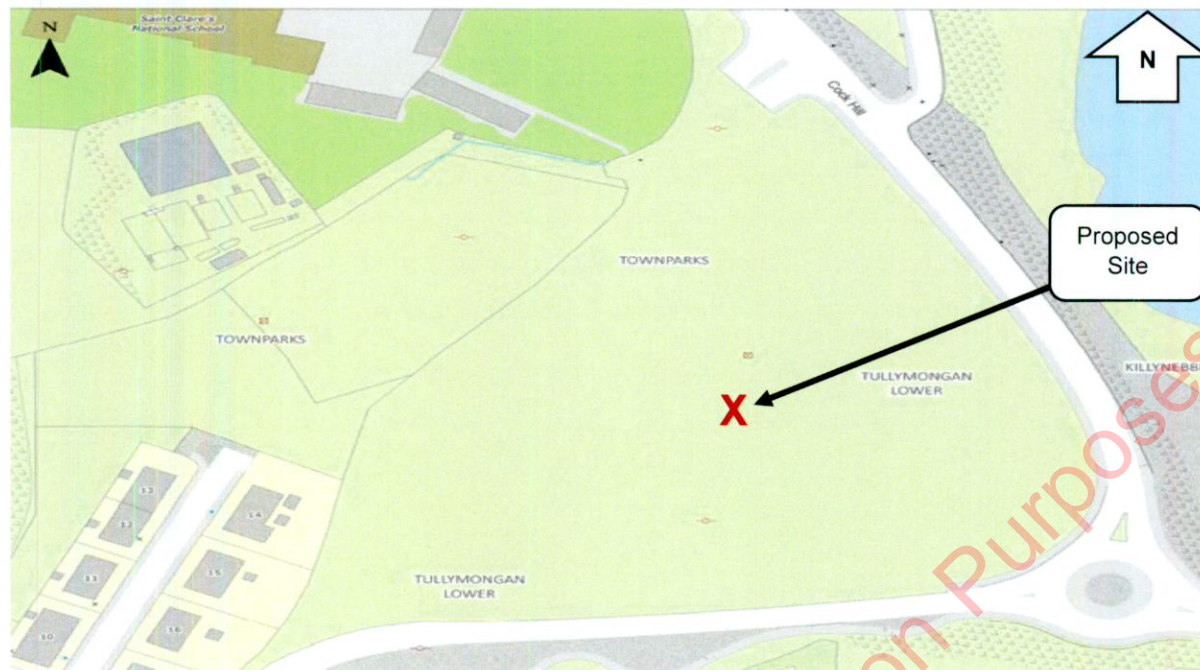
As outlined above, a full Traffic and Transport chapter has been prepared by ORS and will be submitted as part of this EIAR. The impact that the proposed development would have on the transportation infrastructure in the vicinity of the proposed development site has been fully assessed in the Traffic and Transport chapter.

### 16.4.7 Natural Gas Supply

Based on the information received from Gas Network Ireland (GNI), there is no existing gas supply in or around Cavan Town. The closest line is located ca. 18.3 km to the east just outside Cootehill. Please refer to **Figure 16.3** for the GNI map of the proposed site.



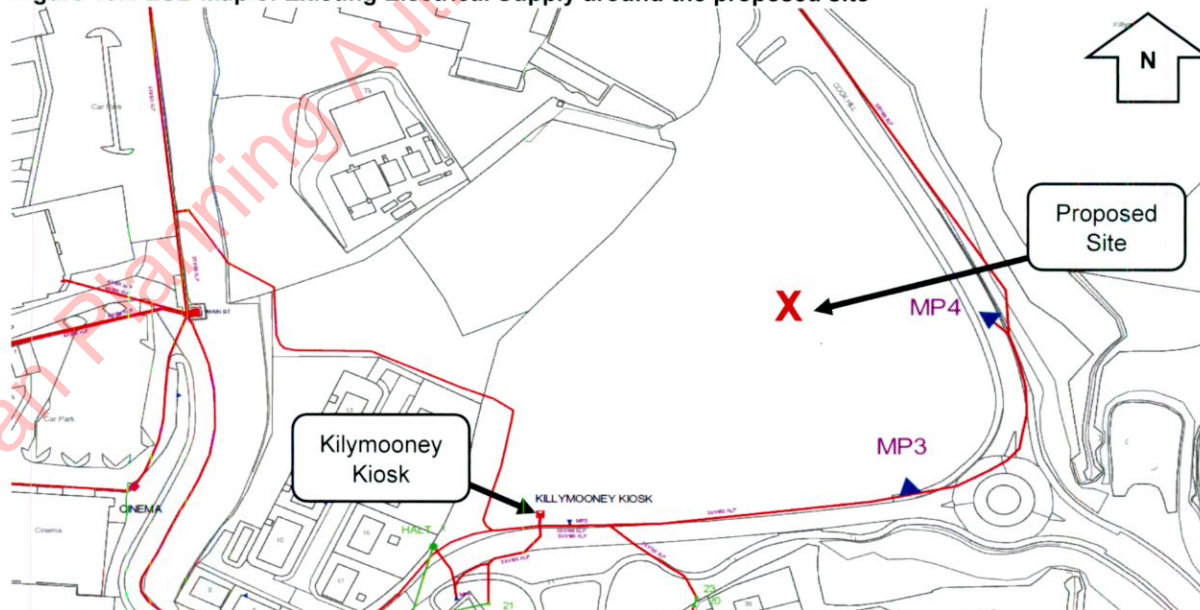
Figure 16.3 Existing Natural Gas network



### 16.4.8 Electrical Supply

Based on the information received from the ESB, there is an underground 100kv ESB line running along Cock Hill on the southern and eastern borders of the site. The same line branches off from the main network and runs through the land on the western side of the site and connects into an 100kv underground line in the main street of Cavan town. There is an ESB substation located on the southern side of the site known as "Kilymooney Kiosk" and three monitoring points along the southern and eastern borders. **Figure 16.4** shows the existing electrical network in or around the proposed site

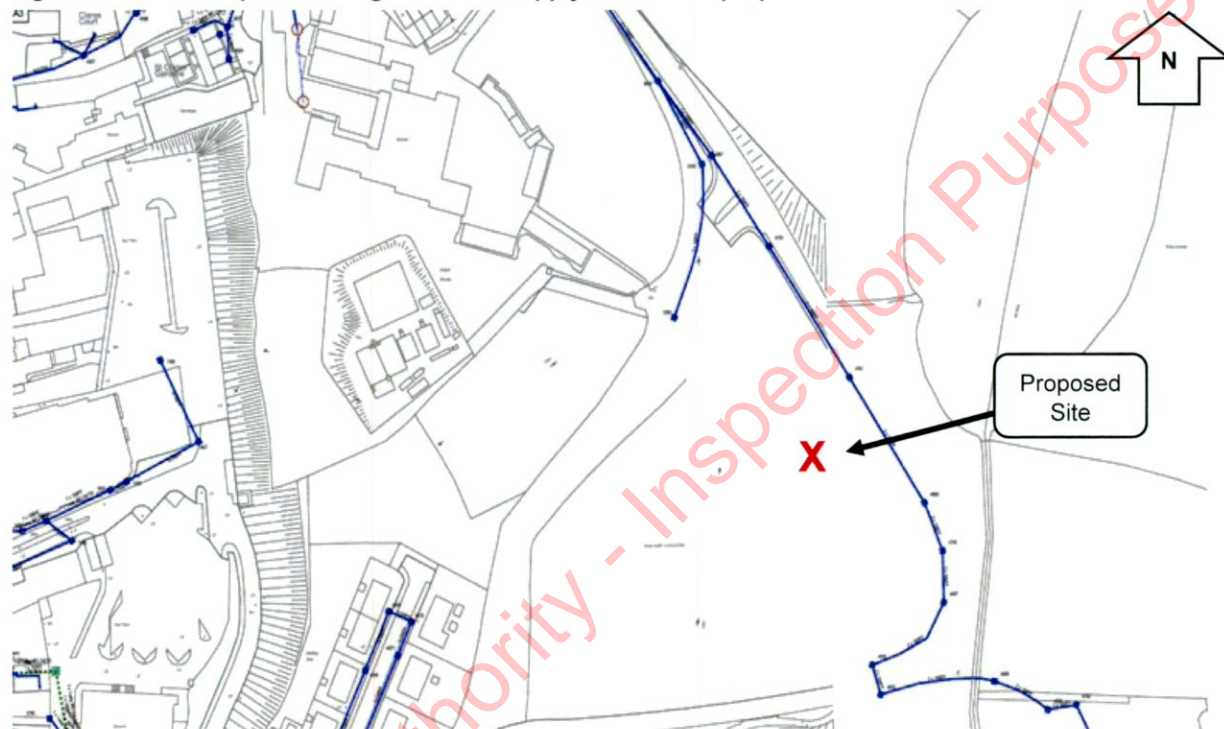
Figure 16.4 ESB Map of Existing Electrical Supply around the proposed site



**16.4.9 Telecommunications**

Based on the information obtained from Eir, there is an existing telecommunications network adjacent to the proposed site and a line runs within the site boundary to the north. According to the maps a 2x100PP network runs along Cock Hill on the eastern side of the proposed site, there is another 2x100PP line connected to the main line that enters the site on the north side and terminates at point 3363 close to the border with St. Clare’s National School. Please refer to **Figure 16.5** below for an overview of the existing telecommunications network according to Eir.

**Figure 16.5: ESB Map of Existing Electrical Supply around the proposed sit**



**16.4.10 Municipal Waste**

A separate waste management chapter has been prepared as part of this EIAR along with a standalone Construction Environmental Management Plan and a standalone Operational Waste Management Plan. This includes information of the potential wastes generated from the construction and operational phases based on the nature and scale of the proposed development.

**16.4.11 Cavan County Development Plan 2022-2028**

A review of the Cavan County Development Plan was carried out to determine the objectives relevant to the Commercial and Retail Development within Cavan Town.

**Commercial and Retail Development Objectives:**

- CCR 01**      Sustain and enhance the retail and services offer of Cavan Town Centre in line with the County Retail Strategy with a principle of ‘town centre first’ approach being prioritised.



- CCR 02** Support commercial opportunities within Cavan town centre which harnesses the potential of the town for economic growth and sustainability.
- CCR 03** Reinforce the centre of Cavan Town as the proper location for new commercial and retail development, with emphasis on quality of design, positive contribution to the existing streetscape and protection of existing heritage landscapes.
- CCR 04** Support the provision of mixed-use developments in the town centre which create opportunities to live, work and shop within the town and reduce the car-based travel.
- CCR 05** Encourage and facilitate the re-use and regeneration of derelict land and buildings for retail and other town centre uses with due cognisance to the Sequential Approach prescribed in the Retail Planning Guidelines 2012.
- CCR 06** **Promote the priority of pedestrian movement in the town core.**

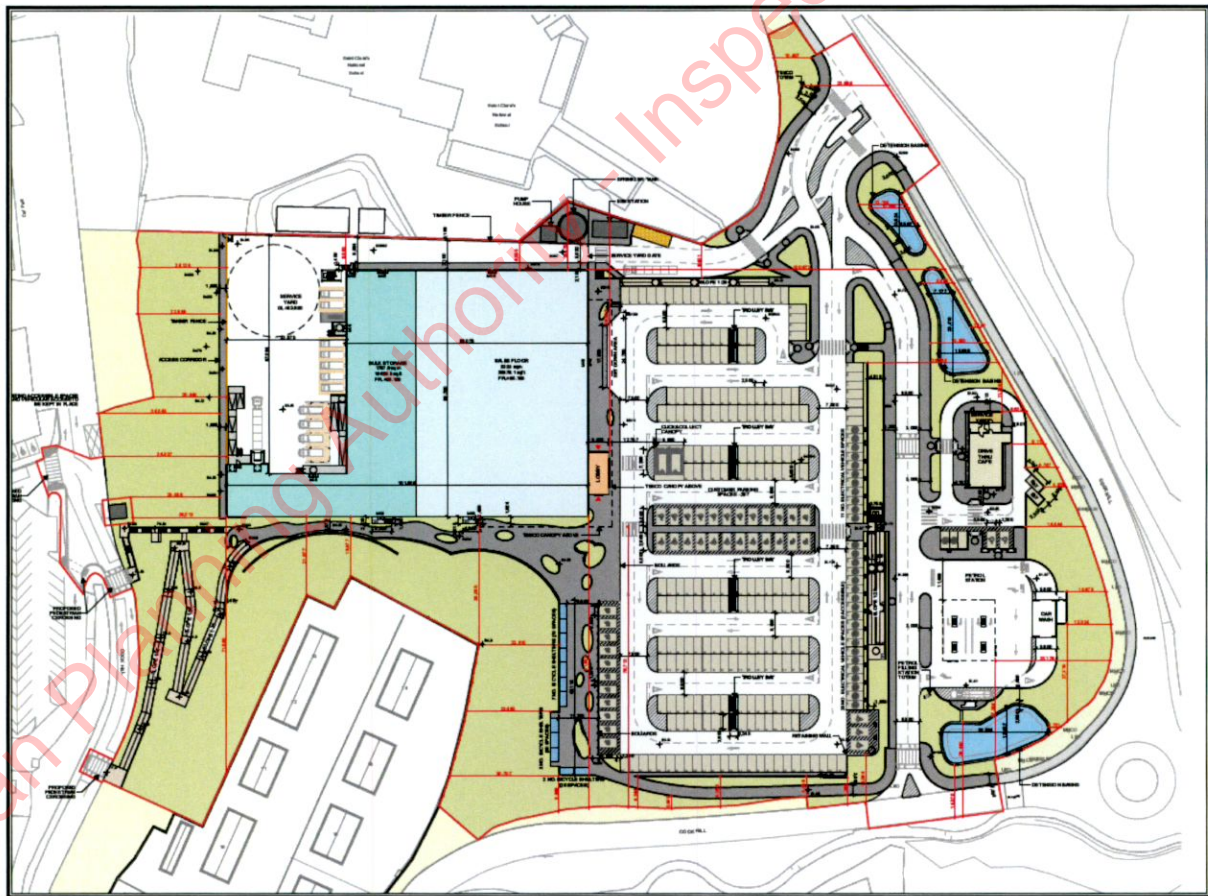
### 16.5 Characteristics of the Proposed Development

The development will consist of the construction of a single storey retail unit of c. 5,197 sq.m gross floor area (c. 2,194 sq.m convenience net sales area and c. 957 sq.m comparison net sales area) including a licensed alcohol sales area and service yard; a drive thru café unit (c.174 sq.m gross floor area) with external seating and 5 no. car parking spaces and 2 no. set down bay areas; a petrol filling station including car wash/jet wash (c. 89 sq.m), a forecourt canopy (covers c. 255 sq.m. and 4.8m in height); signage including elevational and 2 no. totem signs; 297 no. car parking spaces and 120 no. cycle parking spaces; a "Click and Collect" facility; Grocery Home Shopping delivery vehicle docking area; access points from Cock Hill Road; pedestrian linkages with the Town Centre by way of the provision of a sloped pedestrian walkway and steps on the western boundary of the site with 4 no. pedestrian crossings on Cock Hill Road and; all ancillary site development works, landscaping, fencing, enabling works and site services.

Please refer to **Chapter 2** for the full description of development.

An extract from the planning drawings can be seen in **Figure 16.6**.

**Figure 16.6 – Extract from Site Plan (Joseph Doyle Architects)**





## 16.6 Predicted Effects of the Proposed Development

The assessment focuses on predicted effects in relation to the Material Assets.

Based on the dataset obtained during the desk study, and anecdotal evidence collected the following risk assessment has been carried out. The assessment relates to effects occurring during both the construction and operational phases of the development.

This is provided with reference to both the characteristics of the receiving environment and the characteristics of the proposed development while also making references to the magnitude and intensity, the integrity, duration, and probability of the impacts.

An impact assessment addresses direct, indirect, secondary, cumulative, short, medium, and long-term, temporary, permanent, positive, and negative effects as well as impact interactions.

### 16.6.1 Do-Nothing Scenario

In order to provide a qualitative and equitable assessment of the proposed development this section of the chapter considers the proposed development in the context of the likely impacts to the receiving environment should the proposed development not go ahead.

If the proposed development did not proceed there would be no increased demand or loading on material assets of human or natural origin. However, it would not be beneficial to the local economy and may discourage companies from locating their operations in the area in the future.

### 16.6.2 Sources - Construction Phase

The construction phase is likely to yield potentially significant demand on the material assets. Potential construction phase effects are considered in detail below and summarized in **Table 16.1**.

#### Ownership and Access

The subject lands were previously developed on as some hard standing ground remains, however there will be disturbance during the construction phase to the surrounding area.

The details regarding deliveries and access to the construction site will be decided prior to construction commencing and will be agreed upon with Cavan County Council.

Any impacts/alterations to the local road network are likely to have a **negative, moderate, temporary effect** on road users.

#### Urban Settlements

The construction phase of the proposed development is likely to have some impacts on the surrounding urban settlements in or around the proposed development site.

In particular during the construction phase any disturbances may have impact on the surrounding residents. Some minor additional but additional impacts might be felt by the local population.

Any impacts/alterations to the local residents and urban settlements are likely to have a **negative, slight, temporary effect**. These localized impacts will be discussed in more detailed in the relevant chapters of this EIAR (eg: Noise and Vibration, Traffic and Transport etc)

#### **Foul and Surface Water Discharge**

The construction phase of the proposed development is likely to have some impacts on the existing drainage and sewage networks in or around the proposed development site. If best practice is not adhered, there is the possibility of damaging the existing network and therefore impacting upon local drainage systems. The proposal will involve adding new connections to the existing foul network, but overall demand on the network during the construction phase will not be significant.

As a result of these works there is potential for there to be **neutral, not significant, temporary** impacts on the local sewage and drainage systems.

#### **Potable Water Supply**

If best practice is not adhered, there is the possibility of damaging the existing network and therefore impacting upon local water supply systems. The proposed development will involve new connections to the existing Irish Water network. There is potential for some impacts by the way of disruption to water supply while the new connection is being fitted however it's likely that there will be a low impact on the water supply from a consumption perspective during the construction phase.

As a result of these works there is potential for there to be **neutral, slight, temporary** impacts to the local potable water supply.

#### **Transportation Infrastructure**

The potential for increased volumes of construction traffic has the potential to negatively impact on the integrity of the roads and increased risks of soil, dust and other construction materials being deposited thereon resulting in a potential traffic hazard.

As a result of these works there is potential for there to be **negative, moderate, temporary** impacts on the local transportation infrastructure.

#### **Natural Gas Supply**

As there is no gas supply currently available in the area as per the maps from Gas Networks Ireland there will be no impact to the gas supply system the construction phase of this project.

Therefore As a result of these works there is potential for there to be **negligible and imperceptible, with no likely** impacts on the gas supply networks.



**Electrical Supply**

If best practice is not adhered, there is the possibility of damaging the existing network and therefore impacting upon electrical supply systems. The proposed development will involve new connections to the existing ESB network during the construction phase. The potential impact here is likely to be short term and low as demand will not be excessive during the construction phase any impacts are likely to come during the period of connecting to the network.

As a result of these works there is potential for there to be **negative, slight, brief** impacts to the local electrical supply.

**Telecommunications**

Fixed services telecommunication will not be operational during the construction phase. Any involvement with telecommunications during the construction phase will likely involve diverting or extending existing fixed lines for connection during the operational phase of the proposed project. If best practice is not adhered, there is the possibility of damaging the existing network and therefore impacting upon local telecommunication connectivity.

As a result of these works there is potential for there to be **negative, slight, brief**, impacts on the telecommunication network.

**Municipal Waste**

During the construction phase of the proposed project there will be a need to export and import significant quantities of various materials. Constructed related waste will also be produced onsite during the construction of the proposed development.

As a result of these works there is potential for there to be **negative, moderate to significant, temporary** impacts to the local electrical supply.

**Table 16.1 – Construction Phase Effects (Unmitigated)**

Asset	Potential Environmental Effects	Quality	Significance	Duration
<b>Ownership/Access</b>	Land disturbance Increased volumes of traffic	<b>Negative</b>	<b>Moderate</b>	<b>Temporary</b>
<b>Urban Settlements</b>	Increased Noise Levels Increased Dust Levels Increased volumes of traffic Impact on road infrastructure	<b>Negative</b>	<b>Slight</b>	<b>Temporary</b>
<b>Foul and Surface Water Discharge</b>	Connecting to the network Potential damage and subsequent repairs to the network	<b>Neutral</b>	<b>Not Significant</b>	<b>Temporary</b>
<b>Potable Water Supply</b>	Connecting to the network Potential damage and subsequent repairs to the network Potential contamination of the network	<b>Neutral</b>	<b>Slight</b>	<b>Temporary</b>

<b>Transportation Infrastructure</b>	Wear and tear on the road network Accumulation of construction debris on the road infrastructure Increased HGV traffic	<b>Negligible</b>	<b>Imperceptible</b>	<b>Unlikely</b>
<b>Natural Gas Supply</b>	No impacts expected no gas supply currently in Cavan town	<b>Negligible</b>	<b>Imperceptible</b>	<b>Unlikely</b>
<b>Electrical Supply</b>	Connecting to the network Potential damage and subsequent repairs to the network	<b>Negative</b>	<b>Slight</b>	<b>Brief</b>
<b>Telecommunications</b>	Connecting to the network Potential damage and subsequent repairs to the network	<b>Negative</b>	<b>Slight</b>	<b>Brief</b>
<b>Municipal Waste</b>	Increased waste production Increased HGVs in the area for delivery's/collections Potential litter if improperly managed	<b>Negative</b>	<b>Moderate to Significant</b>	<b>Temporary</b>

**16.6.4 Sources - Operational Phase**

Potential operational phase effects are considered in detail below and summarized in **Table 16.2**.

**Ownership and Access**

There are currently two entrances/exits proposed for the development both are via the road known as “Cock Hill”. One entrance is located on the southern border of the site and is a direct route to the drive through coffee shop and petrol station. It is connected to the second access road on the east side of the proposed development. The impact to the local traffic and transport will be assessed and discussed in more in a designated chapter of this EIAR.

As a result of these works there is potential for there to be **negative, moderate to significant, long-term** impacts.

**Urban Settlements**

This proposed development will result in increased traffic and footfall to the area during the operational phase, however this development will contribute to the economic growth the area in particular the link between the proposed supermarket and the town centre will ensure consumers have accessibility to the high street. This development also meets the requirements of the land zoning objective sets out in the Cavan County Development Plan 2022-2028 which are zoned Town Core .

As a result of these works there is potential for there to be **neutral, moderate, long-term impacts**.

**Foul and Surface Water Discharge**

The proposed development will increase the demand on the public sewer network and therefore decrease the capacity of the network. Given this is a supermarket and the number of toilets will be low and the fact a surface water drainage system exists onsite without any records of issue with the network capacity the impact will be limited. The engineering planning report submitted as part of this application has concluded that the existing foul sewer network has adequate capacity to cater for the proposed effluent discharge.



As a result of these works there is potential for there to be **negative, slight, long-term impacts**.

#### **Potable Water Supply**

Given the nature of the proposed development impacts on potable water supply are likely to see an increase on demand, water will be required for staff and customer toilets, canteen use and cleaning purposes. This topic will be discussed in more detail in chapter 8. Also, the engineering planning report submitted as part of this application has stated following discussion with Cavan County Council there is adequate capacity within the existing watermain network to supply the proposed development.

As a result of these works there is potential for there to be **negative, moderate, long-term** impacts.

#### **Transportation Infrastructure**

The operational phase will result in increased volumes of traffic using the local roads to access the proposed development. The Traffic and Transport chapter assesses the estimated levels of traffic generated by the proposed development, the existing and future road infrastructure and the information and analysis summarized in the Traffic and Transport Assessment.

As a result of these works there is potential for there to be **negative, significant, long-term** impacts.

#### **Natural Gas Supply**

As there is no gas supply currently available in the area as per the maps from Gas Networks Ireland there will be no impact to the gas supply system during the operational phase of this development. Therefore

As a result of these works there is potential for there to be **negligible and imperceptible, with no likely impacts** on the gas supply networks.

#### **Electrical Supply**

The impact on the electrical network is the proposed development will increase the demand on the network, however an existing Tesco exists to the west of the proposed development therefore the net demand will not increase significantly once the existing store ceases to trade when the proposed development is operational.

As a result of these works there is potential for there to be **negative, moderate to significant, long-term impacts**.

#### **Telecommunications**

Given the scale of the proposed development the demand during the operational phase is a potentially moderate increase. As stated above given the fact there is an existing Tesco superstore in Cavan town which will cease trading once the proposed development is operational the overall net demand on the network will not be significant.

The impact on the telecommunication network during the operational phase is likely to be **negative, slight to moderate, long-term impacts.**

### **Municipal Waste**

The impact on the waste infrastructure from the proposed development will result in an increased demand. The potential impact on the waste infrastructure from the proposed development is likely to be long term and moderate. However, as stated above given the fact there is an existing Tesco superstore in Cavan town which will cease trading once the proposed development is operational the overall net increase in waste arisings will not be of major significance.

The impact on the waste infrastructure network during the operational phase is likely to be **negative, moderate, long-term impacts.**

**Table 16.2 – Operation Phase Effects Summary (Unmitigated)**

Receptor	Potential Environmental Effects	Quality	Significance	Duration
Ownership/Access	Increased traffic and footfall to the area	Negative	Moderate to Significant	Long-term
Urban Settlements	Contributes to the local economy Increased activity in the area Increased demand on electricity, water, infrastructure etc.	Neutral	Moderate	Long-Term
Foul and Surface Water Discharge	Increase demand and decreased capacity on the drainage network	Negative	Slight	Long-Term
Potable Water Supply	Increased demand	Negative	Moderate	Long-Term
Transportation Infrastructure	Increased wear and tear on the roads. Increased traffic	Negative	Significant	Long-Term
Natural Gas Supply	No impacts expected no gas supply currently in Cavan town	Negligible	Imperceptible	Unlikely
Electrical Supply	Increased demand	Negative	Moderate to Significant	Long-Term
Telecommunications	Increased demand	Unlikely	Slight to Moderate,	Long-Term
Municipal Waste	Increased demand Potential litter pollution	Negative	Moderate	Long-Term



## 16.7 Mitigation Measures

Mitigation measures proposed in this section relate primarily to the preservation and protection of the existing Material Assets near the proposed development.

### 16.7.1 Construction Phase

#### General Mitigation Measures

A Construction Environmental Management Plan (CEMP) will be prepared and implemented by the main contractor during the construction phase. This is a practical document which will include detailed procedures to address the main potential effects on the Material Assets.

#### Ownership and Access

The main concern from this material asset will be the access during both the construction phase and operational phase. A proposed site entrance is located on the northeast border of the lands for the construction phase. The same access point plus another on the southern border will be open to the public during the operational phase. No member of the public will have access to the site during the construction phase to control site access the following mitigation measure are proposed:

- Harris fencing will be erected around the site border to prevent access to members of the public.
- A banksman's/site security will be positioned at the proposed construction site entrance to control who enters the site.
- Only those who possess a valid Safe Pass will be authorised entry during the construction phase.
- All appropriate signage will be erected to highlight potential hazards and to deter unauthorised entry from site.

#### Urban Settlements

The following measures will minimise the risk to the urban settlements near the proposed site:

- Following of all best practice guidance to prevent and limit any impact to other material assets such as potable water, foul, storm, electrical and telecommunications networks and therefore the surrounding Urban Settlements.
- Staff training and toolbox talk regarding topics like water, electricity etc preservation to limit the impact on the existing networks and therefore the local urban settlements.
- Scheduled deliveries and collections to limit traffic build up on the surrounding road networks.
- Proper waste management as outlined in the CEMP to ensure no litter pollution occurs onsite or to the surrounding lands.

### **Foul and Surface Water Discharge**

Before any excavations during the construction phase can begin all details of the location/depths etc of the existing system must be known to prevent any potential of damage to the drainage networks. Mitigation factors for the protection of surface water receptors are discussed in more detail in chapter 8.

- Ensure all maps are consulted pre and during any excavations to prevent any potential damage to the existing network and avoid any system shutdowns for repairs. .
- Ensure none of the draining systems discharge into surface water to prevent any contamination to the local water receptors.

### **Potable Water Supply**

The existing site consists of hardstanding manmade ground however the available maps indicate that the existing potable water supply is along the external border of the proposed development. A connection to the water supply will be required during the construction phase.

The same mitigation measures suggested for the Foul and Surface Water drainage systems are recommended for the Potable Water supply, aside from the demand on the network which will be slight during the construction phase before any excavations are conducted site maps must be consulted to prevent any damage to the network and avoid the unnecessary loss of treated potable water.

### **Transportation Infrastructure**

The proposed development will result in an increased vehicle presence during the construction phase in particular with HGVs. This in turn will increase the potential of construction related debris on the local road network around the proposed site. In order to control this several mitigation factors have been recorded as follows:

- Limit any excavation and turning of soil until dryer weather.
- Have wheel wash facilities onsite near the access points.
- Have a road sweeper onsite to clean the surrounding road infrastructures during the construction phase.
- Limit the speed limit to 20km/hr. onsite during dryer periods to limit the arising of dust onsite.
- Measure detailed in Dust Management Plan

### **Gas Supply**

There is no existing gas network in the surrounding area however it is still recommended to consult with Gas Networks Ireland to ensure without any certainty that no gas pipelines are in the vicinity of the proposed site.



### **Electrical Supply**

A connection to the existing network will be required during the construction phase, similar recommendations apply as previously mentioned, in the event of any required excavations it is vital those involved are familiar with the most current maps and be aware of any buried cable, in order to prevent injury most importantly but potential damage to the network and widespread disruption to the network. Online platforms such as “Dial Before you Dig” can help inform construction personnel of the existing underground systems involved before commencing any works.

### **Telecommunications**

As stated above no excavations should proceed before first consulting the most recent maps to avoid injury and damage to the existing networks.

### **Municipal Waste**

There will be a significant amount of construction related waste generated during the project, the following are several recommended mitigation measures to help reduce the impact from waste during the construction phase:

- Inform staff through toolbox talks/training etc on the relevance and importance of correct waste segregation and management.
- Ensure waste receptacles available for the different identified waste streams to ensure proper and efficient segregation of waste onsite
- Install signage to promote and encourage proper waste segregation, recycling etc.
- Ensure bins/skips are not allowed to overflow to prevent litter build-up onsite.
- Ensure all bins have lids and skips are covered when be removed offsite to prevent littering elsewhere.
- Ensure waste is collected by a registered vendor and disposed off at a facility licenced to take said waste.
- Maintain good waste records onsite to ensure all is accounted for.

## **16.7.2 Operational Phase**

### **General Mitigation Measures**

An Environmental Operating Plan (EOP) will be prepared and implemented by the management company during the operational phase. This is a practical document will include detailed procedures to address the things like water and energy usage, waste management etc. Mitigation factors for the protection of the surface water receptors are also discussed in the accompanying engineers planning report, it is intended Storm water attenuation measures will be incorporated into the project.

## **16.8 Monitoring**

No specific monitoring is proposed regarding site services infrastructure..

## 16.9 Residual Effects

According to Environmental Protection Agency guidelines, Residual Impact is described as ‘the degree of environmental change that will occur after the proposed mitigation measures have taken place.’ The mitigation strategy above recommends actions which can be taken to reduce or offset the scale, significance, and duration of the effects on the surrounding material asset features.

The purpose of this assessment is to specify mitigation measures where appropriate to minimise the ‘risk factor’ to all aspects of the material assets and surrounding environment such as to minimize the potential damage to the existing networks during excavation, reduce the overall demand on the systems by promoting sustainable use of resources, etc. This ‘risk factor’ is reduced or offset by recommending the implementation of a mitigation strategy in each area of the study. On the implementation of this mitigation strategy, the potential for impact will be lessened.

A site-specific Construction Environmental Management Plan (CEMP) has been submitted in support of the proposed development and will be implemented throughout the duration of the construction phase. This document will contain all the necessary procedures required to prevent and minimise any environmental risks posed by the project on the surrounding environment.

### 16.9.1 Construction Phase

A summary of the predicted effects associated with the construction phase in terms of quality, significance, and duration, along with the proposed mitigation measures and resulting residual effects are summarised in **Table 16.3**.

The overall impact anticipated by the construction phase of the project following the implementation of suitable mitigation measures is considered to be **neutral to negative, imperceptible to slight, and temporary**.

### 16.9.2 Operational Phase

A summary of the predicted effects associated with the operational phase in terms of quality, significance, and duration, along with the proposed mitigation measures and resulting residual effects are summarised in **Table 16.4**.

The overall impact anticipated by the operational phase of the project following the implementation of suitable mitigation measures is considered to be neutral to **negative, slight, and short term to long term**. There are no controlled or uncontrolled emissions anticipated as a result of the proposed development.



**Table 16.3: Summary of predicted construction phase impacts, mitigation measures and residual impact**

Potential Source	Impact Description	Quality	Significance	Duration	Mitigation	Residual Impact
<b>Ownership and Access</b>	Land disturbance Increased volumes of traffic	<b>Negative</b>	<b>Moderate to Significant</b>	<b>Temporary</b>	<ul style="list-style-type: none"> <li>Harris fencing will be erected around the site border to prevent access to members of the public.</li> <li>A banksman/site security will be positioned at the proposed construction site entrance to control who enters the site.</li> <li>Only those who possess a valid Safe Pass will be authorised entry during the construction phase.</li> <li>All appropriate signage will be erected to highlight potential hazards and to deter unauthorised entry from site</li> </ul>	<b>Neutral, Slight, Temporary</b>
<b>Urban Settlements</b>	Increased Noise Levels Increased Dust Levels Increased volumes of traffic Impact on road infrastructure	<b>Neutral</b>	<b>Moderate</b>	<b>Temporary</b>	<ul style="list-style-type: none"> <li>Following of all best practice guidance to prevent and limit any impact to other material assets such as potable water, foul, storm, electrical and telecommunications networks and therefore the surrounding Urban Settlements.</li> <li>Staff training and toolbox talk regarding topics like water, electricity etc preservation to limit the impact on the existing networks and therefore the local urban settlements.</li> <li>Scheduled deliveries and collections to limit traffic build up on the surrounding road networks.</li> <li>Proper waste management as outlined in the CEMP to ensure no litter pollution occurs onsite or to the surrounding lands.</li> </ul>	<b>Neutral, Slight, Temporary</b>
<b>Foul and Surface Water Disposal</b>	Connecting to the network Potential damage and subsequent repairs to the network Potential Contamination to the network	<b>Negative</b>	<b>Slight</b>	<b>Temporary</b>	<ul style="list-style-type: none"> <li>Ensure all maps are consulted pre and during any excavations to prevent any potential damage to the existing network and avoid any system shutdowns for repairs.</li> <li>Ensure none of the draining systems discharge into surface water to prevent any contamination to the local water receptors.</li> </ul>	<b>Neutral, Slight, Temporary</b>

Potential Source	Impact Description	Quality	Significance	Duration	Mitigation	Residual Impact
<b>Transportation Infrastructure</b>	Wear and tear on the road network Accumulation of construction debris on the road infrastructure Increased HGV traffic	Neutral	Slight	Temporary	<ul style="list-style-type: none"> <li>Limit any excavation and turning of soil until dryer weather.</li> <li>Have wheel wash facilities onsite near the access points.</li> <li>Have a road sweeper onsite to clean the surrounding road infrastructures during the construction phase.</li> <li>Limit the speed limit to 20km/hr. onsite during dryer periods to limit the arising of dust onsite.</li> <li>Dust Management Plan measures</li> </ul>	<b>Negative, Slight, Temporary</b>
<b>Gas Supply</b>	No impacts expected no gas supply currently in Cavan town Connecting to the network Potential damage and subsequent repairs to the network	Negligible	Imperceptible	Unlikely	There is no existing gas network in the surrounding area however it is still recommended to consult with Gas Networks Ireland to ensure without any certainty that no gas pipelines are in the vicinity of the proposed site	<b>Unlikely, Negligible, Unlikely</b>
<b>Electrical Supply</b>	Connecting to the network Potential damage and subsequent repairs to the network	Negative	Slight	Brief	A connection to the existing network will be required during the construction phase, similar recommendations apply as previously mentioned, in the event of any required excavations it is vital those involved are familiar with the most current maps and be aware of any buried cable, in order to prevent injury most importantly but potential damage to the network and widespread disruption to the network. Online platforms such as "Dial Before you Dig" can help inform construction personnel of the existing underground systems involved before commencing any works.	<b>Negative, Slight, Temporary</b>
<b>Telecommunications</b>	Connecting to the network Potential damage and subsequent repairs to the network	Negative	Slight	Brief	As stated above no excavations should proceed before first consulting the most recent maps to avoid injury and damage to the existing networks.	<b>Negative, Slight, Temporary</b>
<b>Municipal Waste</b>	Increased waste production	Negative	Moderate to Significant	Temporary	<ul style="list-style-type: none"> <li>Inform staff through toolbox talks/training etc on the relevance and importance of correct waste segregation and management.</li> </ul>	<b>Negative, Slight to</b>



Potential Source	Impact Description	Quality	Significance	Duration	Mitigation	Residual Impact
	Increased HGVs in the area for delivery's/collections Potential litter if improperly managed				<ul style="list-style-type: none"> <li>• Ensure waste receptacles available for the different identified waste streams to ensure proper and efficient segregation of waste onsite</li> <li>• Install signage to promote and encourage proper waste segregation, recycling etc.</li> <li>• Ensure bins/skips are not allowed to overflow to prevent litter build-up onsite.</li> <li>• Ensure all bins have lids and skips are covered when be removed offsite to prevent littering elsewhere.</li> <li>• Ensure waste is collected by a registered vendor and disposed off at a facility licenced to take said waste.</li> <li>• Maintain good waste records onsite to ensure all is accounted for.</li> </ul>	<b>Moderate, Temporary</b>

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**Table 16.4: Summary of predicted operational phase impacts, mitigation measures and residual impact**

Potential Source	Impact Description	Quality	Significance	Duration	Mitigation	Residual Impact
<b>Ownership and Access</b>	Increased traffic and footfall to the area	Negative	Moderate to Significant	Long-term		Neutral, Moderate, Long-term
	Contributes to the local economy	Neutral	Moderate to Slight	Long-Term		Negative, Slight, Long-term
<b>Urban Settlements</b>	Increased activity in the area	Negative			An Environmental Operating Plan (EOP) will be prepared and implemented by the plant management company during the operational phase. This is a practical document will include detailed procedures to address the things like water and energy usage, waste management etc.	Negative, Slight, Long-term
	Increased demand on electricity, water, infrastructure etc.					Negative, Slight, Long-term
<b>Foul and Surface Water Disposal</b>	Increased demand	Negative	Moderate	Long-Term		Negative, Slight, Long-term



Potential Source	Impact Description	Quality	Significance	Duration	Mitigation	Residual Impact
Transportation Infrastructure	Increased wear and tear on the roads. Increased traffic	Negative	Significant	Long-Term		Unlikely, Negligible, Unlikely
Gas Supply	No impacts expected no gas supply currently in Cavan town	Negligible	Imperceptible	Unlikely		Neutral, Slight, Long-term
Electrical Supply	Increased demand	Negative	Moderate to Significant	Long-Term		Negative, Slight, Long-term
Telecommunications	Increased demand	Unlikely	Slight to Moderate,	Long-Term		Negative, Slight, Long-term
Municipal Waste	Increased demand Potential litter pollution	Negative	Moderate	Long-Term		Negative, Slight, Long-term

### 16.9.3 Summary of Significant Impacts

The receptors for this assessment are considered to be the local material assets identified as Ownership and Access, Urban Settlements, Foul and Surface Water Disposal, Potable Water Supply, Gas Supply, Electrical Supply, Telecommunications Systems and Municipal Waste. Whilst the development proposals have the potential to cause significant effects to assets identified, the recommended mitigation measures will ensure that the risk of potential effects are reduced to negligible.

### 16.9.4 Statement of Significance

The significance of impact upon all material assets have been assessed for both during the construction and operational phases. The results of the assessment are presented on **Table 16.3** and **Table 16.4**

Where a potential impact has been identified, the significance of impact upon these assets' ranges from minor to moderate.

Where a potential impact has been identified, mitigation measures have been provided which if implemented reduces the impact of significance to '**slight to moderate**'. The mitigation steps are presented in **Section 16.6** of this chapter.



## 16.10 Reinstatement

This chapter comprises an assessment of the material assets within the vicinity of the site and the surrounding environs. The proposal will result in a permanent change in land use and therefore reinstatement measures are not applicable.

## 16.11 Interactions and Potential Cumulative Effects

### 16.11.1 Interactions

Potential interactions between material assets and the environmental aspects assessed in other chapters of this EIAR are not anticipated.

### 16.11.2 Cumulative Effects

The major cumulative effects of significance on the material assets for the operational phase of the proposed development, are anticipated from an increase on demand to the services such as water and electricity or on the waste management infrastructures.

In terms of future projected projects, there are 4 no. proposed developments set within the vicinity of the proposed development likely to commence during the project construction phase, as summarised in **Table 7.14**. Given the relatively minor scale of these developments, any cumulative impacts are anticipated to be **Negative, Slight, Long-Term**.

**Table 16.5. Proposed Developments within the site vicinity**

Reg. Ref.	Location	Description of Development	Decision	Distance	Anticipated Cumulative Effect
CCC Reg. Ref. 21528	Aghnaskerry, Co. Cavan	Demolish existing derelict dwelling house and erect 26 no. 3-bed semi-detached dwellings	Permission Granted by CCC 26/05/2022  Subject of current appeal with ABP	ca. 317m NE	<b>Negative, Not Significant, Temporary</b>
CCC Reg. Ref. 2163	Gaelscoil Bhrefine Tullymongan Lower and Aghnaskerry, Cavan	Single storey extension to existing school, alterations to site layout with a new access via service road	Permission Granted by CCC 21/05/2022  Development commenced 08/07/2021	ca. 180m N	<b>Negative, Slight, Long Term</b>
CCC Reg. Ref. 20145	Aughnaskerry, Tullymongan Lower, Cavan	Change of use of existing dwelling to pre/after school care facility with associated alterations to elevations, outdoor play area and pedestrian path access from adjoining Gaelscoil Bhrefine	Permission Granted by CCC 22/10/2021	ca. 180m N	<b>Negative, Slight, Long Term</b>
CCC Reg. Ref. 20376	Gaelscoil Bhrefine Tullymongan Lower and Aghnaskerry, Cavan	Construct new roadway and entrance junction along the L2543 Cavan Town Eastern Access Road/ Cock Hill Road, alterations to existing public roadway to include new right turn lane and footpath, safety barrier, public playground area, pathways, public lighting, landscaping, boundary treatments and all ancillary site works	Permission Granted by CCC 03/03/2021	Adjacent to the site boundary to the NE	<b>Negative, Slight, Long Term</b>
CCC Reg. Ref. 18141	Tullymongan Lower, Cavan, Co. Cavan	Change of use of existing residential convent building to educational school building	Permission Granted by CCC 18/08/2018  Development commenced 08/07/2021	ca. 180m N	<b>Negative, Slight, Long Term</b>



## 17.0 Risk Management

### 17.1 Introduction

This chapter sets out an assessment of the potential significant adverse effects on the environment of the proposed development deriving from its vulnerability to risks of major accidents and/or disasters.

This Chapter was prepared by Robert McLoughlin, Brendan Boyle and Rachel Lawler of RMLA Limited, Planning Consultants. Robert McLoughlin holds a Bachelor of Agricultural Science (Landscape Horticulture) from University College Dublin (UCD) and a Master of Urban and Regional Planning also from UCD. Robert is a Corporate Member of the Irish Planning Institute and has 18 years postgraduate experience in the preparation of EIAR for residential, retail, commercial and healthcare developments.

Brendan holds a Bachelor of Science Degree in Environmental Planning from Queen's University Belfast (QUB) and a Postgraduate Diploma in Town and Country Planning, also from QUB. Brendan has a Postgraduate Diploma in Environmental Management with Geographic Information Systems from Ulster University and has over 14 years postgraduate experience in planning and development. Brendan is a Member of the Irish Planning Institute. Rachel Lawler holds a Bachelor of Arts Degree in Geography and Psychology from University of Galway and a Master of Urban and Regional Planning from UCD. Rachel is a graduate member of the Irish Planning Institute and has 2 years experience in planning and development.

#### 17.1.1 Legislative Context

The 2014 EIA Directive (2014/52/EU) includes an updated list of topics to be addressed as part of an EIAR and 'Risk Management' is identified as a new chapter to be assessed. Article 3(2) of the new EIA Directive requires that EIA shall include the expected effects on population and human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage and landscape deriving from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned.

The Directive also states that "*where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies*".

The 2014 EIA Directive is transposed into Irish Legislation through, inter alia, Schedule 6 of the Planning and Development Regulations 2001 (as amended); paragraph 2 of which states that the following information relating to Risk Management should be included in an EIAR: "*A description of the expected significant adverse effects on the environment of the proposed development deriving from its vulnerability to risks of major accidents and/or disasters which are relevant to it. Relevant information available and obtained through risk assessments pursuant to European Union legislation such as the Seveso III Directive or the Nuclear Safety Directive or relevant assessments carried out pursuant to national legislation may be used for this purpose, provided that the requirements of the Environmental Impact Assessment Directive are met. Where appropriate, this description should include measures*



*envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for, and proposed response to, emergencies arising from such events.”*

This Chapter identifies and compiles the expected effects arising from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project, in accordance with Article 3(2) of the EIA Directive.

## 17.2. Consultation

Pre-planning meetings were held with Cavan County Council on 6th August 2020, 13th October 2020, 30th September 2021 and 8th November 2022. Hazards were reviewed through the identification of likely risks in consultation with the Design Team and relevant specialists, in order to ensure that the safety and precautionary measures required to protect the proposed scheme in the event of a major accident are in place.

## 17.3 Legislation, Policy and Guidance

The chapter was carried out in accordance with the following guidance documents:

- Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022).
- Guidelines for Planning Authorities and An Bord Pleanála on Carrying Out EIA (DHPLG, 2018).
- A National Risk Assessment for Ireland 2020 (Department of Defense, 2021).
- National Risk Assessment Overview of Strategic Risks (Department of The Taoiseach, 2017).
- Guide to Risk Assessment in Major Emergency Management (DHPLG, 2010).
- Major Emergency Plan (Cavan County Council).<sup>1</sup>
- Causes of Fire Attended by Brigades (DHPLG, 2015).

The EIA Guidelines (2022) outlines that there are two key considerations in assessing the Risk of Major Accidents and/or Disasters:

- *“The potential of the project to cause accidents and/or disasters, including implications for human health, cultural heritage, and the environment; and*
- *The vulnerability of the project to potential disasters/accidents, including the risk to the project of both natural disasters (e.g. flooding) and man-made disasters (e.g. technological disasters).”<sup>2</sup>*

<sup>1</sup> Cavan County Council; <https://www.cavancoco.ie/services/emergency-services/fire-service/major-emergency-plan/major-emergency-plan.html>

<sup>2</sup> Guidelines for Planning Authorities and An Bord Pleanála on Carrying Out EIA, August 2018, pg 31



The EIA Guidelines (2022) further states:

*“The potential for a project to cause risks to human health, cultural heritage or the environment due to its vulnerability to external accidents or disasters is considered where such risks are significant, e.g. the potential effects of floods on sites with sensitive facilities. Where such risks are significant then the specific assessment of those risks in the form of a Seveso Assessment (where relevant) or Flood Risk Assessment may be required.”<sup>3</sup>*

The document ‘A National Risk Assessment for Ireland 2020’ provides guidance in relation to the carrying out of a risk assessment. A consolidated list of national hazards for Ireland identified in the document are identified in Table 17.1.

**Table 17.1 Consolidated List of Key Risks**

<b>Hazard: Civil</b> <ul style="list-style-type: none"> <li>• Large Crowd Event</li> <li>• Pandemic</li> <li>• Water supply Distribution and Contamination</li> <li>• Food Chain Contamination</li> <li>• Animal Disease</li> <li>• Terrorist Incident</li> </ul>	<b>Hazard: Natural</b> <ul style="list-style-type: none"> <li>• Storm</li> <li>• Snow and Ice (Including prolonged low temperature)</li> <li>• Flooding (Including pluvial, fluvial and coastal)</li> </ul>
<b>Transportation</b> <ul style="list-style-type: none"> <li>• Maritime Incident</li> <li>• Air Incident</li> <li>• Transport Hub (Includes Airports, Ports and Rail Stations)</li> </ul>	<b>Technological</b> <ul style="list-style-type: none"> <li>• Structural Collapse (including Dam, Tunnel, Building and Bridge)</li> <li>• Nuclear Incident (Abroad)</li> <li>• Cyber Incident</li> <li>• Disruption to Infrastructure and Utilities (including oil, gas, electricity and communications)</li> </ul>

**Source: A National Risk Assessment for Ireland (2020) Department of Defence) pg 19.**

The risk assessment methodology for this chapter has been supported by general risk assessment methods. Hazard analysis and risk assessment are accepted internationally as essential steps in the process of identifying the challenges that may have to be addressed by society, particularly in the context of emergency management. Mitigation as a risk treatment process involves reducing or eliminating the likelihood and/or the impact of an identified hazard. Table 17.2 sets out the Classification of National Likelihood Criteria contained in the ‘A National Risk Assessment for Ireland 2020’ document.

**Table 17.2 Classification of National Likelihood Criteria**

National Likelihood Criteria		
Rating	Classification	Average Recurrence Interval
1	Extremely Unlikely	100 or more years between occurrences
2	Very Unlikely	51 - 100 years between occurrences
3	Unlikely	11 – 50 years between occurrences
4	Likely	1 - 10 years between occurrences
5	Very Likely	Ongoing/Less than one year between occurrences

**Source: ‘A National Risk Assessment for Ireland (2020) Department of Defence) pg 21.**

<sup>3</sup> The EPA Guidelines on the Information to be contained in Environmental Impact Assessment Reports (2022), pg 49



## 17.4 Receiving Environment

The subject site is located on a backland site in the townlands of Townparks and Tullymongan Lower to the east of the Main Street at Cock Hill, Cavan town. The site is bounded to the north by St. Clare's National School and Gaelscoil Bhréifne, to the east by Killymooney Lough and green fields, to the south by residential lands and to the west by the Main Street backlands. The subject site is approximately c. 4.126ha hectares in area and is situated in the Electoral Division (hereafter 'ED') of Cavan Urban and Rural. The subject site is under the ownership of Cavan County Council.

In order to determine the potential consequences and predicted effect of major accidents and/or disasters relating to the proposed development, a desktop study was undertaken. Hazards were reviewed through the identification of likely risks in consultation with the Design Team and relevant specialists. The hazards outlined in the document 'National Risk Assessment for Ireland' were reviewed.

## 17.5 Characteristics of the Proposed Development

The development will consist of the construction of a single storey retail unit of c. 5,197 sq.m gross floor area (c. 2,194 sq.m convenience net sales area and c. 957 sq.m comparison net sales area) including a licensed alcohol sales area and service yard; a drive thru café unit (c.174 sq.m gross floor area) with external seating and 5 no. car parking spaces and 2 no. set down bay areas; a petrol filling station including car wash/jet wash (c. 89 sq.m), a forecourt canopy (covers c. 255 sq.m. and 4.8m in height); signage including elevational and 2 no. totem signs; 297 no. car parking spaces and 120 no. cycle parking spaces; a "Click and Collect" facility; Grocery Home Shopping delivery vehicle docking area; access points from Cock Hill Road; pedestrian linkages with the Town Centre by way of the provision of a sloped pedestrian walkway and steps on the western boundary of the site with 4 no. pedestrian crossings on Cock Hill Road and; all ancillary site development works, landscaping, fencing, enabling works and site services.

Please refer to Chapter 2 for the full description of development.

## 17.6 Predicted Effects of the Proposed Development

The potential significant effects of the proposed development are set out in the following sections. The EIAR chapters within this report identify that the proposed development has been designed in accordance with best practice and that the proposed development can be safely undertaken without risk to health. 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:

#### **Phase 1 Assessment:**

The 'National Risk Assessment for Ireland 2020' Consolidated List of National Hazards was used to identify a preliminary list of potential major accident and disasters. Receptors covered by legislation were not included within the assessment e.g. construction workers.

#### **Phase 2: Screening the hazards**

The list was screened and major events such as volcanoes were not included given the unlikely event of one occurring. Elements already addressed as a key part of the design e.g. risks of building collapse, are not repeated.

#### **Phase 3: Mitigation and Evaluation**

In the event that mitigation measures included did not mitigate against the risk, then, the potential impacts on receptors are identified in the relevant Chapter. Table 17.3 below lists the major accidents and/or disasters reviewed.

##### **17.6.1 Construction Phase**

The Construction Environmental Management Plan prepared by ORS outlines a number of potential hazards during the construction stage including inter alia: pollution, noise and vibration, hazardous and contaminated materials, traffic, and contamination/disturbance from dust and dirt.

The Flood Risk Assessment also prepared by ORS outlines a number of potential flood risk categories including, tidal, fluvial, pluvial, and groundwater.

Other relevant potential risks at construction stage relate to traffic accidents, mechanical failure, explosions, fire and building/scaffold collapse.

##### **17.6.2 Operational Phase**

The operational phase of the proposed scheme will comprise a mixed retail development with an anchor retail unit, a drive thru café and petrol filling station.

The main potential risks associated with the operational phase of the proposed development are fire, adverse weather events, flooding and building collapse.

The Flood Risk Assessment prepared by ORS addresses a number of potential flood risk categories including, tidal, fluvial, pluvial and groundwater. The increase in traffic movements associated with the operational phase of the proposed development has the potential to increase the risk of traffic accidents on the surround road network.

The proposed uses include an anchor retail unit with associated facilities. These uses are considered normal hazard fire risks as would be encountered in most developments and do not include any hazards which would be regarded as presenting an exceptional environmental fire hazard.

### 17.6.3 'Do nothing Scenario'

The potential risk of Major Accidents at the subject site in a 'do nothing' scenario would be very low due to the undeveloped nature of the site and the lack of potential receptors.

## 17.7 Mitigation Measures

Construction of the proposed development in accordance with Construction Environmental Management Plan submitted with this application will reduce the risk of accidents during construction to acceptable levels.

### 17.7.1 Construction Phase

The proposed development will be constructed in accordance with the current best practice and as such appropriate mitigation regarding the risk of major accidents and/or disasters will be employed throughout the design stage.

The fire risk mitigation for the project will comprise all fire safety measures necessary to comply with the requirements of Part B (Fire) of the Second Schedule to the Building Regulations 1997-2017. It is noted that these measures will be validated under the Building Control Act 1990-2007 through the obtaining, in due course, of statutory Fire Safety Certificates under Part III of the Building Control Regulations 1997-2018 from Cavan County Council/Cavan County Fire Brigade.

Provision of fire rated walls and floors to restrict the spread of fire within and between buildings in accordance with relevant design guidance e.g. Technical Guidance Document B, BS9991, and BS9999. These measures will serve to control/limit the size of conflagrations.

## 17.8 Monitoring

The Construction Manager will be responsible for ensuring the proper implementation of the mitigation measures identified in the EIAR, CEMP and planning conditions attached to any grant of planning permission.

The fire risk mitigation for the project will comprise all fire safety measures necessary to comply with the requirements of Part B (Fire) of the Second Schedule to the Building Regulations 1997-2017. It is noted that these measures will be validated under the Building Control Act 1990-2007 through the obtaining, in due course, of statutory Fire Safety Certificates under Part III of the Building Control Regulations 1997-2018 from Cavan County Council/Cavan Fire Brigade. ORS Fire Safety Engineering Consultants will oversee construction works to ensure works progress in line with the approved Fire Safety Certificate.

## 17.9 Residual Effects

Through the implementation of mitigation measures detailed in the relevant technical Chapters of this EIAR and through the CEMP, there are no identified incidents or examples of major accidents and or natural disasters that present a sufficient combination of risk and consequence that would lead to significant residual impacts or environmental effects as a result of the Proposed Development, alone or



in combination with other projects. As such, the vulnerability of the proposed development from major accidents and/or disasters is considered to be insignificant.

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Table 17.5 Major Accidents and/or Disasters Reviewed

Major Accident/ Disaster Category	Relevant for this Proposed Development	Description	Potential Receptor	Cove within EIAR?
<b>Civil</b>				
Large Crowd Event	N	Not considered vulnerable	N/A	N/A
Pandemic	Y	COVID-19 is an illness that can affect your lungs and airways. It is caused by a virus called Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). SARS-CoV-2 is spread in sneeze or cough droplets. The Proposed Development poses no additional COVID-19 risk.  During the construction phase of this Proposed Development HSE guidelines will be adhered to in relation to social distancing, cough and sneeze etiquette and hand washing. Appropriate welfare facilities will be provided at the construction compound. Frequently touched objects and surfaces such as door handles, machine steering wheels and gear levers will be cleaned and disinfected frequently.	Construction workers, employees	N/A
Food chain contamination	Y	Potentially relevant to the Proposed Development in the Operational Phase. The drive thru café and retail unit will be required to register with the HSE and would need to adhere to food safety legislation and traceability requirements.	Consumers/ Producers	N/A
Water Supply Distribution & Contamination	Y	Waterborne diseases can be caused by consuming contaminated drinking water. No public health issues have been identified for the Construction Phase or Operational Phase of the Proposed Development. Appropriate industry standard and health and safety legislative requirements will be implemented during the Construction Phase that will be protective of site workers associated with the dewatering works. The existing water supply for the Proposed Development will be via connection to the public supply.	Local water users	Refer to Chapter 8 Hydrology for information on water supply.
Animal Disease	N	Not considered vulnerable	N/A	N/A
Terrorist Incident	N	Not considered vulnerable	N/A	N/A
<b>Transportation</b>				
Aircraft Incident	N	Not considered vulnerable as the proposed development is located c.26 km from Lough Sheelin Airfield	N/A	N/A
Maritime Incident	N	Not considered vulnerable as the site is c.63km from the coast.	N/A	N/A



Transport Hub	N	Not considered vulnerable as the Site of the Proposed Development is not defined as a Transport Hub.  The site of the Proposed Development is c. 41.3km from the closest train station at Edgeworthstown	N/A	N/A
<b>Natural</b>				
Cultural, Archaeological and Architectural Heritage	N	There are no protected structures or conservation areas located within the Site of the Proposed Development.	Archaeological and cultural heritage	Chapter 15 - Archaeology and Cultural Heritage of this EIA assessed the impact of the Proposed Development on the Archaeological and Cultural Heritage
Landslides/Sinkholes	N	The potential for landslides was already considered within the design therefore no future assessment or potential required. Geology not prone to sinkholes, no karst mapped nearby.	N/A	Chapter 7 – Land, Soils, Geology and Hydrogeology of this EIA assessed the vulnerability of the Proposed Development to ground movements.
Earthquakes	N	Area is not geologically active.	N/A	N/A
Floods/ Storm surge/tidal flooding	N	A Stage 2 Flood Risk Assessment (FRA) was submitted along with this EIA. It concluded that given the sites current and proposed elevations the development is located within a Flood Zone C and should not be at risk of flooding or of further increasing flood risk elsewhere.	Proposed Development	Chapter 8 of this EIA identifies the vulnerability of the project to flooding.
Severe weather such as Tornados, heatwaves	N	N/A	N/A	N/A
Air Quality events	Y	Vehicular emissions, Dust emissions	Residents/ workers	Chapter 12 - Air Quality and Climate of this EIA identifies the impact of the construction and operation of the development on ambient air quality
Wildfires	N	Not considered vulnerable due to the location of the Site of the Proposed Development.	N/A	N/A

Dam, Bridge or Tunnel Failure	N	Not considered vulnerable as no dams, bridges or tunnels are proposed as part of the development.	N/A	N/A
Flood defence failure	N	A Stage 2 Flood Risk Assessment (FRA) was submitted along with this EIAR. It concluded that given the sites current and proposed elevations the development is located within a Flood Zone C and should not be at risk of flooding or of further increasing flood risk elsewhere. Flood defence failure does not need to be considered.	N/A	Refer to Chapter 8 of this EIAR.
Fire	Y	The risk of fire inside the Proposed Development might lead to loss of life and environmental pollution.	Employees/Customers/ nearby properties	The buildings have been designed in accordance with all relevant building and fire safety standards. Smoke ventilation, fire alarms and emergency lighting are fitted on all buildings and a sprinkler system.
Invasive species	N	Not considered vulnerable	N/A	Chapter 9 – Biodiversity of this EIAR contains information on invasive species and confirms no non-native invasive species were recorded on site.
<b>Technological</b>				
Structural Collapse (Building)	N	This has been taken into consideration in the building design. All buildings have been designed to modern standards. No further assessment is required.	N/A	N/A
Nuclear incident	N	Not considered vulnerable	N/A	N/A
Cyber Attacks	N	Retail/commercial units will have cyber protection in place when operational.	Proposed Development	N/A
Disruption to energy supply (oil, gas, electricity)	N	Not considered vulnerable. ESB Networks maintain the electricity network in Ireland. Gas Networks Ireland maintain the natural gas network in Ireland.	N/A	Chapter 16 - Material Assets of this EIAR contains information on the energy systems to be utilised
Utilities failure (Communication)	N	Not considered vulnerable. In Ireland, the fixed-line communications market is dominated	N/A	Chapter 16 - Material Assets of this EIAR contains



				information on communications
Utilities failure (Water supply)	N	by Eir, while Eir, Three, and Vodafone own Ireland's mobile telecommunications infrastructure.  Not considered vulnerable. A pre-connection enquiry was submitted to Irish Water in relation to a Water & Wastewater connection for the Proposed Development and Irish Water have advised the proposed connection to the Irish Water networks can be facilitated at this moment in time.	N/A	Chapter 8 – Hydrology and Chapter 16 - Material Assets of this EIA contains information on water supply.
Utilities failure (wastewater, sewage)	N	Not considered vulnerable. A pre-connection enquiry was submitted to Irish Water in relation to a Water & Wastewater connection for the Proposed Development		Chapter 8 – Hydrology and Chapter 16 - Material Assets of this EIA contains information on wastewater and sewage removal and treatment
Utilities failure (solid waste)	N	Not considered vulnerable. A Construction Environmental Management Plan has been prepared for the Construction Phase of the Proposed Development and an Operational Waste Management Plan has been prepared for the Operational Phase of the Proposed Development. The implementation of the waste management plans will mitigate risks from solid waste.	N/A	Chapter 16 - Material Assets of this EIA contains information on soil waste removal and treatment
Industrial accidents (defence, energy, oil and gas refinery, food industry, chemical industry, manufacturing, quarrying, mining)		Not considered vulnerable. There are no Upper Tier Seveso sites adjacent to the Site of the Proposed Development. The nearest Lower Tier Seveso site is situated c. 8.4km south-west from the Proposed Development at Farragh Proteins.	N/A	N/A

## 17.10 Reinstatement

Reinstatement of the proposed development is not required.

## 17.11 Interactions and Potential Cumulative Effects

There are potential interactions with Population and Human Health, Biodiversity, Land and Soils, Hydrology, Material Assets, Traffic and Transportation deriving from the risk of major accidents and/or disasters however, these interactions are not expected to be significant.

### 17.11.2 Potential Cumulative Effects

The cumulative effects of the proposed development, together with other existing, permitted and planned projects (as summarised in Table 18.2 in Chapter 18 (Interactions and Cumulative Effects) on the Risk of Major Accidents is considered to be long term and insignificant.

## 17.12 Conclusion

Subject to the implementation of mitigation measures set out in this EIAR, there are no identified potential major accidents and/or disasters that present a sufficient degree of risk resulting in significant negative effects and/or environmental effects deriving from its vulnerability to such major accidents and/or disasters.



## 18.0 Interactions and Cumulative Effects

### 18.1 Introduction

This chapter of the EIAR assesses the interactions between the environmental factors as described throughout the various chapters of the EIAR and provides a summary of the likely significant effects of the proposed development on the environment as a result of cumulative effects.

This Chapter was prepared Robert McLoughlin, Brendan Boyle and Rachel Lawler of RMLA Limited, Planning Consultants. Robert McLoughlin holds a Bachelor of Agricultural Science (Landscape Horticulture) from University College Dublin (UCD) and a Master of Urban and Regional Planning also from UCD. Robert is a Corporate Member of the Irish Planning Institute and has 18 years postgraduate experience in the preparation of EIAR for residential, retail, commercial and healthcare developments.

Brendan holds a Bachelor of Science Degree in Environmental Planning from Queen's University Belfast (QUB) and a Postgraduate Diploma in Town and Country Planning, also from QUB. Brendan has a Postgraduate Diploma in Environmental Management with Geographic Information Systems from Ulster University and has over 14 years postgraduate experience in planning and development. Brendan is a Member of the Irish Planning Institute. Rachel Lawler holds a Bachelor of Arts Degree in Geography and Psychology from University of Galway and a Master of Urban and Regional Planning from UCD. Rachel is a graduate member of the Irish Planning Institute and has 2 years experience in planning and development.

### 18.2 Consultation

Pre-planning meetings were held with Cavan County Council on 6th August 2020, 13th October 2020, 30th September 2021 and 8th November 2022

### 18.3 Legislation, Policy and Guidance

The EIA Directive (2011/92/EU, amended by 2014/52/EU) requires that the environmental assessment identifies, describes and assesses the interactions between the environmental factors, as outlined in Article 3 of the EIA Directive which states the following: "The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors: (a) population and human health; (b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC; (c) land, soil, water, air and climate; (d) material assets, cultural heritage and the landscape; (e) the interaction between the factors referred to in points (a) to (d)."

Annex IV of the EIA Directive outlines information required for any EIAR and includes the following in relation to cumulative effects: "5(1) 5. A description of the likely significant effects of the project on the environment resulting from, inter alia: (a) the construction and existence of the project, including, where relevant, demolition works; (b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources; (c) the



emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste; (d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters); (e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources.”

Describing the interactions and cumulative effects follows guidance contained within the Environmental Protection Agency’s (EPA) ‘Guidelines on the information to be contained in Environmental Impact Assessment Reports (2022)’ relating to the quality, significance, extent, context, probability, duration and frequency of effects. Additional information on this subject is set out in Chapter 1 of this EIAR.

In relation to cumulative effects, the aforementioned EPA Guidelines states, “The interactions between effects on different environmental factors should be addressed as relevant throughout the EIAR. It is general practice to include a matrix to show where interactions between effects on different factors have been addressed. This is usually done using the actual headings used in the EIAR (which may differ from the factors contained in the Directive (ref section 3.3.6). This is typically accompanied by text describing the interactions.”<sup>1</sup>

## **18.4 Description of Significant Interactions**

The assessment of potential interactions between the various environmental factors is set out in the sections to follow, while a summary of all potential interactions is provided at Table 18.1.

### **18.4.1 Population and Human Health**

There are interactions of Population and Human Health with Air Quality and Climate, Noise and Vibration, Traffic and Transportation, Landscape and Visual Impact and Waste Management which are predicted to arise during construction and operational stages.

#### **18.4.1.2 Population and Human and Air Quality and Climate**

During construction stage, the interaction with Air Quality and Climate will primarily arise due to dust emissions. Mitigation measures are set out within the CEMP to adequately control emissions during construction. During operational stage, significant GHG emissions and breach of relevant AQSSs is predicted to be unlikely due to compliance with all ambient air quality legislative limits.

#### **18.4.1.3 Population and Human Health and Noise and Vibration**

During construction stage, there is an interaction with Noise and Vibration due to the physical construction of the proposed development and the movements of construction vehicles to and from the site that will utilise the existing road network. If other permitted developments in the locality are under construction at the same time as the proposal, this could generate additional noise. Therefore, there is potential for generation of high levels of noise during the construction stage of the proposed development. The interaction is predicted to be negative, slight, temporary and localised subject to

<sup>1</sup> The EPA Guidelines on information to be contained in Environmental Impact Assessment Reports (EPA, 2022), pg 56.



implementation of the mitigation measures outlined in the CEMP. At operational stage, the location of the proposed development site in relation to nearby noise sensitive locations and the distance from the proposed development site in relation to other nearby lands means that there is minimal risk of cumulative operational phase noise emissions resulting in an exceedance of the relevant criteria. No additional mitigation measures are therefore required.

#### **18.4.1.4 Population and Human Health and Traffic and Transportation**

There are interactions with Traffic and Transportation at both construction and operational stages due to noise from increased movements of construction and customer vehicles and also the effect on air quality. The measures outlined in the CEMP will alleviate the effects during the construction of the proposed development and it is predicted the effect will be restricted to the local road network. During construction, it is predicted the effect will short term and moderate while at operational stage the effect is predicted to be long term and not significant.

#### **18.4.1.5 Population and Human Health and Landscape and Visual Impact**

During construction stage, there is an interaction with Landscape and Visual Impact due to the physical construction of the proposed development including HGVs movements, presence of tower cranes and construction machinery, storage of excavated materials, security hoarding, site lighting and the gradual emergence of proposed structures. Given the site is already a much-modified, industrial site and there are currently no sensitive land cover elements or landscape features on the site, the interaction with Landscape and Visual Impact at construction stage is predicted to be short-term, slight and negative.

At operational stage, there is an interaction which relates to the proposal's effect on the townscape/landscape. The most significant effect of the proposed development is the presence of a new retail unit along with drive-thru café, filling station, car wash and car parking areas. The single storey retail unit is not excessively tall or prominent and as been designed to integrate into the existing landscape context. The proposal also includes high quality pedestrian links with the existing urban core area of Cavan Town. The interaction with Landscape and Visual Impact is predicted to be positive, slight and long term.

#### **18.4.1.6 Population and Human Health and Waste Management**

The interaction assessment of Population and Human Health and Waste Management is set out at Section 18.4.10.1.

### **18.4.2 Biodiversity**

There are interactions of Biodiversity with Hydrology and Land and Soils - Geology and Hydrogeology during construction and operational stages.

#### **18.4.2.1 Biodiversity and Hydrology**

In relation to Hydrology, land clearing, excavations, accidental pollution and the stockpiling of dry, loose sediments can lead to entrainment of sediments or uncontrolled releases of contaminated water into



water bodies leading to negative impacts on aquatic organisms. The CEMP sets out various mitigation measures regarding surface water and groundwater protection. With the successful implementation of adequate mitigation measures, potential hazards will be managed and the likelihood of environmental incidents occurring is predicted to be low. Tables 7.12 and 7.13 of Chapter 7 provide details of the effects at construction and operational stages including mitigation measures.

#### **18.4.2.2 Biodiversity and Land and Soils - Geology and Hydrogeology**

Regarding Land and Soils - Geology and Hydrogeology, there may be potential effects on ecological receptors, similar to that of impacts to rock / soil features. Wind conditions can have an influence of the dispersion of any contaminants or emissions generated as a result of the construction and operation of the proposed development. The CEMP outlines control measures in respect of land and soils, such as not exposing soil until a replacing capping layer is ready to be placed. Tables 7.12 and 7.13 of Chapter 7 provide full details of the effects at construction and operational stages including mitigation measures.

#### **18.4.3 Material Assets – Site Services**

There are interactions of Material Assets – Site Services with Traffic and Transportation, Hydrology, Waste Management.

##### **18.4.3.1 Material Assets – Site Services and Traffic and Transportation**

During the construction phase, excavated material will be transported off-site to facilitate the installation of underground site services. Effects include wear and tear on the road network, accumulation of construction debris on the road network and increased HGV traffic movement. Mitigation measures to alleviate such effects include wheel wash facilities, turning and drying of soil in dry weather, dust management measures, speed limit of vehicles on site. With mitigation measures in place, the overall effect is predicted to be negative, slight and temporary during construction. At operational stage, the effect is predicted to be negligible and unlikely.

##### **18.4.3.2 Material Assets – Site Services and Hydrology**

During the construction of the proposed development, hydrology effects include damage to and contamination of the foul and surface water network. Mitigation measures to alleviate such effects include consulting maps before and during works to prevent damage to the network to avoiding the need to shut down the system for repairs and ensuring none of the draining systems discharge into surface water to prevent any contamination to the local water receptors. With mitigation measures in place the overall effect is predicted to be neutral, slight and temporary during construction. At operational stage, the effect is predicted to be negative, slight and long term.

##### **18.4.3.3 Material Assets – Site Services and Waste Management**

As set out within the CEMP, the proposed development shall be constructed and developed to minimise the generation of construction and demolition waste. During the construction phase, construction waste shall be stored and segregated in dedicated waste storage areas which shall optimise the potential for



off-site reuse and recycling. All construction waste materials shall be exported off-site by an appropriately permitted waste contractor. During construction, the effect is predicted to be negative, slight/moderate and temporary. In relation to the operational stage, an OWMP has been prepared to ensure all waste management during the operational phase is conducted in line with the current legal and industry standards. The effect at operational stage is predicted to be negative, slight and long term.

#### **18.4.4 Traffic and Transportation**

There are interactions of Traffic and Transportation with Noise and Vibration and Air Quality and Climate.

##### **18.4.4.1 Traffic and Transportation and Noise and Vibration**

Noise and Vibration has an interaction with Traffic and Transportation at construction stage through the use of construction machinery and the movements of HGV, delivery and employee vehicles travelling to and from the proposed development site over the course of the construction period. With the implementation of mitigation measures, the effect at construction stage is predicted to be neutral, not significant and temporary. At operational stage, the effect is predicted to be neutral, imperceptible and long term.

##### **18.4.4.2 Traffic and Transportation and Air Quality and Climate**

Air Quality and Climate has an interaction with Traffic and Transportation at construction stage through movements of HGVs that can, for example, lead to increased dust emissions and emissions from vehicles. Mitigation measures are set out within the CEMP to adequately control emissions during construction with effects during this stage predicted to be negative, slight, and temporary. At operational stage, the effect is predicted to be neutral, imperceptible, and long term once measures such as effective speed limits and increased use of sustainable modes of transport are utilised.

#### **18.4.5 Micro-Climate (Wind)**

There is an interaction of Micro-Climate (Wind) with Lands and Soil – Geology and Hydrogeology.

##### **18.4.5.1 Micro-Climate (Wind) and Lands and Soil – Geology and Hydrogeology**

There is an interaction with Lands and Soil – Geology and Hydrogeology due to the potential of stockpiling of dry, loose sediments that can lead to generation of wind-blown dust. Similarly, poor housekeeping can lead to wind-blown rubbish. During the construction stage, this effect is predicted to be neutral, imperceptible, and temporary when mitigation measures are implemented. At operation, the presence of wind can have an effect on customers and those sitting in external areas for example. However, the effect of the proposed development on Micro-Climate (Wind) is predicted to be insignificant and therefore the overall effect will be neutral, imperceptible, and temporary.

#### **18.4.6 Landscape and Visual Impact**

There are interactions of Landscape and Visual Impact with Population and Human Health and Archaeology, Architectural and Cultural Heritage.

##### **18.4.6.1 Landscape and Visual Impact and Population and Human Health**

Please refer to Section 18.4.1.5 of this Chapter for this interaction assessment.

##### **18.4.6.2 Landscape and Visual Impact and Archaeology, Architectural and Cultural Heritage**

There are interactions of Landscape and Visual Impact with Cultural and Architectural Heritage through the design treatment of the perimeter wall and the visual relationship of newly proposed and retained structures.

#### **18.4.7 Archaeology, Architectural and Cultural Heritage**

Please refer to Section 18.4.6.2 of this Chapter for this interaction assessment.

#### **18.4.8 Lands and Soil – Geology and Hydrogeology**

There are interactions of Land and Soils – Geology and Hydrogeology with Hydrology and Biodiversity.

##### **18.4.8.1 Lands and Soil – Geology and Hydrogeology and Hydrology**

There is an interaction with Hydrology due to the potential of stockpiling of dry, loose sediments that can lead to the entrainment of sediments into water bodies and also the erosion of stockpiles of exposed soils leading to migration of silt into surface water receptors via dust and run-off. The effect at construction stage, with the implementation of mitigation measures such as the construction of earthen banks around bunds to contain sediment run-off, is predicted to be negative, slight and temporary. At operational stage, the predicted effect will be positive, moderate and long term.

##### **18.4.8.2 Lands and Soil – Geology and Hydrogeology and Biodiversity**

The interaction assessment of Lands and Soil – Geology and Hydrogeology and Biodiversity is set out at Section 18.4.2.2.

#### **18.4.9 Hydrology**

There are interactions of Hydrology with Land and Soils – Geology and Hydrogeology and Biodiversity.

##### **18.4.9.1 Hydrology and Lands and Soil – Geology and Hydrogeology**

The interaction assessment of Hydrology and Lands and Soil – Geology and Hydrogeology is set out at Section 18.4.8.1.

##### **18.4.9.2 Hydrology and Biodiversity**

The interaction assessment of Hydrology and Biodiversity is set out at Section 18.4.2.1.



#### **18.4.10 Waste Management**

There are interactions of Waste Management and Population and Human Health and Air Quality and Climate.

##### **18.4.10.1 Waste Management and Population and Human Health**

The construction phase of the project will generate a range of non-hazardous and hazardous waste materials from which there is a risk of potential effect on Population and Human Health. The CEMP provides an outline for the management of waste during the construction phase of the project, and to ensure that there are no significant effects from waste generated throughout the project by methods such as safe and secure storage of waste and raw materials and proper segregation. The predicted impacts from waste generation during the construction phase are negative, moderate and temporary.

At operational stage, the generation of waste materials is an unavoidable effect. Networks of waste collection, treatment, recovery, and disposal infrastructure are in place in the region to manage waste efficiently from this type of development. Waste which is not suitable for recycling is typically sent for energy recovery or landfill. The potential effect of operational waste generation is expected to be negative, moderate to significant and long-term.

##### **18.4.10.2 Waste Management and Air Quality and Climate**

During the construction stage, there is potential for an interaction between with Air Quality and Climate if, for example, dust suppression methods are not deployed, or good housekeeping practices are not adhered to regarding waste that is generated, during the construction phase. The effect at construction stage, should the mitigation measures outlined in the CEMP be implemented, are predicted not to be significant. At operational phase, the interaction of Waste Management and Air Quality and Climate is predicted to be neutral, imperceptible and long term.

#### **18.4.11 Air Quality**

There are interactions of Air Quality and Climate and Waste Management and Land and Soils – Geology and Hydrogeology.

##### **18.4.11.1 Air Quality and Climate and Waste Management**

The interaction assessment of Air Quality and Climate and Waste Management is set out at Section 18.4.10.2.

##### **18.4.11.1 Air Quality and Climate and Land and Soils – Geology and Hydrogeology**

Subject to the implementation of the mitigation measures as set out in the CEMP, it is predicted that the effects at both construction and operational stages is not significant.

#### **18.4.12 Noise and Vibration**

There is an interaction of Noise and Vibration with Traffic and Transportation which is set out at Section 18.4.4.1.

#### 18.4.13 Risk Management

The risk of major accidents and/or disasters has the potential to have interactions with Population and Human Health, Air Quality and Climate, Land and Soils – Geology and Hydrogeology, Material Assets – Site Services and Traffic and Transportation. However, it is predicted that these interactions are not likely to be significant as the design of the proposed development has considered such matters as the potential for flooding, road safety and fire. The proposal has the potential to be vulnerable to fire that would interact with Population and Human Health and Air Quality and Climate, however the development's vulnerability to fire is not expected to be significant.



Table 18.1 Matrix showing Interactions between Environmental Factors

Interactions	Pop & Human	Traffic & Transportation	Land & Soils	Hydrology	Biodiversity	Waste Mgmt	Noise & Vibration	Air Quality & Climate	Micro-Climate	LVIA	Archae & Arch/Cultural Heritage	Material Assets	Risk Mgmt
	Human Health												
Pop & Human Health	✓					✓	✓	✓		✓			
Traffic & Transportation							✓	✓					
Land & Soils				✓									
Hydrology			✓		✓								
Biodiversity			✓	✓									
Waste Mgmt	✓							✓					
Noise & Vibration		✓											
Air Quality & Climate			✓										
Micro-Climate			✓										
LVIA	✓										✓		
Archae & Arch/Cultural Heritage													
Material Assets		✓		✓		✓							
Risk Mgmt	✓	✓	✓					✓				✓	

## 18.5 Cumulative Effects

The potential for cumulative impacts has been assessed in the preparation of this EIAR and are contained in the various EIAR Chapters where applicable. The EPA Guidelines on Information to be contained in Environmental Impact Assessment Reports (2022) defines ‘Cumulative Effects’ as: “The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.”<sup>2</sup>

The EIAR that has been prepared in relation to the proposed development has assessed the environmental effects from existing, proposed and planned developments within the vicinity of the development site – please refer to Table 18.2. Any predicted cumulative effects arising from the proposed development in combination with other existing, planned and permitted developments are assessed and set out in the various chapters that comprise Volume II of this EIAR.

**Table 18.2 Summary of Planning Application History within vicinity of the Development Site**

Reg. Ref.	Location	Description of Development	Decision / Status
CCC Reg. Ref. 21528	Aghnaskerry, Co. Cavan	Demolish existing derelict dwelling house and erect 26 no. 3-bed semi-detached dwellings	Permission Granted by CCC 26/05/2022  Subject of current appeal with ABP
CCC Reg. Ref. 2163	Gaelscoil Bhreifne Tullymongan Lower and Aghnaskerry, Cavan	Single storey extension to existing school, alterations to site layout with a new access via service road	Permission Granted by CCC 21/05/2021  Development Operational
CCC Reg. Ref. 20145	Aghnaskerry, Tullymongan Lower, Cavan	Change of use of existing dwelling to pre/after school care facility with associated alterations to elevations, outdoor play area and pedestrian path access from adjoining Gaelscoil Bhreifne	Permission Granted by CCC 22/10/2021
CCC Reg. Ref. 20376	Gaelscoil Bhreifne Tullymongan Lower and Aghnaskerry, Cavan	Construct new roadway and entrance junction along the L2543 Cavan Town Eastern Access Road/ Cock Hill Road, alterations to existing public roadway to include new right turn lane and footpath, safety barrier, public playground area, pathways, public lighting, landscaping, boundary treatments and all ancillary site works	Permission Granted by CCC 03/03/2021  Development Operational

<sup>2</sup> Guidelines on Information to be Contained in Environmental Impact Assessment Reports, pg 54, EPA (2022)



18141	Tullymongan Lower, Cavan, Co. Cavan	Change of use of existing residential convent building to educational school building	Permission Granted by CCC 18/08/2018  Development Operational
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## 19.6 Conclusion

This chapter sets out the potential effects of interactions between environmental factors as described throughout this EIAR. Cumulative impacts may be assessed by taking account of the baseline environment and the predicted impacts of the construction/operation of the proposal in combination with other existing, planned and permitted projects in the vicinity of the proposed development site. No significant adverse effects have been identified as a result of the proposed development in combination with other existing, planned and permitted developments, subject to the implementation of identified mitigation measures. Therefore, it is evident that the potential for any cumulative effects to arise have been fully considered and detailed in the various chapters of this EIAR.

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