RECEIVED: 05/08/2025

8 (A) AIR QUALITY

8.1 Introduction

This chapter describes and assesses the potential effects on air quality associated with the Proposed Development.

8.1.1 Quality Assurance and Competence

This chapter was prepared by Laura Griffin, Environmental Consultant, Synergy Environmental Limited T/A DNV (hereinafter referred to as 'DNV') Laura has a Master of Science (Hons) degree in Climate Change from Maynooth University and a Bachelor of Arts (Hons) degree in English and Geography from Maynooth University. Laura has 5+ years of professional experience. Laura has experience preparing Environmental Impact Assessment (EIA) Screening Reports, Air Quality and Climate, Noise and Vibration and Material Assets (Waste and Utilities) Chapters of Environmental Impact Assessment Reports (EIAR)s.

This report was reviewed by Grainne Ryan, Principal EIA Consultant at DNV. Gráinne is an Environmental Consultant with 11 years' experience, specialising in EIAs for strategic infrastructure, renewable energy, residential, industrial and pharmaceutical projects. Gráinne has a B.A, in Geography, Planning and Environmental Policy, an MSc in Environmental Policy and a Post Graduate Diploma in Project Management.

This chapter has been approved by Catherine Keogan, Technical Director and EIA Lead at DNV. Catherine is an environmental consultant with 37 years' experience in consultancy, specialising in EIAs for large-scale residential, commercial developments, pharmaceutical, BESS and solar projects working closely with a range of developers, planning consultants and architects within the public and private sector. Catherine has a B.Sc. (Hons) in Analytical Science and a Post Graduate Diploma in Renewable Energy Technology Systems.

8.2 Study Methodology

This study methodology is in line with accepted practices. Taking into account Ambient Air Quality Standards, the baseline air quality of the site is examined using EPA monitoring data. Air quality effects from the Proposed Development are then determined by a qualitative assessment of the nature and scale of dust and emission generating activities associated with the construction phase of the Proposed Development in accordance with relevant guidance (Institute of Air Quality Management (IAQM) 2024).

In addition to assessing the effect on people as a result of air quality, the effects on sensitive ecosystems must also be assessed as per the TII guidelines (TII, 2022; 2024). The EC Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the *'Habitats Directive'*) requires an Appropriate Assessment to be carried out where there is likely to be a significant effect upon a European protected site. TII requires the Air Quality Specialist to liaise with an ecologist on schemes where there is a European protected site within 2km of the site. The following internationally designated sites are within 2km of the Proposed Development:

- Saltee Islands SAC (000707) (14m south);

RECEIVED: 05/08/2025

- Ballyteigue Burrow SAC (000696) (670m west);
- Ballyteigue Burrow SPA (004020) (1.9km west); and
- Ballyteige Burrow pNHA (000696) (650m west).

This study involved coordination with the ecologist preparing the Biodiversity chapter and Natura Impact Statement.

8.2.1 Relevant Legislation and Guidance

The principal guidance and best practice documents used to inform the assessment of potential impacts on air quality is as follows:

- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government (DHPLG), 2018);
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017);
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (hereafter referred to as the Environmental Protection Agency (EPA) Guidelines) (EPA, 2022);
- Guidance on the Assessment of Dust from Demolition and Construction Version 2.2 (Institute of Air Quality Management (IAQM), 2024);
- A Guide To The Assessment Of Air Quality Impacts On Designated Nature Conservation Sites (Version 1.1) (IAQM, 2020);
- TII Guidance Air Quality Assessment of Specified Infrastructure Projects – PE-ENV-01106 and TII Road Emissions Model (REM) online calculator tool (TII, 2022); and
- TII Road Emissions Model (REM): Model Development Report – GE-ENV-01107 (TII, 2024).

8.2.1.1 Ambient Air Quality Standards

In order to reduce the risk to health from poor air quality, National and European statutory bodies, the Department of the Environment, Heritage and Local Government in Ireland (DEHLG, 2004) and the European Parliament and Council of the European Union, have set limit values in ambient air for a range of air pollutants. These limit values or *'Air Quality Standards'* are health or environmental-based levels for which additional factors may be considered. For example, natural background levels, environmental conditions and socio-economic factors may all play a part in the limit value which is set.

Air quality significance criteria are assessed based on compliance with the appropriate standards or limit values. The applicable standards in Ireland include the Air Quality Standards Regulations 2022, which incorporate European Commission Directive 2008/50/EC, which has set limit values for numerous pollutants with the limit values for NO_2, PM_{10}, and $PM_{2.5}$ being relevant to this assessment. Council Directive 2008/50/EC combines the previous Air Quality Framework Directive (96/62/EC) and its subsequent daughter directives (including 1999/30/EC and 2000/69/EC) and includes ambient limit values relating to $PM_{2.5}$. The applicable limit values for NO_2, PM_{10}, and $PM_{2.5}$ are set out in Table 8-1(A).

RECEIVED: 05/08/2025

Table 8-1(A) Ambient Air Quality Standards and TA Luft

Pollutant	Regulation[1]	Limit Type	Value
Dust Deposition	TA Luft (German VDI, 2002)	Annual average limit for nuisance dust	350 mg/m²/day
Nitrogen Dioxide	2008/50/EC	Annual average limit for nuisance dust	200 µg/m³
		Annual limit for protection of human health	40 µg/m³
NOx	2008/50/EC	Annual limit for the protection of vegetation	30 µg/m³
Particulate Matter (as PM_{10})	2008/50/EC	24-hour limit for protection of human health - not to be exceeded more than 35 times/year	50 µg/m³ PM_{10}
		Annual limit for protection of human health	40 µg/m³ PM_{10}
Particulate Matter (as $PM_{2.5}$) – Stage 1	2008/50/EC	Annual limit for protection of human health	25 µg/m³ $PM_{2.5}$
Particulate Matter (as $PM_{2.5}$) – Stage 2[2]	2008/50/EC	Annual limit for protection of human health	20 µg/m³ $PM_{2.5}$

On the 14th of October 2024 the European Parliament and the Council adopted a directive setting updated air quality standards across the EU. The directive aims to improve air quality across the EU by aligning standards with the latest World Health Organisation (WHO) guidelines and reducing air pollution's health impacts by more than 55% by 2030. The directive updates and consolidates previous directives (2004/107/EC and 2008/50/EC) to enhance clarity and effectiveness. This plan is part of the boarder European Green Deal, targeting significant reductions in air, water, and soil pollution by 2050. The revised directive will also ensure early action, with air quality roadmaps that need to be prepared ahead of 2030 if there is a risk that the new standards will not be attained by that date. The air quality standards will be reviewed regularly in line with latest scientific evidence to assess whether they continue to be appropriate.

The text will be published in the EU's Official Journal and enter into force on the twentieth day following publication. Member states will have two years after the entry into force to transpose the directive into national law.

[1] EU 2008/50/EC – Clean Air For Europe (CAFÉ) Directive replaces the previous Air Framework Directive (1996/30/EC) and daughter directives 1999/30/EC and 2000/69/EC

[2] Stage 2 Indicative limit value for $PM_{2.5}$ to be applied from 1 January 2020 after review by the European Commission

RECEIVED: 05/08/2025

By 2030, the European Commission will review the air quality standards and every five years thereafter, in line with latest scientific evidence.

At present, the applicable standards for assessing compliance in relation to air quality are those outlined in Table 8-1(A).

8.2.1.2 Air Quality and Traffic Impact Significance Criteria

The TII document *Air Quality Assessment of Specified Infrastructure Projects – PE-ENV-01106* (TII, 2022) details a methodology for determining air quality impact significance criteria for road schemes which can be applied to any project that causes a change in traffic. The degree of impact is determined based on the percentage change in pollutant concentrations relative to the 'Do Nothing' scenario. The TII significance criteria are outlined in Table 4.9 of *Air Quality Assessment of Specified Infrastructure Projects – PE-ENV-01106* (TII, 2022) and reproduced in Table 8-2(A). These criteria have been adopted for the Proposed Development to predict the effect of NO_2, PM_{10} and $PM_{2.5}$ emissions as a result of the Proposed Development.

Table 8-2(A) Dust Emission Magnitude for the site

Long Term Average Concentration at Receptor in Assessment Year	% Change in Concentration Relative to Air Quality Limit Value (AQLV)			
	1%	2-5%	6-10%	>10%
75% or less of AQLV	Neutral	Neutral	Slight	Moderate
76-94% of AQLV	Neutral	Slight	Moderate	Moderate
95%-102% of AQLV	Slight	Moderate	Moderate	Substantial
95%-102% of AQLV	Moderate	Moderate	Substantial	Substantial
110% or more of AQLV	Moderate	Substantial	Substantial	Substantial

Source Air Quality Assessment of Specified Infrastructure Projects – PE-ENV-01106 (TII, 2022)

8.2.2 Construction Phase

8.2.2.1 Construction Dust Impact Assessment

The main air quality impacts that may arise during demolition and construction activities are:

- Dust deposition, resulting in the soiling of surfaces;
- Visible dust plumes, which are evidence of dust emissions;
- Elevated PM_{10}, $PM_{2.5}$ concentrations from demolition and construction activities (including earthworks and trackout); and
- An increase in concentrations of PM_{10}, $PM_{2.5}$ and nitrogen dioxide due to exhaust emissions from vehicles and equipment used on site (non-road mobile machinery) and vehicles accessing the site.

RECEIVED: 05/08/2025

The risk of dust emissions from a demolition/construction site causing loss of amenity and/or health or ecological impacts (and effects) is related to:

- The activities being undertaken (demolition, number of vehicles and plant etc.);
- The duration of these activities; the size of the site;
- The meteorological conditions (wind speed, direction and rainfall);
- The proximity of receptors to the activities;
- The adequacy of the mitigation measures applied to reduce or eliminate dust; and
- The sensitivity of the receptors to dust.

The synoptic meteorological station at Johnstown Castle, Co. Wexford is located approximately 13.5km northeast of the Proposed Development; and for the purposes of this chapter, weather data collected here may be considered similar to that which is experienced in the area of the site.

A review of Johnstown Castle meteorological data indicates that the prevailing wind direction is south-westerly, and wind speeds are generally moderate in nature (see Section 8.3.3.2). Moderate to high windspeeds (above 5m/s (7-10 knots)) are most likely to result in fugitive dust emissions. Approximately 40.83% of all hourly data featured winds of below 5m/s. In addition, dust generation is considered negligible on days where rainfall is greater than 0.2mm. A review of daily rainfall data from 2008-2023 indicates that on average 155 days per year have rainfall over 0.2mm (Met Éireann, 2024) and it can be determined that 42% of the time dust generation will be reduced. The frequency of winds (>5m/s) occurring in a south-westerly direction on dry days is 8.6%. The prevailing meteorological conditions in the vicinity of the site are favourable in general for the suppression of dust.

As with any impact, the risk will be determined by the magnitude of the source, the effectiveness of the pathway and the sensitivity of the receptor.

The IAQM Guidance on the Assessment of Dust from Demolition and Construction (2024) provides a framework for the assessment of risk.

Activities on construction sites have been divided into four types:

- Demolition;
- Earthworks;
- Construction; and
- Trackout.

The potential for dust emissions is assessed for each activity that is likely to take place.

The assessment methodology considers three separate dust impacts (and effects):

- Annoyance due to dust soiling;
- The risk of health impacts due to an increase in exposure to PM_{10}; and
- Harm to ecological receptors with account being taken of the sensitivity of the area that may experience these effects.

The assessment is used to define appropriate mitigation measures to ensure that there will be no significant effect.

RECEIVED: 05/08/2025

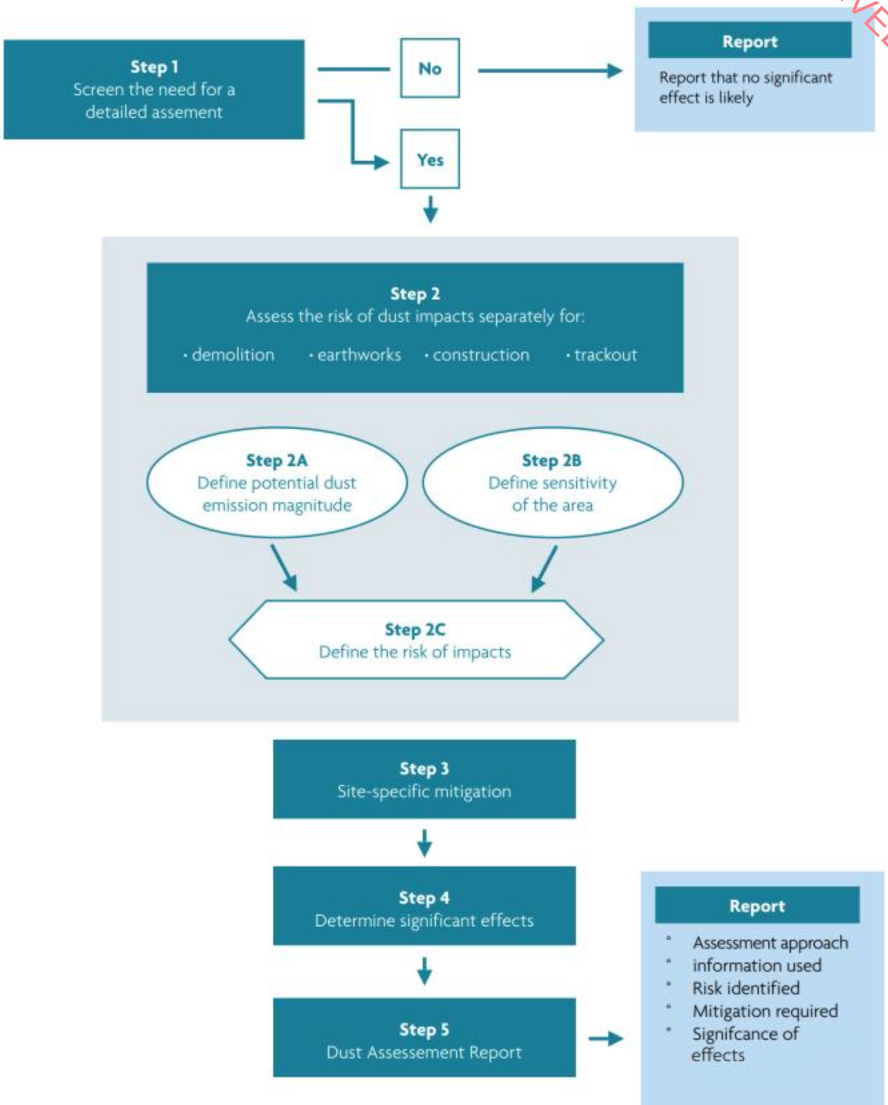


Figure 8-1(A) Steps to Perform a Dust Assessment (IAQM, 2024)

Step 1 - Screening the Need for a Detailed Assessment

Step 1 is to screen the requirement for a more detailed assessment. An assessment will normally be required where there is:

- A human receptor within:
  - 250m of the boundary of the site; and/or
  - 50m of the route(s) used by the construction vehicles on the public highway, up to 250m from the site entrance(s).
- An 'ecological receptor' within:
  - 50m of the boundary of the site; and/or
  - 50m of the route(s) used by construction vehicles on the public highway, up to 250m from the site entrance(s).

RECEIVED: 05/08/2025

Table 8-3(A) Human Sensitive Receptors within 250m of the Site Boundary

Distance to Site Boundary	Number of Receptors
20m	1-10
50m	10-100
100m	10-100
250m	>100

The Saltee Islands Special Area of Conservation (SAC) is located directly south of the site, therefore the requirement for a more detailed assessment has been screened in.

Figure 8-2(A) Map Showing 20m Buffer from Site Boundary

RECEIVED: 05/08/2025

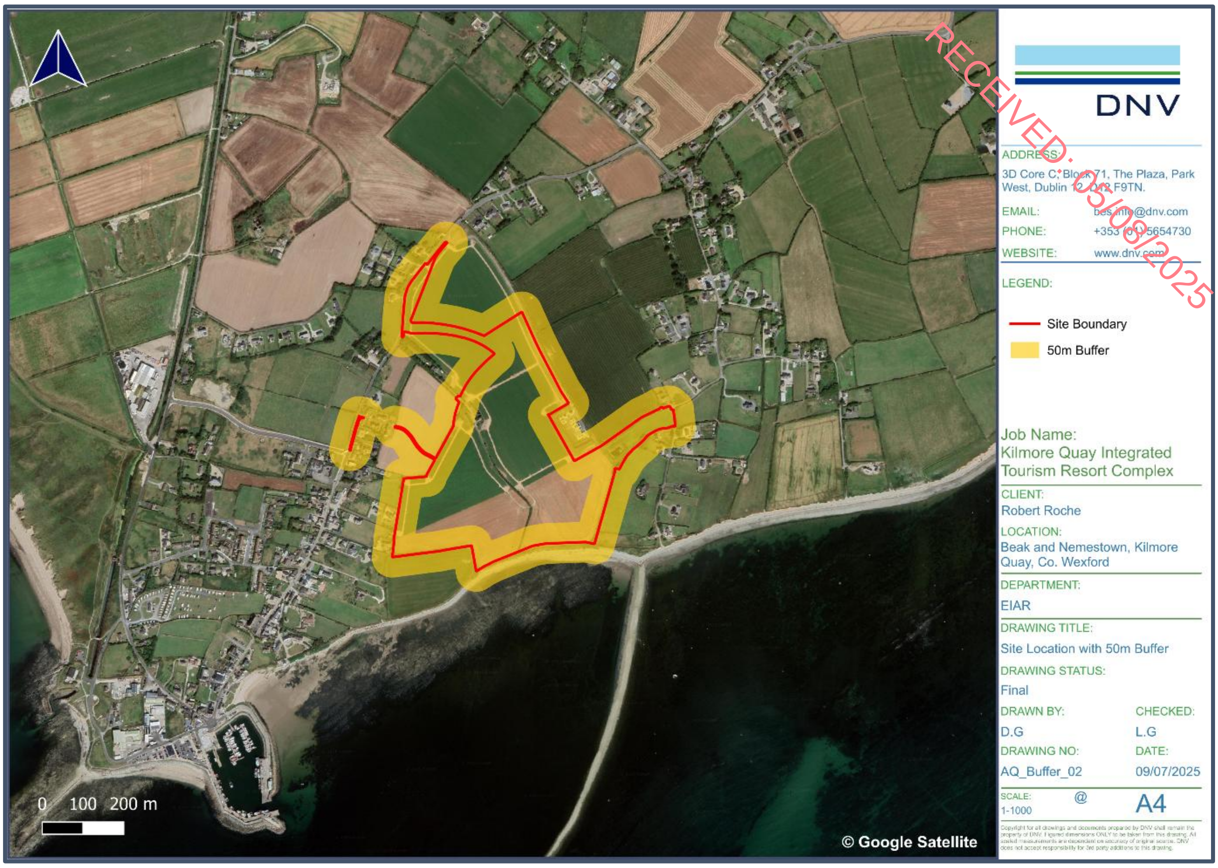


Figure 8-3(A) Map Showing 50m Buffer from Site Boundary

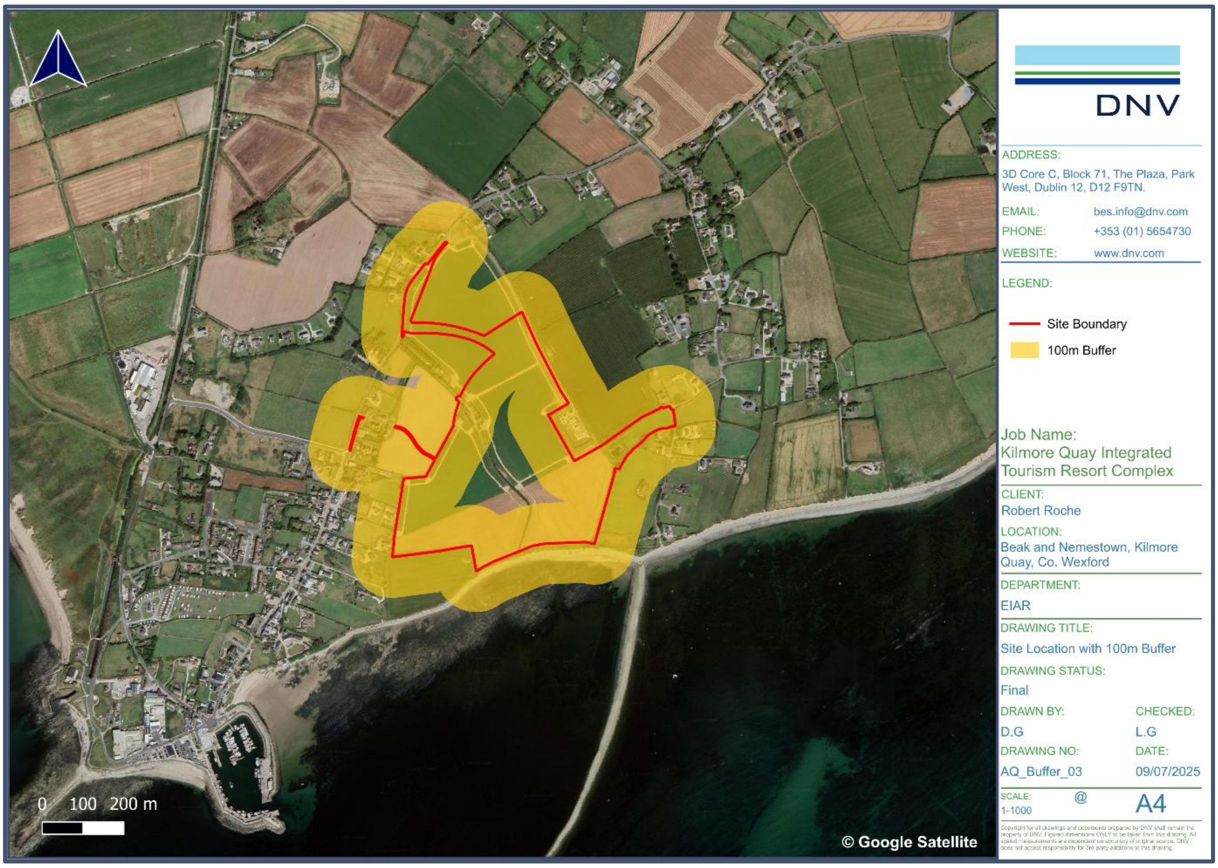


Figure 8-4(A) Map Showing 100m Buffer from Site Boundary

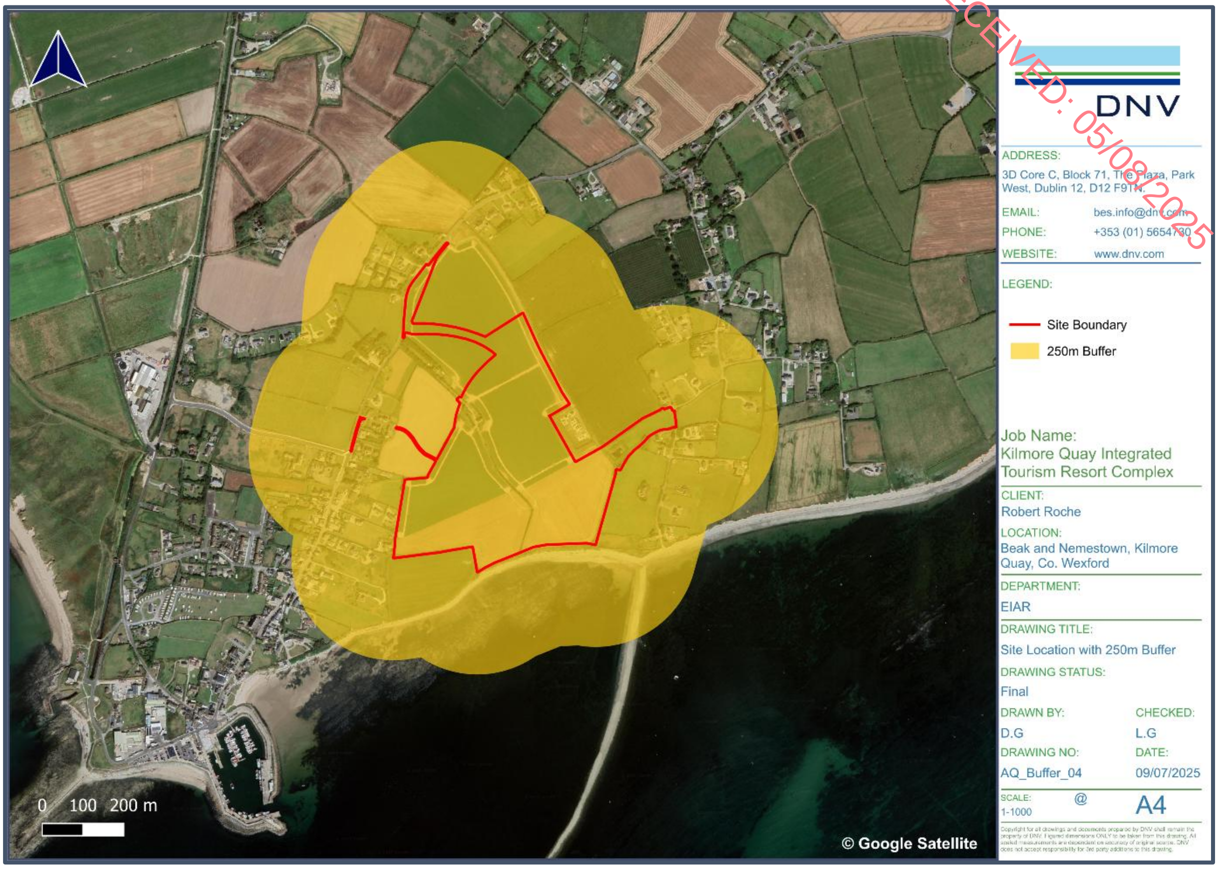


Figure 8-5(A) Map Showing 250m Buffer from Site Boundary

Step 2 - Assess the Risk of Dust Impacts

Step 2 is to assess the risk of dust impacts. This is carried out separately for each of the activities; as there is no demolition works proposed as part of the Proposed Development, the dust impacts are assessed for the remaining three activities (earthworks; construction; and trackout). According to the IAQM (2024), the risk of dust arising in sufficient quantities to cause annoyance and/or ecological impacts should be determined using four risk categories: negligible, low, medium and high. A site is allocated to a risk category based on two factors:

- The scale and nature of the works, which determines the potential dust emission magnitude as small, medium and large (Step 2A); and
- The sensitivity of the area to dust impacts (Step 2B), which is defined as low, medium or high sensitivity.

These two factors are combined in Step 2C to determine the risk of dust impacts with no mitigation applied. The risk category assigned to the site can be different for each of the three potential activities (earthworks, construction and trackout). More than one of these activities may occur on a site at any one time. Risks are described in terms of there being a low, medium and high risk of dust impacts for each of the three separate potential activities. Where there are low, medium and high risks of an impact, then site-specific mitigation will be required, proportionate to the level of risk.

RECEIVED: 05/08/2025

Step 2A – Define the Potential Dust Emission Magnitude

The dust emission magnitude is based on the scale of the anticipated works and should be classified as Small, Medium or Large.

Earthworks: Earthworks will primarily involve excavating material, haulage, topping and stockpiling. Activities such as levelling the site and landscaping works are also considered under this category. The dust emission magnitude from earthworks can be classified as small, medium and large based on the definitions from the IAQM guidance:

- Large: Total site area >110,000m^2, potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size), >10 heavy earth moving vehicles active at any one time, formation of bunds >6m in height;
- Medium: Total site area 18,000m^2 – 110,000m^2, moderately dusty soil type (e.g. silt), 5-10 heavy earth moving vehicles active at any one time, formation of bunds 3m – 6m in height; and
- Small: Total site area <18,000m^2, soil type with large grain size (e.g. sand), <5 heavy earth moving vehicles active at any one time, formation of bunds >3m in height.

The dust emission magnitude for the proposed earthwork activities can be classified as large as the total site area is 203,153m^2.

Construction: The key issues when determining the potential dust emission magnitude during the construction phase include the size of the building(s)/infrastructure, method of construction, construction materials, and duration of build. The IAQM example definitions for construction are:

- Large: Total building volume >75,000 m^3, on site concrete batching, sandblasting;
- Medium: Total building volume 12,000 m^3 – 75,000 m^3, potentially dusty construction material (e.g. concrete), on site concrete batching; and
- Small: Total building volume <12,000 m^3, construction material with low potential for dust release (e.g. metal cladding or timber).

The total building volume to be constructed is 224,770m^3 therefore, the dust emissions magnitude for construction is large.

Trackout: Factors which determine the dust emission magnitude are vehicle size, vehicle speed, vehicle numbers, geology and duration. As with all other potential sources, professional judgement must be applied when classifying trackout into one of the dust emission magnitude categories. IAQM definitions for trackout are:

- Large: >50 HDV (>3.5t) outward movements[3] in any one day[4], potentially dusty surface material (e.g. high clay content), unpaved road length >100m;

[3] A vehicle movement is a one-way journey i.e., from A to B, and excludes the return journey.

[4] HDV movements during the construction project vary over its lifetime, and the number of movements is the maximum, not the average.

RECEIVED: 05/08/2025

- Medium: 20-50 HDV (>3.5t) outward movements in any one day, moderately dusty surface material (e.g. high clay content), unpaved road length 50m – 100m; and
- Small: <20 HDV (3.5t) outward movements in any one day, surface material with low potential for dust release, unpaved road length <50m.

These numbers are for vehicles that leave the site after moving over unpaved ground, where they will accumulate mud and dirt that can be tracked out onto the public highway.

The dust emission magnitude for the proposed trackout activities can be classified as medium as Meinhardt (UK) Ltd (2025) have anticipated that there will be a maximum of 30 outward vehicle movements.

Table 8-4(A) provides a summary of the dust emission magnitude for the site.

Table 8-4(A) Dust Emission Magnitude for the site

Activity	Dust Emission Magnitude
Earthworks	Large
Construction	Large
Trackout	Medium

Step 2B – Define the Sensitivity of the Area

The sensitivity of the area takes account of a number of factors:

- The specific sensitivities of receptors in the area;
- The proximity and number of those receptors;
- In the case of PM_{10}, the local background concentration; and
- Site-specific factors, such as whether there are natural shelters, such as trees, to reduce the risk of wind-blown dust.

Sensitivities of People to Dust Soiling Effects

For the sensitivity of people and their property to soiling, the IAQM (2024) recommends that the air quality practitioner uses professional judgment to identify where on the spectrum between high and low the sensitivity of a receptor lies, taking into account the following general principles set out in Table 8-5(A).

Table 8-5(A) Sensitivities of People to Dust Soiling Effects (Source: IAQM, 2024)

Sensitivity	Features	Indicative Examples
High	• Users can reasonably expect enjoyment of a high level of amenity; or • The appearance, aesthetics or value of their property would be diminished by soiling; and • The people or property would reasonably be expected to be present continuously, or	• Dwellings; • Museums and other culturally important collections; and • Medium and long term car parks and show rooms.

RECEIVED: 05/08/2025

Sensitivity	Features	Indicative Examples
	at least regularly for extended periods, as part of the normal pattern of the use of the land.	
Medium	• Users would expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home; or • The appearance, aesthetics or value of their property could be diminished by soiling; or • The people or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land.	• Parks; and • Places of work.
Low	• The enjoyment of amenity would not reasonably be expected; or • Property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling; or • There is a transient exposure, where the people or property would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use for the land.	• Playing fields; • Farmland (unless commercially sensitive horticultural); • Footpaths; • Short-term carparks[5] • Places of work.

Sensitivities of People to Health Effects of PM_{10}

For the sensitivity of people to the health effects of PM_{10}, the IAQM (2024) recommends that the air quality practitioner assumes that there are three sensitivities based on whether or not the receptor is likely to be exposed to elevated concentrations over a 24-hour period, consistent with the Defra's advice for local air quality management, Defra LAQM Technical Guidance LAWM.TG (2022).

Table 8-6(A) Sensitivities of People to the Health Effects of PM_{10} (Source: IAQM, 2024)

Sensitivity	Features	Indicative Examples
High		• Residential properties; • Hospitals;

[5] Car parks have a range of sensitivities depending on the duration and frequency that people would be expected to park their cars there, and the level of amenity they could reasonably expect whilst doing so. Car parks associated with workplace or residential parking might have a high level of sensitivity compared to car parks used less frequently and for shorter durations, such as those associated with shopping. Cases should be examined on their own merits.

RECEIVED: 05/08/2025

Sensitivity	Features	Indicative Examples
	• Locations where members of the public are exposed over a time period relevant to the air quality objective for PM_{10} (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day)[6].	• Schools; and • Residential care homes.
Medium	• Locations where the people exposed are workers[7], and exposure is over a time period relevant to the air quality objective for PM_{10} (in the case of 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day).	• Office and shop owners. (Workers occupationally exposed to PM_{10} are generally not included as protection is covered by Health and Safety at Work Legislation)
Low	• Locations where human exposure is transient[8].	• Public footpaths; • Playing fields; and • Shopping streets.

Sensitivities of Receptors to Ecological Effects

Dust deposition due to earthworks, construction and trackout has the potential to affect sensitive habitats and plant communities.

Dust can have two types of effect on vegetation: physical and chemical. Direct physical effects include reduced photosynthesis, respiration and transpiration through smothering. Chemical changes to soils or watercourses may lead to a loss of plants or animals for example via changes in acidity. Indirect effects can include increased susceptibility to stresses such as pathogens and air pollution. These changes are likely to occur only as a result of long-term demolition and construction works adjacent to a sensitive habitat. Often effects will be reversible once the works are completed, and dust emissions cease.

Table 8-7(A) provides an example of possible sensitivities:

[6] This follows Defra guidance as set out in LAQM.TG (2022)

[7] Notwithstanding the fact that the air quality objectives and limit values do not apply to people in the workplace, such people can be affected by the exposure of PM_{10}. However, they are considered to be less sensitive than the general public as a whole because those most sensitive to the effects of air pollution, such as young children are not normally workers. For this reason workers have been included in the medium sensitivity category.

[8] There are no standards that apply to short-term exposure, e.g. one or two hours, but there is still a risk of health impacts, albeit less certain.

Table 8-7(A) Sensitivities of Receptors to Ecological Effects

RECEIVED: 05/08/2025

Sensitivity	Features	Indicative Examples
High	• Locations with an international designation and the designated features may be affected by dust soiling; or • Locations where there is a community of a particularly dust sensitive species such as vascular species included in the Red Data List for Ireland.[9]	• A Special Area of Conservation (SAC) designated for acid heathlands, or a local site designated for lichens adjacent to the demolition of a large site containing (alkali) buildings).
Medium	• Locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown; or • Locations with a national designation where the features may be affected by dust deposition.	• A Site of Special Scientific Interest (SSSI) with dust sensitive features.
Low	• Locations with a local designation where the features may be affected by dust deposition.	• A local Nature Reserve with dust sensitive features.

Table 8-8(A) – Table 8-10(A) illustrate how the sensitivity of the area may be determined for dust soiling, human health impacts and ecological impacts, respectively. It should be noted that the highest level of sensitivity from each table should be considered, as recommended by the IAQM.

The criteria detailed in Table 8-8(A) – Table 8-10(A) was used to determine the sensitivity of the area to dust soiling effects and human health impacts.

Table 8-8(A) Sensitivity of Dust Soiling Effects on People and Property

Receiver Sensitivity	Number of Receivers	Distance from the Source (m)			
		<20m	<50m	<100m	<250m
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

[9] A Habitat Regulation Assessment of the site may be required as part of the planning process, if the site lies close to an internationally designated site i.e., Special Conservation Areas (SACs), Special Protection Areas (SPAs) designated under the Habitats Directive (92/43/EEC) and RAMSAR sites.

Table 8-9(A) Sensitivity of the Area to Human Health Impacts

RECEIVED: 05/08/2025

Receptor Sensitivity	Annual Mean PM_{10} concentration	Number of Receptors	Distance from the Source (m)			
			<20	<50	<100	<250
High	>32 $\mu g/m^3$	>100	High	High	High	Medium
		10-100	High	High	Medium	Low
		1-10	High	Medium	Low	Low
	28-32 $\mu g/m^3$	>100	High	High	Medium	Low
		10-100	High	Medium	Low	Low
		1-10	High	Medium	Low	Low
	24-28 $\mu g/m^3$	>100	High	Medium	Low	Low
		10-100	High	Medium	Low	Low
		1-10	Medium	Low	Low	Low
	<24 $\mu g/m^3$	>100	Medium	Low	Low	Low
		10-100	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Medium	>32 $\mu g/m^3$	>100	High	Medium	Low	Low
		10-100	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low
	28-32 $\mu g/m^3$	>100	Low	Low	Low	Low
		10-100	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
	24-28 $\mu g/m^3$	>100	Low	Low	Low	Low
		10-100	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
	<24 $\mu g/m^3$	>100	Low	Low	Low	Low
		10-100	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Low	-	≥1	Low	Low	Low	Low

Table 8-10(A) Sensitivity of the Area to Ecological Impacts

Receptor Sensitivity	Distance from the Source (m)	
	<20	<50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

Step 2C – Define the Risk of Impacts

In accordance with the IAQM Guidance, the dust emission magnitude (Step 2A) and sensitivity of the area (Step 2B) have been combined and the risk of impacts from construction, earthworks and trackout have determined (before mitigation is applied).

Table 8-11(A) to 8-13(A) illustrate how the dust emission magnitude should be combined with the sensitivity of the area to determine the risk with no mitigation measures applied.

RECEIVED: 05/08/2025

Table 8-11(A) Risk of Dust – Earthworks

Potential Impact	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Table 8-12(A) Risk of Dust – Construction

Potential Impact	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Table 8-13(A) Risk of Dust – Trackout

Potential Impact	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Low Risk	Negligible
Low	Low Risk	Low Risk	Negligible

The risk of dust impacts is based on the potential dust emissions magnitude and the sensitivity of the area. These two factors are then combined to determine the risk of dust impacts with no mitigation applied. In the absence of any site-specific information, a higher risk category has been applied to represent a worst-case scenario.

The risk of dust soiling, the effect on human health and the risk of ecological effects before mitigation, are summarised in Section 8.5.1.

8.2.2.2 Construction Phase Traffic Emissions

Construction phase traffic has the potential to affect air quality. The TII guidance *Air Quality Assessment of Specified Infrastructure Projects – PE-ENV-01106* (TII, 2022), states that road links meeting one or more of the following criteria can be defined as being 'affected' by a proposed development and should be included in the local air quality assessment. While the guidance is specific to infrastructure projects the approach can be applied to any development that causes a change in traffic.

- Annual average daily traffic (AADT) changes by 1,000 or more;
- Heavy duty vehicle (HDV) AADT changes by 200 or more;
- Daily average speed change by 10 kph or more;
- Peak hour speed change by 20 kph or more; or
- A change in road alignment by 5m or greater.

The construction stage traffic will not change by more 1,000 AADT or 200 HDV AADT and does not meet the above scoping criteria. In addition, there are no proposed changes to the traffic speeds or road alignment. As a result, a detailed air assessment of construction stage

RECEIVED: 05/08/2025

traffic emissions has been scoped out from any further assessment as there is no potential for significant effects on air quality.

8.2.3 Operational Phase

Operational phase traffic has the potential to affect local air quality as a result of increased vehicle movements associated with the Proposed Development. The TII scoping criteria detailed in Section 8.2.2.2 were used to determine if any road links are affected by the Proposed Development and require inclusion in a detailed air quality modelling assessment.

Traffic flow information was obtained from Meinhardt (UK) Ltd (2025) for the purposes of this assessment. Two different year scenarios are presented in Table 8-14(A) for the operational phase vehicle trip generation data. The 'Do Nothing' and 'Do Something' scenarios for the Opening Year (2031) and Design Year (2046) (which is Opening Year plus 15 years, as per TII Guidance).

Table 8-14(A) Traffic Data Used in Air Modelling Assessment

Link Number	Road Name	Opening Year (2031)		Design Year (2046)		Speed (Km/h)
		Do Nothing AADT	Do Something AADT	Do Nothing AADT	Do Something AADT	
1	R739 Northbound (Site Access ATC)	1318 (5.25% HGV)	1739 (4.27% HGV)	1380 (6.51% HGV)	1776 (5.34% HGV)	60
2	R739 Southbound (Site Access ATC)	1343 (5.27% HGV)	1754 (4.32% HGV)	1407 (6.54% HGV)	1792 (5.41% HGV)	60
3	R739 Eastbound (Chapel)	1348 (4.89% HGV)	1757 (4.04% HGV)	1411 (6.07% HGV)	1795 (5.05% HGV)	80
4	R739 Westbound (Chapel)	1332 (4.24% HGV)	1747 (3.52% HGV)	1392 (5.27% HGV)	1783 (4.40% HGV)	80
5	Ard na Ba Eastbound	313 (5.63% HGV)	1058 (1.67% HGV)	327 (6.98% HGV)	1063 (2.16% HGV)	50
6	Ard na Ba Westbound	254 (4.64% HGV)	1037 (1.14% HGV)	266 (5.77% HGV)	1041 (1.47% HGV)	50
7	L3056 Northbound	939 (3.76% HGV)	1277 2.77% HGV)	979 (4.69% HGV)	1291 (3.56% HGV)	60
8	L3056 Southbound	899 (4.20% HGV)	1263 (2.99% HGV)	939 (5.22% HGV)	1277 (3.84% HGV)	60

The Proposed Development will not result in the operational phase traffic increasing by more than 1,000 AADT on any road links. Therefore, a detailed air quality modelling assessment of operational phase traffic emissions has been scoped out.

RECEIVED: 05/08/2025

8.3 The Existing and Receiving Environment (Baseline Situation)

The site is located adjacent to the village of Kilmore Quay. The land use surrounding the site is predominantly agricultural with residential use to the east and west. The Irish Sea is located directly south of the site.

The site is accessed from the R739 which runs along the northern border of the site.

8.3.1 Air Quality

Air quality monitoring programs have been undertaken in recent years by the EPA. The most recent annual report on air quality in Ireland is "*Air Quality In Ireland 2023"* (EPA, 2024). The EPA website details the range and scope of monitoring undertaken throughout Ireland and provides both monitoring data and the results of previous air quality assessments (EPA, 2025).

As part of the implementation of the Framework Directive on Air Quality (1996/62/EC, four air quality zones have been defined in Ireland by the EPA for air quality management and assessment purposes.

The main areas defined in each zone are:

- **Zone A:** Dublin Conurbation
- **Zone B:** Cork Conurbation
- **Zone C:** Other cities and large towns comprising Limerick, Galway, Waterford, Drogheda, Dundalk, Bray, Navan, Ennis, Tralee, Kilkenny, Carlow, Naas, Sligo, Newbridge, Mullingar, Wexford, Letterkenny, Athlone, Celbridge, Clonmel, Balbriggan, Greystones, Leixlip and Portlaoise.
- **Zone D:** Rural Ireland, i.e., the remainder of the State excluding Zones A, B and C.

The site is located adjacent to the village of Kilmore Quay, Co. Wexford and falls into 'Zone C' of Ireland which is described by the EPA as 'Other cities and large towns comprising Limerick, Galway, Waterford, Drogheda, Dundalk, Bray, Navan, Ennis, Tralee, Kilkenny, Carlow, Naas, Sligo, Newbridge, Mullingar, Wexford, Letterkenny, Athlone, Celbridge, Clonmel, Balbriggan, Greystones, Leixlip and Portlaoise'. It is expected that existing ambient air quality in the vicinity of the Site is characteristic of a suburban location with the primary source of air emissions such as particulate matter, NO_2, and hydrocarbons likely to be of traffic and domestic fuel burning.

The EPA launched a national air quality forecast in November 2023, to provide greater information to the public regarding expected air quality in Ireland for up to three days - "Today", "Tomorrow" and the "Day after Tomorrow".

Forecasts include daily Air Quality Index for Health (AQIH), Particulate Matter (PM), nitrogen dioxide (NO_2) and ozone (O_3). PM, NO_2 and O_3 are the three main air pollutants impacting human health in Ireland. All pollutants mapped are presented on the Air Quality Index for Health (AQIH) scale (1 – 10). The forecast maps are uploaded twice daily, once in the morning and once in the evening.

In conjunction with individual local authorities, the EPA undertakes ambient air quality monitoring at specific locations throughout the country in the urban and rural environment; an Air Quality Report based on data from monitoring stations and a number of mobile air quality units is developed on an annual basis. The EPA's most recent publication 'Air Quality in

RECEIVED: 05/08/2025

Ireland, 2023' reports the quality of the air in Ireland based on the data from the National Ambient Air Quality Monitoring Network throughout the year 2023 (EPA, 2024).

Table 8-15(A) Concentrations of NO_2 at Zone C Monitoring Stations

Station	Objective	Concentration (µg/m³)		Limit or Threshold Value
		2022	2023	
Meath Navan	Annual Mean NO_2[10]	21.0	22.2	40 µg/m³
	Days >200µg/m³	0	0	35 days
Waterford Brownes Road	Annual Mean NO_2	7.3	6.9	40 µg/m³
	Days >200µg/m³	0	0	35 days
Waterford Port	Annual Mean NO_2	-	18.3	40 µg/m³
	Days >200µg/m³	-	2	35 days
Sligo[11]	Annual Mean NO_2	-	-	40 µg/m³
	Days >200µg/m³	-	-	35 days
Limerick Henry Street	Annual Mean NO_2	15.2	13.5	40 µg/m³
	Days >200µg/m³	0	0	35 days
Limerick People's Park	Annual Mean NO_2	-	9.0	40 µg/m³
	Days >200µg/m³	-	0	35 days
Kilkenny Seville Lodge	Annual Mean NO_2	4.8	4.4	40 µg/m³
	Days >200µg/m³	0	0	35 days
Portlaoise	Annual Mean NO_2	9.0	8.3	40 µg/m³
	Days >200µg/m³	0	0	35 days
Dundalk	Annual Mean NO_2	10.4	9.3	40 µg/m³

[10] NO_2 annual mean limit value for the protection of human health: 40 µg/m³ per station

[11] There is no data for Sligo in 2022 and 2023 due to operational issues

RECEIVED: 05/08/2025

Station	Objective	Concentration (µg/m^3)		Limit or Threshold Value
		2022	2023	
	Days >200µg/m^3	1	1	35 days
Galway Eyre Square	Annual Mean NO_2	17.6	16.9	40 µg/m^3
	Days >200µg/m^3	0	0	35 days

Based on the data summarised in Table 8-15(A), existing baseline air quality for the area in which the site is located be characterised as being of good quality with no exceedances of the Air Quality Regulations limit values of specific pollutants. The results show that current levels of NO_2 are well below the annual mean and 1-hour maximum limit values. In the year 2022, annual mean concentrations of NO_2 ranged from 4.8 – 21.0 ug/m^3 across all Zone C stations, with no exceedance of the maximum hourly limit (EPA, 2023). In the year 2023, annual mean concentrations of NO_2 ranged from 4.4 – 22.2 ug/m^3 across all Zone C stations, with no exceedance of the maximum hourly limit (EPA, 2024).

The average concentration of NO_2 in 2023 was 12.1 µg/m^3. EPA 2023 background concentrations have been used in combination with correction factors to estimate annual average NO_2 concentrations in the region of the Proposed Development for the base year (2024). These factors have been adapted from both TII (2011) and DEFRA roadside NO_2 projection factors. Based on these correction factors, the estimated base year (2024) NO_2 concentration in the region of the Proposed Development is 11.4 µg/m^3.

Measured concentrations of PM_{10} for the years 2022 and 2023 are presented in Table 8-16(A) for Zone C monitoring stations.

Table 8-16(A) Concentrations of PM_{10} at Zone C Monitoring Stations

Station	Objective	Concentration (µg/m^3)		Limit or Threshold Value
		2022	2023	
Portlaoise	Annual Mean PM_{10}[12]	12.0	11.0	40 µg/m^3
	Days >50µg/m^3[13]	0	0	35 days
Ennis	Annual Mean PM_{10}	20.0	16.4	40 µg/m^3
	Days >50µg/m^3	21	11	35 days

[12] PM_{10} annual mean limit value for the protection of human health: 40 µg/m^3 per station

[13] PM_{10} daily limit for the protection of human health: No more than 35 days in a year >50 µg/m^3 per station

RECEIVED: 05/08/2025

Station	Objective	Concentration (µg/m³)		Limit or Threshold Value
		2022	2023	
Sligo[14]	Annual Mean PM_{10}	-	-	40 µg/m³
	Days >50µg/m³	-	-	35 days
Galway Rahoon	Annual Mean PM_{10}	12.6	12.7	40 µg/m³
	Days >50µg/m³	0	0	35 days
Galway Briarhill	Annual Mean PM_{10}	14.2	12.1	40 µg/m³
	Days >50µg/m³	0	0	35 days
Ballinasloe[15]	Annual Mean PM_{10}	-	13.7	40 µg/m³
	Days >50µg/m³	-	1	35 days
Clonmel	Annual Mean PM_{10}	11.0	9.3	40 µg/m³
	Days >50µg/m³	1	1	35 days
Claremorris	Annual Mean PM_{10}	7.9	8.1	40 µg/m³
	Days >50µg/m³	0	0	35 days
Dundalk	Annual Mean PM_{10}	12.3	13.2	40 µg/m³
	Days >50µg/m³	2	1	35 days
Carlow Town	Annual Mean PM_{10}	11.3	10.1	40 µg/m³
	Days >50µg/m³	0	0	35 days
Waterford Brownes Road	Annual Mean PM_{10}	15.2	12.2	40 µg/m³
	Days >50µg/m³	3	1	35 days
Waterford Port	Annual Mean PM_{10}	-	14.0	40 µg/m³

[14] There is no data for Sligo for 2022 or 2023 due to operational issues
[15] Station newly added in 2023, therefore low data capture for Ballinasloe in 2023

RECEIVED: 05/08/2025

Station	Objective	Concentration (µg/m³)		Limit or Threshold Value
		2022	2023	
	Days >50µg/m³	-	3	35 days
Navan	Annual Mean PM_{10}	14.2	13.2	40 µg/m³
	Days >50µg/m³	1	0	35 days
Kilkenny Seville Lodge	Annual Mean PM_{10}	17.5	13.9	40 µg/m³
	Days >50µg/m³	2	0	35 days
Letterkenny	Annual Mean PM_{10}	14.2	13.4	40 µg/m³
	Days >50µg/m³	6	3	35 days
Wexford Town	Annual Mean PM_{10}	14.5	12.7	40 µg/m³
	Days >50µg/m³	5	1	35 days
Limerick Henry Street	Annual Mean PM_{10}	13.9	11.3	40 µg/m³
	Days >50µg/m³	2	0	35 days
Limerick People's Park	Annual Mean PM_{10}	13.9	11.4	40 µg/m³
	Days >50µg/m³	2	0	35 days
Athlone	Annual Mean PM_{10}	12.3	11.6	40 µg/m³
	Days >50µg/m³	3	1	35 days
Tralee	Annual Mean PM_{10}	17.9	14.5	40 µg/m³
	Days >50µg/m³	14	2	35 days
Drogheda	Annual Mean PM_{10}	11.9	10.9	40 µg/m³
	Days >50µg/m³	0	0	35 days
Naas	Annual Mean PM_{10}	12.3	10.9	40 µg/m³

RECEIVED: 05/08/2025

Station	Objective	Concentration (µg/m^3)		Limit or Threshold Value
		2022	2023	
	Days >50µg/m^3	2	1	35 days
Greystones	Annual Mean PM_{10}	11.6	10.7	40 µg/m^3
	Days >50µg/m^3	0	0	35 days
Bray	Annual Mean PM_{10}	10.0	10.5	40 µg/m^3
	Days >50µg/m^3	0	2	35 days
Leixlip	Annual Mean PM_{10}	11.2	10.1	40 µg/m^3
	Days >50µg/m^3	1	0	35 days

As is evident from the results shown in Table 8-16(A), current levels of PM_{10} are well below the annual mean limit value. In the year 2022, annual mean concentrations of PM_{10} ranged from 7.9 – 20.0 ug/m^3 across all Zone C stations, with no exceedance of short-term limit values (EPA, 2023). In the year 2023, annual mean concentrations of PM_{10} ranged from 8.1 – 16.4 ug/m^3 across all Zone C stations, with no exceedance of short-term limit values (EPA, 2024).

The average concentration of PM_{10} in 2023 was 12 µg/m^3. A conservative estimate of the background PM_{10} concentration in the region of the Proposed Development is 11.9 µg/m^3.

Measured concentrations of $PM_{2.5}$ for the years 2022 and 2023 are presented in Table 8-17(A) for Zone C monitoring stations.

Table 8-17(A) Concentrations of $PM_{2.5}$ at Zone C Monitoring Stations

Station	Averaging Period	Year	
		2022	2023
Portlaoise	Annual Mean $PM_{2.5}$ (µg/m^3)[16]	8.1	7.4
Ennis		15.6	12.3
Bray		5.7	5.7
Sligo[17]		-	-
Clonmel		7.3	6.1

[16] Annual average limit value - 25 µg/m^3 (EU Council Directive 2008/50/EC & S.I. No. 739 of 2022)
Daily limit value - 50 µg/m^3 (EU Council Directive 2008/50/EC & S.I. No. 739 of 2022)

[17] There is no data for Sligo in 2022 and 2023 due to operational issues

RECEIVED: 05/08/2025

Station	Averaging Period	Year	
		2022	2023
Carlow Town		7.4	6.5
Waterford Brownes Road		9.9	7.8
Waterford Port		-	7.6
Navan		8.3	7.5
Letterkenny		10.7	9.9
Wexford Town		9.7	8.4
Limerick People's Park		9.3	6.5
Limerick Henry Street		8.4	7.2
Athlone		8.9	8.3
Tralee		12.9	10.0
Drogheda		6.9	6.0
Naas		7.5	6.6
Greystones		6.9	6.3
Leixlip		7.0	6.4
Dundalk		19.8	8.9
Galway Briarhill		9.8	7.1
Ballinasloe[18]		-	10.2

As is evident from the results shown in Table 8-17(A), current levels of $PM_{2.5}$ are well below the annual mean limit value of 25 µg/m^3. In the year 2022, annual mean concentrations of $PM_{2.5}$ ranged from 5.7 – 15.6 ug/m^3 across all Zone C stations (EPA, 2023; EPA 2024). In the year 2023, annual mean concentrations of $PM_{2.5}$ ranged from 5.7 – 12.3 ug/m^3 across all Zone C stations (EPA, 2024).

A conservative estimate of the background $PM_{2.5}$ levels for the region of the Proposed Development is 11 ug/m^3.

[18] Station newly installed in 2023, therefore low data capture for Ballinasloe in 2023

RECEIVED: 05/08/2025

8.3.2 Macroclimate

Ireland has a typical maritime climate, largely due to its proximity to the Atlantic Ocean and the presence of the Gulf Stream. Due to the moderating effects of the Gulf Stream, Ireland does not suffer the temperature extremes that are experienced by many other countries at a similar latitude. Mean annual temperatures generally range between 9°C and 10°C. Winters tend to be cool and windy while summers are mostly mild and less windy. The prevailing wind direction is between the south and west with average annual wind speeds ranging between 6 knots in parts of south Leinster to over 15 knots in the extreme north. Rainfall in Ireland occurs throughout the year with reasonable frequency. The highest rainfall occurs in the western half of the country and on high ground; and generally, decreases towards the northeast. As the prevailing winds are from the west-southwest, the west of Ireland experiences the largest number of wet days. The area of least precipitation is along the eastern seaboard of the country.

8.3.3 Microclimate

The synoptic meteorological station at Johnstown Castle, Co. Wexford is located approximately 13.5km northeast of the Proposed Development; and for the purposes of this chapter, weather data collected here may be considered similar to that which is experienced in the area of the site.

The weather in the area of the site is generally dominated by cool oceanic air masses, with cool winters, mild humid summers, and a lack of temperature extremes. Based on meteorological data at Johnstown Castle over the last 4 years, the mean January temperature is 5.8 degrees Celsius (° C), while the mean July temperature is 15.6°C. The prevailing wind direction is from a quadrant centred on the southwest. The expected annual rainfall for the eastern half of the country ranges between 750mm and 1000mm. Easterly winds are less frequent, weaker, and tend to bring cooler weather from the northeast in spring and warmer weather from the southeast in summer.

8.3.3.1 Rainfall

Table 8-18(A) illustrates the monthly and annual rainfall data collected over a 4-year period (2021-2023) at Johnstown Castle Station. The annual rates of precipitation ranged from 996.6 in 2022 to 1295.3 in 2023 with distribution of the highest monthly rainfall values falling mainly in the autumn and winter months. This is broadly within the expected range of the eastern half of the country.

Table 8-18(A) Monthly Rainfall Values (mm) for Johnstown Castle Weather Station from January 2021 to December 2024 (Source: Met Eireann)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2024	110.8	136.2	153.7	132.9	76.8	39.9	58.5	68.7	108.4	112.0	96.4	81.8	**1176.1**
2023	93.2	7.4	149.0	50.9	41.8	48.5	124.7	87.5	178.4	265.0	96.7	152.2	**1295.3**
2022	22.7	96.8	90.1	39.2	62.1	72.5	24.4	32.2	123.1	159.3	163.5	110.7	**996.6**

RECEIVED: 05/08/2025

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2021	144.5	122.4	32.7	12.3	129.8	26.3	78.3	60.5	57.7	193.5	27.9	181.9	**1067.8**
Mean	**103.4**	**75.5**	**79.0**	**70.4**	**67.6**	**72.6**	**72.8**	**83.7**	**87.7**	**122.1**	**115.3**	**109.8**	**1059.9**

8.3.3.2 Wind

Wind at a particular location can be influenced by a number of factors, such as obstructions by trees or buildings, the nature of the terrain, and deflection by nearby mountains or hills. Wind blows most frequently from the south and west for open sites while winds from the northeast and north occur less often. The analysis of hourly weather data from Johnstown Castle synoptic weather station over a period of 20 years suggests that the predominant wind direction blows from the southwest, with windspeeds of between 7 and 10 knots occurring most frequently.

Figure 8-6(A) provides a wind speed frequency distribution which represents wind speed classes and the frequency at which they occur (% of time) at Johnstown Castle weather station over a period of 20 years. Wind speeds of 6 knots have the highest frequency, occurring approximately 10.3% of the time.

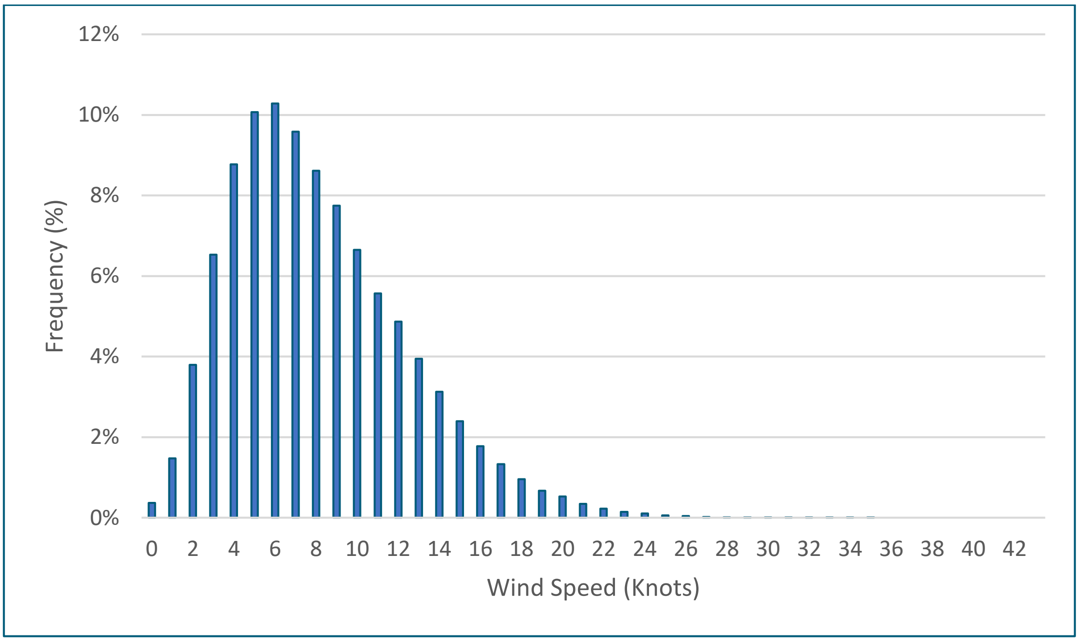


Figure 8-6(A) Wind Speed Distribution at Johnstown Castle Synoptic Weather Station over 20 years (2004-2023)

Figure 8-7(A) provides a wind rose of the predominant wind directions and associated wind speeds at Johnstown Castle Synoptic Weather Station. As is visible from Figure 8-7(A), the prevailing winds are from a south-westerly direction, with an annual incidence of 36.75% for winds between 200 and 250 degrees. The most frequent wind speed associated with this wind direction is between 7 and 10 knots which is considered a ‘moderate breeze’ in terms of the Beaufort scale, this wind direction and wind speed occurs in combination approximately 12.33% of the time. The overall most common windspeed is between 7 and 10 knots, occurring in 32.55% of incidences, and wind speeds of between 4 and 6 knots occurring in 29.08% of incidences.

RECEIVED: 05/08/2025

The lowest frequency is for winds blowing from the eastern quadrant at approximately 3.92% of the time. The incidence of wind between 1 and 6 knots is about 40.83% with wind speeds of above 17 knots (8.7 m/s) occurring in just 4.44% of incidences. This wind rose is broadly representative of the prevailing conditions experienced at the site.

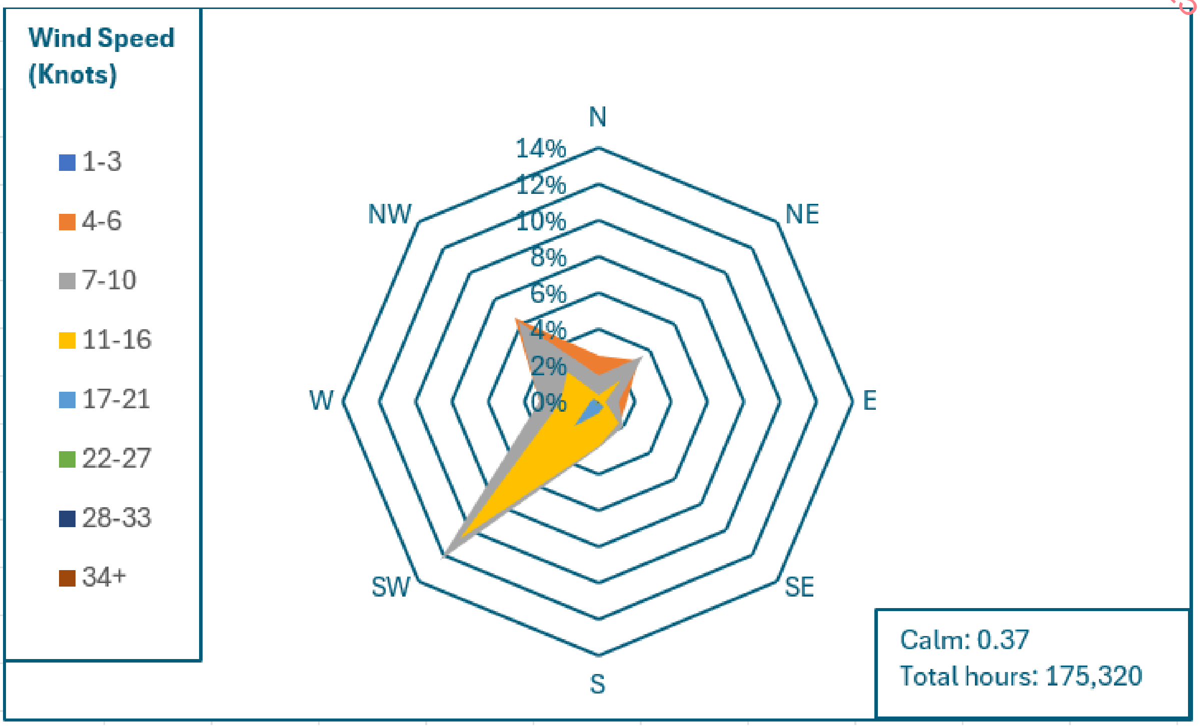


Figure 8-7(A) 20-year Johnstown Castle Weather Station 2004-2023 (Developed using Met Eireann Hourly Data)

8.4 Characteristics of the Proposed Development

A comprehensive description of the Proposed Development is presented in Chapter 2 of this EIAR.

8.4.1 Aspects Relevant to this Assessment

8.4.1.1 Construction Phase

The aspects of the construction phase relevant to this chapter are as follows:

- Dust deposition, resulting in the soiling of surfaces;
- Visible dust plumes, which are evidence of dust emissions;
- Elevated PM_{10}, $PM_{2.5}$ concentrations from demolition and construction activities (including earthworks and trackout); and
- An increase in concentrations of PM_{10}, $PM_{2.5}$ and nitrogen dioxide due to exhaust emissions from vehicles and equipment used on site (non-road mobile machinery) and vehicles accessing the site.

8.4.1.2 Operational Phase

RECEIVED: 05/08/2025

The aspects of the operational phase relevant to this chapter are as follows:

- An increase in concentrations of PM_{10}, $PM_{2.5}$ and nitrogen dioxide due to exhaust emissions from vehicles and equipment used on site (non-road mobile machinery) and vehicles accessing the site.

8.5 Potential Effect of the Proposed Development

8.5.1 Construction Phase

8.5.1.1 Dust

There is potential for construction related air emissions to effect local air quality due to the Proposed Development. The IAQM *Guidance on the Assessment of Dust from Demolition and Construction* (2024) provides a framework for the assessment of risk, details of which are provided in Section 8.2 of this chapter.

Potential Dust Emission Magnitude (Step 2A)

The potential magnitude of dust emissions from construction, earthworks and trackout has been assessed, as identified in Table 8-19(A).

Table 8-19(A) Dust Emission Magnitude for the site

Activity	Dust Emission Magnitude
Earthworks	Large
Construction	Large
Trackout	Medium

Sensitivity of the Area (Step 2B)

Table 8-20(A) outlines the sensitivity of the area to construction dust based on three factors: dust soiling, human health and ecology. The classification helps in assessing the potential effect of construction activities on air quality and guides mitigation.

Table 8-20(A) Sensitivity of the Area

Sensitivity Type	Factors	Sensitivity of Area	
		On-Site	Trackout
Dust Soiling	In order to account for a worst-case scenario, the sensitivity of the area has been classified as high for on-site activity (earthworks and construction) and trackout.	High	High
Human Health	As per Section 8.3.1, a conservative estimate of the background PM_{10} levels for the region of the Proposed Development is 10 µg/m^3. As the PM_{10} concentration is less than 24 µg/m^3, the sensitivity of the area to human health effects is considered to be low.	Low	Low

RECEIVED: 05/08/2025

Sensitivity Type	Factors	Sensitivity of Area	
		On-Site	Trackout
Ecology	Saltee Islands Special Area of Conservation (SAC) is located directly to the south of the site. Saltee Islands SAC can be classified as a high sensitivity receptor to dust soiling for both on-site activity (earthworks and construction) and trackout.	High	High

Risk of Dust Impacts (Step 2C)

The outcomes of the assessments of potential magnitude of dust emissions and the sensitivity of the area are combined to determine the risk of impact. This risk is then used to inform the selection of appropriate mitigation. Table 8-21(A) details the risk of dust impacts for earthworks, construction and trackout activities.

Table 8-21(A) Summary of Unmitigated Risks

Potential Impact	Sensitivity	Magnitude		
		Earthworks	Construction	Trackout
		Large	Large	Medium
Dust Soiling Impacts	High	High Risk	High Risk	Medium Risk
Human Health Impacts	Low	Low Risk	Low Risk	Low Risk
Ecological Impacts	High	High Risk	High Risk	Medium Risk

The dust risk categories for each of the three activities determined in STEP 2C have been used to define the appropriate, site-specific, mitigation measures to be adopted in Section 8.6.1 of this chapter (Step 3 as per the IAQM *Guidance on the assessment of dust from demolition and construction* (2024) (see Section 8.2 of this chapter)).

For those cases where the risk is assigned as 'negligible', no mitigation measures beyond those required by legislation are required. However, additional mitigation measures as defined in Section 8.2 may be applied as part of good practice.

8.5.1.2 Traffic Assessment

There is also the potential for traffic emissions to affect air quality in the short-term over the construction phase, particularly due to the increase in HGVs accessing the site. The construction stage traffic has been reviewed, and a detailed air quality assessment has been scoped out as none of the road links affected by the Proposed Development satisfy the TII scoping assessment criteria in Section 8.2.2.2.

It can be determined that the construction stage traffic will have a ***direct, short-term, negative*** and ***imperceptible*** effect on air quality and human health, which is overall not significant in EIA terms.

8.5.2 Operational Phase

There is the potential for traffic emissions to affect air quality in the long-term over the operational phase. The operational phase traffic has been reviewed, and a detailed air quality assessment has been scoped out as none of the road links affected by the Proposed Development satisfy the TII scoping assessment criteria in Section 8.2.2.2.

RECEIVED: 05/08/2025

It can be determined that the construction stage traffic will have a ***direct, long-term, negative*** and ***imperceptible*** effect on air quality and human health, which is overall not significant in EIA terms.

8.5.3 Potential Cumulative Effects

Cumulative Impacts can be defined as "impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project". Effects which are caused by the interaction of effects, or by associated or off-site projects, are classed as indirect effects. Cumulative effects are often indirect, arising from the accumulation of different effects that are individually minor.

Cumulative air quality impacts have the potential to arise locally when construction activities associated with the Proposed Development take place at the same time as other developments in a specific location.

A review of other off-site developments was completed as part of this assessment. Chapter 2 of this EIAR details the existing, proposed and granted planning permissions on record in the area, a review of these planning permissions has been completed as part of this assessment.

The cumulative effects on the air quality of the current Proposed Development and other permitted or existing developments have been considered, through the generation of air pollutants. The potential impacts on air quality are assessed in Section 8.5 and it is considered that there are no other potential significant cumulative impacts associated with the Proposed Development and considered offsite permitted developments.

In terms of dust, no significant effects are predicted; good construction practice, which incorporates the implementation of the identified mitigation measures, will be employed at the Proposed Development site.

Assessment of road traffic emission impacts on air quality involved traffic data which is inclusive of traffic associated with other existing and permitted developments on the road networks surrounding the site. Therefore, cumulative effects have been assessed in this regard and the impact on ambient air quality has been determined as not being significant.

It is considered that there are no other potential significant cumulative impacts associated with the Proposed Development and considered offsite permitted developments.

8.5.4 "Do Nothing" Effect

If the Proposed Development were not to proceed, ambient air quality at the site will remain as per the baseline and will change in accordance with trends within the wider area (including influences from potential new developments in the surrounding area, changes in road traffic etc). Under the Do-Nothing Scenario, construction works associated with the Proposed Development will not take place. Effects from increased traffic volumes and associated emissions from the Proposed Development will also not occur.

RECEIVED: 05/08/2025

8.6 Avoidance, Remedial and Mitigation Measures

8.6.1 Construction Phase

Communications

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site;
- Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager;
- Display the head or regional office contact information; and
- Develop and implement a Dust Management Plan (DMP), the final dust management plan will form part of the overall construction management plan which will formally be prepared and submitted to Wexford County Council post grant of planning permission.

Site Management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken;
- Make the complaints log available to the local authority when asked;
- Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log book; and
- Hold regular liaison meetings with other high risk construction sites within 250m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes.

Monitoring

- Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the Wexford County Council when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100 m of site boundary, with cleaning to be provided if necessary;
- Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the Wexford County Council when asked; and
- Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.

Preparing and Maintaining the site

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible;
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site;

RECEIVED: 08/08/2025

- Fully enclose site or specific operations where there is a high potential for dust production and the site is actives for an extensive period;
- Avoid site runoff of water or mud;
- Keep site fencing, barriers and scaffolding clean using wet methods;
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below; and
- Cover, seed or fence stockpiles to prevent wind whipping.

Operating Vehicle/Machinery and Sustainable Travel

- Ensure all vehicles switch off engines when stationary - no idling vehicles;
- Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable; and
- A speed restriction of 20 km/hr will be applied as an effective control measure for dust for on-site vehicles using unpaved haul roads.

Operations

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems;
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/ mitigation, using non-potable water where possible and appropriate;
- Use enclosed chutes and conveyors and covered skips;
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate; and
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

Waste Management

- Avoid bonfires and burning of waste materials.

Measures Specific to Earthworks

- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable;
- Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable; and
- Only remove the cover in small areas during work and not all at once.

RECEIVED: 05/08/2025

Measures Specific to Construction

- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.

Measures Specific to Trackout

- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use;
- Avoid dry sweeping of large areas;
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport;
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable;
- Record all inspections of haul routes and any subsequent action in a site log book;
- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned;
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable);
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits; and
- Access gates to be located at least 10 m from receptors where possible.

Measures Specific to Ecological Receptors

- Dust suppression: Using water sprays, dust suppressants, or covering materials to reduce dust particles;
- Vegetative barriers: Planting trees, shrubs or grasses to act as windbreaks and capture dust particles;
- Site management: Implementing good housekeeping practices, such as regular cleaning of access roads and minimising the movement of vehicles on unpaved surfaces;
- Monitoring: Regularly monitoring dust levels and ecological receptors to ensure that mitigation measures are effective; and
- Timing of activities: Scheduling dust-generating activities during periods of low wind or when ecological receptors are less sensitive.

8.6.2 Operational Phase

It has been determined that the operational phase air quality impact is negligible and therefore, no site-specific mitigation measures are proposed.

8.6.3 "Worst Case" Scenario

A worst-case scenario has been applied in Step 2A (defining the potential dust emission magnitude) of the construction dust impact assessment and the highest risk category has

RECEIVED: 05/08/2025

been applied when selecting the mitigation measures that are general for the Proposed Development.

It is expected that adequate mitigation measures, as outlined in Section 8.6.1, will assist in preventing nuisance dust from resulting in any significant effects. However, even with the most rigorous DMP in place, it is not possible to guarantee that the dust mitigation measures will be effective all the time, and if, for example, dust emissions occur under adverse weather conditions, or there is an interruption to the water supply used for dust suppression, the local community may experience occasional, short-term dust annoyance. The likely scale of this would not be considered sufficient to change the conclusion that with mitigation the effects will be 'not significant'.

A worst-case scenario has been applied to the operational phase traffic emissions assessment in terms of traffic volumes experienced on the surrounding road network and associated air emissions. The worst-case contributions predicted by the tool are added to the existing background concentration to provide a worst-case predicted ambient concentration. The compliance of the Proposed Development with the relevant ambient air quality standards is subsequently assessed by comparison with the worst-case ambient concentrations. Associated effects have been determined as negligible in this case.

8.7 Residual Effects

The IAQM recommends that significance is only assigned to effect after considering the construction activity mitigation. The risk of dust impacts has been determined in Step 2C and the appropriate dust mitigation measures identified in Step 3 (Section 8.6.1 of this chapter) and the final step is to determine whether there are significant effects arising from the construction phase of the Proposed Development. The proposed mitigation measures will reduce the effects to be not significant.

The traffic generated by the Proposed Development has been assessed for its impact on air quality and it has been determined to have an overall not significant effect in terms of local air quality with the implementation of the proposed mitigation measures. Therefore, no significant adverse residual effects are anticipated from the Proposed Development in the context of air quality.

8.8 Monitoring

The monitoring of construction dust during the construction phase of the Proposed Development is recommended to ensure that effects are not experienced beyond the site boundary. Monitoring of dust can be carried out by using the Bergerhoff Method. This involves placing Bergerhoff Dust Deposit Gauges at a strategic locations along the site boundaries for a period of 30 +/- 2 days. The selection of sampling point locations should be carried out in consideration of the requirements of *VDI 2119* with respect to the location of the samplers relative to buildings and other obstructions, height above ground, and sample collection and analysis procedures. After the exposure period is complete, the Gauges should be removed from the Site; the dust deposits in each Gauge will then be determined gravimetrically and expressed as a dust deposition rate in mg/m^2/day in accordance with the relevant standard.

RECEIVED: 05/08/2025

Due to the negligible effect on air quality from the operational phase of the Proposed Development, no specific monitoring is recommended except for monitoring via the Bergerhoff Method.

8.9 Interactions

Interactions between Air Quality and other aspects of this EIAR have been considered in this section of the chapter.

8.9.1 Population and Human Health

Interactions between air quality and population and human health have been considered as the Proposed Development has the potential to cause health issues as a result of effects on air quality from dust nuisances and potential traffic derived pollutants. However, the mitigation measures employed at the Proposed Development will ensure that all effects are compliant with ambient air quality standards and human health will not be affected. Furthermore, traffic-related pollutants have been assessed and determined as having an overall insignificant impact, therefore air quality effects from the Proposed Development are not expected to have a significant impact on population and human health.

8.9.2 Biodiversity

Interactions between air quality and biodiversity have been considered as the construction phase has the potential to interact with flora and fauna in adjacent habitats and designated sites due to dust emissions arising from the construction works. However, the mitigation measures employed at the Proposed Development will ensure that the effects to flora and fauna are not significant.

8.9.3 Land and Soils

Construction phase activities such as land clearing, excavations, stockpiling of materials etc. have the potential for interactions between air quality and land and soils in the form of dust emissions. With the appropriate mitigation measures to prevent fugitive dust emissions, it is predicted that there will be no significant interactions between air quality and land and soils during the construction phase. There are no potentially significant interactions identified between air quality, and land, soils and hydrogeology during the operational phase.

8.9.4 Climate

Air quality and climate have interactions due to the emissions from the burning of fossil fuels during the construction and operational phases generating both air quality and climate effects. There is no impact on climate due to air quality however the sources of effects on air quality and climate are strongly linked.

8.9.5 Traffic

There can be a significant interaction between air quality and traffic. This is due to traffic-related pollutants that may arise. In the current assessment, traffic derived pollutants which may affect air quality have been deemed not significant. Therefore, the effect of the interaction between air quality and traffic is not significant.

RECEIVED: 05/08/2025

8.10 Difficulties Encountered When Compiling

No difficulties have been encountered while compiling this chapter.

8.11 References

Air Pollution Act 2012 (S.I. No. 326 of 2012) Irish Statute Book.

Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011) Irish Statute Book.

Air Quality, Clean Air for Europe Directive (2008/50/EC) EUR-Lex.

Chartered Institute of Ecology and Environmental Management (CIEEM) (2021) Advice on Ecological Assessment of Air Quality Impacts. Chartered Institute of Ecology and Environmental Management. Winchester, UK.

Department of the Environment, Transport and the Regions, 1995. The Environmental Effects of Dust from Surface Mineral Workings- Volume 2. Technical Report.

Environmental Protection Agency (2023) Air Quality in Ireland 2022 Annual Report on Air Quality in Ireland from the Environmental Protection Agency.

Environmental Protection Agency (2024) Air Quality in Ireland 2023 Annual Report on Air Quality in Ireland from the Environmental Protection Agency.

German VDI (2002) Technical Guidelines on Air Quality Control – TA Luft.

Institute of Air Quality Management (IAQM) 2016, Guidance on the Assessment of Mineral Dust Impacts for Planning, London, United Kingdom.

Institute of Air Quality Management (2017) Land-Use Planning & Development Control: Planning for Air Quality.

Institute of Air Quality Management (2022) Guidance on the Assessment of Air Quality Impacts on Designated Nature Conservation Sites.

Institute of Air Quality Management (2024) Guidance on the Assessment of Dust from Demolition and Construction.

Met Eireann (2025) Daily Meteorological Data for Johnstown Castle Synoptic Weather Station.

Met Eireann (2025) Monthly Meteorological Data for Johnstown Castle Synoptic Weather Station.

Transport Infrastructure Ireland (2011) Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes.

UK Department for Environment, Food and Rural Affairs (2020) NO_x to NO_2 Conversion Spreadsheet (Version 8.1).

RECEIVED: 05/08/2025

UK Department for Environment, Food and Rural Affairs (2008) Analysis of the relationship between annual mean nitrogen dioxide concentration and exceedances of the 1-hour mean AQS Objective.

UK Highways Agency (2019) UK Design Manual for Roads and Bridges (DMRB), Volume 11, Environmental Assessment, Section 3 Environmental Assessment Techniques, Part 1 LA 105 Air Quality.

RECEIVED: 05/08/2025

8 (B) CLIMATE

8.1 Introduction

This chapter of the EIAR identifies, describes, and presents an assessment of the eventual significant direct and indirect effects of the Proposed Development at Beak and Nemestown, Kilmore Quay, Co. Wexford on climate (for example greenhouse gas emissions) and its vulnerability to climate change.

It should be read in conjunction with Ch. 8A Air Quality, Ch. 12 Material Assets Traffic and Transport and the Traffic and Transport Assessment, as well as the Climate Action and Energy Statement, Building Life Cycle Assessment Report and Site-Specific Flood Risk Assessment submitted with the planning application.

The proposed development consists of an application for a 10-year planning permission for development of an Integrated Tourism Resort Complex at Beak and Nemestown, Kilmore Quay, Co. Wexford. The development will consist of a central hotel, ranging in height from 1 to 4-storeys over a lower ground floor and provides 163 no. bedrooms, 42 no. family suites, bar and restaurants, function/conference centre facility and spa/leisure complex. 55 no. large family friendly tourist lodges, pavilion restaurant, hotel staff accommodation and external sports, recreation and play facilities provided throughout the site.

The development includes refurbishment and reuse of the Beak farmstead buildings and courtyard for tourism and heritage purposes, with family lodge reception and recreation management, resort shop, café/restaurant, arts/crafts spaces.

Facilities also include maintenance store, bicycle shelters, car / bus drop-off and parking, landscaped green spaces with pedestrian routes through the site.

Vehicular access to the development is from the Kilmore Road (R739) with pedestrian/cycle connections into Kilmore Quay village centre and to Nemestown.

A full description of the development can be found in Chapter 2.

Climate change is recognised as one of the most serious global environmental problems and arguably the greatest challenge facing humanity today. While natural variations in climate over time are normal, anthropogenic activities have interfered greatly with the global atmospheric system by emitting substantial amounts of greenhouse gases (GHGs). This has caused a discernible effect on our global climate system, with continued change expected due to current and predicted trends of GHG emissions. In Ireland this is demonstrated by rising sea levels, changes in the ecosystem, extreme weather events and biodiversity loss.

The GHG assessment evaluates the project's climate impact across different life stages, considering a 60-year building life expectancy. It categorises greenhouse gas emissions into four main stages based on BS EN 15978: Production (embodied carbon from raw material extraction to product manufacturing), Pre-construction/Construction (impacts from product delivery and assembly), Operational (emissions from building operations, maintenance, and replacement), and End of Life (deconstruction and disposal activities). The assessment includes the first three stages, while the End-of-Life stage is excluded due to uncertainties in deconstruction methods.

RECEIVED: 05/08/2025

This chapter should be read in conjunction with the following chapters, which present related impacts arising from the proposed Project:

- Chapter 2 Project Description
- Chapter 13 Traffic and Transportation;
- Chapter 6 Land and Soils;
- Chapter 7 Water (Including Hydrology and Flood Risk);
- Chapter 8a Air Quality; and
- Chapter 12 Material Assets

Attention will be focused on Ireland's obligations under the Paris Agreement (Climate Action Plan & Corresponding carbon budgets) in the context of the overall climatic impact of the presence and absence of the Proposed Development.

8.1.1 Quality Assurance and Competency of Experts

This chapter of the EIAR has been prepared by Aoife Gillen of DNV. Aoife holds a Master of Science (Hons) degree, is a Chartered Environmental Health Practitioner, and Certified Energy Manager. Aoife has worked as an Principal Sustainability Consultant with DNV since March 2024, and has built up experience preparing Climate Change Impact Assessments, Environmental Impact Assessment (EIA) Screening Reports, Climate Chapters, Climate Impact Statements and Carbon assessments. Aoife has been involved in the preparation of EIARs for the following projects:

- N&C Kilmeague Quarry GHG Assessment
- Dyke Road Galway LRD Climate Change Impact Assessment
- DRES Properties Railpark Maynooth LRD Climate Chapter
- Glenveagh Ford LRD Climate Chapter
- Boherboy LRD Climate Chapter
- LDA Galway Port Climate Chapter
- Rathmullan LRD Climate Chapter

8.2 Greenhouse Gas Emissions in Ireland

Ireland's latest greenhouse gas (GHG) emissions 1990-2023 are based on the Sustainable Energy Authority Ireland's (SEAI's) provisional energy balance released in May 2025 (EPA, 2025). In 2023, Ireland's GHG emissions are estimated to be 58.82 million tonnes carbon dioxide equivalent (Mt CO_2eq), which is 6.1% lower (or 3.79 Mt CO_2eq) than emissions in 2022 (62.26 Mt CO_2eq) and follows a 3.0% decrease in emissions reported for 2022. Emissions are 3.3% below the historical 1990 baseline for the first time in 33 years.

Arresting growth in emissions is a challenge in the context of a growing economy but one which must continue to be addressed by households, business, farmers and communities if Ireland is to reap the benefits of a low-carbon economy.

RECEIVED: 05/08/2025

The final greenhouse gas emission inventory for 2023 is the third of ten years over which compliance with targets set in the European Union's Effort Sharing Regulation (EU 2018/842) will be assessed. This Regulation sets 2030 targets for emissions outside of the Emissions Trading Scheme (known as ESR emissions) and annual binding national limits for the period 2021-2030. Ireland's target is to reduce its greenhouse gas emissions by at least 42% by 2030 compared with 2005 levels, with a number of flexibilities available to assist in achieving this. The ESR includes the sectors outside the scope of the EU Emissions Trading System (ETS) (such as Agriculture, Transport, Residential, Public Services and Commercial Services and Waste).

Ireland's ESR emissions annual limit for 2023 is 40.52 Mt CO_2eq. Ireland's final 2023 greenhouse gas ESR emissions are 42.74 Mt CO_2eq, this is 2.22 Mt CO_2eq more than the annual limit for 2023. This value is the national total emissions less emissions generated by stationary combustion i.e. power plants, cement plants, and domestic aviation operations that are within the EU's emissions trading scheme. Cumulatively from 2021-2023 and after using the ETS flexibility, Ireland is in compliance with the

ESR by a net distance to target of 0.22 Mt CO_2eq, although in 2023 there is an exceedance of 0.29 Mt CO_2eq above its Annual Emissions Allocation with the ETS flexibility. Agriculture and Transport accounted for 75.9% of total ESR emissions in 2023. The revised LULUCF Regulation (2023) incorporates new rules around LULUCF flexibilities for the period 2021-2025 and 2026-2030. There is a high degree of uncertainty relating to the availability of the LULUCF flexibility and, if available, the quantity of flexibility in each budgetary period.

The latest projections (May 2025) indicate that currently implemented measures (With Existing Measures) will achieve a reduction of 10% on 2005 levels by 2030, significantly short of the 42% reduction target. If measures in the higher ambition (With Additional Measures) scenario are implemented, EPA projections show that Ireland can achieve a reduction of 22% by 2030, still short of the 42% reduction target.

In terms of the 2030 targets, the ESR provides two flexibilities (use of ETS allowances and credit from action undertaken in the land use, land use change and forestry (LULUCF) sector) to allow for a fair and cost-efficient achievement of the targets. New Regulations in 2023 mean there are new rules around LULUCF flexibility that incorporates split budgets 2021-2025 to 2026-2030[1]. Additional analyses are needed to estimate the impact of the new rules on flexibilities. In the interim, based on latest LULUCF inventory and projections data, the maximum amount of LULUCF flexibility now projected to be available is 13.4 Mt CO_2eq in the first 5-year period (or 2.68 Mt CO_2eq per annum), with no flexibility available in the second 5-year period.

Ireland's greenhouse gas (GHG) emissions increased in the period from 1990 to 2001 where it peaked at 70.85 Mt CO_2 equivalent, before displaying a downward trend to 2014. Emissions increased by 4.0% and 3.8%, respectively in the years, 2015 and 2016 and remained relatively stable in 2017 and 2018, followed by a 3.0% decrease in 2019. In 2020 total national GHG emissions were 3.6% lower than 2019 emissions largely driven by the covid restrictions. The gradual lifting of covid restrictions in 2021 along with an increase in the use of coal and less renewables within electricity generation resulted in a 4.5% increase in emissions in 2021 compared to 2020. A 2.1% decrease in emissions was seen in 2022 compared to 2021, mainly

RECEIVED: 05/08/2025

due to a substantial decrease in residential sector emissions combined with decreases from industry, agriculture and electricity generation. This was followed by a 6.8% reduction in emissions in 2023. Ireland's GHG emissions have decreased by 3.3% from 1990-2023.

In relation to the greenhouse gases; carbon dioxide (CO_2) accounted for 61.1% of the total, with methane (CH_4) and nitrous oxide (N_2O) contributing 28.9% and 8.8% as CO_2 equivalent, respectively and F-gases contributing 1.2% of the total as CO_2 equivalent.

In 2023, the energy industries, transport and agriculture sectors accounted for 73.5% of total GHG emissions. Agriculture is the single largest contributor to the overall emissions, at 37.7%. Transport, energy industries and the residential sector are the next largest contributors, at 21.5%, 14.3% and 9.7%, respectively.

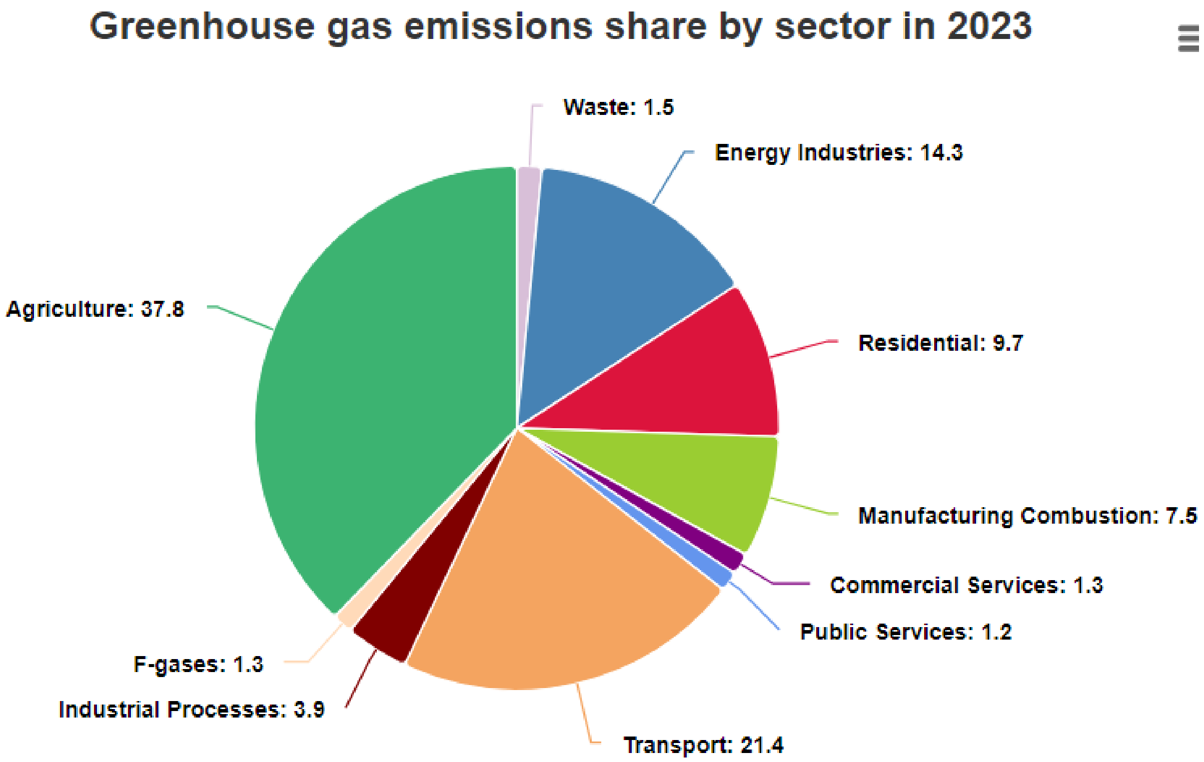


Figure 1 – Ireland's Greenhouse Gas Emissions Share by Sector 2023 (Source: EPA, 2024)

The Climate Change Advisory Council submitted their Annual Review 2023 to the Minister of the Environment, Climate and Communications on 24th of June 2024. Detailed key messages, including observations and recommendations for each sector (electricity; transport; built environment; enterprise and waste; agriculture, forestry and other land use; and biodiversity), can be found at the beginning of each chapter in the annual review (CCAC, 2024). The overall recommendations are as follows:

- The Council strongly recommends that the Government urgently conducts a full review of taxation in the Transport sector (including vehicle registration tax, motor tax, excise duty, carbon tax, fuel pricing and distance-based charges) to ensure that taxation policy for households and businesses supports emission targets, is aligned with climate objectives, promotes energy efficiency and minimises negative impacts on society.

RECEIVED: 05/08/2025

- Government and local authorities should reallocate road space to provide better access for more sustainable modes of transport, such as walking, cycling or taking a bus. Public transport services need to improve, and more public engagement is needed to understand the barriers people face in making sustainable transport choices.
- The Government must urgently complete the planning reform necessary to:
  - ensure that new developments reduce transport demand by placing homes, workplaces, public services and leisure spaces closer to each other and nearer to public and active transport (e.g. walking and cycling) infrastructure,
  - speed up the delivery of major public and active transport infrastructure projects and minimise the costs and delays associated with the planning process.
- Local authorities must have the support and guidance from Government that they need to reduce transport demand and emissions, with locally implemented measures such as low-emission zones and provision of shuttle bus services or incentives to promote carpooling.
- The number of car journeys to and from schools needs to be reduced by significantly expanding the School Transport Scheme and continuing work to increase the number of pupils walking and cycling to school.
- The Government needs to prioritise measures and investments to strengthen the resilience of ports and critical roads and railways to the future impacts of climate change such as more intense rainfall events and sea level rise

8.3 Legislation, Policy and Guidance

The key legislation and guidance referenced in the preparation of the EIAR is outlined in Chapter 1: Introduction (Sections 1.5, 1.6 and 1.7). Specific to Climate, the following legislation, guidance, and planning framework relevant to the consideration of this factor has informed the assessment as outlined below.

8.3.1 International Legislation/Commitments/Agreements

In March 1994, the United Nations Framework Convention on Climate Change (UNFCCC) was established as an intergovernmental effort to tackle the challenges posed by climate change. The Convention membership is almost universal, with 197 countries having ratified. Under the Convention, governments gather and share information on GHG emissions, national policies, and best practices. This information is then utilised to launch national strategies and international agreements to address GHG emissions. Following the formation of the UNFCCC, two major international climate change agreements were adopted: The Kyoto Protocol, and the Paris Agreement.

In April 1994, Ireland ratified the United Nations Framework Convention on Climate Change (UNFCCC) and subsequently signed the Kyoto Protocol in 1997. The Kyoto Protocol is an international agreement linked to the UNFCCC which commits its parties to legally binding emission reduction targets. In order to ensure compliance with the protocol, the Intergovernmental Panel on Climate Change (IPCC) has outlined detailed guidelines on compiling National Greenhouse Gas Inventories. These are designed to estimate and report on national inventories of anthropogenic GHG emissions and removals. Under Article 4 of the Kyoto Protocol, Ireland agreed to limit the net anthropogenic growth of the six named GHGs to 13% above the 1990 level, spanning the period 2008 to 2012 (IPPC, 2006).

RECEIVED: 05/08/2025

The second commitment period of the Kyoto Protocol was established by the Doha amendment which was adopted in extremis on the 8th of December 2012, to impose quantified emission limitation and reduction commitments (QELRCs) to Annex I (developed country) Parties during a commitment period from 2013 to 2020. 38 developed countries, inclusive of the EU and its 28 member states, are participating. Under the Doha amendment, participating countries have committed to an 18% reduction in emissions from 1990 levels. The EU has committed to reducing emissions in this period to 20% below 1990 levels. Ireland's QELRCs for the period 2013 to 2020 is 80% of its base year emissions. Ireland's compliance with the Doha amendment will be assessed based on the GHG inventory submission in 2022 for 1990-2020 data. As of October 2020, the Doha Amendment has received the required number of ratifications to enter into force. Once in force, the emission reduction commitments of participating developed countries and economies in transition (EITs) become legally binding.

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by all United Nations Member States in 2015 as a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity by 2030. The 17 SDGs are integrated—that is, they recognise that action in one area will affect outcomes in others, and that development must balance social, economic, and environmental sustainability. The creativity, knowhow, technology and financial resources from all of society is necessary to achieve the SDGs in every context. At its heart, the SDGs are about global partnership for this call to action. No matter how large or small, and regardless of their industry, all companies can contribute to the SDGs through their sustainability and corporate social responsibility strategies, policies, and processes.

Figure 2: UN Sustainable Development Goals

Ireland has published a Sustainable Development Goals National Implementation Plan 2022-2024 to provide a whole-of-government approach to implementing these goals. Sustainable development, climate change and equity are intrinsically intertwined. Climate change impacts can be linked in one way or another to all 17 of the UN Sustainable Development Goals

RECEIVED: 05/08/2025

(SDGs). Climate action that considers co-impacts across other SDGs can increase efficiency, reduce costs and support early and ambitious climate action (DECC, 2022).

8.3.2 European Legislation

GHG Legislation

In December 2015, the Paris Climate Change Conference (COP21) took place and was an important milestone in terms of international climate change agreements. The Paris Agreement sets out a global action plan to put the world on track to mitigate dangerous climate change by setting a global warming limit not to exceed 2°C above pre-industrial levels, with efforts to limit this to 1.5°C. As a contribution to the objectives of the agreement, countries have submitted national climate action plans (nationally determined contributions, (NDCs)). Under this agreement, governments agreed to come together every 5 years to assess the collective progress towards the long-term goals and inform Parties in updating and enhancing their nationally determined contributions. Ireland will contribute to the Paris Agreement through the NDC tabled by the EU on behalf of Member States in 2020, which commits to a 55% reduction in EU-wide emissions by 2030 compared to 1990. This is considered to be the current NDC maintained by the EU and its Member States under Article 4 of the Paris Agreement.

The EU has set itself targets for reducing its GHG emissions progressively up to 2050, these are outlined in the 2020 climate and energy package and the 2030 climate and energy policy framework. These targets are defined to assist the EU in transitioning to a low-carbon economy, as detailed in the 2050 low carbon roadmap. The 2020 package is a set of binding legislation to ensure that the EU meets its climate and energy targets for the year 2020 (EEA; 2020). There are three key targets outlined in the package which were set by the EU in 2007 and enacted in legislation in 2009:

- 20% reduction in GHG emissions from 1990 levels;
- 20% of EU energy to be from renewable sources; and
- 20% improvement in energy efficiency.

The 2030 climate and energy framework builds on the 2020 climate energy package and was adopted by EU leaders in October 2014. The framework sets three key targets for the year 2030:

- At least 40% cuts in GHG emissions from 1990 levels;
- At least 32% share for renewable energy; and
- At least 32.5% improvement in energy efficiency.

The EU has acted in several areas in order to meet these targets, including the introduction of the Emissions Trading System (ETS). The ETS is the key tool used by the EU in cutting GHG emissions from large-scale facilities in the power, industrial, and aviation sectors. Around 45% of the EU's GHG emissions are covered by the ETS.

As part of the European Green Deal, the EU Commission proposed in September 2020 to raise the 2030 greenhouse gas emission reduction target, including emissions and removals, to at least 55% compared to 1990. The European Climate Law came into force in July 2021 and writes into law the goal set out in the European Green Deal for Europe's economy and

RECEIVED: 05/08/2025

society to become climate-neutral by 2050. The law also sets the intermediate target of reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels.

Corporate Sustainability Reporting Directive (CSRD)

On 5 January 2023, the Corporate Sustainability Reporting Directive (CSRD) entered into force. It modernises and strengthens the rules concerning the social and environmental information that companies must report. The CSRD is effective from 01 January 2024 for those entities already subject to the NFRD (reporting in 2025) and from 01 January 2025 for all other large companies (reporting in 2026).

Companies subject to the CSRD will have to report according to European Sustainability Reporting Standards (ESRS). The standards are developed in a draft form by the EFRAG, previously known as the European Financial Reporting Advisory Group (EFRAG, 2024).

If the client falls in scope for CSRD, the results from this current Climate Chapter should be reviewed in line with the materiality assessment and annual CSRD disclosure requirements. Specifically, the findings may serve as an evidence base for EFRAG Standard ESRS E1 CLIMATE CHANGE.

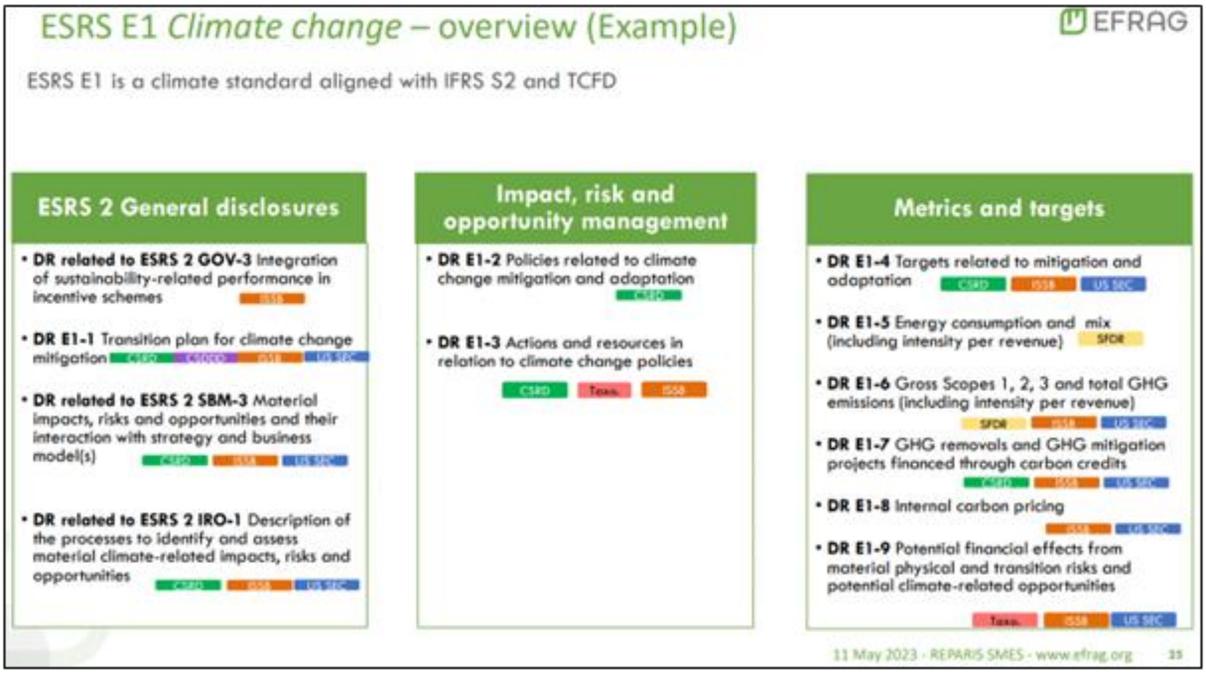


Figure 3: ESRS E1 Climate Change: presented by Eric Duvaud, EFRAG SR TEG member (Source: The first set of ESRS – the journey from PTF to delegated act (adopted on 31 July 2023) – EFRAG)

The data/information from this Climate Chapter should be considered for Impact, Risk and Opportunity Management Disclosure Requirements 20 and 21 below within ESRS E1 CLIMATE CHANGE (EFRAG; 2023):

20. The undertaking shall describe the process to identify and assess climate-related impacts, risks and opportunities. This description shall include its process in relation to:

(a) impacts on climate change, in particular, the undertaking's GHG emissions (as required by Disclosure Requirement ESRS E1-6);

RECEIVED: 05/08/2025

(b) climate-related physical risks in own operations and along the upstream and downstream value chain, in particular:

i. the identification of climate-related hazards, considering at least high emission climate scenarios; and

ii. the assessment of how its assets and business activities may be exposed and are sensitive to these climate-related hazards, creating gross physical risks for the undertaking.

(c) climate-related transition risks and opportunities in own operations and along the upstream and downstream value chain, in particular:

i. the identification of climate-related transition events, considering at least a climate scenario in line with limiting global warming to 1.5°C with no or limited overshoot; and

ii. the assessment of how its assets and business activities may be exposed to these climate-related transition events, creating gross transition risks or opportunities for the undertaking.

21. When disclosing the information required under paragraphs 20 (b) and 20 (c) the undertaking shall explain how it has used climate-related scenario analysis, including a range of climate scenarios, to inform the identification and assessment of physical risks and transition risks and opportunities over the short-, medium- and long-term.

Corporate Sustainability Due Diligence Directive (CSDDD)

This proposed Directive establishes a corporate due diligence duty. The core elements of this duty are identifying, bringing to an end, preventing, mitigating and accounting for negative human rights and environmental impacts in the company's own operations, their subsidiaries and their value chains. In addition, certain large companies must have a plan to ensure that their business strategy is compatible with limiting global warming to 1.5 °C in line with the Paris Agreement.

The CSDDD is expected to complement the CSRD as it will require companies to implement comprehensive identification, prevention and mitigation processes to eliminate adverse human rights and environmental impacts in the company's own operations, its subsidiaries and value chains. It will also complement the Taxonomy Regulation that requires specific details of what constitute "environmentally sustainable" investments.

It is expected that the CSDDD will require companies in scope to ensure the identification, prevention, mitigation and ability to account for any adverse environmental impacts, with adequate governance, management systems and measures in place to this end.

For instance, regarding adverse climate change impacts, a company would have to obtain quantitative and qualitative information about baseline conditions at higher risk sites or facilities. Identification of adverse impacts would include assessing the environmental context in a dynamic way and at regular intervals, prior to a new activity or relationship; prior to major decisions or changes in the operation; in response to or anticipation of changes in the operating environment; and periodically (at least every 12 months) throughout the life of an activity or relationship. The following Climate Change Impact Assessment can serve as due diligence demonstrating partial compliance with the CSDDD.

RECEIVED: 05/08/2025

8.3.3 National Legislation

Climate Action and Low Carbon Development Act

The Climate Action and Low Carbon Development Act 2015 (the principal act) set national climate policy on a statutory footing for the first time in Ireland, with the target of pursuing the transition to a low-carbon, climate-resilient, and environmentally sustainable economy by 2050. The principal act was subsequently amended by the Climate Action and Low Carbon Development (Amendment) Act 2021 (the '2021 Act') which sets Ireland on a legally binding path to net-Zero emissions no later than 2050, and to a 51% reduction in emissions by the end of this decade (Government of Ireland; 2015).

The 2021 Act provides a legally binding framework with clear targets and commitments set in law, and ensures the necessary structures and processes are embedded on a statutory basis to ensure Ireland achieves its national, EU and international climate goals and obligations in the near and long term. Policy amendments will involve the rapid electrification of transport system: electric bikes, electric vehicles, and electric public transport. This will be enacted in tandem with a ban on new registrations of petrol and diesel cars from 2030. Furthermore, there will be a policy to incentivise behavioural changes by increased effective modal shift to walking, cycling and public transport infrastructure.

The 2021 Climate Act incorporates carbon budgets and sectoral emissions limits, defining the carbon budget as the total allowable greenhouse gas emissions during the budget period. Consequently, the Act has removed any mention of a national mitigation plan, replacing it with references to both former and latest versions of the Climate Action Plan, as well as a series of National Long Term Climate Action Strategies. Additionally, it has updated the national transition objective to a national climate objective, committing "to pursue and achieve, by no later than the end of the year 2050, the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy" (Government of Ireland; 2022).

Section 6B (12) of the 2021 Climate Act requires the Minister for the Environment, Climate and Communications to publish the approved carbon budget programme. In May 2022 the budgets were published and the total emissions allowed under each budget is set out below, as well as the average annual reduction for each 5-year period (DECC, 2022):

• 2021-2025: 295 Mt CO2eq - this represents an average reduction in emissions of 4.8% per annum for the first budget period.

• 2026-2030: 200 Mt CO2eq - this represents an average reduction in emissions of 8.3% per annum for the second budget period.

• 2031-2035: 151 Mt CO2eq - this represents an average reduction in emissions of 3.5% per annum for the third provisional budget.

To meet these targets, the government published a set of Sectoral Emissions Ceilings in July 2022 and each sector has been assigned a % reduction target on the 2018 baseline to achieve a ceiling of 295 Mt CO2eq by 2025 and 200 Mt CO2eq by 2030 (DECC, 2022).

The assessment in this chapter has been prepared in accordance with, among other things, the 2021 Act and the EIA Directive.

The 2021 Act also introduces a requirement for each local authority to prepare a Climate Action Plan, which will include both mitigation and adaptation measures and be updated every

RECEIVED: 05/08/2025

five years. Local authority Development Plans will also align with their Climate Action Plan (DECC, 2021).

The proposed project is consistent with the following plans, strategies and objectives specified in section 15 of the Climate Action and Low Carbon Development Act 2015, as amended:

- The National Climate Objective;
- The most recent Climate Action Plan;
- The most recent National Long-Term Climate Action Strategy;
- The most recent National Adaptation Framework; and
- The objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State.

The Act mandates the relevant Minister to develop the Climate Action Plan, the National Long-Term Climate Action Strategy, and the National Adaptation Framework to achieve the National Climate Objective (DECC, 2021). This objective of becoming 'climate neutral' by 2050 aligns with the EU's climate goal as established in Regulation (EU) No 2021/1119 (the 'European Climate Law'). The European Climate Law enshrines into EU legislation the target set by the European Green Deal for the EU to attain climate neutrality, or 'net zero' greenhouse gas emissions, by 2050.

The Climate Action Plan 2025 (CAP25) is the fourth annual update to Ireland's Climate Action 2019 (the plans are to be updated annually to ensure alignment with Ireland's legally binding economy-wide carbon budgets and sectoral ceilings) (DECC; 2023). This plan is the third to be prepared under the Climate Action and Low Carbon Development (Amendment) Act 2021, and following the introduction, in 2022, of economy-wide carbon budgets and sectoral emissions ceilings. The plan had a delayed launch on April 15th, 2025.

The plan implements the carbon budgets and sectoral emissions ceilings and sets out a roadmap for taking decisive action to halve our emissions by 2030 and reach net zero no later than 2050, as committed to in the Programme for Government. Climate Action Plan 2025 builds on Climate Action Plan 2024, outlining how Ireland will accelerate the actions required to respond to the climate crisis, putting climate solutions at the centre of Ireland's social and economic development (DECC; 2025). Climate Action Plan 2025 is a streamlined Climate Action Plan, to be read in conjunction with Climate Action Plan 2024. It is also the final Climate Action Plan of the first 5-year Carbon Budget – marking an important midpoint in what has been called the decade of climate action.

The supplementary Annex of Actions, approved by the Irish Government, provides the specific actions required to implement the targets set out in the Plan, and includes information regarding outputs, lead departments, timelines and stakeholders. For 2025 a similar approach to the 2024 Annex has been implemented that will see only new, high-impact actions included in the Annex, while the full roadmap of actions to support the delivery of our climate targets remains within the Climate Action Plan itself (DECC; 2025).

8.3.4 National Policy

National Adaptation Framework (NAF)

Ireland's first statutory National Adaptation Framework (NAF) was published on 19 January 2018 and was developed under the Climate Action and Low Carbon Development Act 2015.

RECEIVED: 05/08/2025

The NAF sets out the national strategy to reduce the vulnerability of the country to the negative effects of climate change and to avail of positive impacts (DECC; 2018).

The NAF builds on the work already carried out under the National Climate Change Adaptation Framework (NCCAF, 2012). The NAF outlines a whole of government and society approach to climate adaptation in Ireland. It also aims to improve the enabling environment for adaptation through ongoing engagement with civil society, the private sector, and the research community.

Under the NAF, several government departments are required to prepare sectoral adaptation plans in relation to the priority areas that they are responsible for, which is to be reviewed once every five years. Local authorities are required to prepare local adaptation strategies. The NAF also aims to ensure ongoing engagement with civil society, the private sector, and the research community.

Just Transition

The 2021 Climate Action Plan sets out a just transition framework consisting of four principles to underpin both processes and implementation of all climate action policies and measures. The present report primarily examines the impact of climate change (Government; 2021). However, we recommend that due consideration be given to the concept of a "just transition," aligning with the Irish Government's framework, to ensure a comprehensive approach to addressing the climate crisis that extends beyond mere climate action.

The just transition framework is made up of four principles (DECC; 2021):

- An integrated, structured, and evidence-based approach to identify and plan our response to just transition requirements.
- People are equipped with the right skills to be able to participate in and benefit from the future net zero economy.
- The costs are shared so that the impact is equitable and existing inequalities are not exacerbated.
- Social dialogue to ensure impacted citizens and communities are empowered and are core to the transition process.

Regional Policy

Action 8 of the National Adaptation Framework (DCCAE 2018) indicates that four regional climate offices must be established, and the Eastern & Midlands Climate Action Regional Office (CARO) is one of these offices. One of the responsibilities of the CARO is to assist local authorities within their region in preparing a Climate Change Action Plan.

8.3.5 Wexford County Council Climate Action Plan 2024-2029

In February 2024, Wexford County Council adopted the Wexford County Council Climate Action Plan 2024-2029 (WCCCAP). The Action Plan is the climate adaptation and mitigation strategy for the County, and sets out to achieve, by no later than the end of 2050, the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral County. Aligned to the Government's National Climate Objective (as set out in the national Climate

RECEIVED: 05/08/2025

Action Plan 2025), the new Plan outlines mitigation and adaptation climate action measures across the following five thematic areas:

- Governance and Leadership
- Built Environment and transport
- Communities, Resiliency, and Transition
- Natural Environment & Green Infrastructure
- Sustainability and Resource Management

The actions in these themes collectively address the main goals and targets of this plan:

1. 50% improvement in Wexford CC's energy efficiency by 2030
2. 51% reduction in Wexford CC's greenhouse gas emissions by 2030
3. To make Wexford a climate resilient region for all, by reducing the impacts of future climate change-related events;
4. Empower the local community to engage with climate action through education, support, and ongoing collaboration and;
5. Enable socio-economic growth, placemaking and community development aligned to decarbonisation and a just transition.

The Plan sets out how Wexford CC will be responsible for enhancing climate resilience, increasing energy efficiency and reducing greenhouse gas emissions across its own assets, services and infrastructure to which it is fully accountable for.

In the development of the CAP, Wexford CC has reviewed the risks posed by climate change for the County and the implications of these risks for the delivery of services by Wexford CC. This has been achieved through a Climate Change Risk Assessment (CCRA) which identifies the likelihood of future climate hazards and their potential impacts. The CCRA has been undertaken, in accordance with 'Technical Annex B: Climate Change Risk Assessment' of the 'Local Authorities Climate Action Planning Guidelines'.

A qualitative CCRA supports the identification and prioritisation of potential future climate risks for more detailed analysis and provides a broad understanding of where adaptation actions could be required. The approach comprises of two phases, where both current and future risks and impacts are assessed.

8.3.6 Wexford County Development Plan (CDP) 2022-2028

The new Wexford CDP sets out the policy objectives and the overall strategy for the proper planning and sustainable development of the County over the plan period from 2022 to 2028.

The Climate Action chapter of the plan (Chapter 2) sets out detailed policy objectives in relation to climate action and the role of planning in climate change mitigation, climate change adaptation, and the transition towards a more climate resilient County. The Chapter addresses four key issues, namely:

- Energy Efficiency in Buildings;
- Renewable Energy;
- Decarbonising Motorised Transport;
- Agriculture, Land Management, Forestry, and Urban Greening.

RECEIVED: 05/08/2025

These issues have been identified as being of particular significance in helping to achieve sustainable planning outcomes which will ultimately help to deliver a low carbon and a climate resilient County. Planning already plays a role in each of the key areas identified in the Wexford CC CAP. Having regard to the headings set out in the Wexford CC CAP, the Development Plan contains a range of policy objectives which aim to mitigate and adapt to climate change.

The creation of a climate resilient County is an overarching strategic outcome of the Wexford CC CDP, and as such, the theme permeates the entire plan with a selection of policy objectives in multiple Chapters all contributing to aid in the transition of the County to a climate resilient low carbon society. Relevant policy objectives and their incorporation into the Proposed Development design have been considered in Section 6 of this report.

The Wexford CC Climate Action Plan (2024-2029) aims to create a cleaner, greener, and more resilient county. The Climate Action Plan has 183 specific actions that have either been delivered, are in development stage or drafted for the future implementation. For instance, Wexford County Council has achieved ISO 50001 Energy Management Standard. They delivered improvements in energy efficiency across the organisation (40% efficiency achieved over the 2009 baseline); developed an active monitoring and assessment programme of the County coastline and commenced the decarbonisation of the Local Authority owned fleet, with 5% of vehicles now replaced with EVs.

The Wexford CC Climate Adaptation Strategy (Wexford County Council 2019-2024), includes various adaptation measures to deliver across six significant goals to mitigate climate change. The delivery of these goals varies between 1-5 years contingent on the aim.

8.3.7 Guidance

The assessment has referred to national guidelines, where available, in addition to international standards and guidelines relating to the assessment of GHG emissions and associated climatic impact. These are summarised below:

- 2030 Climate and Energy Policy Framework (European Commission, 2014)
- 2030 EU Climate Target Plan (European Commission, 2021b)
- Assessing GHG Emissions and Evaluating their Significance (Institute of Environmental Management & Assessment (IEMA), 2022)
- Carbon Management in Infrastructure (European Commission, 2013)
- Climate Action and Low Carbon Development (Amendment) Act 2021 (No. 32 of 2021) (Government of Ireland, 2021)
- Climate Action Plan 2024 (Government of Ireland, 2023)
- Climate Action Plan 2025 (Government of Ireland, 2025)
- Design Manual for Roads and Bridges (DMRB) Volume 11 Environmental Assessment, Section 3 Environmental Assessment Techniques, Part 14 LA 114 Climate (UK Highways Agency, 2019)
- Department of Housing, Planning, and Local Government. Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (2018)
- European Commission. Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment (2013)

RECEIVED: 05/08/2025

- European Commission. Technical Guidance on the Climate Proofing of Infrastructure in the Period 2021-2027 (2021a)
- IEMA. EIA Guide to: Climate Change Resilience and Adaptation (2020a)
- IEMA. GHG Management Hierarchy (2020b)
- IEMA. Environmental Impact Assessment Guide to: Assessing GHG Emissions and Evaluating their Significance (2022)
- Irish Green Building Council, Land Development Agency (LDA), and Environmental Protection Agency (EPA). The Carbon Designer for Ireland Tool
- Publicly Available Specification (PAS) 2080: 2016
- Transport Infrastructure Ireland (TII). GE-ENV-01106: TII Carbon Assessment Tool for Road and Light Rail Projects and User Guidance Document (2022c)
- Transport Infrastructure Ireland (TII). GE-GEN-01101: Guide to the Implementation of Sustainability for TII Projects (2023)
- Transport Infrastructure Ireland (TII). PE-ENV-01104: Climate Guidance for National Roads, Light Rail and Rural Cycleways (Offline & Greenways) – Overarching Technical Document (2022a)
- Transport Infrastructure Ireland (TII). PE-ENV-01105: Climate Assessment Standard for Proposed National Roads (2022b)
- Integrating Climate Change into Strategic Environmental Assessment in Ireland – A Guidance Note (EPA, 2015)

8.4 Study Methodology

Carbon dioxide (CO2) emissions have a global climate warming effect. This is regardless of rate of release, location or the weather when released into the atmosphere. This is unlike pollutants that affect local air quality where the rate of release, location, and prevailing weather, as well as the amount of pollutant, determines the local concentrations and the impact. Local ambient concentrations of CO2 are not relevant for climate change and there are no limits or thresholds that can be applied to particular sources of carbon emissions. Any amount of CO2 released into the atmosphere will contribute to climate warming, the extent of which is determined by the magnitude of the release. Although CO2 emissions are typically expressed as kilogrammes or tonnes per year, there is a cumulative effect of these emissions because CO2 emissions have a warming effect which lasts for 100 years or more.

In this regard, the methodology adopted in this chapter covers two separate assessments – a greenhouse gas assessment (GHGA) and a climate change risk assessment (CCRA).

- Greenhouse Gas Emissions Assessment (GHGA) – This evaluation estimates the greenhouse gas emissions generated by a project throughout its entire lifespan. It then compares these emissions against pertinent Irish carbon budgets, targets, and policies to help gauge their significance.; The Transport Infrastructure Ireland (TII) Carbon assessment tool and the Irish Green Building Councils (IGBC) Lifecycle Assessment Tool have been used for this assessment and
- Climate Change Risk Assessment (CCRA) – This analysis examines how a changing climate could affect a project and its surrounding environment. The assessment considers a projects vulnerability to climate change and identifies adaptation measures to increase project resilience.

Further details on the methodologies undertaken are presented in the following paragraphs.

RECEIVED: 05/08/2025

8.5 Study Area

Effects arising from the potential impacts on climate are considered to impact on a national to EU to global level and the study area for climate is the State for both the construction and operation phases. The proposed Project has been outlined in Chapter 2 Project Description and summarised below.

The proposed development comprises the development of an Integrated Tourism Resort complex on a site area of 20.3 hectares at Beak and Nemestown, Kilmore Quay, Co. Wexford, consisting of a central hotel with a gross internal area of 33,762 sqm , 1- 5 storeys in height over lower ground floor containing plant and hotel services, part mezzanine level within the ground floor, with 247 no. bedrooms, bar and restaurants, a function/conference facility (with capacity for approx. 500 people) and a leisure complex (gym, spa with pool, treatment rooms and mezzanine rest area); set back part 4th floor level with accommodation suites; external sports, recreation and play facilities; 42 no. Family Suites, 55 no. large family-friendly tourist lodges and hotel staff accommodation.

Refurbishment and reuse of the Beak farmstead buildings and courtyard for tourism and heritage purposes, with family lodge reception and recreation management, resort shop, café/restaurant, arts/crafts spaces.

8.6 Survey Methodology

8.6.1 Desk Surveys

A desktop study involving various national and international documents on climate change and analysis of synoptic meteorological data from the nearest Met Eireann station (Rosslare) was also carried out in order to compile this report. Attention has been focused on Ireland’s obligations under the Paris Agreement in the context of the overall climatic impact of the presence and absence of the Proposed Development.

This analysis was undertaken by means of a desktop assessment based on available relevant guidance and information sources, and with reference to other chapters of this EIAR.

The following information sources have been consulted in relation to the assessment of climate aspects for the proposed Project:

- Key material, resource and cut/fill balance inputs from the description of the proposed Project presented in Project Description and Construction Strategy of this EIAR;
- Traffic figures from Traffic and Transportation;
- Climate Action and Energy Statement
- Site Specific Flood Risk Assessment
- Estimates of likely waste volumes from the description of the proposed Project presented in Project Description, Construction Strategy, Land and Soils and Resource and Waste Management of this EIAR; and
- Environmental Protection Agency (EPA) Greenhouse Gas Emissions Inventories and Projections.

RECEIVED: 05/08/2025

8.6.2 Climatics

Summary of the Approach

This DNV assessment was primarily based on the on-site climate risk projections generated CMIP5/CMIP6 climate model. The tool is typically used in combination with multiple Shared Socio-economic pathways/ Representative Concentration Pathways (SSPs/RCPs), which represent different future greenhouse gas concentration trajectories developed by the International Panel on Climate Change. The assessment was undertaken for two representative scenarios SSP1-2.6/RCP 4.5 and SSP5-8.5/RCP 8.5:

- SSP1-2.6/RCP 4.5 (transition from 2030) – this scenario leads to global warming exceeding 2 °C by 2100 but remaining below 3 °C. It is described as an intermediate scenario; and
- SSP5-8.5/RCP 8.5 (business as usual) – this scenario leads to global warming significantly exceeding 3 °C by 2100 and is generally taken as the basis for the worst-case climate change scenarios.

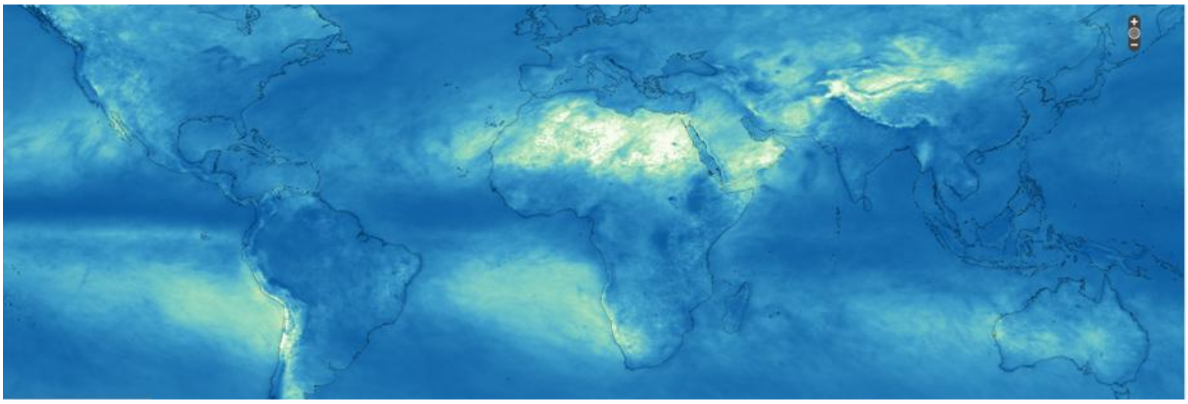


Figure 4 Multi-model ensembled rainfall projection for 2050 (SSP5-8.5)

We combine the global data from multiple IPCC models (ACCESS, GFDL-ESM4, HadGEM) to address the model uncertainty. Figure 4 showcases the multi-model ensembled of rainfall projection for 2050 under SSP5-8.5 scenario. Through DNV's proprietary method, we downscale and refine the global data to a 5km grid resolution for various regions like Australia, Contiguous United States (CONUS), Europe, and the United Kingdom. Leveraging these refined datasets, we can assess multi-hazard risk exposure for assets and portfolios across different geographical areas.

8.6.3 Field Surveys

No site-specific baseline surveys were undertaken as part of the assessment for climate. The baseline data presented in this section is derived from the EPA Projections and Met Éireann monitoring network and may be taken as representative of the background climate within the Study Area.

8.6.4 Assessment Methodology

8.6.4.1 Key Parameters for Assessment

This assessment has been undertaken in line with the Institute of Environmental Management and Assessment (IEMA) guide ‘Assessing Greenhouse Gas Emissions and Evaluating their

RECEIVED: 05/08/2025

Significance', 2nd Edition, 2022. The following aspects of the proposed Project are assessed in this chapter:

- Potential direct greenhouse gas (GHG) emissions associated with the construction of the proposed Project – this includes site clearance, embodied carbon, material transport, construction activities and waste management;
- Potential changes in GHG emissions associated with emissions during the operational phase of the proposed Project; and
- Vulnerability of both the construction and operational phases of the proposed Project to climate change.

8.6.4.2 GHG Appraisal Method -Construction Phase (Including Material Delivery and Spoil Removal)

The GHG assessment accounts for various components relating to the project during different life stages to determine the total impact of the development on climate. The building life expectancy for the purposes of the assessment is 60 years, typical for this type of development. GHG emissions are attributed to four main categories, taken from BS EN 15978. These categories are:

- Production Stage (Embodied carbon); The carbon emissions at this stage originate from the extraction of raw materials, their transportation to manufacturing sites, and the primary energy consumed (along with the associated carbon impacts) during the conversion of these raw materials into construction products. These phases have been included in the scope of this assessment, and relevant information has been integrated into the TII tool (TII, 2022).
- Pre-construction/Construction Stage; These carbon impacts stem from the delivery of construction products to the site and their subsequent processing and assembly into the building. This aspect has been incorporated into the assessment's scope.
- Operational Stage: This encompasses a broad range of sources, including greenhouse gas emissions from building operations (energy), maintenance, and replacement which have been included in this assessment.
- End of Life Stage: The sustainable deconstruction and disposal of the existing building at the end of its life (Approx 60 years) consider the activities carried out by demolition contractors on-site. However, no credit is given for potential future carbon benefits from reusing or recycling materials into new products. This stage is not included in the scope of this study due to the variability and uncertainty surrounding deconstruction methods that may be employed at the end of the development's lifespan.

Information and data from building energy ratings and Climate Action and Energy Statement have been utilised for this chapter.

Nearly Zero Energy Buildings' (NZEB) means a building that has a very high energy performance. The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby. Since 2020, all new buildings in the EU are required to be 'nearly-zero energy buildings'. This will be replaced by a further enhanced 'zero-emission buildings' requirement, starting from 2028 for new buildings owned by public bodies and 2030 for all other new buildings.

RECEIVED: 05/08/2025

The Non-Domestic Energy Assessment Procedure (NEAP) is Ireland's official methodology for calculating a Building Energy Rating (BER) for non-domestic buildings. BER assessors use the NEAP software tool and guidance manuals to publish non-domestic Building Energy Rating (BER) certificates and advisory reports and to demonstrate compliance with Part L of the building regulations. The NEAP software calculates the energy consumption and carbon dioxide emissions of a building. It considers space heating and cooling, water heating, ventilation and lighting information.

Simplified Building Energy Model (SBEMie) or other approved software can be utilised to publish non-domestic BERs and demonstrate compliance with Part L.

Primary energy use and the associated carbon dioxide emissions are calculated using the Non-Domestic Energy Assessment Procedure (NEAP) and these parameters must not exceed specified target values.

To achieve NZEB compliance for primary energy use, the energy performance coefficient (EPC) of a building must be no greater than the Maximum Permitted Energy Performance Coefficient (MPEPC), which is 1.0.

An acceptable carbon dioxide emissions rate for NZEB compliance is achieved if the calculated carbon performance coefficient (CPC) is no greater than the Maximum Permitted Carbon Performance Coefficient (MPCPC), which is 1.15.

In terms of reporting units, all units are in equivalent kilogrammes of carbon dioxide – hereafter kg CO2eq. Equivalent kilograms of carbon dioxide (kg CO2eq) are used as a standardised unit for numerous greenhouse gases such as methane and nitrous oxide. Summary data is presented as tonnes of CO2eq for ease of reference of this data.

The project design team have also utilised the Irish Green Building Councils (IGBC) Carbon Designer tool for Ireland. The Irish Green Building Council, in collaboration with One Click LCA Ltd., have developed the Carbon Designer for Ireland tool specifically for Irish building projects. Endorsed by the EPA and the Land Development Agency, this tool is compliant with standards such as EN 15978, ISO 21931–1, ISO 21929, and the data requirements of ISO 14040 & EN 15804. It is also aligned with LEED, BREEAM, and PAS 2080. The tool enables users to evaluate the carbon footprint of buildings in the early stages by using typical default materials and values. Users input details such as gross floor area, number of stories, and building frame type. After establishing a baseline with generic data, the tool facilitates the exploration of various options and the optimisation of carbon impacts. It identifies the most carbon-intensive elements within the building and suggests alternatives with lower carbon footprints. This provides a high-level initial assessment of the lifecycle carbon for the development based on basic information and default values with the option to edit these defaults as required to reduce impacts.

The primary factor in reducing climate impact is the extent of proposed mitigation. Thus, using construction materials with lower carbon intensity can help reduce climate effects. This assessment aims not for perfection but to identify areas with significant carbon impact. We can then explore potential mitigation measures to reduce this impact. Outputs from the IGCB tool have been reviewed and implemented where relevant to reduce the climate impact of the proposed development.

RECEIVED: 05/08/2025

Transport Infrastructure Ireland's (TII) proprietary carbon tool has been used to quantify carbon emissions from non-building elements such as material delivery, spoil removal, roads, and infrastructure. The carbon tool is a spreadsheet-based product, developed by TII, with the goal of identifying, estimating and mitigating greenhouse gas emissions that accrue on large road and rail infrastructure projects. The carbon tool is closely aligned with guidance set out in PAS 20803 which suggests a modular structure for capturing and reporting carbon emissions according to lifecycle phase. Where the exact material needed isn't listed an estimate to a similar material type has been used. The construction waste and construction traffic information were reviewed from the traffic and waste chapters.

Design data for materials, earthworks and transport distances are based on input data from the design team. Where detailed designs are not available for various parts of the project, assumptions are made based on industry best practice and default values in the carbon tool. In particular, transport distances for materials have been estimated, as no specific suppliers have been selected at this early stage of the proposed Project. This allows for an estimate of transport emissions, using an emissions factor for kg CO2eq/km in the carbon tool.

The use of the TII Carbon Tool was not considered suitable for the building elements of the proposed development. As the TII Carbon Tool was developed for road and infrastructure projects, the material types within the tool are specific to these types of developments. These material types are not fully appropriate for assessing the embodied carbon associated with the construction of buildings. Therefore, the carbon impact of the buildings was carried out using an alternative tool; the Carbon Designer for Ireland tool. The IGBC tool in combination with BER/NEAP assessments have been used for the building and operational carbon assessment.

NEAP assessments conducted to date by Metec have exceeded the current NZEB requirements and are aligned with the upcoming ZEB requirements (achieving a 10% improvement in Primary Energy). This has been accomplished through a combination of efficient M+E systems, PV, and improved building fabric performance.

8.6.4.3 GHG Appraisal Method - Operational Phase

Traffic Emissions

As per the EU guidance document Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment (European Commission, 2013) the climate baseline is first established by reference to EPA data on annual GHG emissions (see Section 8.7.3 below). Thereafter the impact of the proposed development on climate is determined. Emissions from road traffic associated with the proposed development have the potential to emit carbon dioxide (CO2) which will impact climate.

The UK Highways Agency has published an updated DMRB guidance document in relation to climate impact assessments LA 114 Climate (UK Highways Agency, 2019). The following scoping criteria are used to determine whether a detailed climate assessment is required for a proposed project during the operational stage. During the operational phase, if any of the road links impacted by the proposed development meet the below criteria then further assessment is required.

- A change of more than 10% in AADT;
- A change of more than 10% to the number of heavy-duty vehicles; and

RECEIVED: 05/08/2025

- A change in daily average speed of more than 20 km/hr.

Menihardt (2025) have conducted a traffic impact assessment and junction impact assessment for the development. The conclusion of the junction impact assessment is that the proposed development traffic is not anticipated to have a significant operational effect on the local road network.

A sensitivity test has also been undertaken to determine the proposed developments traffic impact should the Kilmore Quay Traffic Management Plan be implemented. The sensitivity test has determined there would be no significant change to the initial modelled results.

Therefore, none of the road links impacts by the proposed development satisfy the above criteria and a quantitative assessment of the impact of traffic emissions on climate is not necessary as there is no potential for significant impacts to climate.

Operational GHG Emissions

The EU guidance (2013) also states indirect GHG emissions as a result of a development must be considered, this includes emissions associated with energy usage. In addition to the EU guidance, the Institute of Environmental Management and Assessment (IEMA) guidance note on ‘Assessing Greenhouse Gas Emissions and Evaluating their Significance’ (IEMA, 2022) states that “the crux of significance regarding impact on climate is not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050”. Mitigation has taken a leading role within the guidance compared to the previous edition published in 2017. Early stakeholder engagement is key and therefore mitigation should be considered from the outset of the project and continue throughout the project’s lifetime in order to maximise GHG emissions savings.

The Climate and Energy Statement prepared by Metec, Part L BER report and IGBC outputs (2025) in relation to this assessment has been reviewed and used to inform the operational phase climate assessment. This report outlines several measures in relation to energy usage from the proposed development primarily in relation to heat and electricity. Several measures have been incorporated into the overall design of the development to reduce the impact to climate where possible, in line with the objectives of the IEMA guidance (2022).

8.6.4.4 Assessment Criteria for GHG Emissions

After the publication of the 2021 Climate Amendment Act in July 2021 and the 2021 CAP, the carbon budgets were approved and a series of sectoral emissions ceiling were published, including sectoral emissions ceilings for the Commercial and Public Services sector (DECC, 2021). These ceilings will allow a comparison with the net CO2 projected GHG emissions from the Project. In Ireland, the hotel industry is categorised under the 'Commercial and Public Services' sector for carbon budgeting purposes. This sector encompasses a range of services, including hospitality, retail, and public administration. The 'Commercial and Public Services' sector has been assigned specific emission reduction targets as part of Ireland's commitment to reducing greenhouse gas emissions. According to the Climate Action Plan 2025, this sector is expected to implement measures to achieve these targets, contributing to the overall national goal of a 51% reduction in emissions by 2030, relative to 2018 levels.

The IEMA Climate Change principles (IEMA, 2020) document provides a section on how to assess GHG emissions in EIA and states:

RECEIVED: 05/08/2025

- “When evaluating significance, all new GHG emissions contribute to a significant negative environmental effect; however, some projects will replace existing development that have higher GHG profiles. The significance of a project’s emissions should therefore be based on its net impact, which may be positive or negative.
- “Where GHG emissions cannot be avoided, the EIA should aim to reduce the residual significance of a project’s emissions at all stages.”
- “Where GHG emissions remain significant but cannot be farther reduced… approaches to compensate the project’s remaining emissions should be considered.”

The process for determining the significance of effects involves two key steps: first, defining the magnitude of the impacts, and second, evaluating the sensitivity of the receptors (e.g., Ireland’s National GHG targets). Although there are no specific project criteria for climate assessment, the project will be evaluated using the recommended IEMA significance determination approach. This evaluation will account for any embedded or planned mitigation measures included in the project design (IEMA, 2020).

According to LA 114, professional judgment is essential when contextualizing and assessing the significance of a project's GHG impact. In alignment with IEMA Guidance, LA 114 emphasises that the core of assessing significance is not just whether a project emits GHGs or the magnitude of these emissions alone, but rather whether the project helps reduce GHG emissions compared to a baseline that aligns with a net zero trajectory by 2050 (UK Highways Agency, 2019) .

Significance determination for emissions generated by the project in this assessment is based on the criteria presented in Table 8.1b as guided by IEMA in addition to the following two factors:

- The extent to which the trajectory of GHG emissions from the project aligns with Ireland’s GHG trajectory to net zero by 2050; and
- The level of mitigation taking place.

RECEIVED: 05/08/2025

Table 8.1b: Definition of Climate Significance

Magnitude of Impact	Description
Major or Moderate Adverse (i.e. significant)	A project that follows a 'business-as-usual' or 'do minimum' approach and is not compatible with the net zero trajectory by 2050 or sectoral based transition to next zero targets, results in a significant adverse effect. It is down to the consultant completing the assessment to differentiate between the 'level' of significant adverse effects, e.g. 'moderate' or 'major' adverse effects. A project's impact can shift from significant adverse to non-significant effects by incorporating mitigation measures that substantially improve on business-as-usual and meet or exceed the science-based emissions trajectory of ongoing but declining emissions towards net zero. Meeting the minimum standards set through existing policy or regulation cannot necessarily be taken as evidence of avoiding a significant adverse effect. This is particularly true where policy lags behind the necessary levels of GHG emission reductions for a science based 1.5°C compatible trajectory towards net zero.
Minor Adverse (i.e. not significant)	A project that is compatible with the budgeted, science based 1.5°C trajectory (in terms of rate of emissions reduction) and which complies with up-to-date policy and 'good practice' reduction measures to achieve an impact that has a minor adverse effect but is not significant. The project may have residual impacts but is doing enough to align with, and contribute to, the relevant transition scenario. A 'minor adverse' or 'negligible' non-significant effect conclusion does not necessarily refer to the magnitude of GHG emissions being carbon neutral (i.e. zero on balance) but refers to the likelihood of avoiding severe climate change and achieving net zero by 2050. A 'minor adverse' effect or better is a high bar and indicates exemplary performance where a project meets or exceeds measures to achieve net zero earlier than 2050.
Negligible	A project that achieves emissions mitigation that goes substantially beyond the reduction trajectory, or substantially beyond existing and emerging policy compatible with that trajectory, and has minimal residual emissions, is assessed as having a negligible effect that is not significant.
Beneficial	A project that achieves emissions mitigation that goes substantially beyond the reduction trajectory, or substantially beyond existing and emerging policy compatible with that trajectory, and has minimal residual emissions, is assessed as having a negligible effect that is not significant.

Ireland's carbon budgets provide a framework for understanding the significance of GHG emissions from the proposed development. This involves comparing the anticipated net GHG emissions of the development with the established carbon budgets. With the introduction of

RECEIVED: 05/08/2025

the Climate Action Act in 2021 and the Climate Action Plan 2025, sector-specific carbon budgets have been outlined for comparison with the development's net GHG emissions over its lifecycle. For the Transport sector, which emitted approximately 12 $MtCO_2e$ in 2018, the budget has a 2030 cap of 6 $MtCO_2e$, reflecting a 50% reduction. Similarly, the Industry sector, with 2018 emissions of about 7 $MtCO_2e$, has a 2030 ceiling of 4 $MtCO_2e$, indicating a 35% reduction (see Table 8.3b).

8.6.4.5 Climate Change Risk Assessment-Criteria for Climate Vulnerability

Climate change risk assessment is a risk assessment-based methodology for identifying potential climate impacts and assessing their severity. Carrying out a climate change risk assessment, at the simplest level, can be summarised into the following steps:

- identifying potential climate change risks to a scheme or project.
- assessing these risks (potentially prioritising to identify the most severe); and
- formulating mitigation actions to reduce the impact of the identified risks.

Any assessment of risk includes assessing the likelihood (or probability) and magnitude (or severity) of the impacts identified. This method is widespread within the climate change resilience assessments carried out by projects and cities to date.

The risk assessment assesses the likelihood and consequence of the impact occurring to each receptor, leading to the evaluation of the significance of the impact and the vulnerability of the proposed development to various climate hazards. The vulnerability is determined by combining the sensitivity and the exposure of the proposed development to various climate hazards.

To evaluate the likelihood of climate risk, we have utilised the baseline environmental information provided in Section 8.2, future climate change models, climatics hazard analysis, and insights from other experts involved in the proposed development (e.g., hydrologists and traffic consultants).

Initially, a preliminary Climate Change Risk Assessment (CCRA) focusing on the operational phase is performed, following the TII guidance PE-ENV-01104 (2022). This involves assessing the sensitivity of the development assets (i.e., receptors) and their exposure to climate change hazards. Each asset category within the proposed development must be assigned a level of sensitivity to climate hazards. PE-ENV-01104 outlines the asset categories and climate hazards that should be considered.

The specific asset categories will differ depending on the type of development and need to be determined on a case-by-case basis.

- **Asset Categories** Pavements; drainage; structures; utilities; landscaping; signs, light posts, buildings, and fences.
- **Climate Hazards** Flooding (coastal, pluvial, fluvial); extreme heat; extreme cold; wildfire; drought; extreme wind; lightning and hail; landslides; fog.

The sensitivity is based on a High, Medium or Low rating with a score of 1 to 3 assigned as per the criteria below.

- **High Sensitivity** The climate hazard will or is likely to have a major impact on the asset category. This is a sensitivity score of 3.

RECEIVED: 05/08/2025

- **Medium Sensitivity** It is possible or likely the climate hazard will have a moderate impact on the asset category. This is a sensitivity score of 2**.**
- **Low Sensitivity** It is possible the climate hazard will have a low or negligible impact on the asset category. This is a sensitivity score of 1.

Once the sensitivities have been identified the exposure analysis can be completed. The exposure analysis involves determining the level of exposure of each climate hazard at the project location irrespective of the project type for example: flooding could be a risk if the project location is next to a river in a floodplain. Exposure is assigned a level of High, Medium or Low as per the below criteria.

- **High Exposure** It is almost certain or likely this climate hazard will occur at the project location i.e. might arise once to several times per year. This is an exposure score of 3.
- **Medium Exposure** It is possible this climate hazard will occur at the project location i.e. might arise a number of times in a decade. This is an exposure score of 2.
- **Low Exposure** It is unlikely or rare this climate hazard will occur at the project location i.e. might arise a number of times in a generation or in a lifetime. This is an exposure score of 1.

Once the sensitivity and exposure are categorised, a vulnerability analysis is conducted by multiplying the sensitivity and exposure to calculate the vulnerability.

Vulnerability = Sensitivity x Exposure

The vulnerability assessment takes any proposed mitigation into account. Table 8.2b details the vulnerability matrix; vulnerabilities are scored on a high, medium and low scale. Where residual medium or high vulnerabilities exist, the assessment may need to be progressed to a detailed climate change risk assessment and further mitigation implemented to reduce risks.

According to TII guidance and EU technical guidance, if all identified vulnerabilities are reasonably ranked as low, a detailed climate risk assessment may not be necessary. In such cases, the impact of climate change on the development would be deemed insignificant.

However, if there are residual medium or high vulnerabilities, a more detailed climate change risk assessment may be required, along with the implementation of additional mitigation measures to address the risks. The TII guidance specifies that a construction phase Climate Change Risk Assessment (CCRA) is only required if a detailed CCRA is deemed necessary.

Table 8.2b: Vulnerability Matrix

	Exposure			
Sensitivity		High (3)	Medium (2)	Low (1)
	High (3)	9- High	6- High	3- Medium
	Medium (2)	6- High	4- Medium	2- Low
	Low (1)	3- Medium	2- Low	1- Low

The vulnerability conclusions for each impact are based on, and incorporate, confirmed design and mitigation measures. Where the assessment concludes that the impact remains high, the project team may need to identify additional adaptation/EIA mitigation measures.

RECEIVED: 05/08/2025

The screening CCRA, detailed in Section 8.7, did not identify any residual medium or high risks to the proposed development as a result of climate change. Therefore, a detailed CCRA for the construction and operational phase were scoped out.

While a CCRA for the construction phase was not required, best practice mitigation against climate hazards is still recommended in Section 8.11

8.6.5 Consultation

A Public Information Event on the proposed development was held in the Stella Maris Centre on the 2nd of May 2025. Feedback from Sinéad Hennessey, of Fáilte Ireland included the following:

Sustainability Features: She strongly recommended that green initiatives be brought to the forefront of architectural plans and visuals - highlighting elements such as green roofs, solar panels, rainwater harvesting, ponds, walkways, EV charging points, native planting, and wildlife habitats. While she acknowledged these features may be covered in reports, she stressed that key stakeholders need to see them clearly communicated. Many developments cite sustainability but fail to fully deliver; these commitments must be visible and tangible.

Sinéad noted that Fáilte Ireland's Climate Action team will review this project in detail and will expect ambitious commitments to carbon reduction and biodiversity. She suggested there is a real opportunity for this resort to lead by example in terms of sustainability, especially given its location in a protected area like Kilmore Quay.

8.6.6 Difficulties Encountered / Limitations

Difficulties were encountered during the quantification of materials at the design stage in order to assess the embodied construction carbon. The exact volumes of materials, location of waste disposal sites, sourcing of products and technical specification for materials are finalised during the detailed design phase and by the appointed contractor. Throughout the assessment, efforts have been made to provide the most likely scenario of the embodied carbon assessment. Where it is required to make assumptions as the basis of the assessment presented here, these assumptions are based on advice from competent project designers and are clearly outlined within the chapter.

8.7 Receiving Environment

Climate refers to the average weather conditions over a period of time, typically 30 years, while climate change denotes a substantial alteration in these average conditions. Although climate change can occur naturally, human activities in recent years have accelerated its pace through the emission of greenhouse gases (GHGs), as noted by the IPCC in 2015. These anthropogenic GHGs are changing the composition of the Earth's atmosphere, leading to an enhanced 'Greenhouse Effect.' This effect increases the atmosphere's capacity to trap heat, resulting in a rise in average global temperatures over the past four decades. The burning of fossil fuels, which releases significant amounts of carbon dioxide (CO2), has been and remains a major contributor to this enhanced greenhouse effect. The most critical GHGs include carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O).

Global climate change refers to the long-term shift in temperature and weather patterns on Earth, primarily driven by human activities such as burning fossil fuels, deforestation, and

RECEIVED: 05/08/2025

industrial processes. These activities increase the concentration of greenhouse gases in the atmosphere, enhancing the greenhouse effect and leading to a rise in average global temperatures. This warming impacts natural systems, causing more frequent and severe weather events, melting polar ice, rising sea levels, and disruptions to ecosystems and biodiversity. The effects of climate change are profound, affecting agriculture, water resources, health, and the economy, necessitating urgent and sustained efforts to mitigate and adapt to these changes.

Ireland is also experiencing the impacts of a changing climate with the rise in the annual surface air temperature by 0.8% since 1900. In addition to temperature, we are seeing increased rainfall and sea-level rise and observing changes in the frequency of extreme weather like storms, flooding, and drought (EPA, 2023). Examples of extreme weather would be Storm Ophelia in 2017, the Beast from the East in 2018, and Storm Éowyn in January 2025 to name two of the most impactful.

8.7.1 Current Baseline

8.7.1.1 Existing GHG Emissions Baseline

In 2023, Ireland's GHG emissions are estimated to be 58.82 million tonnes carbon dioxide equivalent (Mt CO_2eq), which is 6.1% lower (or 3.79 Mt CO_2eq) than emissions in 2022 (62.26 Mt CO_2eq) and follows a 3.0% decrease in emissions reported for 2022. Emissions are 3.3% below the historical 1990 baseline for the first time in 33 years.

Climate impacts are evaluated at a national level, considering national targets and sectoral emission ceilings. The study area for climate assessments is the Republic of Ireland, with the baseline established in the context of this geographic focus.

In 2023 emissions in the stationary ETS1 emissions decreased (17%) and emissions under the ESR (Effort Sharing Regulation) decreased (3.4%). When LULUCF is included, total national emissions decreased by 3.8% (EPA, 2024).

Decreased emissions in 2023 compared to 2022 were observed in the largest sectors except for transport which showed an increase of 0.3% shown highlighted red in the "Emissions change 2022-2023" table 8.3b below (EPA, 2024). Climate impacts are evaluated at a national level, considering national targets and sectoral emission ceilings. The study area for climate assessments is the Republic of Ireland, with the baseline established in the context of this geographic focus.

RECEIVED: 05/08/2025

Table 8.3b Emissions change 2022-2023 Ireland.

Mt CO_2 eq	**2022**	**2023**	**% Change**
Agriculture	21.782	20.717	-4.9%
Transport	11.759	11.798	0.3%
Energy Industries	10.003	7.860	-21.4%
Residential	5.753	5.347	-7.1%
Manufacturing Combustion	4.356	4.152	-4.7%
Industrial Processes	2.294	2.155	-6.1%
F-Gases	0.719	0.675	-6.0%
Commercial Services	0.734	0.715	-2.6%
Public Services	0.690	0.671	-2.7%
Waste	0.870	0.844	-3.0%
LULUCF	3.655	3.895	6.5%
Total excluding LULUCF	**58.960**	**54.934**	-6.8%
Total including LULUCF	**62.616**	**58.829**	-6.0%

Emissions per capita decreased from 11.31 tonnes CO_2eq/person in 2022 to 10.34 tonnes CO_2eq/person in 2023. Ireland's average tonnes of GHG/capita over the last ten years were 12.08 tonnes. With CSO 2023 census data showing a population of 5.28 million people and with population projected to increase to 5.67 million in 2030, 6.05 million in 2040 and 6.33 million by 2050, per capita emissions need to reduce significantly. At current per capita emission levels, each addition 500,000 people would contribute an additional 5 million tonnes of CO_2eq annually (EPA, 2025).

The EPA also publishes GHG emission projections to 2055. Table 8.4b shows that in the WAM scenario the percentage reduction is not achieved for electricity, transport, industry, agriculture and other (comprises of waste, fluorinated-gases and petroleum refining). Looking at the overall percentage emissions reduction target of -51% by 2030 compared to 2018, the projections are indicating a significant shortfall with only a -29% reduction achieved thus predicting that Ireland will not achieve its legally binding climate target (EPA, 2024).

RECEIVED: 05/08/2025

Table 8.4b: Assessment of Achievement of Sectoral Percentage Targets under the With Additional Measures scenario (EPA)

Sector	**Emissions 2018 (Mt CO_2eq)**	**Projected Emissions 2030 (Mt CO_2eq)**	**Percentage Change 2030 vs 2018**	**Target Reduction 2030 vs 2018**	**Percentage Change (Reported in 2024) 2030 v 2018**
Electricity	10.2	3.1	-0.7	-75%	-0.66
Transport	12.3	9.7	-0.21	-50%	-0.29
Buildings (Residential)	7	5.4	-0.22	-40%	-0.4
Buildings (Commercial & Public)	1.5	1	-0.36	-45%	-0.6
Industry	7	6.1	-0.12	-35%	-0.24
Agriculture	21.4	18	-0.16	-25%	-0.18
Other	2.1	1.6	-0.25	-50%	-0.25
LULUCF* *(no ceiling currently)*	4	5.5	0.39	N/A	0.17
Total with LULUCF	65.6	50.6	-0.23	-51%	-0.29

**A direct comparison of emissions in the Agriculture sector against its Sectoral Emission Ceilings is no longer viable.*

*** Waste, F-gases and Petroleum Refining*

****National objective includes LULUCF*

8.7.2 Future GHG Baseline

In line with TII and IEMA Guidance the future baseline is a trajectory towards net zero by 2050, “whether it [the project] contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050” (IEMA, 2022). The future baseline for GHG emissions assessment will be considered in relation to the future Irish climate targets which the assessment results will be compared against.

The future baseline will be based on Ireland achieving the targets outlined in the Climate Action Plan 2025 (CAP25) and subsequent Climate Action Plans, as well as meeting binding EU targets for 2030. In order to meet the commitments under the Paris Agreement, the European Union (EU) enacted ‘*Regulation (EU) 2018/842 on binding annual GHG emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No. 525/2013*’

RECEIVED: 05/08/2025

(hereafter referred to as the Regulation). The Regulation aims to deliver, collectively by the EU in the most cost-effective manner possible, reductions in GHG emissions from the Emission Trading Scheme (ETS) and non-ETS sectors amounting to 43% and 30%, respectively, by 2030 compared to 2005. The Regulation was amended in April 2023 and Ireland must now limit its greenhouse gas emissions by at least 42% by 2030. The ETS is an EU-wide scheme which regulates the GHG emissions of larger industrial emitters including electricity generation, cement manufacturing and heavy industry. The non-ETS sector includes all domestic GHG emitters which do not fall under the ETS scheme and thus includes GHG emissions from transport, residential and commercial buildings and agriculture.

8.7.3 Current CCRA Baseline

Impacts to the proposed Project as a result of climate change involve increases in temperatures and increases in the number of rainfall days per year. Ireland has observed increases in the annual rainfall in the north and west of the country, with small increases or decreases in the south and east including in the region where the proposed Project will be located. The EPA (2021) has compiled a list of potential adverse impacts as a result of climate change including the following which may be of relevance to the proposed Project:

- Increase of 1 to 4 degrees Celsius in average temperature;
- More intense storms and rainfall events;
- Increased likelihood and magnitude of river and coastal flooding;
- Water shortages in summer in the east;
- Adverse impacts on water quality; and
- Changes in distribution of plant and animal species

The proposed Project area experiences a temperate, maritime climate, resulting in mild winters and cool summers. The Met Éireann weather station at Rosslare, County Wexford, was the nearest weather and climate monitoring station to the proposed Project that has meteorological data recorded for the 30-year period from 1981 to 2008 (Met Eireann, 2023). The monitoring station is located approximately 20km East of the proposed Project at its nearest point. Meteorological data recorded at Rosslare over the 30-year period from 1981 to 2008 indicates that the wettest months were October and November, and the driest month on average was July. August was the warmest month with a mean temperature of 15.7°C.

Met Éireann recent weather patterns were analysed, they highlight a marked rise in both the frequency and intensity of storms. Notable examples include Storm Darwin in February 2014, Storm Emma in March 2018, Storm Ophelia in October 2017 and Storm Éowyn in January 2025. On the 24th of October 1995 record wind gusts of 178 km/h were recorded in Wexford (Rosslare).
Annual rainfall from 1981 to 2008 was 1.6% higher compared to the 30-year period from 1978 to 2007. On 24 October 2011, Casement Airport recorded 76.5 mm of rainfall over a 9-hour span, an event with an annual probability of once in 60 years. As rainfall has increased in Ireland, recent years have seen more intense historical precipitation events, such as the heavy rainfall and flooding in the summer of 2008, severe flooding in November 2009, and the heavy rainfall in the Kilmore Quay area during December 2021. The latest data from Met Éireann's 'The Status of Irish Climate 2020 Report' highlights that the 10-year period from 2006-2015 was the wettest recorded decade (Met Eireann, 2021).

RECEIVED: 05/08/2025

Met Éireann’s 2024 Climate Statement states 2024’s average shaded air temperature in Ireland is provisionally 10.72 °C, which is 1.17°C above the 1961-1990 long-term average. This makes 2024 the fourth warmest year on record, 0.49 °C cooler than 2023, the warmest year on record. The five warmest years on record are 2023, 2022, 2007, 2024 and 1945. Seven of the top ten warmest years have occurred since 2005. (Met Eireann, 2024).

In 2024, Ireland experienced below-average rainfall, including the warmest May on record. Since April 2023, record-high sea surface temperatures (SST) were observed, with a severe marine heatwave affecting the western coast of Ireland in June 2023. This marine heatwave contributed to the unprecedented rainfall in July 2023 (Met Eireann, 2024).

Recent weather patterns and extreme weather records from Met Éireann have been examined. Given the exceptional data from 2023 and 2024, Met Éireann notes that current Irish climate projections predict continued warming, including milder winters. The record temperatures increase the likelihood of extreme weather events, leading to longer dry periods and heavier rainfall. Additionally, sea level rise is expected to cause more storm surges and coastal flooding, with an increase in compound events where coastal surges and extreme rainfall occur simultaneously. While Met Éireann is confident that maximum rainfall rates will rise, there is less certainty about how the frequency or intensity of storms will change with climate change.

Surface air temperature plays a crucial role in climate analysis, influencing ecosystems, livelihoods, and human activities. Changes in temperature affect various sectors, including health, agriculture, and energy demand. In Ireland, over a century of consistent temperature measurements is available. Globally, the average surface air temperature has increased by 0.85°C over the past 100 years, with the rate of warming nearly doubling since 1975, reaching an equivalent of a 1.65°C rise per century. The five warmest years on record globally were 2015–2019, which is notable since temperature records began in the mid to late 1800s. Hotter, drier summers and milder, wetter winters are now more common in many parts of the world (Met Éireann 2020).

8.7.4 Future CCRA Baseline

The EPA-funded research project ‘Ensemble of Regional Climate Model Projections for Ireland Report No. 159’ (EPA 2015) forecasts significant reductions in mean annual, spring, and summer precipitation, with longer dry spells expected. By 2050, the most pronounced decreases are projected for summer, with reductions ranging from 0% to 13% under medium-to-low emission scenarios and 3% to 20% under high emission scenarios. In contrast, heavy precipitation during winter and autumn is expected to increase by up to 20%. Additionally, the number of extended dry periods during autumn and summer is anticipated to rise considerably by mid-century.

The report suggests that the total number of North Atlantic cyclones is expected to decrease by 10%, along with a reduction in average mean sea-level pressure of 1.5 hectopascals (hPa) across all seasons by mid-century. Wind energy is anticipated to decline in spring, summer, and autumn, with an increase expected in winter. Additionally, the predicted rise in extreme storm activity could negatively impact future wind energy supply.

The EPA's State of the Irish Environment Report (Chapter 2: Climate Change) further highlights that projections indicate that the comprehensive implementation of additional

RECEIVED: 05/08/2025

policies and measures from the 2019 Climate Action Plan could reduce Ireland's total GHG emissions by up to 25 percent by 2030 compared to 2020 levels. Climate change is already a current issue in Ireland, with a temperature increase of approximately 0.8°C since 1900. The report further highlights the importance of strong public sector climate leadership and the rapid acceleration of decarbonisation efforts if we are to halt the climate crisis (EPA, 2020).

Accurate climate projections are a key scientific input for national policymakers when planning for, and adapting to, the challenges posed by climate change. Climate projections are produced using climate models, which have been developed by scientists over recent decades and are capable of simulating Earth's past, present, and future climate. Global Climate Models (GCMs) are used to model the global impacts on Earth's climate of increasing greenhouse gas concentrations in the atmosphere at a resolution of ~50km or coarser. Regional Climate Models (RCMs) are used to capture key small-scale atmospheric features on the scale of 1-10km, such as local convection and wind gusts. Multi-model ensembles are often used in climate prediction studies to quantify associated model uncertainty.

RCMs utilise the output of GCMs and model regional climates at higher spatial resolutions; this process is known as dynamic downscaling. This approach allows key climate variables to be modelled more precisely, including precipitation; near-surface temperature; and the number and intensity of low-pressure systems. Low pressure systems are the primary driver of precipitation and wind affecting the country; therefore, the added value of RCMs in the modelling of low-pressure systems is of particular importance for Ireland.

Concentration trajectories known as Representative Concentration Pathways (RCPs) were utilised in EPA Research Report No.339 High resolution Climate Projections for Ireland – A Multi-model Ensemble Approach (EPA 2020). For the EPA study, two RCPs were chosen, RCP4.5 and RCP8.5. RCP4.5 is considered an intermediate scenario, while RCP8.5 is considered to be representative of a potential worst-case scenario.

The future climate was modelled using both the Representative Concentration Pathway 4.5 (RCP4.5) (medium-low) and RCP8.5 (high) scenarios. The study suggests that by mid-century (2041–2060), average annual temperatures are projected to rise by 1–1.2°C under RCP4.5 and 1.3–1.6°C under RCP8.5, with the most significant increases in the east. Temperature extremes are expected to become more pronounced, with summer daytime and winter night-time temperatures increasing by 1–2.4°C. The number of frost and ice days is projected to decrease by approximately 50%. Summer heatwaves are likely to become more frequent, especially in the south. Additionally, precipitation is expected to become more variable, with a significant increase in both dry periods and heavy rainfall events.

Established in June 2022, the National Framework for Climate Services (NFCS) aims to streamline the provision of climate services in Ireland and will be led by Met Éireann. The NFCS is designed to facilitate the co-production, delivery, and utilization of precise, actionable, and accessible climate information and tools to enhance climate resilience planning and decision-making. In parallel with the NFCS, ongoing research is being conducted through the TRANSLATE project. This initiative, led by climate researchers from the University of Galway's Irish Centre for High End Computing (ICHEC) and University College Cork's SFI Research Centre for Energy, Climate, and Marine (MaREI), with support from Met Éireann climatologists, is focused on advancing climate science. TRANSLATE generates outputs using internationally

RECEIVED: 05/08/2025

reviewed models from CORDEX and CMIP5, with Representative Concentration Pathways (RCPs) offering a range of possible futures based on different human activity scenarios.

TRANSLATE offers the first standardised and bias-corrected national climate projections for Ireland, designed to support climate risk decision-making across various sectors, such as transport, energy, and water. It provides insights into potential changes in Ireland's climate under global temperature increases of 1.5˚C, 2˚C, 2.5˚C, 3˚C, or 4˚Cs. These projections generally align with previous forecasts for Ireland. The country's climate is heavily influenced by the Atlantic Meridional Overturning Circulation (AMOC), a major system of ocean currents, including the Gulf Stream, which features a northward flow of warm water and a southward flow of cold water. This system prevents Ireland from experiencing the extreme temperatures seen in other countries at similar latitudes. Recent studies suggest that the AMOC may weaken by 30–40% by 2100, leading to cooler North Atlantic Sea Surface Temperatures (SSTs). Despite this, Ireland is expected to continue warming, though the cooling effect of the AMOC might moderate the warming relative to continental Europe. Additionally, a weakened AMOC is anticipated to contribute to further sea level rise around Ireland. Climate change will cause significant shifts in temperature and rainfall patterns: average summer temperatures could rise by more than 2°C, summer rainfall could decrease by 9%, and winter rainfall could increase by 24%. Future projections also include a tenfold rise in the frequency of summer nights with temperatures exceeding 15°C by the end of the century, a decrease in the frequency of cold winter nights, and an increase in heatwaves. In Ireland, a heatwave is defined as a period of five consecutive days with daily maximum temperatures above 25°C.

8.7.5 Evolution of the environment in the absence of the project

Annex IV of the EIA Directive sets out the information required to be included in an EIAR. This includes:

"a description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the Proposed Project as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge".

In the event that the proposed Project does not proceed, an assessment of the future baseline conditions has been carried out and is described within the do nothing section.

RECEIVED: 05/08/2025

8.7.6 Climatics Multi-Climate Hazard Analysis for (52.178086, -6.57722)

Table 8.5b: Assessment of climate risk indices for Kilmore Quay

Category	Hazard	Summary of Findings
Temperature related indices	Surface temperature	**Mean Temperature** The historic mean annual temperature in the area is 10.58°C. This is projected to increase to 11.53°C (+0.96°C) under SSP1-2.6 (optimistic) and 12.03°C (+1.45°C) under SSP5-8.5 (business as usual or pessimistic scenario) for 2050.
	Warm Days	**Warm Days** Warm day are defined as when the maximum temperature is beyond 90% percentile. The historic warm days in the area are 14.82% per year and this it projected to increase to 35.92% under SSP1-2.6 and 44.11% under SSP5-8.5 scenarios for 2050.
	Fire Weather Days	**Fire Weather Days** The historic fire weather days in the area were 22.04 days per year. This is predicted to increase to 32.09 (+45.57%) days under SSP1-2.6 and 35.75 (+62.21).
	Heat Stress Index	**Heat Stress Index** The historic heat stress index in the area is 12.78. And this is projected to increase to 14.22 under SSP1-2.6 and 14.77 under SSP5-8.5 scenarios for 2050.
Rainfall related extremes	Precipitation	**Precipitation** Historic average precipitation in the area was 998.52 mm/year. This is projected to increase to 998.72 mm/year under SSP1-2.6 and 999.04mm/year under SSP5-8.5 for 2050.
	Heavy Precipitation Days	**Heavy Precipitation Days** Precipitation over 10mm is defined as heavy precipitation. The historic average heavy precipitation days in the area was 27.58 days in a year. This is projected to increase to 28.84 days under SSP1-2.6 and 29.58 days under SSP5-8.5 for 2050.
	Extreme Precipitation Days	**Extreme Precipitation Days** Precipitation over 99% quantile is defined as extreme precipitation. The historic

RECEIVED: 05/08/2025

		average extreme precipitation is 62.39 mm for a year and this is projected to increase to 72.94 mm (+16.91%) under SSP1-2.6 and 77.60 mm (+24.38%) under SSP5-8.5 for 2050.
	Flood Events	**Flood Events** The historic inundation of 100-yr flood event is 0.82 m. This is projected to decrease to 0.31 m (-61.83%) under SSP1-2.6 and 0.85 m (+3.24%) under SSP5-8.5 for 2050.
Aridity/Drought conditions	Water stress	**Water Stress** The water stress index ranges from 1 to 5, with 1 indicating low stress and 5 indicating high stress. The historic water stress is rated as 1.00. And this is projected to increase to 2.00 under SSP1-2.6 and 2.00 under SSP5-8.5 for 2050.
Irradiance at surface	Surface reading solar radiation	**Surface Reaching Solar Radiation** The surface reaching solar radiation in the area was historically 129.19 W/m² and this is projected to increase to 135.66 W/m² under SSP1-2.6 and 133.33 W/m² under SSP5-8.5 for 2050.
Cloud related	Cloud cover	**Cloud Cover** Historic average cloud cover in the area was 75.22%. This is projected to decrease to 74.47% (-0.75%) under SSP1-2.6 and 73.51% (-1.71%) under SSP5-8.5 for 2050.
Wind extremes	Wind speed	**Wind Speed** Historic average wind speed in the area was 6.71 m/s. This is projected to be 6.50 m/s under SSP1-2.6 and 6.55 m/s under SSP5-8.5 for 2050.
	Storm wind speed	**Storm Wind Speed** The historic storm wind speed of the area is 15.80 m/s and this is predicted to be increase to 18.13 m/s (+14.79%) for SSP5-8.5 scenario for 2050.
Subsidence and landslide	Subsidence susceptibility index	**Subsidence Susceptibility Index** Subsidence susceptibility index ranges from 1-6, as very low, low, medium low, medium high, high, very high. The historic

RECEIVED: 05/08/2025

		subsidence susceptibility index in the area is 3 and is projected to be 3 in 2040.
	Landslide	**Landslide** The historic landslide in the area is 0 indicating minor impact from landslide events. Low risk
Hailstorm	Hailstorm frequency	**Hailstorm Frequency** Historical hailstorms in this location were 0.09 events/year. This denotes that the hailstorm has minimal impact in this area which is ideal for a storage unit.
Lightning	Lightning density	**Lightning Density** The historic lightning density in the area was smaller than 0.008 events per 1000km2/year. It indicates a minor impact from lightning events.

8.8 Characteristics of the Proposed Development

The Proposed Development is for a 10-year planning permission for development of an Integrated Tourism Resort Complex at Beak and Nemestown, Kilmore Quay, Co. Wexford. The development will consist of a central hotel, ranging in height from 1 to 4-storeys over a lower ground floor and provides 247 no. bedrooms, 42 no. family suites, bar and restaurants, function/conference centre facility and spa/leisure complex. 55 no. large family friendly tourist lodges, pavilion restaurant, hotel staff accommodation and external sports, recreation and play facilities provided throughout the site.

The development includes refurbishment and reuse of the Beak farmstead buildings and courtyard for tourism and heritage purposes, with family lodge reception and recreation management, resort shop, café/restaurant, arts/crafts spaces.

Facilities also include maintenance store, bicycle shelters, car / bus drop-off and parking, landscaped green spaces with pedestrian routes through the site.

Vehicular access to the development is from the Kilmore Road (R739) with pedestrian/cycle connections into Kilmore Quay village centre and to Nemestown.

See Chapter 2 of this EIAR for further information.

8.9 Potential Effect of the Proposed Development

During both the construction and operational phases of the development, there is potential for various greenhouse gas emissions to be released into the atmosphere. According to TII guidance, the significance of these GHG emissions on the climate is evaluated based on the total emissions across all stages of the proposed development.

RECEIVED: 05/08/2025

8.9.1 Construction Phase GHG Assessment

The TII Carbon toolkit was utilised by Metec and DRA consulting 2025 to quantify the construction phase embedded carbon for the proposed development. This toolkit can quantify carbon in infrastructure projects using Ireland-specific emission factors and data. Detailed project information including tonnage of materials was obtained from the Engineering Design Team.

Metec and DRA consulting 2025 have also utilised the Irish Green Building Councils (IGBC) Carbon Designer tool for Ireland. This provides a high-level initial assessment of the lifecycle carbon for the development based on basic information and default values with the option to edit these defaults as required to reduce impacts.

Greenhouse gas emissions have been quantified at all aspects of the construction phase including the following stages:

- Production stage: Embodied carbon is the carbon contained within a material or product. It is the sum of all carbon emissions that have been generated during the extraction, processing, and manufacturing of a particular product. Mitigation will be required as part of the demolition works to reduce the embodied carbon impact. Where possible demolished materials should be re-used on site or sent to a suitably licenced waste facility for re-use on other sites. Brickwork, concrete, steel and glazing are materials which have the potential for very high embodied carbon but also have to potential for recovery or recycling.
- Transportation to site: emissions associated with the carbon miles of the project materials. The impact of transporting materials from factory/source to site to facilitate construction is reported separately. A series of assumptions are made about the variables that impact transport emissions (material density, vehicle type, vehicle capacity and distance travelled) and assuming that the material may be transported from sources locally within 50km, regionally within 100km and nationally within 250km;
- Site Operations/Construction activities:
    - Site clearance emissions associated with plant and machinery required to clear the site. The carbon tool has a range of assigned land use categories for estimating site clearance. Different land use types have higher or lower carbon intensity for site clearance, which is linked to the energy required to clear the site.
    - Emissions arising from excavation activities based on the energy used in excavation activities. Energy expenditure varies depending on the type of ground to be excavated, e.g., rock excavation is much more energy intensive than topsoil excavation;
    - Construction activities covers carbon emissions generated during the construction of the proposed Project based on the scale and duration of the project; and
    - The generation of waste during the construction phase has potential for climate impact and the nature and scale of this impact depends on the type and volume of waste generated coupled with the nature of the waste treatment (reuse, recycling, recovery or disposal).
- Material replacement & refurbishment: Ongoing material refurbishment and replacement throughout the lifetime of the development is included within this stage of

the GHG assessment these are default values based on the typical maintenance requirements for the chosen material types over the assumed 60-year lifetime

The results of the assessment of the above stages using the TII and IGBC tools are presented in Table 8.6b and Figures 5 & 6 The results indicate that the total GHG emissions generated as a result of the construction of the proposed Project are 40,67,000 kg of CO2eq (40,767 tonnes CO2eq) (Metec and DRA consulting 2025).

The carbon assessment has identified hotspots for embodied carbon emissions, particularly those associated with building materials. These emissions have been calculated using standard default materials for different building types within the OneClick tool, as detailed material information was not available at this stage of the project. Additionally, the average material types from the TII Carbon Tool were utilised for this assessment due to the lack of more specific information.

As anticipated construction materials represent the largest portion of carbon emissions for the proposed development, constituting about 72% of the total embodied carbon emissions during the construction phase across the different buildings. The highest carbon impact is observed in the external walls, beams, floors, and roofs, based on the standard default values and assumptions used in the carbon calculations. The rest of the construction phase's embodied carbon emissions come from transportation to the site, site operations, and material replacement.

The total embodied carbon for the construction phase, including the maintenance and replacement of materials throughout the development's lifetime, has been calculated at 40,767 tonnes CO2e (see Table 8.6b). Since the overall GHG emissions from the development cannot be directly compared to a single sector's 2030 carbon budget, the emissions are categorised into different assessment areas (Metec and DRA consulting 2025). These categories must be individually compared to the relevant sectoral emissions budgets, as outlined in Table 8.6b. For the proposed development, the applicable sectoral emissions budgets include those for Industry Buildings (Residential), Transport, and Waste. The projected emissions for the development are annualised over an assumed 60-year lifespan and then compared to the relevant sector's 2030 carbon budgets. This annualization process facilitates a proper comparison with annual GHG targets.

RECEIVED: 05/08/2025

RECEIVED: 05/08/2025

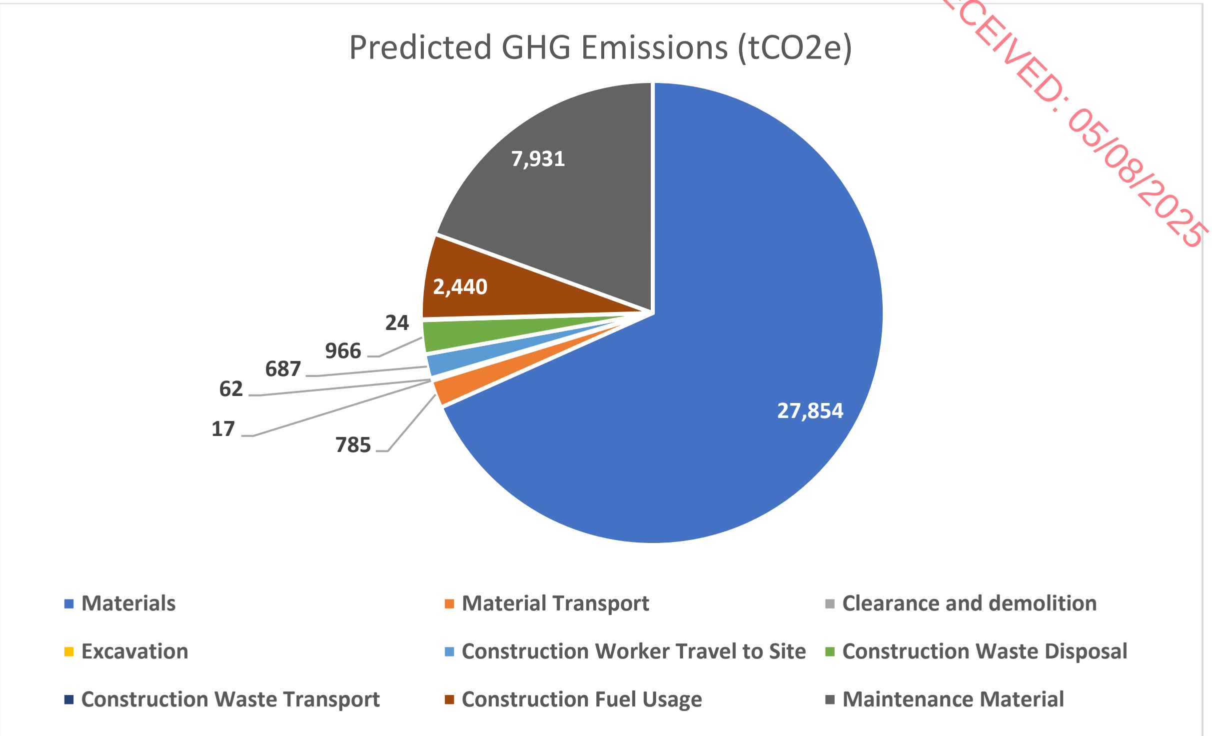
Table 8.6b Construction Phase Greenhouse Gas Emissions

Stage	GHG Assessment Category	Predicted GHG Emissions (tCO_2e)	Relevant Sector for Cabron Budget Comparison	Annualised GHG Emissions as % of Relevant Cabron Budget
Production Stage	Materials	27,854	Industry	0.01161
Transportation to site	Material Transport	785	Transport	0.00022
Site Operations/ Construction activities	Clearance and demolition	17	Industry	0.000007
Site Operations/ Construction activities	Excavation	62	Industry	0.00003
Site Operations/ Construction activities	Construction Worker Travel to Site	687	Transport	0.00019
Site Operations/Construction activities	Construction Fuel Use	966	Industry	0.00161
Site Operations/ Construction activities	Construction Waste Disposal	24	Waste	0.00001
Site Operations/ Construction activities	Construction Waste Transport	2,440	Transport	0.000678
Material replacement & refurbishment	Maintenance Material	7,931	Industry	0.00330
Total		40,767 tCO_2e		

Note [1] Project lifespan assumed 60 years for calculation purposes in line with best practice

RECEIVED: 05/08/2025

Figure 5: Construction Categories Greenhouse Gas Emissions tCO_2e



The projected GHG emissions (outlined in Table 8.7b) can be averaged across the entire lifespan of the proposed development to provide annual emissions estimates, facilitating direct comparison with national annual emissions and targets.

Table 8.7b compares these GHG emissions with the 2030 carbon budgets for the transport, industry, and waste sectors, Ireland's total GHG emissions for 2022, and Ireland's EU 2030 target of a 30% reduction in non-ETS sector emissions from 2005 levels (33 Mt CO2e) as specified in Regulation EU 2018/842.

When annualised over the proposed development's 60-year lifespan, the estimated total GHG emissions amount to 0.0007% of Ireland's total GHG emissions in 2023 and 0.0012% of Ireland's non-ETS 2030 emissions target. Specifically, emissions from transport-related activities account for 0.0069% of the 2030 Transport budget, construction waste emissions represent 0.0412% of the Waste budget, and industry-related emissions comprise 0.0103% of the 2030 Industry budget.

Table 8.7b Estimated Construction GHG Emissions relative to Sectoral Budgets and GHG Baseline

RECEIVED: 05/08/2025

Target/Sectoral Budget (tCO_2e)		Sector Annualised Proposed Development GHG Emissions are Compared	Annualised Proposed Development GHG Emissions as % of Relevant Target/Budget
Ireland's 2023 Total GHG Emissions (existing baseline)	58,829,000	Total GHG Emissions	0.0012%
Non-ETS 2030 Target	33,381,312	Total GHG Emissions	0.0020%
(Industry Sector) 2030 Sectoral Budget	4,000,000	Total Industry Emissions	0.0170%
(Transport Sector) 2030 Sectoral Budget	6,000,000	Total Transport Emissions	0.0113%
(Waste Sector) 2030 Sectoral Budget	1,000,000	Total Waste Emissions	0.0679%

The lodges and farmstead buildings will use timber frame construction and therefore have less dependency and use of concrete and steel, thus reducing embodied carbon emissions.

8.9.1.1 Impact of Climate Change on the Proposed Construction Phase

According to the 'LA 114 (2019) – Climate' guidance, which has been successfully implemented in the UK and referenced by the EPA here in Ireland, a qualitative assessment of disruption risk should be reported for the construction phase. The guidance suggests that changes to long-term seasonal averages due to climate change are not anticipated to be significant by the construction year, as predictions are typically cantered around mid-century. However, flooding during construction remains a possibility, and the areas at risk of flooding are detailed in Chapter 7 on Water (Including Hydrology & Flood Risk). Flood risk measures and extreme weather considerations have been integrated into the construction planning process.

DNV (2025) has completed a Site-Specific Flood Risk Assessment in accordance with the guidelines set out in ‘The Planning System and Flood Risk Management – Guidelines for Planning Authorities’ and based on the findings of the assessment the following can be concluded:

- The Proposed Development comprises the construction of an Integrated Tourism Resort complex. The Proposed Development is considered to be a ‘Less Vulnerable Development ‘in accordance with The Guidelines.
- All proposed structures are within Flood Zone C. The findings of this SSFRA indicate that flood risk to the site can be managed without increasing flood risk elsewhere.

RECEIVED: 05/08/2025

- Residual risk to users has been considered and can be appropriately managed.

The Proposed Development is considered to be appropriate in accordance with guidelines set out in 'The Planning System and Flood Risk Management – Guidelines for Planning Authorities'.

Mitigation measures are outlined in Chapter 7 Water (Including Hydrology & Flood Risk) to manage flood risk impacts during the construction stage, affecting construction zones, and nearby properties. With these measures implemented, the risk of climate change impacts, particularly flooding, during the construction phase of the proposed project is not deemed significant.

8.9.2 Operational Phase

8.9.2.1 Operational Impacts

Climate change has the potential to alter weather patterns and increase the frequency of rainfall in future years. As a result of this there is the potential for flooding related impacts on site in future years. However, adequate attenuation and drainage have been provided for to account for increased rainfall in future years as part of the design of this development. Therefore, the impact will be long-term, localised, neutral and imperceptible.

There is the potential for a number of greenhouse gas emissions to the atmosphere during the operational phase of the development. The main sources of GHG emissions from the operational stage of the development arise from heating, domestic hot water, and lighting. The proposed project will introduce sustainable and renewable energy technology to the development. Ongoing maintenance of the proposed development materials has been accounted for within Section 8.10.1 above. The following section outlines the impact of operational energy use on GHG emissions.

There is also the potential for increased traffic volumes to impact climate. The change in AADT values is not of the magnitude to require a detailed climate assessment as per the DMRB screening criteria outlined in Section 8.6.3 (UK Highways Agency, 2019b). It can therefore be determined that traffic related CO2 emissions during the operational phase are long-term, localised, neutral and imperceptible.

The proposed development has been designed to reduce the impact to climate where possible. A number of measures have been incorporated into the design to ensure the operational phase emissions are minimised. These are outlined fully within the Energy Statement prepared by Metec (2025) and are summarised below.

The development will be a Nearly Zero Energy Building (NZEB) in accordance with the Part L2022 requirements. Each building will have a Building Energy Rating (BER) that will comply with the Part L requirements. The following measures, or similar will be incorporated into the proposed development to achieve a more energy efficient (i.e. less carbon intensive) design. All measures will be reviewed at the detailed design stage and the most appropriate options will be implemented.

- High performance U-values;
- Improved air tightness;
- Improved thermal transmittance and thermal bridging;

RECEIVED: 05/08/2025

- Use of renewable technologies to ensure energy consumption is in line with the Part L 2022 requirements
- Both internal and external lighting to be energy efficient LED lighting.
- Water Heating plant is proposed to consist primarily of Combine Heat & Power and/or ASHP's with Gas fired boilers for meeting the peak loads i.e. very cold weather or morning hot water peak.
- Building materials will be high-quality and long-lasting to reduce the requirement for regular maintenance or replacement which will reduce the embodied carbon footprint of the development.

It is proposed to incorporate bicycle and electric vehicle parking spaces within the proposed development to promote the use of sustainable transport. Overall, these measures will aid in reducing the impact to climate during the operational phase of the proposed development. Full descriptions of the measures proposed, and their benefits are outlined within the Climate Action and Energy Statement submitted with this application.

In Table 8.8b, operational GHG emissions have been compared against the carbon budget for the industry sector in 2030, against Ireland's total GHG emissions in 2023 and against Ireland's EU 2030 target of a 30% reduction in non-ETS sector emissions based on 2005 levels (33 Mt CO2e) (set out in Regulation EU 2018/842 of the European Parliament and of the Council).

The estimated total operational GHG emissions, when annualised over the 60-year proposed development lifespan, are equivalent to 0.00187% of Ireland's total GHG emissions in 2023 and 0.0003% of Ireland's non-ETS 2030 emissions target. The total GHG emissions associated with industry-related activities are 0.0275% of the 2030 residential budget.

Table 8.8b Estimated Operational GHG Emissions relative to Residential Budget and GHG Baseline

Target/Sectoral Budget (tCO_2e)		**Sector Annualised Proposed Development GHG Emissions are Compared**	**Annualised Proposed Development GHG Emissions as % of Relevant Target/Budget**
Ireland's 2023 Total GHG Emissions (existing baseline)	58,829,000	Total GHG Emissions	0.00187%
Non-ETS 2030 Target	33,381,312	Total GHG Emissions	0.0003%
(Industry Sector) 2030 Sectoral Budget	4,000,000	Total Industry Emissions	0.0275%

RECEIVED: 05/08/2025

8.9.2.2 GHGA Significance of Effects

The TII guidance (2022) states that the following two factors should be considered when determining significance:

- The extent to which the trajectory of GHG emissions from the project aligns with Ireland's GHG trajectory to net zero by 2050; and
- The level of mitigation taking place.

The level of mitigation described in Section 8.10 has been taken into account when determining the significance of the proposed development's construction and operational GHG emissions. According to the IEMA significance criteria described in Section 8.6.3.4 and Table 8.1b, the significance of the GHG emissions during the construction and operational phase is minor adverse.

In accordance with the EPA guidelines (EPA, 2022), the above significance equates to a significance of effect of GHG emissions during the construction and operational phase which is **direct, long-term, negative and slight, which is overall not significant.**

8.9.3 Climate Change Risk Assessment

8.9.3.1 Construction Phase

A detailed CCRA of the construction phase has been scoped out, as discussed in Section 8.6.4.5, which state that there are no residual medium or high-risk vulnerabilities to climate change hazards and therefore a detailed CCRA is not required. However, consideration has been given to the proposed development's vulnerability to the following climate change hazards with best practice mitigation measures proposed in Section 8.11:

- Flood risk due to increased precipitation, and intense periods of rainfall. This includes fluvial and pluvial flooding;
- Increased temperatures potentially causing drought, wildfires and prolonged periods of hot weather;
- Reduced temperatures resulting in ice or snow;
- Geotechnical impacts; and
- Major Storm Damage – including wind damage.

8.9.3.2 Operational Phase

To assess the vulnerability of the proposed development to climate change, it is essential to first evaluate the development's sensitivity and exposure to various climate hazards. The following climate hazards have been analysed in relation to the proposed development: flooding (coastal, pluvial, and fluvial), extreme heat, extreme cold, wildfire, drought, extreme wind, lightning, hail, and landslides.

The sensitivity of the proposed development to these climate hazards is evaluated independently of its location. Table 8.9b provides a sensitivity assessment of the proposed development, rated on a scale from high (3) to medium (2) to low (1). After establishing sensitivity, the exposure of the proposed development to each climate hazard is determined, reflecting the likelihood of these hazards occurring at the project site, also rated on a scale of high (3), medium (2), and low (1). The overall vulnerability of the proposed development to

RECEIVED: 05/08/2025

each climate hazard is then calculated by multiplying sensitivity and exposure, as outlined in Table 8.9b.

Table 8.9b Climate Change Vulnerability Assessment

Climate Hazard	Sensitivity	Exposure	Vulnerability
Flooding (Coastal, Pluvial, Fluvial)	1 (Low)	1 (Low)	1 (Low)
Extreme Heat	1 (Low)	1 (Low)	1 (Low)
Extreme Cold	1 (Low)	1 (Low)	1 (Low)
Wildfire	1 (Low)	1 (Low)	1 (Low)
Drought	1 (Low)	1 (Low)	1 (Low)
Extreme Wind	1 (Low)	1 (Low)	1 (Low)
Lightning & Hail	1 (Low)	1 (Low)	1 (Low)
Landslides	1 (Low)	1 (Low)	1 (Low)
Fog	1 (Low)	1 (Low)	1 (Low)

The sensitivity and exposure of the area were assessed using various online tools such as Met Éireann's TRANSLATE tools, Climate Ireland – Climate Change Projection Maps, and DNV's Climatics multi-climate hazard analysis tool in addition to the project teams subject matter expertise. The analysis concluded that the proposed development has no significant vulnerabilities to the identified climate hazards, as outlined below. All identified vulnerabilities are classified as low. As a result, there are no residual medium or high-risk vulnerabilities related to climate change hazards, making a detailed Climate Change Risk Assessment (CCRA) unnecessary.

The Site-Specific Flood Risk Assessment (SSFRA) conducted by DNV indicates that the site is located within Flood Zone C. The primary flood risk for the proposed development is coastal flooding due to the location of the site bordering the foreshore. Coastal flooding occurs when high sea levels or waves cause water to overflow onto land. However, the development is unlikely to be impacted by such flooding. The Catchment Flood Risk Assessment and Management (CFRAM) flood maps for the site do not indicate any risk of fluvial flooding. Sources including the NCFHM and Wexford CDP SFRA do not indicate that the site is liable to flood in extreme coastal events.

Due to the predicted increase in the frequency and intensity of extreme rainfall events, it is prudent that site specific drainage and management measures aimed at mitigating the effects of pluvial flooding are incorporated into the development design. The proposed development includes the construction of a surface water network which consists of Sustainable Urban Drainage Systems (SuDS) measures which will minimise the impact to the receiving environment and manage the pluvial flood risk at the site. The proposed surface water network has been designed with an allowance for climate change as per the OPW's 2019 Flood Risk Management Climate Change Sectoral Adaptation Plan.

When climate change is considered, minimum FFL will be set above both the MRFS and HEFS scenario 1 in 1000-year flood levels (inclusive of freeboard). This ensures that long term residual risk can be managed appropriately.

RECEIVED: 05/08/2025

Wave action should be considered in the context of the proposed development and the protection afforded by complying with the 100m building exclusion zone. Potentially the location of the site between Kilmore Quay harbour, St. Patrick's Bridge and the Saltee Islands may provide a sheltering effect from extreme waves and reduce associated over topping of the coastal embankment along the southern boundary of the site. However, primarily it is the incorporation of the 100m building exclusion zone that will ensure that extreme waves are dissipated before encroaching on the proposed development buildings. The Preliminary Coastal Erosion Assessment (IE Consulting, 2025) concludes that there is no evidence to suggest that the development as proposed will be at risk of coastal erosion over its lifetime. Therefore, it not envisaged that coastal erosion will contribute to increased flood risk (DNV, 2025).

The correct operation and maintenance of the drainage system is necessary to reduce the risk of human or mechanical error causing pluvial flood risk from blockage. The CFRAM mapping available for the site indicates that the pluvial flood risk to the development is low.

Groundwater flooding occurs when the water table rises above the land surface, this means the natural underground drainage system is incapable of sufficiently draining itself, resulting in the emergence of groundwater at the surface. It generally requires sustained rainfall over relatively longer duration than other forms of flooding, its location is discontinuous, and they can last for weeks or months. The SSFRA has determined that the Proposed Development is not at risk of groundwater flooding.

Regarding wildfires, the Think Hazard! tool developed by the Global Facility for Disaster Reduction and Recovery classifies the wildfire hazard in the Dublin area as low. This classification suggests there is a 4% to 10% chance of weather conditions that could support a problematic wildfire in the project area, potentially causing disruptions and posing a low but real risk to life and property each year. Although future climate models predict an increase in conditions favourable to wildfires—such as higher temperatures and extended dry periods—the project's suburban location significantly reduces the wildfire risk. Therefore, the proposed development is considered to have a low vulnerability to wildfires.

According to the Landslide Susceptibility Map developed by Geological Survey Ireland (GSI), the Proposed Development Site ranges from Low to Moderately Low in terms of landslide susceptibility.

Extreme temperatures, whether extreme heat or cold, have the potential to affect building materials and associated infrastructure. During the detailed design stage, high-quality, durable, and resilient materials will be selected to withstand future temperature fluctuations due to climate change.

Consequently, the proposed development is assessed to have, at most, low vulnerabilities to these climate hazards, and a detailed risk assessment is not necessary. There is no additional vulnerability with respect to all climate hazards when design mitigation has been put in place in order to alleviate this known vulnerability to future climate change risk.

8.9.3.3 CCRA Significance of Effects

With the implementation of design mitigation measures, the proposed development faces no substantial risks from climate change. As outlined in the EPA Guidelines (EPA, 2022), the impacts of climate change on the development are considered **direct, long-term, negative**,

RECEIVED: 05/08/2025

and **imperceptible**, and are therefore **not deemed significant** in terms of Environmental Impact Assessment (EIA).

8.9.4 Potential Cumulative Effects

Regarding the requirement for a cumulative assessment, TII PE-ENV-01104 (2022) indicates that "since the GHG assessment pertains to global climate and the impacts on the receptor from a project are not geographically constrained, the typical approach for cumulative assessment in EIA is not deemed applicable." However, by evaluating the GHG impact of a project in relation to its alignment with Ireland's trajectory towards net zero and sectoral carbon budgets, this assessment will demonstrate the project's potential influence on Ireland's ability to meet its national carbon reduction targets. Consequently, the assessment approach is inherently cumulative.

The following potential cumulative impacts related to climate have been considered within this Environmental Impact Assessment Chapter. Cumulative impacts result from the combined effects of the proposed development alongside other existing or planned developments in the area. These impacts can intensify climate-related risks and environmental pressures, leading to more pronounced and widespread consequences. IEMA emphasises the importance of understanding these interactions to develop effective mitigation and adaptation strategies that align with broader sustainability objectives.

Greenhouse Gas (GHG) Emissions

As per IEMA’s guidance on assessing climate change within EIAs (2022), the cumulative effect of GHG emissions from the proposed development, in conjunction with other developments, must be carefully evaluated. The aggregation of emissions across multiple projects can significantly contribute to global climate change, exacerbating the effects of rising temperatures, more frequent extreme weather events, and changes in precipitation patterns. To address this, we have identified robust mitigation measures aimed at reducing the development’s carbon footprint, ensuring alignment with regional and national climate targets, and adhering to the principles of the EU Taxonomy and Near Zero Energy Building (NZEB) standards. Nearby emissions sources include from residential properties, vehicles and boats in Kilmore Quay harbour.

Water Resources and Flooding

IEMA (2022) stresses the importance of considering cumulative impacts on water resources, particularly with respect to flood risks and water availability. The combined effect of increased rainfall due to climate change and additional impermeable surfaces from multiple developments can overwhelm existing drainage infrastructure, leading to a higher frequency and severity of flooding events. This underscores the need for integrated water management strategies that enhance the resilience of water systems and incorporate climate adaptation measures, such as sustainable urban drainage systems (SUDS), as recommended within the site-specific flood risk assessment.

RECEIVED: 05/08/2025

Biodiversity and Habitat Loss

Cumulative impacts on biodiversity are another significant concern. IEMA guidance (2022) highlights that climate change, coupled with habitat loss from multiple developments, can lead to more severe impacts on ecosystems and species. The fragmentation of habitats and disruption of ecological networks can accelerate species decline and reduce ecosystem resilience. To mitigate these impacts, the EIA should incorporate strategies for habitat conservation, restoration, and connectivity, ensuring that biodiversity is protected and enhanced in the face of cumulative pressures.

Air Quality and Human Health

IEMA also advises considering the cumulative impacts on air quality and human health. Increased emissions from multiple developments can lead to higher concentrations of pollutants, exacerbating climate change-related health risks, such as respiratory conditions and heat-related illnesses. The EIA should ensure that air quality management plans are in place and that mitigation measures are designed to minimise emissions, particularly in urban areas where cumulative impacts are more likely to be significant.

Soil Degradation and Erosion

Cumulative impacts on soil degradation and erosion are another area of concern highlighted by IEMA. The combined effects of climate change-induced extreme weather events and land disturbance from construction activities can lead to accelerated soil erosion, reduced fertility, and increased sedimentation in water bodies. Sustainable land management practices, including erosion control measures and soil conservation techniques, should be integrated into the development to mitigate these cumulative impacts.

Infrastructure and Energy Demand

Finally, IEMA's guidance emphasises the importance of considering the cumulative impacts on infrastructure and energy demand. As multiple developments increase the demand for energy, there is a risk of overloading local grids and increasing reliance on fossil fuels, which could exacerbate GHG emissions and climate change. The proposed development does promote energy efficiency, the use of renewable energy sources, and the integration of smart grid technologies to ensure that infrastructure can accommodate future energy needs without compromising climate goals.

8.9.5 Mitigation and Monitoring

In accordance with IEMA guidance (2022), addressing cumulative impacts requires a comprehensive approach that includes effective mitigation strategies and ongoing monitoring. These strategies should focus on enhancing energy efficiency, reducing GHG emissions, protecting natural habitats, managing water resources sustainably, and ensuring resilient infrastructure. Continuous monitoring and adaptive management will be essential to identify cumulative impacts early and to adjust mitigation measures as necessary to minimise long-term environmental and climate-related risks.

RECEIVED: 05/08/2025

By considering cumulative impacts within the climate chapter of the EIA, we ensure a thorough and responsible assessment that aligns with IEMA's best practices, contributing to the sustainability and resilience of both the proposed development and the broader environment.

8.9.6 "Do Nothing" Effects

Under the Do-Nothing Scenario no construction works will take place and the previously identified impacts of carbon emissions from equipment, machinery and development operation will not occur. Therefore, this scenario can be considered neutral in terms of climate.

8.10 Avoidance, Remedial & Mitigation Measures

8.10.1 Construction Phase

Embodied carbon of materials and construction activities is the primary source of climate impacts during the construction phase. Pre-construction carbon Avoidance, Remedial & Mitigation Measures include:

Design for Performance

- Request a Design for Performance approach from design teams and contractors.
- Include contractual targets for whole life carbon with a focus on Net Zero and nature-positive goals where possible.

Circularity in Design

- Require design teams to develop a circularity concept for projects, focusing on adaptability, disassembly, and reuse.
- Set a target for a percentage of reused and recycled materials in designs.

Climate Action and Energy Statement

- Ensure the statement is regularly reviewed and updated in line with current policy and best practice for sustainable construction.

Carbon Literacy

- Develop carbon literacy within design and construction teams by providing training on carbon literacy, ESG reporting, and disclosure.
- Incorporate sustainability and carbon considerations into site team talks, construction targets, and reporting.
- Include training clauses for contractors and sub-contractors to upskill their teams in low-energy construction techniques.

Building Renovation Passports (BRPs)

- Request Building Renovation Passports for this asset as part of the roadmap to decarbonise each asset.

RECEIVED: 05/08/2025

Cement Reduction

- Specify the minimum amount of cement needed in concrete and substitute where feasible to reduce cement usage.

Sustainable Procurement

- Review sustainable procurement and material choices during detailed design to identify and implement lower embodied carbon options.
- Request Environmental Product Declarations (EPDs) and prefer products with EPDs where possible within procurement restrictions.
- Drive demand for EPDs by increasing the percentage of products used in the project with EPDs.

European Framework for Sustainable Buildings

- Commit to using key indicators from the European Framework for sustainable buildings, Level(s), with support from the IGBC.
- Focus on indicators such as Life Cycle Assessment (LCA), Life Cycle Cost (LCC), Indoor Air Quality (IAQ), and Circularity.

Energy and Carbon Performance Reporting

- Plan to disclose the operational energy and carbon performance of the project in your annual reporting.

Post-Occupancy Evaluation

- Allow for post-occupancy evaluation of completed developments to ensure feedback is passed to the design team.

Demolition and Construction Waste Management

- Create a demolition and construction programme allowing sufficient time to determine reuse and recycling opportunities for demolition waste.
- Appoint a competent demolition contractor to undertake a pre-demolition audit detailing resource recovery best practice and identifying materials for reuse and recycling.
- Reuse materials on site in the new build areas where possible.

EU Taxonomy Compliance

- Commit to complying with EU taxonomy requirements on the circular economy, specifically reuse, recycling, and material recovery of demolition and construction waste.
- Review and ensure compliance with the EU Taxonomy Regulation (EU) 2020/852 regarding circular economy practices for demolition and construction waste.

RECEIVED: 05/08/2025

Local Material Sourcing

- Source materials locally where possible to reduce transport-related CO2 emissions.

Building Certifications

- Aim for building certifications such as HPI (Home Performance Index), LEED (Leadership in Energy and Environmental Design), or equivalent, to ensure sustainable and high-performance standards are met throughout the project.

Regarding the development's resilience to climate change, the Contractor will be required to mitigate the effects of extreme weather, such as heavy rainfall, flooding, windstorms, and temperature fluctuations, through site risk assessments and method statements. Additionally, certified datasheets for construction materials will outline their operational temperature limits, ensuring that temperature-sensitive materials perform adequately. The Contractor will also address risks associated with fog, lightning, and hail through appropriate risk assessments and mitigation plans.

During the construction phase the following best practice measures shall be implemented on site to prevent significant GHG emissions and reduce impacts to climate:

- **Energy-Efficient Equipment:** Use energy-efficient machinery and equipment on-site. Regular maintenance and proper operation can also help reduce fuel consumption and emissions.
- **Renewable Energy:** Incorporate renewable energy sources, such as solar panels, to power construction activities. This can significantly reduce reliance on fossil fuels
- **Reduce Idling**: Prevention of on-site or delivery vehicles from leaving engines idling, even over short periods.
- **Sustainability Awareness**: Ensure that sustainability and carbon specifically is incorporated into site team talks, construction and reporting targets. Integrate training clauses for contractors and sub-contractors to upskill their onsite personnel including sub-contractors in low energy construction skills. Appoint sustainability champions to ensure that the project continues to perform in a sustainable manner.
- **Sustainable Transportation**: Encourage carpooling, use of public transportation, or electric vehicles for workers commuting to the site.
- **Monitoring and Reporting:** Regularly monitor and report GHG emissions from the construction site. This helps in identifying areas for improvement and ensuring compliance with environmental standards Sustainability spot checks should be added to ongoing site inspections and feedback shared with all onsite to ensure measures are being adopted.
- **Maintenance**: Ensure all plant and machinery are well maintained and inspected regularly.
- **Waste Management:** Implement a robust waste management plan to reduce, reuse, and recycle construction waste. Proper waste management can significantly cut down on emissions Minimising waste of materials due to poor timing or over ordering on site will aid to minimise the embodied carbon footprint of the site. Application of the waste hierarchy to all waste material generated.

RECEIVED: 05/08/2025

- **Sustainable Procurement:** Sourcing low carbon materials locally where possible to reduce transport related CO2 emissions.

Below are project specific ideas under consideration for strengthening the visibility and storytelling around environmental initiatives:

- **Materials and Technology**
  Highlight the use of natural and local materials (stone, native timber, brick), smart systems, and high energy-efficiency ratings (AA or better).

- **Beekeeping and Wildlife**
  Incorporate beehives for native black bees (e.g. on rooftops), bird boxes, and composting and mulching systems near the maintenance area. The walkways / cycle lanes can become a nature trail, QR codes so international guests can learn more about Ireland's ecosystem. Wildlife meadows marked so it is not all grass.

- **Edible Landscaping**
  Use of the main entrance driveway / front-facing fields for orchards and edible planting. Include a glasshouse or polytunnel to grow lettuces, greens, microgreens, edible flowers, and herbs. While the resort won't grow all its food, daily-use items can be cultivated and woven into the guest experience.

- **Glasshouse**
  Allow the gardening team to propagate plants and offer them for retail, as done in Ashford Castle, Ballynahinch, and Virginia Lodge.

- **Foraging for Chefs and Mixologists**
  Across the resort, plant native edibles such as elderflower, rowan, crab apple, wild damsons, juniper, gorse, wild strawberries, wild roses, sorrel, wild garlic, three-cornered leek, and Scots pine. All the top hotels / restaurants are now building this into their experience. I am sure the appointed landscaper can build this into their landscaping plans. The more the better as a lot of this can be preserved and sold in the shop for guests to take home.

- **Herb Gardens**
  Create dedicated herb gardens / raised beds near the hotel and the pavilion restaurant, with culinary and mixology herbs like mint, lemon balm, rosemary, lovage, bay, and thyme. It has to be located near the kitchen so the team can walk out and pick just before service. They won't use it otherwise.

- **Hotel Edible Planting**

Within the hotel, events centre, and spa areas itself, consider using large pots or sheltered planting areas for tropical edible species such as banana plants, citrus, kaffir lime, geraniums, and lemongrass. These not only enhance the sensory experience for guests but can also provide fresh garnishes for the bar and kitchen and even in the spa. It's a subtle but effective way to extend the biodiversity narrative and reinforce the connection between planting, culinary use, and sustainability.

RECEIVED: 05/08/2025

8.10.2 Operational Phase

A number of measures have been incorporated into the design of the development in order to mitigate against the impacts of future climate change. For example, adequate attenuation and drainage have been incorporated into the design of the development to avoid potential flooding impacts as a result of increased rainfall events in future years. These measures have been considered when assessing the vulnerability of the proposed development to climate change (see Section 8.7.3).

The proposed development has been designed to reduce the impact on climate as a result of energy usage during operation. The Climate Action and Energy statement and BER reports prepared by Metec 2025 and submitted under separate cover with this planning application details a number of incorporated design mitigation measures that have been incorporated into the design of the development to reduce the impact on climate wherever possible.

Such measures included in the proposed development to reduce the impact to climate from energy usage are:

- The development will be in compliance with the requirements of the Near Zero Energy Building (NZEB) Standards.
- A renewable energy rating (RER) of 20% will be achieved to comply with Part L (2021) of the NZEB regulations.
- A Building Energy Rating (BER) of A2/A3 is being targeted.
- Improved building thermal transmittance (U-Values), air permeability and thermal bridging.
- Use of air source and exhaust heat pumps.
- Sustainability information provided to building occupants
- Smart building technologies

In addition, electric vehicle and bicycle parking will be provided within the development which will promote the use of more sustainable modes of transport and reduce potential transport emissions. It is the design intent to specify that a minimum of 20% of car park spaces within the proposed development will be equipped with electric charging points, in accordance with Objective TS49 of the Wexford County Development Plan. Additionally, electrical infrastructure will be provided to all parking spaces to facilitate future upgrades to electric charging.

8.11 Residual Effects

The proposed development will result in some impacts to climate through the release of GHGs. IEMA (2022) state that the crux of assessing significance is “not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050”. The proposed development has proposed some best practice mitigation measures and is committing to reducing climate impacts where feasible, the development will comply with the do-minimum standards set through regulation (NZEB and Part L 2021). As per the assessment criteria in Table 8.6.4.4b the effects of the proposed development in relation to GHG emissions is considered **long-term, minor adverse and not significant.**

RECEIVED: 05/08/2025

In relation to climate change vulnerability, it has been assessed that there are no significant risks to the proposed development as a result of climate change.

8.12 Risk of Major Accidents or Disasters

As detailed in Section 8.10.3.1, climate change could shift weather patterns and lead to more frequent rainfall in the coming years. Nonetheless, a thorough review of the potential flood risk at the site has been conducted, and sufficient measures for attenuation and drainage have been incorporated to address increased rainfall. The proposed development has been evaluated as having a low susceptibility to climate change-related hazards, with no major risks identified. Consequently, the impact is considered direct, long-term, negative, and imperceptible, and is therefore not deemed significant in terms of the Environmental Impact Assessment (EIA).

8.13 Worst Case Scenario

Worst case estimates have been used as part of this assessment. As a result, Section 8.11 details the worst-case impact for the proposed development.

8.14 Monitoring

8.14.1 Construction Phase

We recommend the following monitoring strategies to ensure compliance with the environmental objectives outlined in this EIA. These strategies are essential for effectively managing the environmental impacts associated with the demolition and construction phases, with a particular focus on resource recovery, waste management, and the reduction of greenhouse gas (GHG) emissions.

Compliance with EU Taxonomy for Circular Economy

Given the project's commitment to meeting EU taxonomy requirements, we recommend the following:

- Comprehensive Documentation and Reporting: It is essential to maintain detailed records that document compliance with the circular economy principles outlined in the EU taxonomy. This documentation should include logs of all recycled materials, percentages of materials reused on-site, and detailed descriptions of how circular economy practices are being implemented.
- Independent Third-Party Audits: We recommend engaging an independent auditor to periodically assess the project's compliance with the EU taxonomy. The audit should verify the accuracy of reported data and ensure that the circular economy requirements are fully adhered to throughout the project.

Monitoring of GHG Emissions Reduction Measures

To mitigate the project's impact on climate change, we propose the following monitoring activities:

- Appoint sustainability champions to ensure that the project continues to perform in a sustainable manner including monitoring and reporting of performance on site.

RECEIVED: 05/08/2025

- Idle Time Monitoring for Vehicles and Machinery: We suggest installing GPS or telematics systems on all vehicles and machinery used on-site to monitor engine idling times. Automatic alerts should be set up to notify site managers when idling exceeds a specified threshold, enabling prompt corrective action to reduce unnecessary emissions.
- Maintenance Logs for Plant and Machinery: Implementing a digital maintenance log system to track the inspection and maintenance of all on-site equipment is recommended. This system should record inspection dates, maintenance activities, and any identified issues, ensuring that all machinery operates efficiently and with minimal emissions.
- Material Waste Minimisation Tracking: A monitoring system should be developed to track material orders and usage. This system should identify trends in over-ordering or inefficient material use, enabling the project team to take corrective actions that will help minimise the embodied carbon footprint of the site.

Application of Waste Hierarchy

To optimise waste management on-site, we recommend the following monitoring protocols:

- Waste Segregation Audits: Regular audits should be conducted to ensure that waste is being properly segregated according to the waste hierarchy (reduce, reuse, recycle). These audits will help identify opportunities for improving waste management practices and reducing overall waste generation.
- Monthly Waste Management Reports: We suggest generating monthly reports detailing the volume of waste reduced, reused, and recycled. These reports should be compared against predefined targets to assess the effectiveness of the waste management strategies and to identify areas for improvement.

Local Sourcing of Materials

To reduce transport-related emissions and support local suppliers, we recommend the following:

- Supplier Distance Monitoring: A database of suppliers should be developed, documenting the distance of each supplier from the construction site. This database should be used to monitor and minimise the carbon footprint associated with material transportation, prioritising local suppliers wherever possible.
- Transport-Related Carbon Footprint Analysis: Conducting a carbon footprint analysis for the transportation of all materials to the site is recommended. This analysis should inform the selection of suppliers, with a preference for those within a closer radius to reduce CO2 emissions.

These monitoring recommendations are designed to ensure that the project adheres to its environmental commitments, particularly in the areas of resource recovery, waste management, and greenhouse gas emissions reduction. By implementing these strategies, the project will not only comply with regulatory requirements but also contribute to broader environmental sustainability goals. Regular reporting, on-site inspections, and third-party audits will be critical to maintaining compliance and achieving the desired environmental outcomes.

RECEIVED: 05/08/2025

8.14.2 Operational Phase

Environmental Management Plan that incorporates adaptive management principles.

Ensure climate change resilience plans are robust; continued monitoring of trends in weather events; and continued review of resilience measures related to interdependencies.

We recommend the following monitoring strategies to ensure that the proposed development meets its environmental objectives. These strategies focus on mitigating the impacts of climate change, enhancing energy efficiency, and promoting sustainable transport, all of which are aligned with best practices outlined in IEMA guidelines.

Monitoring of Climate Change Mitigation Measures

- **Attenuation and Drainage Systems Monitoring**: Consistent with IEMA's guidance on climate resilience, regular inspections should be undertaken to verify the functionality of the attenuation and drainage systems. These inspections should be conducted during construction, after significant rainfall events, and periodically thereafter to ensure long-term effectiveness in preventing flooding.
- **Climate Vulnerability Assessment Review**: In accordance with IEMA's recommendation to periodically reassess climate risks, we suggest reviewing the climate vulnerability assessment (as detailed in Section 8.7.3) at regular intervals. This review should incorporate the latest climate projections to ensure the mitigation measures remain adequate and effective.

Monitoring of Energy Efficiency and Climate Impact Reduction

To minimise the impact of the development on climate through energy use during operation, the following monitoring activities are recommended:

- **NZEB Compliance Verification**: Continuous monitoring during the construction phase should ensure that the development complies with the Near Zero Energy Building (NZEB) Standards. This includes verifying that all building components and systems meet the NZEB criteria.
- **EU Taxonomy Alignment Monitoring**: Ensure that the development achieves energy performance that is at least 10% lower than the NZEB requirements. Regular energy performance assessments should be conducted to confirm alignment with the EU Taxonomy for sustainable development.
- **Renewable Energy Ratio (RER) Compliance**: Monitor the implementation of renewable energy systems, such as solar panels and air source heat pumps, to ensure that the development achieves a Renewable Energy Ratio (RER) of 20%, in line with Part L (2021) of the NZEB regulations. Post-installation, periodic checks should be performed to verify ongoing compliance.
- **Building Energy Rating (BER) Target Achievement**: Regular energy audits should be carried out to monitor the building's energy performance, ensuring that the targeted Building Energy Rating (BER) of A2/A3 is achieved. This includes verifying the efficiency of insulation, windows, HVAC systems, and other energy-related components.

RECEIVED: 05/08/2025

- **Thermal Performance Monitoring**: Continuous monitoring during construction should ensure that the building achieves the improved thermal transmittance (U-Values), air permeability, and thermal bridging standards specified in the design. Post-construction thermal imaging surveys and air tightness tests should be conducted to confirm that these standards have been met.

Monitoring of Renewable Energy Systems

To ensure the successful implementation and operation of renewable energy systems, the following monitoring measures are recommended:

- **Air Source Heat Pump Performance**: Regular inspections and maintenance checks should be conducted on the air source heat pumps to ensure they are operating efficiently and contributing effectively to the building's energy needs. Performance metrics such as Coefficient of Performance (COP) and Seasonal Performance Factor (SPF) should be tracked and compared against the expected values.
- **Occupant Sustainability Information**: Consistent with IEMA's emphasis on stakeholder engagement, it is important to ensure that all building occupants/hotel residents receive comprehensive sustainability information. This should include guidance on energy conservation practices and how to use renewable energy systems effectively. Feedback mechanisms, such as surveys, should be used to assess the impact of this information on occupant behaviour.

Monitoring of Sustainable Transport Initiatives

To promote sustainable transport and reduce transport-related emissions, we recommend the following monitoring strategies:

- **Electric Vehicle (EV) and Bicycle Parking Usage**: Regular monitoring should be carried out to assess the usage of electric vehicle charging stations and bicycle parking facilities within the development. This will help gauge the effectiveness of these measures in promoting sustainable transport modes. Usage data can inform whether additional facilities or adjustments are needed.
- **Transport Emissions Impact Assessment**: Periodic assessments should be conducted to evaluate the impact of the provided sustainable transport facilities on reducing overall transport emissions. This could include monitoring the uptake of electric vehicles by residents and the corresponding reduction in greenhouse gas emissions.

These monitoring recommendations are designed to ensure that the development's climate change mitigation measures, energy efficiency initiatives, and sustainable transport provisions are effectively implemented and maintained throughout the lifecycle of the project. By adhering to these strategies, the development will not only comply with relevant regulatory requirements but also contribute to broader environmental sustainability goals. Regular inspections, energy performance assessments, and occupant engagement will be crucial to achieving the desired environmental outcomes.

8.15 Interactions

RECEIVED: 05/08/2025

Climate interactions with various environmental topics are extensive and significant, highlighting the broad impact of climate factors across different aspects of the environment. One of the most critical interactions is between climate and greenhouse gas (GHG) emissions. The proposed development's carbon footprint, which includes emissions from construction activities, energy use, and transportation, plays a role in influencing climate change. Effective management and reduction of these emissions are crucial to mitigate the project's contribution to global warming and to comply with regulatory requirements and sustainability targets.

Interactions between climate and water resources are also notable. Climate variability, such as increased rainfall or prolonged droughts, can affect water availability, quality, and management practices. This includes impacts on stormwater runoff, flood risk, and water supply. The development must incorporate effective water management strategies to address these potential issues and ensure resilience to changing climate conditions.

The relationship between climate and biodiversity is significant as well. Changes in temperature and precipitation patterns can alter habitat conditions, disrupt species distributions, and affect ecological balances. These shifts may impact local flora and fauna, necessitating careful consideration of conservation measures to protect biodiversity within and around the development area.

Soil interactions with climate are critical, with changes in climate affecting soil moisture, erosion rates, and land productivity. Increased rainfall may lead to soil erosion, while extended dry periods can degrade soil quality. Addressing these interactions is essential for maintaining soil health and implementing sustainable land use practices.

Human health and well-being are closely linked to climate factors, with climate change potentially exacerbating health issues such as heat stress, respiratory conditions, and vector-borne diseases. The development's impact on local climate conditions and its potential influence on public health must be carefully assessed to prevent adverse health outcomes.

Cultural heritage sites are also at risk due to climate change, with increased weathering, flooding, and temperature fluctuations potentially accelerating their deterioration. Protecting these valuable resources requires assessing the potential impacts of climate change and implementing appropriate conservation measures.

In summary, the proposed development's interactions with climate encompass a range of factors including GHG emissions, water resources, biodiversity, soil, human health, and cultural heritage. Effective mitigation strategies and robust monitoring will be essential to address these interactions, minimise adverse impacts, and ensure the development's resilience to climate change.

8.16 Difficulties Encountered When Compiling

There were no difficulties encountered when compiling this assessment.

8.17 Conclusion

RECEIVED: 05/08/2025

The assessment of potential adverse effects resulting from the Proposed Development on climate change in this chapter has identified the potential sources of greenhouse gas emissions and vulnerability of the site to climate change.

It is reasonably considered that following all mitigation measures including design embedded and prescribed, adequate implementation of construction phase mitigation, and adherence to operational best practice that no significant effects to climate change will arise from the Proposed Development during the construction or operational phases.

Additionally, the operational and maintenance plan for the Proposed Development and the prescribed energy strategy will provide enhancement to energy efficiency over the long term.

RECEIVED: 05/08/2025

8.18 References

Building Energy Rating Reports, Metec, 2025.

Greenhouse Gas Emission data, Metec, 2025.

Greenhouse Gas Emission data, DRA Counsulting, 2025.

Part L BER Compliance Report, Metec, 2025.

Construction Environmental Management Plan, DNV, 2025.

Climate Action and Energy Statement, Metec, 2025.

Site Specific Flood Risk Assessment, DNV, 2025.

Traffic and Transport Assessment (TTA), Meinhardt, 2025.

BSI (2016) Publicly Available Specification (PAS) 2080:2016 on Carbon Management in Infrastructure

Civil Engineering Standard Method of Measurement (CESSM) (2013) Carbon and Price Book database.

Department of Communications, Climate Action and Environment (2018) National adaptation framework: Planning for a climate resilient Ireland.

Department of the Taoiseach (2022) Carbon Budgets Available at https://www.gov.ie/en/publication/9af1b-carbon-budgets/

Environmental Protection Agency (2025), Greenhouse Gas Emissions Inventory-Latest emissions data [Online] Available at https://www.epa.ie/our-services/monitoring--assessment/climate-change/ghg/latest-emissions-data/

Environmental Protection Agency (2015) Advice Notes for Preparing Environmental Impact Statements – Draft

Environmental Protection Agency (EPA) (2020a) Research 339: High-resolution Climate Projections for Ireland – A Multi-model Ensemble Approach.

Environmental Protection Agency (2020b) State of the Irish Environment Report (chapter 2: climate change)

Environmental Protection Agency (EPA) (2021a) What impact will climate change have for Ireland? [Online] Available at https://www.epa.ie/environment-and-you/climatechange/what-impact-will-climate-change-have-for-ireland/

Environmental Protection Agency (EPA) (2023) What is Ireland doing? [Online] Available at https://www.epa.ie/environment-and-you/climate-change/what-is-ireland-doing/

Environmental Protection Agency (EPA) (2021b) Critical Infrastructure Vulnerability to Climate Change Report no. 369

Environmental Protection Agency (2022a) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports

RECEIVED: 05/08/2025

Environmental Protection Agency (EPA) (2022b) Ireland's National Inventory Report 2021 - Greenhouse Gas Emissions 1990 – 2020

Environmental Protection Agency (2023) EPA website Available at: http://www.epa.ie/whatwedo/monitoring/air/

European Commission (2013) Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment

European Commission (2017) Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report

European Commission (2021a) Technical guidance on the climate proofing of infrastructure in the period 2021-2027.

European Commission (2021b) Forging a climate-resilient Europe - the new EU Strategy on Adaptation to Climate Change.

Government of Ireland (2015) Climate Action and Low Carbon Development Act

Government of Ireland (2020) Draft General Scheme of the Climate Action (Amendment) Bill 2019

Government of Ireland (2021b) Climate Action and Low Carbon Development (Amendment) Act 2021 (No. 32 of 2021)

Government of Ireland (2021a) Climate Action Plan 2021

Government of Ireland (2022) Climate Action Plan 2023

Government of Ireland (2023) Climate Action Plan 2024

Government of Ireland (2025) Climate Action Plan 2025

Institute of Environmental Management & Assessment (IEMA) (2017) Assessing Greenhouse Gas Emissions and Evaluating their Significance

Institute of Environmental Management & Assessment (IEMA). (2020). *IEMA climate change principles: Delivering a sustainable future*

Institute of Environmental Management & Assessment (IEMA) (2020a) EIA Guide to: Climate Change Resilience and Adaptation.

Institute of Environmental Management & Assessment (IEMA) (2020b) GHG Management Hierarchy. Assessing Greenhouse Gas Emissions and Evaluating their Significance

Institute of Environmental Management & Assessment (IEMA) (2022) Assessing Greenhouse Gas Emissions and Evaluating their Significance

O'Loughlin, N. 'Embodied CO2 of housing construction in Ireland', Architecture Ireland, 247, pp.70-71. (https://www.ecocem.ie/wp-content/uploads/2016/08/ECE008- Environmental-CO2-and-other-PolluntantsEmbodied_CO2_of_housing_construction_in_Ireland.pdf)

Transport Infrastructure Ireland (TII) (2022a) PE-ENV-01104: Climate Guidance for National Roads, Light Rail and Rural Cycleways (Offline & Greenways) – Overarching Technical Document

Transport Infrastructure Ireland (TII) (2022b) TII Roads Emissions Model (REM) Online Tool

Transport Infrastructure Ireland (TII) (TII 2021) Sustainability Implementation Plan – Our Future

UK Highways Agency (2019) UK Design Manual for Roads and Bridges (DMRB) Volume 11 Environmental Assessment, Section 3 Environmental Assessment Techniques, Part 14 LA 114 Climate.

RECEIVED: 05/08/2025

RECEIVED: 05/08/2025

9 Noise and Vibration

9.1 Introduction

This chapter of the EIAR has been prepared by Wave Dynamics Limited an Acoustic Consultancy specialising in noise and vibration. This section addresses the potential noise and vibration impact of the proposed development on the surrounding area of Nemestown, Kilmore Quay, Co. Wexford.

The assessment considers the noise and vibration impact of the construction phase and operational phase on the surrounding environment. Mitigation measures are included, where relevant, to ensure the proposed development is constructed and operated to ensure minimal impact on the receiving noise climate and noise sensitive receptors.

9.1.1 Quality Assurance and Competency of Experts

This chapter was completed by Cathal Reck, Acoustic Consultant with Wave Dynamics who has extensive experience in assessing noise and vibration effects. Cathal's qualifications include; BSc (Hons) Music Technology & Production, IOA Certificate of Competence in Environmental Acoustics, Certificate in Building Acoustics and Noise Control. Cathal is also a member of the Institute of Acoustics (TechIOA) and a SITRI certified sound insulation tester.

This chapter was peer reviewed by James Cousins, Managing Director | Principal Consultant with Wave Dynamics who has extensive experience in assessing noise and vibration effects. James is an experienced acoustic consultant. His qualifications include; BSc (Hons) in Construction Management and Engineering, Pg Cert in Construction Law and Diploma in Acoustics and Noise Control (Institute of Acoustics) and an IOA Competence Cert in Building Acoustic Measurements. James is a member of both Engineers Ireland (MIEI) and the Institute of Acoustics (MIOA) and is the current SITRI Chairman.

9.2 Study Methodology

The assessment of the noise effects have been undertaken with reference to the most appropriate guidance documents relating to environmental noise and vibration which are set out within the relevant sections of this chapter. In addition to specific noise guidance documents, the following guidelines were considered and consulted for the purposes of this chapter:

- EPA Guidelines on the Information to be contained in Environmental Impact Statements, (EPA, 2002);

- EPA Guidelines on the Information to be contained in Environmental Impact Assessment Reports Draft August 2017

RECEIVED: 05/08/2025

- Transport Infrastructure Ireland (TII) Guidelines for the Treatment of Noise & Vibration in National Road Schemes (2014)

- EPA Advice Notes on Current Practice (in the preparation of Environmental Impact Statements), (EPA, 2003);

- EPA Advice Notes for Preparing Environmental Impact Statements, (Draft, September 2015).

- EPA NG4 Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)

- ProPG: Planning & Noise Professional Practice Guidance on Planning and Noise (2017)

- Wexford County Council Noise Action Plan 2024 - 2028.

- Design Manual for Roads and Bridges Volume 11 Section 3 Part 7 (HD 213/11 – Revision 1) (The Highways Agency et al., 2011);

- BS 8233:2014 Guidance on sound insulation and noise reduction for buildings;

- BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise;

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

- ISO 1996-1:2016 Acoustics - Description, measurement and assessment of environmental noise. Part 1: Basic quantities and assessment procedures;

- ISO 1996-2:2017 Acoustics - Description, measurement and assessment of environmental noise Part 2: Determination of sound pressure levels;

- ISO 9613-1:1993 Acoustics - Attenuation of sound during propagation outdoors -- Part 1: Calculation of the absorption of sound by the atmosphere;

- ISO 9613-2:1996 Acoustics - Attenuation of sound during propagation outdoors -- Part 2: General method of calculation;

- British Standard BS 6472-1:2008 Guide to evaluation of human exposure to vibration in buildings.

- Environmental Protection Agency (2016) Guidance Note for Noise (NG4): Licence Applications, Surveys and Assessments in Relation to Scheduled Activities;

- BS 4142:2014+A1:2019: Methods for rating and assessing industrial and commercial sound.

RECEIVED: 05/08/2025

- Guidelines for the Treatment of Noise & Vibration in National Road Schemes, National Roads Authority, Revision 1, 25th October 2004;
- AAAC: Licensed Premises Noise Assessment Technical Guideline;
- NRA Traffic Grid Flow Pattern;
- ISO 9613-2: 1996 (Parkplatzlarmstudio 2007);
- CoRTN: 1998;
- ISO 9613-2: 1996;

9.3 The Existing and Receiving Environment (Baseline Situation)

A baseline noise survey was conducted to assess the on-site and background noise levels in the surrounding area of Nemestown, Kilmore Quay, Co. Wexford.

9.3.1 Site Description and Measurement Locations

The site is located in Nemestown, Kilmore Quay, Co. Wexford. The proposed development is just north of the Celtic Sea, and also in close proximity to a number of residential receptors to the east, west, and north. Figure 9-1 below depicts an arial view of the proposed resort site along with the noise sensitive locations and Wave Dynamics measurement locations.

RECEIVED: 05/08/2025

Figure 9-1: Aerial view of the site location, noise sensitive locations, measurement locations, and the surrounding area.

9.3.1.1 Ballyteige Burrow SPA

The Ballyteige Burrow SPA is located approximately 1100m due west of the proposed development at Kilmore Quay. Therefore the SPA lies outside the study area. However, as can be seen in the construction and operational phase noise assessments, noise effects at the sensitive locations that surround the development lands are low and will not provide negative noise or vibration impact. Given that the SPA is located further away from the development than the sensitive receptors assessed, attenuation of noise and vibration over distance will render the construction and operational noise emissions of the development inaudible at the SPA zone most of the time. Figure 9-2 below outlines the SPA location due west from the proposed development at Kilmore Quay, from the National Parks and Wildlife Service.

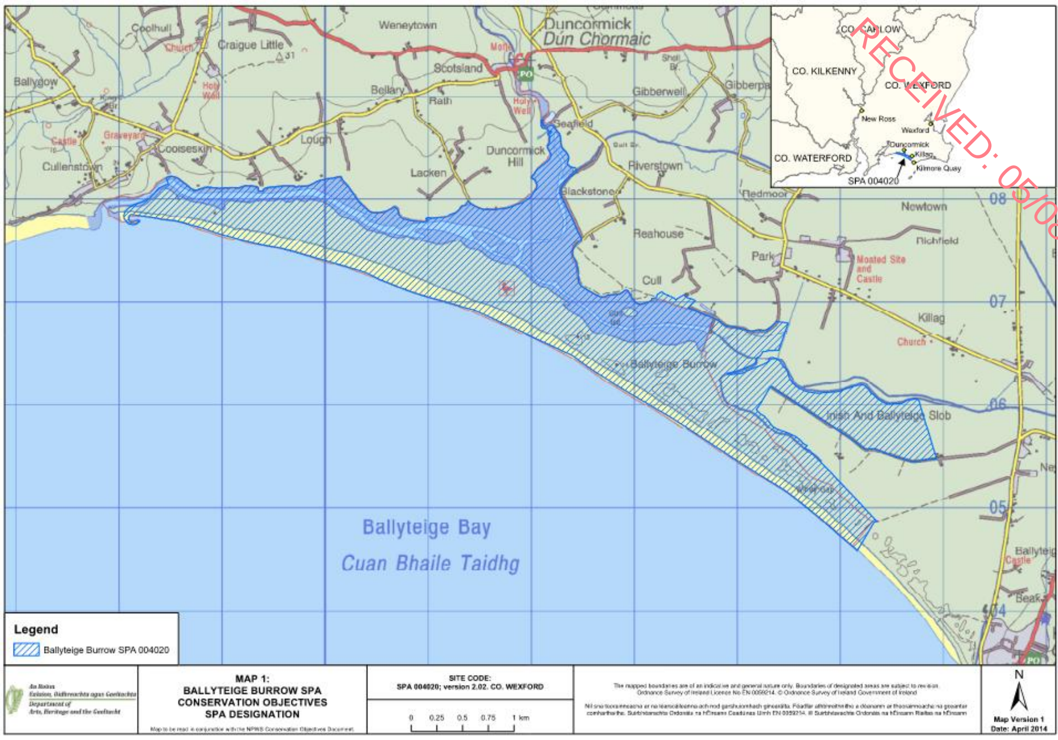


Figure 9-2: Ballytiege Burrow SPA.

9.3.2 Survey Methodology and Personnel

The attended and unattended surveys were completed by Daniel Cousins (Field Engineer).

9.3.2.1 Unattended Noise Measurements

Noise measurements were undertaken in general accordance with ISO 1996-1:2016 using ISO Class 1 sound analysers. Unattended measurements were taken from 10:45hrs on the 22nd of August 2024 to 13:28hrs on 29th of August 2024. Two noise loggers were placed on the boundaries of the site. The loggers were deployed at 1.5m above ground level. Measurements were filtered for periods of unsuitable weather conditions where appropriate. The noise logger was calibrated before and after the survey and no significant drift was noted.

9.3.2.2 Attended Noise Measurements

Noise measurements were undertaken in general accordance with ISO 1996-1:2016 using Class 1 sound analysers. Attended measurements were taken for durations of 15 – 60 minutes in locations A1, A2, L1 and L2. Care was taken to avoid any effect on the measurements, the sound level meter was positioned at approximately 1.2m above ground level. The attended measurement logger setup can be seen in Figure 9-3 below.

RECEIVED: 05/08/2025

Figure 9-3: Attended measurement setup.

9.3.3 Survey Period

The attended noise measurements were undertaken on the 22nd of August 2024 and 29th of August 2024. The unattended measurements were taken from 10:45hrs on the 22nd of August 2024 to 13:28hrs on 29th of August 2024.

9.3.4 Measurement Equipment

A Class 1 sound level meter/noise logger in general accordance with IEC 61672-1:2013 was used for the attended measurements. Table 9-1 below summarises the measurement equipment used.

Table 9-1: Noise measurement equipment.

Description	WD Asset Number	Model	Serial No.	Calibration Certificate No.	Calibration Due Date
Sound Level Meter	SLM1	Nor 140	1405554	U45343/U45344/U45342	27/07/2025
Sound Level Meter	SLM2	NOR140	1406532	SLM230218	27/09/2025
Sound Level Meter	SLM6	Nor 140	1405091	U44947/ U44945	27/07/2025
Sound Level Meter	SLM7	Nor 140	1405924	U48184/ U47386	25/07/2026
Calibrator	CAL3	Nor 1251	32096	AC240251	03/07/2025
Calibrator	CAL4	Larson Davis CAL200	21085	AC240249	29/06/2025

RECEIVED: 05/08/2025

9.3.5 Noise Measurement Results

This section outlines the results of the attended noise measurements.

9.3.5.1 Attended Measurement Results

Table 9-2 below outlines the results of the attended measurement survey.

Table 9-2: Attended noise measurement results.

Measurement				Measured Noise Levels		
Location	Date	Time (hrs)	Duration (mins)	L_{Aeq} dB	L_{AFmax} dB	L_{A90} dB
A1	22/08/2024	11:21	60	40	64	33
L2	22/08/2024	11:52	15	39	69	35
A2	29/08/2024	11:59	60	55	73	37
L1	29/08/2024	13:04	15	34	58	30
A1	29/08/2024	13:13	60	41	60	36
L2	29/08/2024	13:28	15	40	50	36
A2	29/08/2024	14:30	60	54	76	40

9.3.5.2 Subjective Noise Environment

The measurements were taken on a weekday, and a weekend to provide an accurate understanding of the noise climate during varying times.

The noise sources observed during the attended survey were:

- Wind on foliage
- Boats in distance
- Birdsong
- Traffic on road R739

9.3.5.3 Unattended Monitoring Results

Table 9-3 below outlines the results of the noise measurements at the unattended monitoring location L1. A full breakdown of the unattended monitoring is available on request.

Table 9-3: Unattended measurement results at location L1

Start Date	$L_{Aeq, 16 hour}$ 07:00 – 23:00 dB	L_{night} ($L_{Aeq,8 hour}$ 23:00 – 07:00) dB	L_{A90} (07:00 – 19:00) dB	L_{A90} (19:00 – 23:00) dB	L_{A90} (23:00 – 07:00) dB
22/08/2024	43[1]	48[1]	34[1]	41[1]	42[1]
23/08/2024	44	37	38	39	33
24/08/2024	43	42	33	32	35
25/08/2024	46	38	42	38	34
26/08/2024	46	47	35	45	43
27/08/2024	44[1]	33[1]	40[1]	32[1]	27[1]
28/08/2024	40	34	32	34	28
29/08/2024	40[1]	N/A	29[1]	N/A	N/A

1) Shortened measurement duration.

RECEIVED: 05/08/2025

Table 9-4 below outlines the results of the noise measurements at the unattended monitoring location L2. A full breakdown of the unattended monitoring is available on request.

Table 9-4: Unattended measurement results at location L2.

Start Date	$L_{Aeq, 16 hour}$ 07:00 – 23:00 dB	L_{night} ($L_{Aeq,8 hour}$ 23:00 – 07:00) dB	L_{A90} (07:00 – 19:00) dB	L_{A90} (19:00 – 23:00) dB	L_{A90} (23:00 – 07:00) dB
22/08/2024	48[1]	53[1]	41[1]	46[1]	44[1]
23/08/2024	50	42	44	45	36
24/08/2024	40	47	35	35	39
25/08/2024	54	42	49	44	37
26/08/2024	54	58	39	54	52
27/08/2024	54[1]	39[1]	47[1]	38[1]	34[1]
28/08/2024	43	37	39	38	34
29/08/2024	40[1]	N/A	34[1]	N/A	N/A

1) Shortened measurement duration.

9.3.5.4 Discussion of Results

Based on both the attended and unattended noise measurements, the most dominant noise source in the area is road traffic noise emissions from the R739.

9.3.5.5 EPA Quiet Area Screening

Based on the background noise survey outlined in this section it was determined that the NSLs do not meet the definition of an "area of low background noise" as defined in EPA, as the day measurements exceed 40dB L_{AFF90}, and the night measurements exceed 30dB $L_{AF90.}$ The development does not meet the EPA definition of a "quiet area", and therefore the "areas of low background noise" criteria are not applicable for the project.

9.3.6 Weather Conditions for Monitoring Period

Good weather conditions were noted in general during the deployment and collection during the attended survey, with winds of less than 5 m/s and no rain for the attended surveys.

Where weather conditions during the unattended survey impacted on the results they were filtered where required.

9.4 Characteristics of the Proposed Development

Application for a 10-year planning permission for development of an Integrated Tourism Resort Complex at Beak and Nemestown, Kilmore Quay, Co. Wexford. The development will consist of a central hotel, ranging in height from 1 to 4-storeys over a lower ground floor and provides 163 no. bedrooms, 42 no. family suites, bar and restaurants, function/conference centre facility and spa/leisure complex. 55 no. large family friendly tourist lodges, pavilion restaurant, hotel staff accommodation and external sports, recreation and play facilities provided throughout the site.

RECEIVED: 05/08/2025

The development includes refurbishment and reuse of the Beak farmstead buildings and courtyard for tourism and heritage purposes, with family lodge reception and recreation management, resort shop, café/restaurant, arts/crafts spaces.

Facilities also include maintenance store, bicycle shelters, car / bus drop-off and parking, landscaped green spaces with pedestrian routes through the site.

Vehicular access to the development is from the Kilmore Road (R739) with pedestrian/cycle connections into Kilmore Quay village centre and to Nemestown.

9.5 Potential Impact of the Proposed Development

This section outlines the potential impact of the proposed development.

9.5.1 Construction Phase – Noise

Wexford County Council have not outlined specific construction noise limits withing the Wexford County Council Noise Action Plan 2024 – 2028, therefore noise limits outlined in BS5228-1:2009+A1 have been adopted as the criteria for this project. BS5228-1 takes into consideration the impact of the ambient noise at the noise sensitive receptor as follows:

Table 9-5: BS5228 threshold levels.

Assessment category and threshold value period	Threshold value, in decibels (dB) (L_{Aeq})		
	Category A [1]	Category B [2]	Category C [3]
Daytime (07:00 – 19:00) and Saturdays (07:00 – 14:00)	65	70	75
Evenings and weekends [4]	55	60	65
Night-time (23:00 – 07:00)	45	50	55

Note 1: Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are less than these values.

Note 2 Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are the same as category A values.

Note 3: Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are higher than category B values.

RECEIVED: 05/08/2025

Note 4 19:00 – 23:00 weekdays, 13:00 – 23:00 Saturdays and 07:00 – 23:00 Sunday

BS5228 defines a noise sensitive location as:

"any occupied premises outside a site used as a dwelling (including gardens), place of worship, education establishment, hospital or similar institution, or any other property likely to be adversely affected by an increase in noise level".

9.5.2 Construction Phase – Vibration

The Wexford County Council Noise Action Plan does not contain guidance relating to vibration limits. Best practice guidance is taken from British Standard BS 5228:2009+A1 2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 2 Vibration.

The standard recommends that for a soundly constructed residential property and similar structures (in good repair), the threshold for minor or cosmetic (i.e non–structural) damage should be taken as a Peak Particle Velocity (PPV)(in frequency range of predominant pulse) of 15mm/s at 4Hz increasing to 20mm/s at 15Hz and 50mm.s at 40Hz and above. Allowable vibration (in terms of peak particle velocity) at the closest part of sensitive property to the source of vibration, at a frequency of:

Table 9-6: Allowable vibration limits.

Allowable vibration (in terms of peak particle velocity) at the closest part of sensitive property to the source of vibration, at a frequency of:			
Building Type	**Less than 15Hz**	**15 to 40Hz**	**40Hz and above**
Light framed structures/ residential buildings	15 mm/s	20 mm/s	50 mm/s

9.5.3 Operational Phase – Noise

The main potential source of operational noise from the development is plant and equipment, operation of the padel court and crazy golf, breakout noise from the event spaces and leisure centre, noise from leisure centre outdoor seating and events centre outdoor patio, traffic movements, car parking and external/public amenity spaces.

The Wexford County Council Noise Action Plan does not specify any operational noise limits, typically most councils define these as follows:

- Daytime 55 dB (A) L_{eq}.
- Night-time 45 dB (A) L_{eq} (or exceptionally 40 dB (A) L_{eq}).

In order to assist with the interpretation of the noise associated with vehicular traffic on public roads, *Table 9-7* below offers guidance as to the likely impact associated with any particular change in traffic noise level (Source: DMRB, 2011)

RECEIVED: 05/08/2025

Table 9-7: Magnitude of effects.

Noise Change, dB	Magnitude of Impact
0	No Change
0.1 – 2.9	Negligible
3 – 4.9	Minor
5 – 9.9	Moderate
10+	Major

9.5.3.1 BS 4142: Methods for Rating and Assessing Industrial and Commercial Sound.

BS 4142 states that and exceedance of the noise source of the background noise by:

- +10 dB or more indicates that complaints are likely,
- + 5 dB is of marginal significance, and;
- The rating level is more than 10 dB below the measured background noise level, then this is a positive indication that complaints are unlikely.

BS4142 outlines guidance for penalty corrections to be applied to the noise sources in question should the noise source have one of the following characteristics:

- The noise contains a distinguishable, discreet, continuous tone (whine, or hum);
- The noise contains distinct impulses (i.e. bangs),
- The noise is intermittent or:
- The noise is irregular.

9.5.3.2 EPA NG4: Guidance note to Noise: License Applications, Surveys and Assessments in Relation to Scheduled Activities.

EPA NG4 outlines that noise attributable solely to onsite activities from a licenced premises should not exceed the following limits:

- Daytime (07:00hrs – 19:00hrs) – 55dB $L_{Ar,T}$
- Evening (19:00hrs – 23:00hrs) – 50dB $L_{Ar,T}$
- Night time (23:00hrs – 07:00hrs) – 45dB $L_{Aeq,T}$

During daytime and evening periods rigorous efforts should be made to avoid clearly audible tones and impulsive noise at all sensitive locations. A penalty of 5dB for tonal and/or impulsive elements is to be applied to the daytime and evening measured $L_{Aeq,T}$ values to determine the appropriate rating level ($L_{Ar,T}$). In all cases, an assessment by a competent person will be required.

During the night-time period no tonal or impulsive noise from the facility should be clearly audible or measurable at any NSL.

RECEIVED: 05/08/2025

9.5.4 Operational Phase – Vibration

There are no specific vibration criteria for buildings in Ireland. The vibration criteria for this project are based on BS 5228-2:2009+A1:2014, which provides guidance relating to the assessment of human response to vibration in terms of PPV. Table 9-8 below outlines the range of vibration values and the associated potential effects on humans.

Table 9-8: Project vibration criteria.

Vibration Level, PPV	Effect
0.14 mm/s	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies. At lower frequencies people are less sensitive to vibration.
0.3 mm/s	Vibration might be just perceptible in residential environments.
1 mm/s	It is likely that a vibration level of this magnitude in residential environments will cause complaint.

Vibrations typically become perceptible between 0.15 mm/s to 0.3 mm/s and may become annoying or disturbing at higher magnitudes. Higher levels of vibration are tolerated for single events or events of short duration, particularly during construction projects. For example, groundbreaking or piling can typically be tolerated at vibration levels up to 2.5 mm/s if adequate public relations are in place and timeframes are known.

This section outlines the predicted noise and vibration effects of the proposed development on the surrounding noise sensitive receptors.

9.5.5 Construction Phase - Limits

This section outlines the predicted construction noise and vibration impact of the proposed development on the surrounding sensitive locations.

9.5.5.1 Construction Noise Limits

The criteria for the project is based on the criteria outlined in Table 9-9 and the background noise in the area. The project criteria for construction noise are outlined below in Table 9-9, distance to the NSL's is based on the closest receiver for each NSL where the NSL reflects a number of houses/sensitive receivers at each NSL. Reference to the baseline survey results and guidance contained in BS 5228-1 for construction noise levels threshold for significant affect from construction activities is set as follows for the closest noise sensitive locations.

RECEIVED: 05/08/2025

Figure 9-4: Site location, measurement locations A1-A2 and L1-L2, and the noise sensitive locations.

Table 9-9: Construction noise limits.

Noise Sensitive Location	Distance to the Centre of the Site (m)	Ambient Noise dB(A)	Noise Limit dB(A) [1]
NSL1	450	40	65
NSL2	310	40	65
NSL3	310	34	65
NSL4	270	54	65
NSL5	270	54	65
NSL6	415	41	65
NSL7	430	41	65
NSL8	300	41	65

1) 65 dB (A) lower threshold limit.
2) Distance taken from the centre of the closest construction area grouping to each NSL, based on current site layout drawings.

RECEIVED 05/08/2025

For the appropriate assessment period (i.e daytime in this instance) the ambient noise level is determined and rounded to the nearest 5dB. If the noise generated by construction activities exceeds the appropriate category value, then a significant effect is deemed to occur.

For large infrastructure projects a limit of 75dB(A) is set as the appropriate upper limit for construction noise within urban areas near main roads in heavy industrial areas.

9.5.6 Construction Noise Predictions

Construction noise for the site has been predicted based on the information provided. A summary of the expected equipment, noise levels and operating times are provided in Table 9-10: Proposed construction equipment, noise levels, and durations. The noise sources are assumed to be located at the centre of each site (hotel, lodges, etc). The prediction methodology in BS 5228 has been used to calculate the noise level over a typical day for each of the main construction stages.

The closest noise sensitive receptors are the residential dwellings with a line of sight to the proposed development and are outlined above in Figure 9-4.

Table 9-10: Proposed construction equipment, noise levels, and durations.

Construction Phase	Item of Plant (BS 5228-1:2009+A1:2014 Ref)	Noise Level (L_{Aeq} at 10m dB(A))	On Time of a 10 hr day
Site Setup	Digger	77	6 Hours
	Carpentry tools	78	5 Hours
	Skill saw	84	3 Hours
Substructure	Excavators	77	5 Hours
	Con Saws	84	4 Hours
	Rail Saw	85	4 Hours
	Drills (Into Concrete)	89	3 Hours
	Dumper	81	5 Hours
	Cement Mixer (Discharging)	75	4 Hours
	Lorry Idling	80	2 Hours
	Telescopic Handler	71	6 Hours
	Cement Pump	78	4 Hours
	Auger Piling	82	6 Hours
Superstructure	Drills (Into Concrete)	89	6 Hours
	Power Tools	70	5 Hours
	Impact Steel	69	2 Hours
	Hammer	69	3 Hour
	Dumper	81	3 Hours
	Cement Mixer (Discharging)	75	4 Hours

RECEIVED: 05/08/2025

Construction Phase	Item of Plant (BS 5228-1:2009+A1:2014 Ref)	Noise Level (L_{Aeq} at 10m dB(A))	On Time of a 10 hr day
	Lorry Idling Telescopic Handler	80 71	2 Hours 6 Hours
External Finishes	Hand Tools Power Tools	70 70	6 Hours 5 Hours
Internal Finishes	N/A	N/A	N/A

Table 9-11: Predicted noise levels without mitigation for each stage. summarises the predicted construction noise level at the noise sensitive locations. Examination of the results indicate the construction noise without mitigation is predicted to comply with the noise limits during the construction stages of the development.

Table 9-11: Predicted noise levels without mitigation for each stage.

Location	Noise Limit	Predicted cumulative noise level (construction noise + ambient) With no mitigation L_{Aeq}, dB			
		Site Setup	Substructure	Superstructure	External Finishes
NSL1	65	48	56	55	44
NSL2	65	51	59	58	45
NSL3	65	52	59	58	42
NSL4	65	55	62	61	57
NSL5	65	55	62	61	57
NSL6	65	49	57	55	45
NSL7	65	51	56	55	45
NSL8	65	53	57	58	46

The calculations set out above are based on assumed site construction works and a combination of the plant operating at the same time i.e worst-case scenario on the site at the same time. In reality this will likely not be the case, however, the assessment has been based on a worst-case scenario. Table 9-12 below outlines the required attenuation for each construction stage.

Table 9-12: Attenuation required at each stage based on the construction noise predictions.

Location	Noise Limit	Noise reduction required at each stage of works to meet criteria, dB (A)			
		Site Setup	Substructure	Superstructure	External Finishes
NSL1	65	0	0	0	0
NSL2	65	0	0	0	0
NSL3	65	0	0	0	0
NSL4	65	0	0	0	0
NSL5	65	0	0	0	0
NSL6	65	0	0	0	0
NSL7	65	0	0	0	0

Location	Noise Limit	Noise reduction required at each stage of works to meet criteria, dB (A)			
		Site Setup	Substructure	Superstructure	External Finishes
NSL8	65	0	0	0	0

RECEIVED: 05/08/2025

The assessment takes into consideration distance taken from the centre of the closest construction area grouping to each NSL, there will be construction works closer to the boundaries of the site which will lead to increased noise levels at the sensitive receptors. Therefore, noise mitigation measures are recommended at all stages of construction to control noise and vibration emissions during the construction phase. A combination of the mitigation measures outlined in Section 9.6.1.1 should be used to control the levels of construction noise at the sensitive receptors.

9.5.6.1 Traffic from Construction Vehicles

This section outlines the potential noise impact from construction vehicles on the surrounding road network.

Based on figures and information provided by Meinhardt, there will be a peak of 6 two-way heavy construction vehicles per hour. Assuming a 10 hour construction day in line with BS 5228, a maximum of 60 vehicles which equates to 30 outward vehicles. Based on the existing traffic figures on the surrounding road network, the traffic levels will not increase by more than 25% which would equate to an increase of 1dB in traffic noise levels. Table 9-13 below outlines a magnitude of effects table relating to changes in traffic noise levels.

Table 9-13: Magnitude of effects.

Noise Change, dB	Magnitude of Impact
0	No Change
0.1 – 2.9	Negligible
3 – 4.9	Minor
5 – 9.9	Moderate
10+	Major

9.5.7 Construction Vibration Predictions

Vibration impact is not anticipated for most of the construction stage, some vibration is expected to be generated during the substructure stage where activities such as piling and earthworks are likely to occur. During this phase, compliance with vibration criteria is evaluated using a combination of measured data and general estimates, as predicting vibration effects over distance is challenging due to variations in soil composition and ground conditions. While precise predictions are difficult to achieve, general estimates based on measured vibration levels at specific distances, as outlined in BS 5228-2, provide a practical method for assessing potential effects, as outlined below in Table 9-14.

RECEIVED: 05/08/2025

Table 9-14: Allowable vibration limits.

Allowable vibration (in terms of peak particle velocity) at the closest part of sensitive property to the source of vibration, at a frequency of:			
Building Type	**Less than 15Hz**	**15 to 40Hz**	**40Hz and above**
Light framed structures/ residential buildings	15 mm/s	20 mm/s	50 mm/s

9.5.8 Operational Phase - Limits

This section outlines the predicted noise impact of the operational phase of the proposed development on the surrounding sensitive locations.

9.5.8.1 Operational Noise Predictions

9.5.8.2 Plant Noise

Operational external mechanical plant and equipment associated with the development has not yet been confirmed. In the absence of information regarding the operational plant at this stage, the approach has been taken to determine suitable operational noise emission limits.

The closest NSL to the proposed development site is NSL2. The closest representative noise monitoring location to NSL2 is noise monitoring location L2.

To be reflective of a worst-case scenario, the lowest L_{A90} measurements from the daytime $L_{A90,16\ hour}$ (07:00-23:00) and night-time $L_{A90,8\ hour}$ (23:00-078:00) at noise monitoring location L2 have been used to determine suitable operational noise emission limits.

Table 9-15: Derived noise threshold limits for plant/equipment noise.

Noise Sensitive Location	Background Sound Levels L_{90} dB(A)	Penalty for Tonality dB(A)	Derived Noise Threshold Limit dB(A) L_{eq} at Noise Sensitive Receptors
NSL1	39 (Daytime)	TBC	39
	34 (Night-time)		34
NSL2	39 (Daytime)		39
	34 (Night-time)		34
NSL3	32 (Daytime)		32
	28 (Night-time)		28
NSL4	32 (Daytime)		32
	28 (Night-time)		28
NSL5	32 (Daytime)		32
	28 (Night-time)		28
NSL6	32 (Daytime)		32
	28 (Night-time)		28
NSL7	39 (Daytime)		39
	34 (Night-time)		34
NSL8	39 (Daytime)		39
	34 (Night-time)		34

RECEIVED: 05/08/2025

1) Background noise levels taken from L1 and L2 monitoring positions for daytime and nighttime periods, as nighttime data not captured at attended measurement locations A1-A2.

The development will include considerable plant, and it is recommended a full operational noise model of the final plant selections is conducted by a qualified acoustic consultant. At detailed design stage mitigation measures, if required, may need to be incorporated into the design of external mechanical plant and equipment if applicable.

9.5.8.3 External Amenity Space

This section outlines the external amenity noise levels used for the assessment. Guidance has been sought from AAAC: Licensed Premises Noise Assessment Technical Guideline, V 2.0 for vocal noise spectrums and assessment parameters. Table 9-16 below outlines the vocal effort spectrums used in the assessment in sound power format with each spectrum accounting for 2 persons speaking in a group of 6, this is in line with the AAAC which states 1 in 3 persons speaking simultaneously.

Table 9-16: Patron vocal effort in sound power.

Description	Octave Band Sound Power Level L_W dB at Centre Frequency (Hz)								Overall Sound Power Level L_{WA} dB
	63	125	250	500	1000	2000	4000	8000	
Normal Vocal Effort (Male)	56	58	67	69	63	59	55	50	69
Raised Vocal Effort (Male)	66	67	74	76	73	68	63	57	77

9.5.8.4 Padel Courts

The padel courts located along the northwest boundary of the development as outlined below in Figure 9-6, have been modelled under the assumption that the construction of the courts will be in line with the International Padel Federation which outlines consistent court construction dimensions to ensure a consistent player experience. The court dimensions are as follows:

- **Back walls:**
    - Height: 3 meters of solid wall + 1 meter of mesh (total: 4 meters)
    - Width: 10 meters
- **Side walls (glass ends):**
    - Solid wall portion extends 4 meters from the back wall
    - Height: 3 meters (with stepped or sloped sections allowed)
- **Side mesh fencing:**
    - Extends the full length of the court

RECEIVED: 05/08/2025

- Height: Typically 4 meters, but variations with 3-meter sections and increased height above the back wall are permitted for outdoor courts

Noise levels of padel courts in operation have been used to model the padel courts on the proposed development, the noise measurements include a court with 4 players in operation, the measured noise levels can be found in Table 9-17 below in sound power format. Figure 9-5 below outlines the padel court construction in the 3D noise model, the model details the solid portions of the wall and not the sections with mesh/fencing. Operational hours of 08:00hrs – 21:30hrs have been assumed for the padel courts based on similar developments.

Table 9-17: Measured padel court operation noise in sound power format.

Description	Octave Band Sound Power Level L_W dB at Centre Frequency (Hz)							Overall Sound Power Level L_{WA} dB
	63	125	250	500	1000	2000	4000	
¼ padel court	74	76	78	77	77	71	67	80

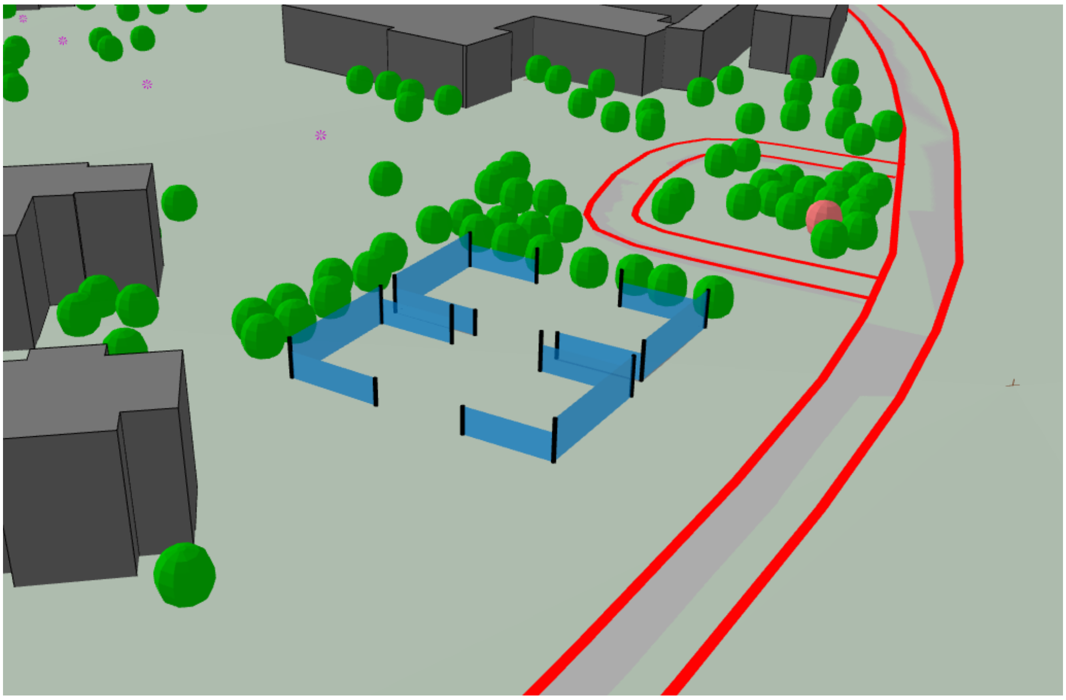


Figure 9-5: Padel court construction in 3D noise model.

RECEIVED: 05/08/2025

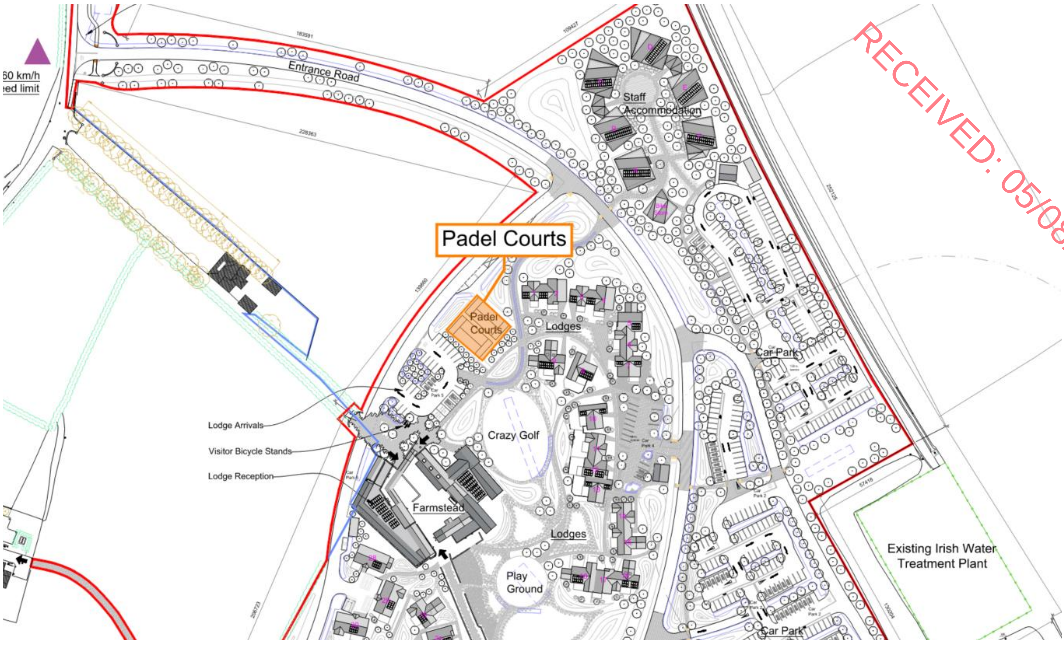


Figure 9-6: Padel courts located along the northwest boundary of the development lands.

9.5.8.5 Events Centre

Based on the location and size of the events centre located in the hotel at lower ground floor level, and the distance between the hotel and the closest sensitive location approximately 300m, there will likely be little to no noise impact from the events space in operation, as there is a small external patio section and the majority of activities will be held within the hotel building itself, which aids in the control of noise. Breakout noise has been assessed from the events centre, where a live band is assumed to be operating in the events centre main hall and noise breakout through the windows facing the ocean view has been calculated as a sound power spectrum, and is outlined below in Table 9-18, the assessment assumes a sound insulation performance of 56 dB R_W for the wall and standard double glazing for the windows as outlined below in Table 9-19.

A review of the building envelope specification should be conducted at detail design stage and the function of the event space is finalised.

Table 9-18: Live band breakout noise in sound power format.

Description	**Octave Band Sound Power Level L_W dB at Centre Frequency (Hz)**							**Overall Sound Power Level L_{WA} dB**
	63	**125**	**250**	**500**	**1000**	**2000**	**4000**	
Music noise breakout	97	87	83	81	71	69	70	86

RECEIVED: 05/08/2025

Table 9-19: Assumed glazing performance of events centre windows.

Description	Glazed Element (Frame & Glazing) Sound Insulation Performance (Assumed) Octave Band Frequency Requirements R dB							Glazing Acoustic Performance dB R_w
	63	125	250	500	1000	2000	4000	
Standard Double Glazing	16	21	17	25	35	37	31	29

9.5.8.6 Operational Traffic

Operational phase traffic volumes have been provided by Meinhardt Ltd for use in this chapter. Table 9-20 below outlines the operational traffic volumes for the base year, Do-Nothing years 2031 and 2046, and the Do-Something years 2031 and 2046.

Table 9-20: Operational phase traffic flows.

Link Number	Road Name	Base Year	Do-Nothing		Do-Something	
		2024	2031	2046	2031	2046
1	R739 Northbound (Site Access ATC)	1218 (4.82% HGV)	1318 (5.25% HGV)	1380 (6.51% HGV)	1628 (4.56% HGV)	1690 (5.61% HGV)
1	R739 Southbound (Site Access ATC)	1242 (4.84% HGV)	1343 (5.27% HGV)	1407 (6.54% HGV)	1654 (4.59% HGV)	1717 (5.65% HGV)
2	R739 Eastbound (Chapel)	1247 (4.49% HGV)	1348 (4.89% HGV)	1411 (6.07% HGV)	1658 (4.28% HGV)	1721 (5.27% HGV)
2	R739 Westbound (Chapel)	1233 (3.89% HGV)	1332 (4.24% HGV)	1392 (5.27% HGV)	1643 (3.74% HGV)	1702 (4.61% HGV)
3	Ard na Ba Eastbound	290 (5.17% HGV)	314 (5.63% HGV)	329 (6.98% HGV)	624 (2.83% HGV)	639 (3.59% HGV)
3	Ard na Ba Westbound	235 (4.26% HGV)	254 (4.64% HGV)	266 (5.77% HGV))	564 (2.09% HGV)	576 (2.66% HGV)
4	L3056 Northbound	869 (3.45% HGV)	939 (3.76% HGV)	979 (4.69% HGV)	1249 2.83% HGV)	1290 (3.56% HGV)
4	L3056 Southbound	832 (3.85% HGV)	899 (4.20% HGV)	939 (5.22% HGV)	1209 (3.12% HGV)	1249 (3.92% HGV)

RECEIVED: 05/08/2025

Figure 9-7: Operational traffic flow link legend.

9.5.8.7 Operational Traffic Predictions

Based on the figures outlined above in Section 9.5.8.6, the operational phase of the development is expected to contribute a considerable amount of additional traffic volumes along the Ard na Ba road in particular. In the Do-Nothing scenario, the increase in traffic related noise levels over baseline figures is predicted to be no more than 1dB(A) at the noise sensitive receptors, while the Do-Something scenario is predicted to increase traffic noise levels of around 2dB(A) at the NSL's aside from NSL2 along Ard na Ba which will see a predicted increase of up to 3dB(A). Table 9-21 outlines the total traffic increase from the base year to the operational phase for both the Do-Nothing and Do Something scenarios.

RECEIVED: 05/08/2025

Table 9-21: Combined increase in operational traffic for the Do-Nothing and Do-Something scenarios.

Link	Road Name	Increase from Base Year			
		Do-Nothing		Do-Something	
		2031 No. / (%)	2046 No. / (%)	2031 No. / (%)	2046 No. / (%)
1	R739 (Site Access ATC)	201 (8.17)	327 (13.29)	822 (33.41)	947 (38.50)
2	R739 (Chapel)	200 (8.06)	323 (13.02)	821 (33.10)	943 (38.02)
3	Ard na Ba	43 (8.19)	70 (13.33)	663 (126.29)	690 (131.43)
4	L3056	137 (8.05)	217 (12.76)	757 (44.50)	838 (49.27)

Table 9-22 below displays the increase in traffic during each stage over the base year figures at the sensitive locations.

Table 9-22: Predicted increase in traffic noise levels over the base year figures.

Receiver	Increase over Base Year dB(A) L_{eq}							
	Do-Nothing				Do-Something			
	2031		2046		2031		2046	
	Day	Night	Day	Night	Day	Night	Day	Night
NSL1	0.5	0.6	1	1.1	1.3	1.4	1.7	1.9
NSL2	0.5	0.5	1	1.1	1.3	1.4	1.7	1.9
NSL2 (Ard na Ba)	0.5	0.5	1	1	3	2.1	3.4	2.5
NSL3	0.5	0.6	1	1.2	1.3	1.5	1.7	2
NSL4	0.5	0.5	1	1.1	1.2	1.3	1.7	1.8
NSL5	0.4	0.5	0.9	1	1.1	1.2	1.5	1.7

RECEIVED: 05/08/2025

Receiver	Increase over Base Year dB(A) L_{eq}							
	Do-Nothing				Do-Something			
	2031		2046		2031		2046	
	Day	Night	Day	Night	Day	Night	Day	Night
NSL6	0.4	0.5	0.9	1	1.2	1.2	1.6	1.6
NSL7	0.4	0.5	0.9	1	1.2	1.2	1.5	1.6
NSL8	0.4	0.4	0.8	0.9	1.1	1.1	1.5	1.6

Table 9-23 below outlines the magnitude of impact in relation to the increase in traffic numbers during the operational phase of the development. The increase in traffic noise levels along the surrounding roads will lead to a maximum of 3dB at the receptors located along the Ard na Ba link road, this equates to a minor magnitude of change at these sensitive receptors.

Table 9-23: Magnitude of change.

Noise Change, dB	Magnitude of Impact
0	No Change
0.1 – 2.9	Negligible
3 – 4.9	Minor
5 – 9.9	Moderate
10+	Major

9.5.8.8 Car Parking

The proposed development will have a number of car parking areas around the entire site to serve the various elements such as the hotel, pavilion restaurant, lodges, staff accommodation and other amenities such as the padel courts and crazy golf. A total of 515 no. car parking spaces and 6 no. bus parking spaces, consisting of surface level carparking based on the site layout drawings provided. Operational noise from surface area car parking will be spread across the site, isolated, and of short duration. It will not have a negative impact on nearby noise sensitive locations (NSLs).

9.5.9 Daytime Noise Impact

As the development has the potential to generate noise with different characteristics for both the daytime and night-time periods, a model has been undertaken for both the day and night-time operational situations of the proposed development. The operational noise assessment takes into consideration the specific sources operating on the development such as the padel courts, crazy golf, event centre, leisure centre, external amenity spaces. Traffic and car

RECEIVED: 05/08/2025

parking has been assessed separately and found not have any significant impact on the surrounding sensitive receptors as outlined in Section 9.5.8.7 and 9.5.8.8.

Figure 9-8: Screenshot of model displaying the operational phase assessment.

The daytime situation assumes the following noise sources:

- 36 no. persons using the outdoor facilities in the leisure centre from the hours of 07:00hrs – 22:00hrs as in line with similar developments, speaking with normal vocal effort as per Table 9-16.
- 18 no. persons occupying the outdoor event space patio between the hours of 16:00hrs – 23:00hrs, speaking with raised vocal effort as per Table 9-16.
- Music noise breakout from the events space main hall glazed element between the hours of 16:00hrs – 23:00hrs, as per Table 9-18.
- Padel court in full operation from the hours of 08:00hrs – 21:30hrs.
- 12 no. persons occupying the crazy golf in operation from 08:00hrs – 21:30hrs, persons speaking with a normal vocal effort as per Table 9-16.
- 60 no. persons occupying the various communal amenity spaces in operation from 16:00hrs – 23:00hrs, speaking with normal vocal effort as per Table 9-16.

9.5.9.1 BS 4142 Noise Impact Assessment (Daytime)

The noise impact at the nearest noise sensitive receptors (NSL1-NSL8) has been assessed in accordance with BS4142. Table 9-24 below outlines the assessment at the closest noise sensitive receptor (NSL3), which is the worst-case receptors due to its proximity to the development. All NSL's have been assessed and are predicted to have lower onset noise levels than NSL3. The residual and background noise levels were taken from the unattended logger positions and averaged across the entire measurement period, this is indicative of all typical noise climates in the surrounding area.

RECEIVED 05/08/2025

Table 9-24: Noise impact during daytime hours.

Results		**Relevant BS 4142 Clause**	**Commentary**
Predicted specific sound level (daytime)	$L_{Aeq(60min)}$ = 34dB	7.3.6	As the proposed development is not yet existing, noise levels have been predicted using SoundPlan modelling software. Worst case specific sound predicted at NSL3.
Residual sound level (daytime)	$L_{Aeq(16,hour)}$ = 44dB	7.3.2	The residual sound level was dominated by road traffic noise on surrounding roads. Background noise from measurement location L1 was assessed as this is representative for worst case receptor NSL3.
Background sound level (daytime)	$L_{A90(16,hour)}$ = 35dB	8.1.2 8.4	The L_{A90} sound level was measured at the noise sensitive location with the source absent.
Assessment made during the daytime, so the reference time interval is 1 hour		7.2	
Specific sound level as predicted	$L_{Aeq(60min)}$ = 34dB	7.3.6	The specific sound has been predicted by calculation alone as the new development is not existing at the time of the survey.
Acoustic feature correction	+0dB	9.2 9.3.2	It is not anticipated that the specific sound will have any impulsive, tonal or intermittent characteristics.
Rating level	(34 + 0) dB = 34dB	9.2	
Background sound level	$L_{A90(16,hour)}$ = 35dB	8	
Excess of rating over background sound level	(34 - 35) dB = -1dB	11	Assessment indicates that no adverse impact is likely on the noise sensitive locations as the specific sound is 1dB below the background levels and is lower than the residual sound. Context has also been considered.
Uncertainty of the assessment	Not significant	10	The specific sound is a worst-case prediction as the assessment assumes a worst-case operational scenario. The assessed specific sound is the worst-case prediction to NSL3.

9.5.9.1.1 Consideration of Tonality and Impulsivity

As the assessment for tonality and impulsivity was conducted to evaluate noise emissions from the proposed development. Findings indicate that the noise emissions are lower than both the background and residual noise levels in the area during the daytime period.

RECEIVED: 05/08/2025

Consequently, the emissions are unlikely to produce tonal or impulsive characteristics that will have an impact at the noise sensitive receptors. As the mechanical plant and equipment is not available at this stage it is recommended that this assessment is conducted once the final plant and equipment is available.

9.5.9.1.2 EPA NG4

NG4 recommends a daytime criterion of (07:00hrs – 19:00hrs) 55dB $L_{Ar,T}$, in areas of low background noise the predicted noise emissions from the development are 34 dBA $L_{eq,T}$ at NSL3, with no tonality or impulsivity, therefore the NG4 criteria is expected to be achieved. Table 9-25 below outlines the predicted noise impact at each noise sensitive location, the project criteria and compliance with the project criteria.

Table 9-25: Operational noise levels at each sensitive receptor.

Noise Sensitive Location	Distance to the Centre of the Site (m)	EPA NG4 Daytime Criteria $L_{Ar,T}$ dBA	Predicted Noise Level from Proposed Development $L_{eq,T}$ dBA
NSL1	450	55	15
NSL2	310	55	26
NSL3	310	55	34
NSL4	270	55	21
NSL5	270	55	22
NSL6	415	55	12
NSL7	430	55	13
NSL8	300	55	21

9.5.10 Nighttime Noise Impact

As the development has the potential to generate noise with different characteristics for both the daytime and night-time periods, a model has been undertaken for both the day and night-time operational situations of the proposed development. The operational noise assessment takes into consideration the specific sources operating on the development such as the padel courts, crazy golf, event centre, leisure centre, external amenity spaces. Traffic and car parking has been assessed separately and found not have any significant impact on the surrounding sensitive receptors as outlined in Section 9.5.8.7 and 9.5.8.8.

The nighttime situation assumes the following noise sources:

- The leisure centre is assumed to not operate during the nighttime period.
- 18 no. persons occupying the outdoor event space patio between the hours of 23:00hrs – 01:00hrs, speaking with raised vocal effort as per Table 9-16.
- Music noise breakout from the events space main hall glazed element between the hours of 23:00hrs – 01:00hrs, as per Table 9-18.
- The padel court is assumed to not be operational during the nighttime period.
- The crazy golf is assumed to not be operational during the nighttime period.

- 60 no. persons occupying the various communal amenity spaces in operation from 23:00hrs – 01:00hrs, speaking with normal vocal effort as per Table 9-16.

RECEIVED: 05/08/2025

9.5.10.1 BS 4142 Noise Impact Assessment (Nighttime)

The noise impact at the nearest noise sensitive receptors (NSL1-NSL8) has been assessed in accordance with BS4142. Table 9-24 below outlines the assessment at the closest noise sensitive receptor (NSL2), which is the worst-case receptors due to its proximity to the development. All NSL's have been assessed and are predicted to have lower onset noise levels than NSL3. The residual and background noise levels were taken from the unattended logger positions and averaged across the entire measurement period, this is indicative of all typical noise climates in the surrounding area.

Table 9-26: Noise impact during nighttime hours.

Results		Relevant BS 4142 Clause	Commentary
Predicted specific sound level (nighttime)	$L_{Aeq(15min)}$ = 20dB	7.3.6	As the proposed development is not yet existing, noise levels have been predicted using SoundPlan modelling software. Worst case specific sound predicted at NSL3.
Residual sound level (nighttime)	$L_{Aeq(8,hour)}$ = 42dB	7.3.2	The residual sound level was dominated by road traffic noise on surrounding roads. Background noise from measurement location L2 from was assessed as this is representative for worst case receptor NSL2.
Background sound level (nighttime)	$L_{A90(8,hour)}$ = 36dB	8.1.2 8.4	The L_{A90} sound level was measured at the noise sensitive location with the source absent.
Assessment made during the daytime, so the reference time interval is 1 hour		7.2	
Specific sound level as predicted	$L_{Aeq(15min)}$ = 20dB	7.3.6	The specific sound has been predicted by calculation alone as the new development is not existing at the time of the survey.
Acoustic feature correction	+0dB	9.2 9.3.2	It is not anticipated that the specific sound will have any impulsive, tonal or intermittent characteristics.
Rating level	(33 + 0) dB = 33dB	9.2	
Background sound level	$L_{A90(8,hour)}$ = 36dB	8	
Excess of rating over background sound level	(20 - 36) dB = -16dB	11	Assessment indicates that no adverse impact is likely on the noise sensitive locations as the specific sound is 16dB below the background levels and is

Results		Relevant BS 4142 Clause	Commentary
			lower than the residual sound. Context has also been considered.
Uncertainty of the assessment	Not significant	10	The specific sound is a worst-case prediction as the assessment assumes a worst-case operational scenario. The assessed specific sound is the worst-case prediction to NSL2.

RECEIVED: 05/08/2025

9.5.10.1.1 Consideration of Tonality and Impulsivity

As the assessment for tonality and impulsivity was conducted to evaluate noise emissions from the proposed development. Findings indicate that the noise emissions are significantly lower than both the background and residual noise levels in the area during the daytime period. Consequently, the emissions are unlikely to produce tonal or impulsive characteristics that will have an impact at the noise sensitive receptors. As the mechanical plant and equipment is not available at this stage it is recommended that this assessment is conducted once the final plant and equipment is available.

9.5.10.1.2 EPA NG4

NG4 recommends a nighttime criterion of (23:00hrs – 07:00hrs) 45dB $L_{Ar,T}$, in areas of low background noise, the predicted noise emissions from the development are 20 dBA at NSL2, with no tonality or impulsivity, therefore the NG4 criteria is expected to be achieved. Table 9-25 below outlines the predicted noise impact at each noise sensitive location, the project criteria and compliance with the project criteria.

Table 9-27: Operational noise levels at each sensitive receptor.

Noise Sensitive Location	Distance to the Centre of the Site (m)	EPA NG4 Nighttime Criteria $L_{Ar,T}$ dBA	Predicted Noise Level from Proposed Development $L_{eq,T}$ dBA
NSL1	450	45	6
NSL2	310	45	20
NSL3	310	45	11
NSL4	270	45	4
NSL5	270	45	3
NSL6	415	45	6
NSL7	430	45	6
NSL8	300	45	17

RECEIVED: 05/08/2025

9.5.11 Potential Cumulative Effects

Table 9-28 below outlines the list of committed developments in the area surrounding the proposed development at Kilmore Quay.

Table 9-28: List of cumulative effects.

No.	Application Reg. Ref.	Address	Development Proposal
1	**20241547** **12th of December 2024**	Riesk, Newtown, Richfield (Reclaimed), Richfield, and Inish and Ballyteigue Slob, County Wexford. Approximately 4.4km north	Continued operation of an existing wind farm for a further period of 20 years
2	**20191633** **10th December 2019**	Crossfarnoge, Nemestown, Beak, Ballyteigue and Libgate, Kilmore, County Wexford. Directly Adjacent to the site	Ten-year planning permission to construct a new wastewater treatment plant in Kilmore quay in two phases. Phase 1 (a) wastewater treatment plant (WwTP) with a capacity of 850 population equivalent (P.E.) at Newmanstown; (b) 2 no. Wastewater pumping stations (WwPS) at Crossfarnogue; (c) 8.5 kms of pipeline Irish water intends to deliver this phase within 5 years. Phase 2 construction of modular expansion of the WwTP to provide a treatment capacity up to 1,900 P.E
3	**20200063** **22nd January 2020**	INCH AND BALLYTEIGE SLOB, KILLAG Approximately 4.1km to the north west	Permission for the continuation of sand and gravel extraction and processing from an existing registered quarry

9.5.11.1 Cumulative Noise and Vibration Impact Assessment

20241547 – Existing Wind Farm

The existing wind farm, located approximately 4.4 km due north of the proposed development, is already operational. As such, its construction phase will not coincide with that of the proposed development, and no cumulative construction noise or vibration effects are anticipated.

RECEIVED: 05/08/2025

During the operational phase, cumulative noise or vibration effects are also not expected from both developments operating simultaneously. This conclusion is based on the significant distance between the two sites and the natural attenuation of noise over distance, further supported by environmental factors such as air and ground absorption.

20191633 – Wastewater Treatment Plant

The wastewater treatment plant, situated adjacent to the proposed development, received planning permission in 2019. Overlapping construction phases are unlikely.

During the operational phase, there is potential for cumulative noise effects. However, these are expected to be slight and insignificant, primarily affecting sensitive receptors located closest to the treatment plant. The main noise sources within the proposed development are centrally located, and surrounding buildings (e.g. lodges and staff accommodation) will act as physical barriers, helping to screen operational noise and reduce cumulative effects at nearby sensitive locations.

20200063 – Sand and Gravel Quarry

The sand and gravel extraction and processing quarry is located approximately 4.1 km from the proposed development. Due to this separation distance, no cumulative noise or vibration effects are anticipated during the construction phases of either development.

Similarly, during the operational phase, the significant distance and associated attenuation of sound and vibration over this range mean that cumulative effects are not expected.

9.5.12 "Do Nothing" Impact

Under the Do-Nothing scenario, the prevailing noise environment at the closest noise and vibration sensitive locations will remain in line with those measured during the baseline study and hence will be of neutral effect in terms of noise and vibration impact.

9.6 Avoidance, Remedial & Mitigation Measures

This section outlines the remedial and mitigation measures based on the predicted noise and vibration effects of the construction and operational phases of the proposed development.

9.6.1 Construction Phase

9.6.1.1 Noise Mitigation Recommendations

Bes practice measures for noise from construction sites are found within BS 5228 (2009+A1:2014) part 1. Construction noise effects are expected to vary during the construction phase of the project, this impact will depend on the distance between the construction activities and noise sensitive receptors. The contractor will ensure that all best practice noise control measures will be used, to ensure any negative noise effects at noise sensitive locations are minimised.

RECEIVED: 05/08/2025

The best practice measures set out in BS 5228 (2009) Part 1 includes guidance on several aspects of construction site mitigation measures, this includes the

- selection of quiet plant and equipment;
- noise control at source of the noise;
- screening, and;
- public liaison.

9.6.2 General Recommendations

This section sets out noise mitigation options and detailed comment on each one specifically for the development site.

9.6.2.1 Selection of Plant and Machinery

The noise impact of all plant and machinery should be assessed prior to selection of the plant for the project. Where an item of plant is identified as noisy with the potential to cause a negative noise impact it should be reviewed to check if there is an alternative quieter version of the same plant to undertake the same construction task.

9.6.2.2 Noise Control at Source

Where replacing a noisy item of plant is not viable or practical, consideration should be given to control that noise at source. This includes modifying the piece of plant or machinery to generate less noise, using dampening to control vibration induced noise or rattling. Example best practice mitigation measures to be considered are as follows:

- All plant and equipment to be switched off when idling.
- The use of white noise reversing alarms.
- Restriction on the dropping and loading of materials to less sensitive hours.
- The use of local screening for noisy activities or works with hand tools.
- Not dropping materials onto hard surfaces and using rubber mats etc for the dropping of materials.
- Ensure all plant and equipment is well maintained and cleaned, all lubrication should be in line with manufacturers guidelines.

9.6.2.3 Screening

Screening when used correctly can be an effective method of reducing the construction noise impact on the NSL's. The use of site hoarding and careful selection of areas for noise works, using buildings on the site, site offices and the building being constructed to screen noise from the works.

Local screening of noisy works with the use of temporary acoustic barriers, examples are provided below:

- https://ventac.com/acoustic-products/noisebreak-acoustic-barrier/
- https://echobarrier.com/

Figure 9-9: Temporary construction noise barrier © Ventac.

RECEIVED: 05/08/2025

9.6.2.4 Public Engagement

It is recommended that a public liaison officer should be put forward by the contractor to liaise with the local residents on matters relating to noise. Residents should be informed of any noise works scheduled where there is the potential to generate high levels of construction noise or if specialist works etc need to be conducted out of the working hours. This person should also be the point of contact for all complaints and be responsible for reviewing the noise monitoring results and exceedances.

9.6.2.5 Site Specific Recommendations

Table 9-29 below outlines the recommended site-specific noise mitigation measures.

Table 9-29: Mitigation measures required during construction phase.

Construction Stage	Recommended Noise Mitigation Measures
Site Setup	Erect a minimum 2.4m high site hoarding that blocks the line of sight between noise source and receiver. Example construction for the site hording would be as follows: A 2.4m high and 9mm plywood (4.5 kg/m2). Barrier must be solid and not contain gaps at the bottom or between adjacent panels Local screening are required around d hand tools in addition to hoarding.
	An absorptive lining should be considered for screening around hand tools will need to have an absorptive lining to avoid reflections increasing noise at other receivers. On this project 8 NSL's have been identified it is recommended that a noise monitor should be placed on the boundary of the nearest noise sensitive locations closest to the works i.e. NSL1 and NSL6 in this case.
Substructure	Site hoarding to block line of sight. Local screening around noisy plant and equipment.

RECEIVED: 05/08/2025

Construction Stage	Recommended Noise Mitigation Measures
	Noise monitoring as above
Superstructure	Local screening around saws/hammers where possible. Use external new building to screen noise from works where possible. Noise monitoring as above
External finishes	Local screening around hand tools. Noise monitoring as above

9.6.3 Operational Phase

9.6.4 Noise Mitigation Recommendations

Based on the assessment conducted on the operational phase of the development which takes into account the operation of the hotel, leisure centre, event centre, communal external amenity space, crazy golf, padel courts and car and bus parking. The predicted results of the operational noise assessment, there is no significant noise impact on the surrounding sensitive receptors, therefore no mitigation measures are required to control operational noise levels.

Mitigation measures may need to be incorporated at design development stage once the final plant and equipment schedule is developed and noise levels for each piece of equipment should be reviewed by an Acoustic Consultant to ensure compliance with the limits set in this report.

9.6.5 Vibration Mitigation Recommendations

There are no predicted vibration sources during the operational phase, therefore, mitigation measures are not required to control operational phase vibrations.

9.6.6 "Worst Case" Scenario

This assessment assumes a worst-case scenario when assessing the construction and operational noise and vibration effects on the surrounding noise sensitive locations. The dominating noise source in the area is road traffic noise, the additional construction traffic is not predicted to generate any additional noise impact. The operational traffic flows outlined in the Do-Something 2031 and 2046 scenarios are predicted to cause an increase in traffic noise levels at the surrounding sensitive receptors, though only to a moderate magnitude over a long-term period.

9.7 Residual Effects

This section outlines the potential significant environmental effects which remain after mitigation measures are implemented.

RECEIVED: 05/08/2025

9.7.1 Construction Phase

9.7.1.1 Noise

As the construction phase is temporary, there will be no long-term/permanent noise effects on the surrounding area from construction noise. Section 9.6 above outlines mitigation measures which if used in full will reduce the construction noise impact on the surrounding sensitive receptors.

9.7.1.2 Vibration

As the construction phase is temporary, there will be no long term/permanent vibration effects on the surrounding area from construction activities. Section 9.6 above outlines mitigation measures which if used in full will reduce the construction vibration impact on the surrounding sensitive receptors.

9.7.2 Operational Phase

9.7.2.1 Noise

Operational noise sources include plant and equipment, padel courts, crazy golf, events space and leisure space in the hotel, restaurant, external amenity spaces, traffic generated on the development such as car parking and movements in and out of the grounds. Based on the noise impact assessment it is not likely that these sources will have a negative noise impact on the surrounding area.

9.7.2.2 Vibration

Based on the type, and assumed usage of the development, it is not expected that there will be any operational vibration effects on surrounding noise sensitive receptors.

9.7.3 Summary of Post-Mitigation Effects

Table 9-30 and Table 9-31 below summarises the identified likely significant residual effects during the construction phase of the proposed development following the application of mitigation measures.

Table 9-30: Summary of construction phase effects post mitigation.

Quality	Significance	Duration	Type
Neutral	Slight	Short-Term	Noise
Neutral	Imperceptible	Short-Term	Vibration

Table 9-31: Summary of operational phase effects post mitigation.

Quality	Significance	Duration	Type
Neutral	Slight	Long-Term	Noise
Neutral	Imperceptible	Long-Term	Vibration

RECEIVED: 05/08/2025

9.8 Monitoring

Noise and vibration monitoring should be considered during the construction phase of the development. Particularly during the substructure stage of construction when piling operations are likely to occur. There are a multitude of noise sensitive receptors surrounding the development lands, NSL's 2, 3 and 8 are the most suitable locations for noise and vibration monitors to be erected as these are the closest to the construction works.

9.9 Interactions

This chapter interacts with the Traffic and Transport and Ecology chapters, AADT/traffic figures were used to predict the construction traffic noise impact and the operational traffic noise impact on the surrounding noise sensitive receptors, and confirmation of surrounding special protection areas such as Ballytiege Burrow SPA located due west of the proposed development.

9.10 Difficulties Encountered When Compiling

There were no difficulties when compiling this chapter.

9.11 Conclusion

9.11.1 Construction Phase

Mitigation measures are not required during the construction phase to minimise potential noise and vibration effects. However, the contractor should ensure that noise and vibration effects are minimised at the surrounding sensitive receptors with the use of various mitigation measures outlined in Section 9.6.

9.11.2 Operational Phase

The operational phase of the development is not predicted to have a negative impact considering the predicted effects are in line with the project criteria. Noise associated with the increase in traffic flows is projected to result in a maximum increase of 3dB(A) from baseline figures in 2024 to the "Do Something 2046" scenario, which is considered a minor increase in terms of DMRB magnitude of effects.

Additionally, noise limits for external plant and equipment have been set in order to meet the required standards, ensuring that operational effects remain minor and localised. Overall, the operational phase will have minimal residual effects on the surrounding environment during both the daytime and night-time periods.

9.12 References

RECEIVED: 05/08/2025

- Design Manual for Roads and Bridges Volume 11 Section 3 Part 7 (HD 213/11 – Revision 1) (The Highways Agency et al., 2011);
- BS 8233:2014 Guidance on sound insulation and noise reduction for buildings;
- BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise;
- BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites - Vibration
- ISO 1996-1:2016 Acoustics - Description, measurement and assessment of environmental noise. Part 1: Basic quantities and assessment procedures;
- ISO 1996-2:2017 Acoustics - Description, measurement and assessment of environmental noise Part 2: Determination of sound pressure levels;
- ISO 9613-1:1993 Acoustics - Attenuation of sound during propagation outdoors -- Part 1: Calculation of the absorption of sound by the atmosphere;
- ISO 9613-2:1996 Acoustics - Attenuation of sound during propagation outdoors -- Part 2: General method of calculation;
- British Standard BS 6472-1:2008 Guide to evaluation of human exposure to vibration in buildings.
- Environmental Protection Agency (2016) Guidance Note for Noise (NG4): Licence Applications, Surveys and Assessments in Relation to Scheduled Activities;
- BS 4142:2014+A1:2019: Methods for rating and assessing industrial and commercial sound.
- Guidelines for the Treatment of Noise & Vibration in National Road Schemes, National Roads Authority, Revision 1, 25th October 2004; and
- Wexford County Council Noise Action Plan 2024-2028.
- ProPG 2017 Professional Practice Guidance on Planning & Noise.
- AAAC: Licensed Premises Noise Assessment Technical Guideline;
- NRA Traffic Grid Flow Pattern;
- ISO 9613-2: 1996 (Parkplatzlarmstudio 2007);
- CoRTN: 1998;
- ISO 9613-2: 1996;

RECEIVED: 05/08/2025

10 LANDSCAPE AND VISUAL ASSESSMENT

10.1 Introduction

This chapter and the associated figures/ photo plates identifies significant landscape and visual effects, if any, which may occur, or which can reasonably be expected to occur because of the proposed development and the proposed landscape mitigation measures.

The aim of a Landscape and Visual Impact Assessment is to identify the elements of the landscape which make it unique and the extent to which it is possible to alter these landscapes before unacceptable consequences arise. Landscape character represents the individuality of an area based on its particular combination of features and elements. The purpose of this assessment is to evaluate the existing landscape character of the Site and surroundings, to assess the visual impact of the Proposed Development and to identify landscape designations and planning policies that may concern the Site and its environs.

10.1.1 Quality Assurance and Competency of Experts

This chapter has been prepared by Dara Hilliard, B Sc Agric. Landscape Hort, Affiliate Member of the Irish Landscape Institute and Senior Landscape Architect at Enviroguide Ltd. Dara has over 16 years' experience in producing Landscaping and Visual Impact Assessments and over 26 years' experience in the landscape design and specification.

This chapter has been approved by Catherine Keogan, Technical Director and EIA Lead at Enviroguide. Catherine is an environmental consultant with over 20 years' experience in consultancy, specialising in EIAs for a range of developments, working closely with a range of developers, planning consultants and architects within the public and private sector.

10.2 Study Methodology

The methodology employed in the landscape and visual impact assessment is as follows:

a) A Zone of Theoretical Visibility (ZTV) was created to assess where theoretically the development could be seen from by using only contour analysis. (See below Figure 10 -1)

b) Desktop survey of detailed maps, aerial photography, Wexford County Development Plan 2022-2028 and other information relevant to the study area.

c) Site survey and photographic survey to determine landscape character of the general study area and specific landscape.

d) In determining visibility, the views to and from the proposed development areas are considered based on the heights, finishes, design and other visual characteristics of the proposed structures and setting. Verified Photomontages have been prepared by a specialist 3-D visualisations company to represent selected views which are typical of the views within the area and are intended to demonstrate the scale of the buildings in the wider landscape. The extent of visual effects of the proposed development on the built environment is demonstrated through a selection of representative view locations around

RECEIVED: 05/08/2025

the proposed development. The photomontages on which the following assessments are based are provided in the CGIs and Verified Views issued by Digital Dimension.

e) Assessment of the potential impacts of the proposed scheme, utilising the plan and elevation drawings of the scheme to determine the main impacting features and the degree to which these elements would be visible in relation to observations made during the field survey, and how they compare with the permitted development. In determining visibility, the views to and from the proposed development site are considered and the heights of the proposed structures.

f) A scheme of mitigation measures is proposed, where relevant. These will be defined as measures which will be generally implemented and specific landscape measures which would be site-specific and address particular landscape or visual issues identified.

g) An evaluation of the impacts of the scheme with and without amelioration. For the purposes of assessment, the residual visual effects of the scheme are assumed at 10 years following the completion of the proposed development.

h) The use of recommended and evaluated landscape and visual impact criteria and terminology.

Figure 10-1 ZTV from center of development. Bright green indicates possible visibility of 18m height structure. Red circles at 1km and 2km from center of site.

10.2.1 Legislation, Policy and Guidance

The following sources were used to inform and structure this chapter:

RECEIVED: 05/08/2025

- Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (EIA Directive);
- The National Landscape Strategy (NLS) for Ireland 2015-2025;
- Guidelines on the information to be contained in Environmental Impact Assessment Reports, Environmental Protection Agency (2022 (EPA Guidelines 2022);
- Guidelines for Landscape and Visual Impact Assessment, 3rd edition, 2013 (GLVIA), published by the Landscape Institute;
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment, 2018, published by the Department of Housing, Planning and Local Government;
- Technical Information Note on Townscape Character Assessment, 2016, published by the Landscape Institute;
- Residential Visual Amenity Assessment (RVAA) Technical Guidance Note 2/19, published by the Landscape Institute;
- Transport Infrastructure Ireland Publication no. PE-ENV-01101, published December 2020: Landscape Character Assessment (LCA) and Landscape and Visual Impact Assessment (LVIA) of Specified Infrastructure Projects - Overarching Technical Document;
- Wexford County Development Plan 2022-2028 (WCDP 2022-2028).

10.2.2 Terminology

Landscape impacts are defined as changes in the fabric, character and quality of the landscape as a result of the development. This includes direct effects on landscape receptors and indirect effects that can alter the wider distinctiveness of the landscape. Landscape receptors are the physical or natural resource that will experience an impact. The sensitivity of a landscape receptor is its vulnerability to change.

The extent of landscape effects are assessed by first establishing the baseline conditions by classifying baseline data according to its importance and sensitivity. Secondly, evaluation of the landscape impact on the baseline environment is conducted using the terminology defined in Tables 10-1, to 10-4.

For the purposes of this study, the term ‘landscape’ as applied throughout should be read as being inclusive of the urban fabric of the city and the built environment, or ‘townscape’.

RECEIVED: 05/08/2025

Table 10-1 The extent of Landscape Impact (based on ratings from the EPA Guidelines, 2022)

Extent	Description
Level 1 Imperceptible Effects	An effect capable of measurement but without noticeable consequences. There are no noticeable changes to landscape context, character or features.
Level 2 Not significant	An effect which causes noticeable changes in the character of the landscape but without noticeable consequences. There are no appreciable changes to landscape context, character or features.
Level 3 Slight Effects	An effect which causes noticeable changes in the character of the landscape without affecting its sensitivities. There are minor changes over a small proportion of the area or moderate changes in a localised area or changes that are reparable over time.
Level 4 Moderate Effects	An effect that alters the character of the landscape in a manner that is consistent with existing and emerging trends. There are minor changes over some of the area (up to 30%) or moderate changes in a localised area.
Level 5 Significant Effects	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the landscape. There are notable changes in landscape characteristics over a substantial area (30-50%) or an intensive change over a more limited area.
Level 6 Very Significant Effects	An effect which, by its character, magnitude, duration or intensity significantly alters the majority of a sensitive aspect of the environment. There are notable changes in landscape characteristics over a substantial area (50-70%) or a very intensive change over a more limited area.
Level 7 Profound Effects	An effect which obliterates sensitive characteristics. There are notable changes in landscape characteristics over an extensive area (70-100%) or a very intensive change over a more limited area.

Visual impacts relate solely to changes in available views of the landscape and the effects of those changes on people, viewer group or special interest groups. They include the direct impact of the development on views, the potential reaction of viewers, their location and number and the impact on visual amenity. The intensity of the visual impacts on the baseline visual environment is assessed by using the terminology defined in Tables 10 -2, to 10-4.

Table 10-2 The extent of Visual Impact (based on ratings from the EPA Guidelines, 2022)

Extent	Description
Level 1 Imperceptible Effects	There are no noticeable changes to views in the visual landscape.
Level 2 Not significant	An effect which causes noticeable changes in the character of the visual environment but without noticeable consequences. The proposal is adequately screened due to the existing landform, vegetation or constructed features.
Level 3 Slight Effects	An effect which causes noticeable changes in the character of the visual environment without affecting its sensitivities.

RECEIVED: 05/08/2025

Extent	Description
	The affected view forms only a small element in the overall visual composition or changes the view in a marginal manner.
Level 4 Moderate Effects	An effect that alters the character of the visual environment in a manner that is consistent with existing and emerging trends. The proposal affects an appreciable segment of the overall visual composition, or there is an intrusion in the foreground of a view.
Level 5 Significant Effects	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the visual environment. The proposal affects a large proportion of the overall visual composition, or views are so affected that they form a new element in the physical landscape.
Level 6 Very Significant Effects	An effect which, by its character, magnitude, duration or intensity significantly alters the majority of a sensitive aspect of the visual environment. The proposal affects the majority of the overall visual composition, or views are so affected that they form a new element in the physical landscape.
Level 7 Profound Effects	An effect which obliterates sensitive characteristics. The view is entirely altered, obscured or affected.

Table 10-3 Quality of the Landscape and Visual Impact (EPA Guidelines 2022)

Extent	Description
Neutral Effect	Neither detracts from nor enhances the landscape of the receiving environment or view.
Positive Effect	Improves or enhances the landscape of the receiving environment or a particular view.
Negative Effect	Detracts from the quality of the landscape or view.

Table 10-4 The Duration of Landscape and Visual Impact (EPA Guidelines 2022)

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

Please note: "Momentary" and "Brief" Effects as defined in the EPA Guidelines (2022) are not considered relevant to landscape & visual assessment as effects of such short duration are extremely unlikely to generate appreciable effects.

The landscape and visual assessment methodology will be utilised in conjunction with a professional evaluation of the Proposed Development to determine the degree of impact.

10.2.3 Study Area

RECEIVED: 05/08/2025

The term 'study area' as used in this report, refers to the site itself (i.e. the extent of the planning application) and its wider landscape context in the study of the context, physical landscape and landscape character. This may extend for approximately 1-5km or more in all directions from the site in order to achieve an understanding of the overall landscape.

As one moves away from any type of development in the landscape, it will become less perceptible with distance. It is common practice to consider the viewpoint distance as laid out in Table 10–5 below.

Table 10-5 Distance and views

Viewpoint Distance	Description
0-2km	It is generally accepted that a development located approximately 2km or less from a viewer would be close enough to allow identification of significant detail. Any positions within this range with open uninterrupted views of a development would generally receive the greatest visual impacts.
2-5km	At this distance, visibility of a development site becomes more general, with viewers in open uninterrupted positions able to identify general form, colour/tone and textural contrast, but losing the more focused detail achievable from closer positions. Impacts at this distance are generally less than those found between 0-2km.
5-10km	Beyond 5km visual prominence quickly diminishes. Certain circumstances/light conditions etc. have potential to allow certain types of development and material finishes to be perceived. The development increasingly becomes part of the general background/distance views. Upwards of 15km distance, developments quickly become minor features within the landscape and considered imperceptible to the average human eye. The impact of the development diminishes as the developments becomes part of the general background/distance views.

In terms of the visual assessment, the study of visual amenity may extend outside the study area, from areas where views of the site are available, but the majority of visual impacts for a development of this nature would be most likely within the local context (c.1km), as this landscape is relatively flat and relatively enclosed by topography to the west, north and east. The southern boundary is relatively open out and over The Celtic Sea (see fig 10-2 below).

Figure 10-2 Approximate site location (red star) and surrounding topography

RECEIVED: 05/08/2025

10.2.4 Assessment Criteria

The EPA *"Guidelines on the information to be contained in an environmental impact statement"* gives an indication of the range of environmental topics which may be organised under the heading of landscape i.e. character, context, historical landscapes, views and prospects. These headings can be simplified into "Visual impacts" and "Landscape impact". "Landscape impacts" deal with how the character or "feeling" of the area will be affected while "Visual impacts" describes how and whether the development will be visible and how the appearance of the area will change.

There are four key aspects of any impact;

1. its quality/character,
2. its significance/magnitude or intensity,
3. its duration,
4. its consequence (who will be affected and their sensitivity, can it be avoided mitigated or remedied.

Tables 10-6 to 10-11 outline the criteria and terminology used to make the landscape and visual impact evaluations in this report.

Table 10-6 Landscape Sensitivity Criteria

Class	Criteria
High	Landscape characteristics or features with little or no capacity to absorb change without fundamentally altering their present character. Landscape designated for its international or national landscape value. Outstanding example in the area of well cared for landscape or set of features
High-Medium	Landscape characteristics or features with a low capacity to absorb change without fundamentally altering their present character. Landscape designated for regional or county-wide landscape value where the characteristics or qualities that provided the basis for their designation are apparent. Good example in the area of reasonably well cared for landscape with notable landscape features.
Medium	Landscape characteristics or features with moderate capacity to absorb change without fundamentally altering their present character. Landscape designated for its local landscape value or a regional designated landscape where the characteristics and qualities that led to the designation of the area are less apparent or are partially eroded or an undesignated landscape which may be valued locally – for example an important open space. An example of a landscape or a set of features which is neutral or mixed character.
Medium - Low	Landscape characteristics or features which are reasonably tolerant of change without detriment to their present character. No landscape designation present or of medium to low local value, or an example of a common or un-stimulating landscape or set of features and conditions.
Low	Landscape characteristics or features which are tolerant of change without detriment to their present character. No designation present or of low local value. An example of monotonous unattractive visually conflicting or degraded landscape or set of features.

RECEIVED: 05/08/2025

Table 10-7 Visual Sensitivity Criteria

Class	Criteria
High	Users of outdoor recreational facilities, on recognised national cycling or walking routes or in national designated landscapes. Dwellings with views orientated towards the proposed development.
High - Medium	Users of outdoor recreational facilities, in locally designated landscapes or on local recreational routes that are well publicised in guidebooks. Road and rail users in nationally designated landscapes or on recognised scenic routes, likely to be travelling to enjoy the view.
Medium	Users of primary transport road network, orientated towards the Development, likely to be travelling for other purposes than just the view. Dwellings with oblique views of the proposed development.
Medium - Low	People engaged in active outdoor sports or recreation and less likely to focus on the view. Outdoor workers – agriculture, horticulture Primary transport road network and rail users likely to be travelling to work with oblique views of the Development or users of minor road network.
Low	People engaged in work activities indoors, with limited opportunity for views of the Development.

Table 10-8 Landscape Magnitude Criteria

Class	Criteria
Very High	Very extensive, highly noticeable change, affecting most key characteristics and dominating the experience of the landscape; and introduction of highly incongruous development.
High	Extensive, noticeable change, affecting many key characteristics and the experience of the landscape; and, introduction of many incongruous elements.
Medium	Noticeable change to a significant proportion of the landscape, affecting some key characteristics and the experience of the landscape; and introduction of some uncharacteristic elements.
Low	Minor change, affecting some characteristics and the experience of the landscape to an extent; and introduction of elements that are not uncharacteristic.
Very Low	Little perceptible change.

Table 10-9 Visual Magnitude Criteria

Class	Criteria
Very High	The development would dominate the existing view.
High	The development would cause a considerable change to the existing view over a wide area or an intensive change over a limited area.
Medium	The development would cause moderate changes to the existing view over a wide area or noticeable change over a limited area.
Low	The development would cause minor changes to the existing view over a wide area or moderate changes over a limited area.
Very Low	No real change to perception of the view. Weak, not legible, and/ or indiscernible.

RECEIVED: 05/08/2025

Table 10-10 Categories of Landscape and Visual Significance of Impact

Degree of significance	Description of Landscape	Impact Description of Visual Impact
Major	Substantial alteration to elements /features of the baseline (pre-development) conditions. Notably affect an area of recognised national landscape quality. Substantial alteration to the character, scale or pattern of the landscape.	Major/substantial alteration to elements/features of the baseline(pre-development) conditions. Where the proposed development would cause a very noticeable alteration in the existing view. This would typically occur where the proposed development closes an existing view of a landscape of regional or national importance and the proposed development would dominate the future view.
Moderate-Major	This category is a combination of descriptions of Major listed above and Moderate below. These combinations are discussed within the assessment of each landscape or visual receptor when they occur.	
Moderate	Alteration to elements/features of the baseline conditions. Affects an area of recognised regional landscape quality. Alteration to the character, scale or pattern of the local landscape.	Alteration to one or more elements/features of the baseline conditions such that post development character/attributes of the baseline will be materially changed. This would typically occur where the proposed development closes an existing view of a local landscape and the proposed development would be prominent in the future view.
Moderate-Minor	This category is a combination of descriptions of Moderate listed above and Minor below. These combinations are discussed within the assessment of each landscape or visual receptor when they occur.	
Minor	A minor shift away from baseline conditions. The Development partially changes the character of the site without compromising the overall existing landscape character area.	A minor shift away from baseline conditions. This occurs where change arising from the alteration would be discernible, but the underlying character / composition / attributes of the baseline condition will be similar to the pre-development. It would also occur where the proposed development newly appears in the view but not as a point of principal focus or where the proposed development is closely located to the viewpoint but seen at an acute angle and at the extremity of the overall view.
Negligible	No or very little change from baseline conditions. Change not material, barely distinguishable or indistinguishable.	Where there is no discernible improvement or deterioration in the existing view.
No Impact	The Development would not affect the landscape receptor.	The Development would not affect the view.

The significance of identified landscape and visual impacts is established through a simple matrix, which measures the magnitude of change against landscape or visual sensitivity. The resulting impacts are classed as Major, Moderate-Major, Moderate, Minor and Negligible/None.

Therefore, as the sensitivity of a landscape increases from Low to High, and the Magnitude of Change increases from Very Low to Very High the predicted impacts also increase.

The example matrix table below is used to summarise the findings from the criteria tables. By combining sensitively (along the top) with predicted magnitude of change (along the side) a predicted impact/ effect is reached. This format is applicable to both landscape impacts and visual impacts.

RECEIVED: 05/08/2025

Table 10-11 - Level of Impact resulting from combination of Sensitivity Rating & Magnitude of Change

	Magnitude of Change				
Sensitivity	**Very High**	**High**	**Medium**	**Low**	**No appreciable change**
Very High (IV)	Profound	Very Significant	Significant	Moderate	Slight
High (III)	Very Significant	Significant	Significant	Moderate	Slight
Medium (II)	Significant	Significant	Moderate	Slight	Not Significant
Low (I)	Moderate	Moderate	Slight	Not Significant	Imperceptible
No sensitivity	Slight	Slight	Not Significant	Imperceptible	Imperceptible

10.2.4.1 Assessing Cumulative Landscape and Visual Effects

Current guidelines suggest that a determination should be made as to whether cumulative effects are likely to occur – these are outlined in the current GLVIA guidelines (3rd edition) as 'the additional changes caused by the proposed development in conjunction with other similar developments or as the combined effect of a set of developments, taken together'. Such determination needs to be made in respect of any permitted development of a similar nature which will have a bearing on the assessment of the proposed development.

The purpose of assessing cumulative landscape and visual effects is to provide a comprehensive understanding of potential cumulative impacts and to inform decision-making processes, ensuring that the cumulative implications of multiple projects are considered and managed appropriately.

10.3 The Existing and Receiving Environment (Baseline Situation)

10.3.1 Landscape Appearance and Character

The landscape appearance of the study area is relative flat with a mixture of village settlements, rural housing and agricultural and associated agricultural built development. Housing and other rural developments are clustered around villages and scattered along roadways between the villages/settlements with stretches of linear development (see fig 10-3). The main land use is agricultural in nature with a mix of tillage and grazing with varying field sizes. Fishing infrastructure is evident in Kilmore quay with the associated working harbour and industrial buildings. Roadways are enclosed by a varying degree by hedgerows with views across fields opening up where no shrub or trees exist, or hedgerows are managed low. Due to the relatively flat topography views are contained within roadway corridors and immediate surrounding fields. The hedgerow growth is more wind pruned as you get closer to the sea.

The development site lies adjacent to the north east and east of the edge of Kilmore Quay. It is the first large agricultural field after what feels like you are leaving Kilmore Quay. To the east of the development site the landscape character changes from agricultural (within the site) to more built up due to the density of housing along the existing cul de sac (see Fig 10-4).

Figure 10-3 Site and the local landscape

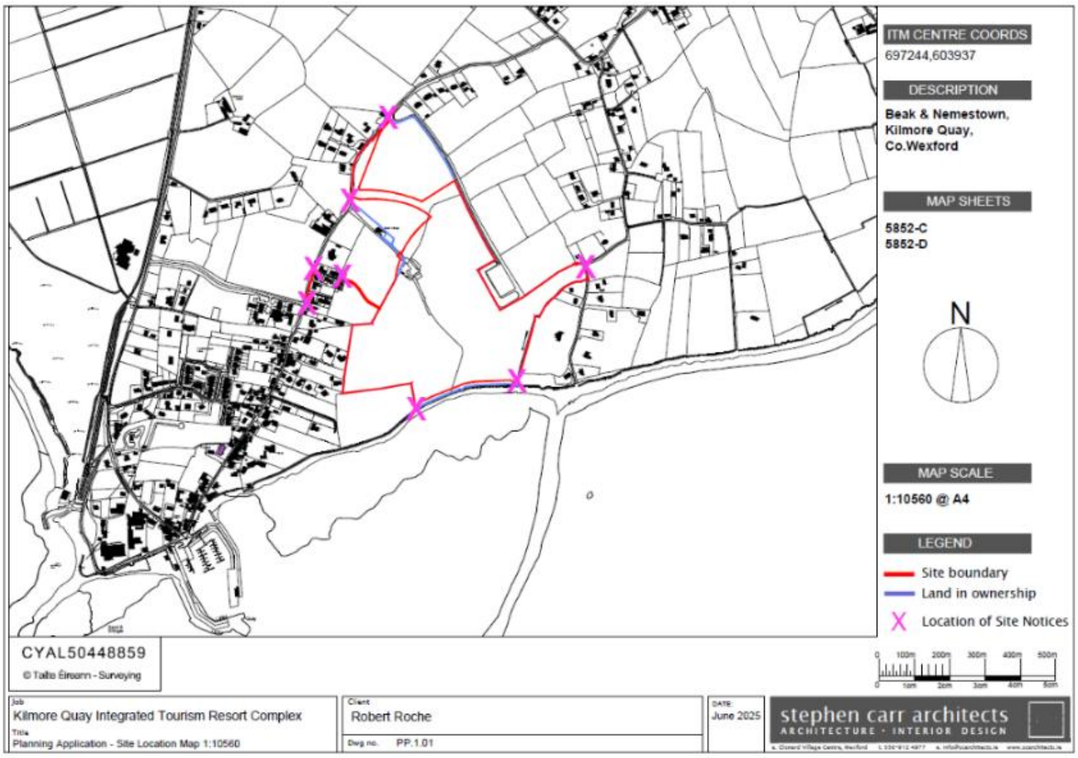


Figure 10-4 Site outline (red line) with low density settlement to the right and higher density development of Kilmore Quay village to the left.

RECEIVED: 05/08/2025

10.3.2 Designation and Zoning

The WCDP 2022-2028 Landscape Character Assessment prescribes a Coastal Landscape Character Unit to the area of the site. The description of this character unit is;

"The east coast is generally characterised by long, relatively straight coasts of sand or shingle backed up by low cliffs and sand dune systems. Within this coastal landscape are the more distinctive land and seascapes of Wexford Harbour, Wexford Slobs and Cahore Polders and Dunes. The northern part of the eastern coast has more promontories and smaller bays. There are concentrations of sand extraction developments which form prominent features in the landscape, notably near Blackwater. The south coast also has long beaches and dune systems. Views to the Saltee and Keeragh Islands draw the eye in this landscape. There are a number of distinctive features within this unit including Lady's Island and Tacumshin Lakes, the Inish and Ballyteige Slobs, Carnsore Point, Ballyteigue Burrow and Bannow Bay. The Hook Peninsula has a variety of interesting and distinctive landscapes. The coastal areas of Wexford experience greater pressure for tourism and residential development and are very sensitive to development and require protection both in their own right and for the services and economic benefits they bring".

The WCCDP 2022-2028 further states that development "*in Moderate and High Sensitivity areas development has the potential to have significant individual or cumulative impacts. Applications for development in these areas must demonstrate an awareness of these inherent limitations by having a very high standard of site selection, siting layout, selection of materials and finishes"* and "*7.6.3. The County Wexford Tourism Development Strategy aims to develop a contemporary coastline experience… Whilst Wexford's coastal offering should be developed and promoted so that a wide range of destinations and communities' benefit, it will also be important to develop a number of leading lights within the experience offering with Courtown, Curracloe, Rosslare, Kilmore Quay and the Hook Peninsula receiving particular focus."*

A Distinctive Landscape is identified in the WCCDP 2022-2028, under the Coastal Promontories at Forlorn Point, Kilmore Quay.

10.4 Characteristics of the Proposed Development

The development will consist of a central hotel, ranging in height from 1 to 4-storeys over a lower ground floor and provides 163 no. bedrooms, 42 no. family suites, bar and restaurants, function/conference centre facility and spa/leisure complex. 55 no. large family friendly tourist lodges, pavilion restaurant, hotel staff accommodation and external sports, recreation and play facilities provided throughout the site.

There is extensive landscaping and SuDS proposed for the site boundaries and internally which has been formulated by surveying the surrounding local landscape and identifying native and pollinator friendly species that have grown successfully in the coastal environment (see fig 10-4). This landscaping proposes a net gain of 1208m of native hedgerow and 949 trees in addition to pollinator friendly planting.

Ground level changes will occur over the site which have been designed to reflect the current topography and slopes

RECEIVED: 05/08/2025

The landscape and visual impact assessment of built developments recognises two general phases: construction and operational.

Figure 10-5 Proposed landscape master plan

10.4.1 Construction Phase

During the construction phase, approximately 3 years, the site landscape will undergo a change from agricultural land to an integrated tourism resort complex with extensive landscaping.

10.4.2 Operational Phase

During the operational phase the expected long-term landscape and visual impacts will become established as the main tree, hedge and shrub elements of the proposed development establish and grow. The mass of the development will become more broken up and less visible.

In addition, it is worth mentioning that developments that at first might be regarded by the public as notable can be expected overtime to gradually diminish and will be perceived as part of the background with time.

10.5 Potential Effect of the Proposed Development

In order to assess the potential landscape and visual effects of the proposed development professional opinion and experience was used, along with a number of verified views were commissioned from a range of potential visual receptors close to the site (see fig 10-6). The sensitivity of the visual receptors is outlined in Table 10-12 below, and the construction stage visual impacts in Table 10-13, and the operational stage landscape impacts in Table 10-14.

RECEIVED: 05/08/2025

Figure 10-6 Verified view locations

Table 10-12 Sensitivity of potential visual receptors

Ref.	Viewpoint location	Distance from site boundary *	Description of View	Level of Sensitivity
V1	St. Patricks Bridge	150m	View across shingle beach back towards Kilmore Quay village with mobile tower prominent. Used by casual walkers. Typical view orientation out to sea to Saltee Islands.	High - Medium
V2	L3068	135m	View across earth ditch mound over subject site toward Kilmore Quay Village. Church and mobile tower dominate skyline. Electric infrastructure dominate middle ground.	Medium - Low
V3	L3068	10m	View into agricultural field and 2 storey domestic dwelling. Kilmore quay village partially blocked by intervening hedgerows and ditches.	Medium - Low
V4	R739	5m	View from the R739 across large arable agricultural field with local stone pier in the foreground.	Medium
V5	R739 and Link Road junction	160m	View from the R739 between two domestic sized building. Mobile tower and infrastructure	Medium

RECEIVED: 05/08/2025

Ref.	Viewpoint location	Distance from site boundary *	Description of View	Level of Sensitivity
			behind one of the buildings (local garda station).	
V6	Outside Stella Maris Center	450m	View from the R739 from outside the Stella Maris Community Center up the street in the direction of the proposed development.	High - Medium
V7	Little Beach	500m	View from The Little Beach in the village center towards buildings in the middle ground and distance.	High - Medium
V8	The Quay seating area	690m	View from the central paved area at the quay front back towards the site with village buildings in the middle ground and domestic dwelling visible in the background.	High - Medium
V9	End of quay	700m	View from the end of the working quay at Kilmore quay. Fishing industrial buildings in the foreground with domestic scale buildings stretching off into the distance along the shoreline.	High - Medium
V10	The Burrow car park	800m	View from the Burrow carpark over dispersed buildings with church dominating the middle ground and skyline.	High - Medium
V11	From sea approximately half way to Little Saltee Island	1800m	View from offshore on approach to quay. Narrow strip of land visible between the sea and sky. Land form is dominated by industrial and domestics buildings diminishing in size from left to right with gap in middle where development is proposed. Church and wind farm break the skyline. Higher ground of Forth Mountain and Mount Leinster in the background.	High - Medium

10.5.1 Construction Phase

The construction stage will last approximately 36 months. The expected landscape and visual impacts include:

- Numerous large, brightly coloured earth moving equipment, construction machinery, cranes operating on the site and construction site offices/facilities, security lighting and fencing etc,
- Change in colour and form of topography due to the excavation, removal and storage of soils,
- Removal of agricultural arable and grass land,
- Removal of hedgerows,
- Creation of areas of hard surfaces (car parks, paths, roads),

RECEIVED 05/08/2025

- Planting of 1396m of native hedgerow, 949 tree, pollinator friendly planting. wildflower seeding, amenity grass seeding, and low level ground mounding.

The potential visual impacts during the construction phase will be as described for landscape impacts. Due to the relatively flat nature of the site visual impacts will rapidly decrease with distance from the site as intervening earth ditches and associated growth will block views.

The construction stage landscape and visual impacts can be considered negative to neutral, moderate to negligible and short term (less than 7 years) impacts.

Table 10-13 Construction stage visual/landscape impacts

View	Magnitude	Probability	Duration	Sensitivity	Quality	Significance of Effect
V1	High	Likely	Short-Term	High - Medium	Negative	Moderate
V2	High	Likely	Short-Term	Medium - Low	Neutral	Moderate
V3	Low	Likely	Short-Term	Medium - Low	Neutral	Moderate - Minor
V4	Very low	Likely	Short-Term	Medium	Neutral	Negligible
V5	Low	Likely	Short-Term	Medium	Neutral	Minor
V6	Very low	Likely	Short-Term	High - Medium	Neutral	Negligible
V7	Low	Likely	Short-Term	High - Medium	Neutral	Minor
V8	Low	Likely	Short-Term	High - Medium	Neutral	Minor
P9	Medium	Likely	Short-Term	High - Medium	Neutral	Moderate - Minor
V10	Very low	Likely	Short-Term	High - Medium	Neutral	Negligible
V11	Low	Likely	Short-Term	High - Medium	Neutral	Moderate - Minor

10.5.2 Operational Phase

10.5.2.1 Potential Landscape Impact

As the main tree, hedge and shrub elements of the proposed development establish and grow the mass of the proposed development will become more broken up and less visible. This will further reduce the initial landscape impacts from moderate to minor or negligible.

In addition, it is worth mentioning that developments that at first might be regarded by the public as notable can be expected overtime to gradually diminish and will be perceived as part of the background with time.

RECEIVED: 05/08/2025

Table 10-14 Operational stage visual/landscape impacts

View	Magnitude	Probability	Duration	Sensitivity	Quality	Significance of Effect
V1	High	Likely	Short-Term	High - Medium	Negative	Moderate - minor
V2	High	Likely	Short-Term	Medium - Low	Neutral	Moderate minor
V3	Low	Likely	Short-Term	Medium - Low	Neutral	Minor
V4	Very low	Likely	Short-Term	Medium	Neutral	Negligible
V5	Low	Likely	Short-Term	Medium	Neutral	Minor
V6	Very low	Likely	Short-Term	High - Medium	Neutral	Negligible
V7	Low	Likely	Short-Term	High - Medium	Neutral	Minor
V8	Low	Likely	Short-Term	High - Medium	Neutral	Minor
P9	Medium	Likely	Short-Term	High - Medium	Neutral	Minor
V10	Very low	Likely	Short-Term	High - Medium	Neutral	Negligible
V11	Low	Likely	Short-Term	High - Medium	Neutral	Minor

10.5.3 Potential Cumulative Effects

Cumulative impacts can be described as impacts that result from changes caused by a development in conjunction with other past, present or reasonably foreseeable actions. Given the close proximity of the lands to the established settlement of Kilmore Quay it is reasonable to expect development of the proposed site. With the implementation of the current and future Development Plan Standards it is reasonable to expect the orderly and legible development of the area which mitigates any landscape and visual impacts to a minor or below impact.

10.5.4 "Do Nothing" Effect

The do-nothing impact refers to the non-implementation of the proposed development. The primary effect of this would be that the impacts and effects identified would not directly occur. In the event that the development does not proceed it is very likely that the subject site would be developed in the future in some shape or form, in line with planning. If the site is left in its current state, it will be likely continued to be maintained in its current manner and hence a neutral impact will persist on the existing landscape.

RECEIVED: 05/08/2025

10.6 Avoidance, Remedial & Mitigation Measures

10.6.1 Construction Phase

The key landscape and visual mitigation measures used during the construction phase have been incorporated into the layout of the site and design of the proposed buildings and landscaping as outlined in the Architectural Design Statement and Masterplan and the Landscape Report documents (see extracts fig. 10-7 to 10-9). By responding to the site topography, modulation of the main building, façade articulation and suitable landscaping for a coastal situation the building is absorbed into the surrounding landscape as demonstrated in sections, verified views and CGI images. A range of materials and building typologies are used to complement the existing types found in the surrounding built environment and landscape. The set back of the larger buildings from the site boundaries mitigates the impact on local adjoining residents.

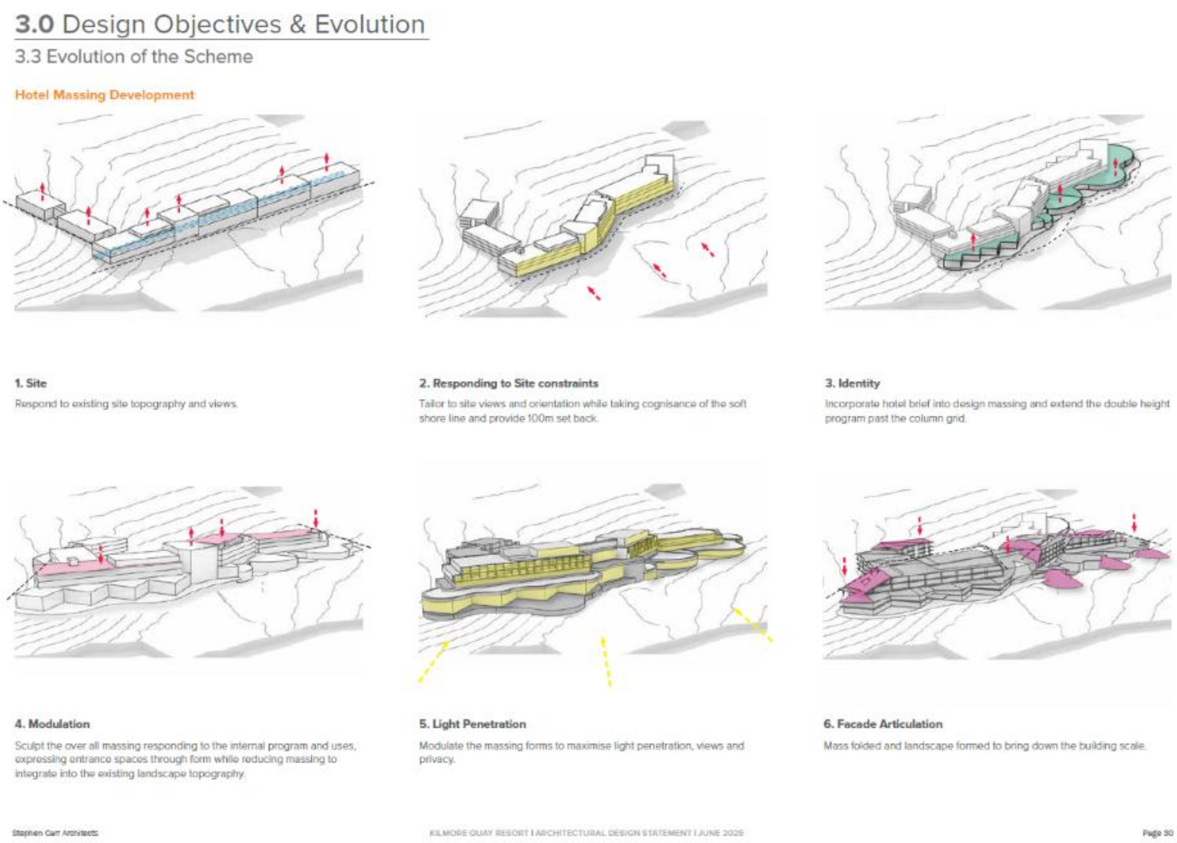
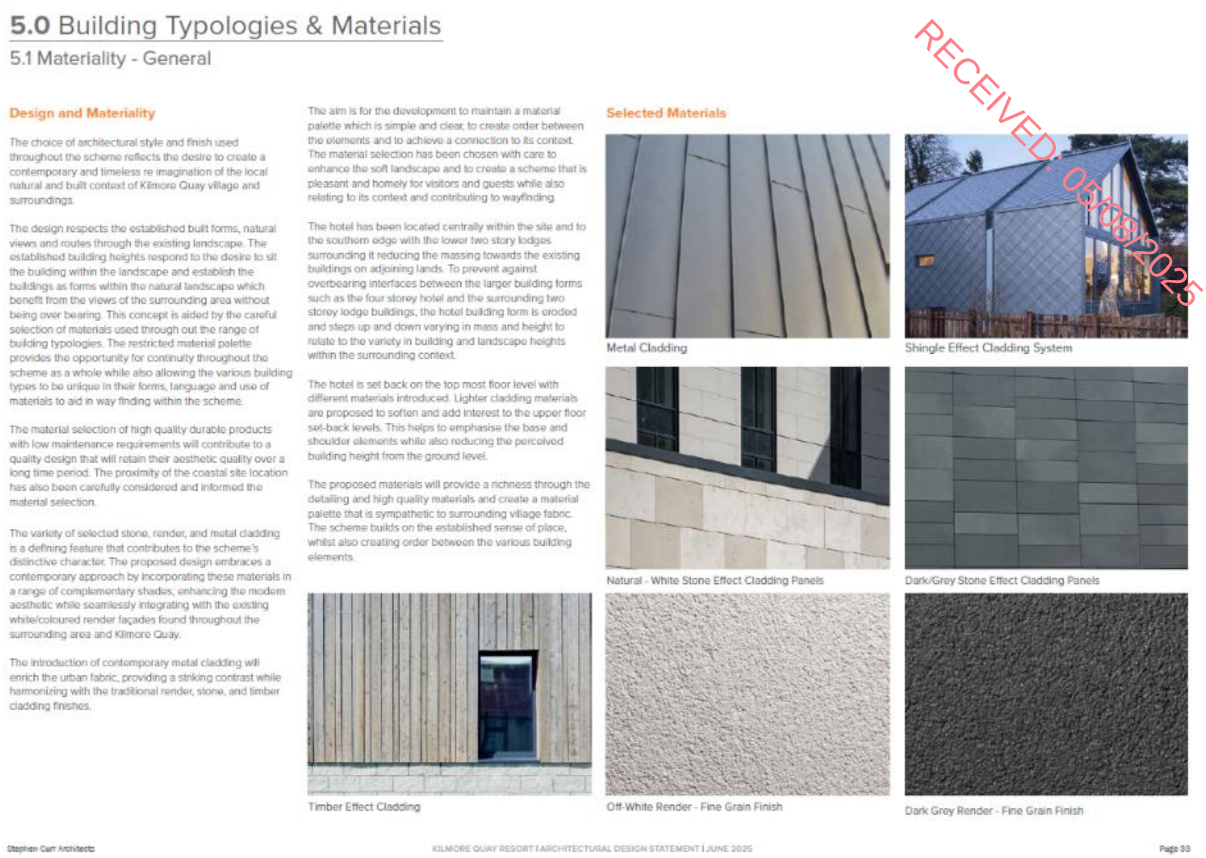


Figure 10-7 Main building design development



5.0 Building Typologies & Materials

5.1 Materiality - General

Design and Materiality

The choice of architectural style and finish used throughout the scheme reflects the desire to create a contemporary and timeless re imagination of the local natural and built context of Kilmore Quay village and surroundings.

The design respects the established built forms, natural views and routes through the existing landscape. The established building heights respond to the desire to sit the building within the landscape and establish the buildings as forms within the natural landscape which benefit from the views of the surrounding area without being over bearing. This concept is aided by the careful selection of materials used through out the range of building typologies. The restricted material palette provides the opportunity for continuity throughout the scheme as a whole while also allowing the various building types to be unique in their forms, language and use of materials to aid in way finding within the scheme.

The material selection of high quality durable products with low maintenance requirements will contribute to a quality design that will retain their aesthetic quality over a long time period. The proximity of the coastal site location has also been carefully considered and informed the material selection.

The variety of selected stone, render, and metal cladding is a defining feature that contributes to the scheme's distinctive character. The proposed design embraces a contemporary approach by incorporating these materials in a range of complementary shades, enhancing the modern aesthetic while seamlessly integrating with the existing white/coloured render façades found throughout the surrounding area and Kilmore Quay.

The introduction of contemporary metal cladding will enrich the urban fabric, providing a striking contrast while harmonizing with the traditional render, stone, and timber cladding finishes.

The aim is for the development to maintain a material palette which is simple and clear, to create order between the elements and to achieve a connection to its context. The material selection has been chosen with care to enhance the soft landscape and to create a scheme that is pleasant and homely for visitors and guests while also relating to its context and contributing to wayfinding.

The hotel has been located centrally within the site and to the southern edge with the lower two story lodges surrounding it reducing the massing towards the existing buildings on adjoining lands. To prevent against overbearing interfaces between the larger building forms such as the four storey hotel and the surrounding two storey lodge buildings, the hotel building form is eroded and steps up and down varying in mass and height to relate to the variety in building and landscape heights within the surrounding context.

The hotel is set back on the top most floor level with different materials introduced. Lighter cladding materials are proposed to soften and add interest to the upper floor set-back levels. This helps to emphasise the base and shoulder elements while also reducing the perceived building height from the ground level.

The proposed materials will provide a richness through the detailing and high quality materials and create a material palette that is sympathetic to surrounding village fabric. The scheme builds on the established sense of place, whilst also creating order between the various building elements.

Timber Effect Cladding

Selected Materials

Metal Cladding

Shingle Effect Cladding System

Natural - White Stone Effect Cladding Panels

Dark/Grey Stone Effect Cladding Panels

Off-White Render - Fine Grain Finish

Dark Grey Render - Fine Grain Finish

Stephen Carr Architects KILMORE QUAY RESORT I ARCHITECTURAL DESIGN STATEMENT I JUNE 2025 Page 33

RECEIVED: 05/08/2025

Figure 10-8 Building typologies and materials

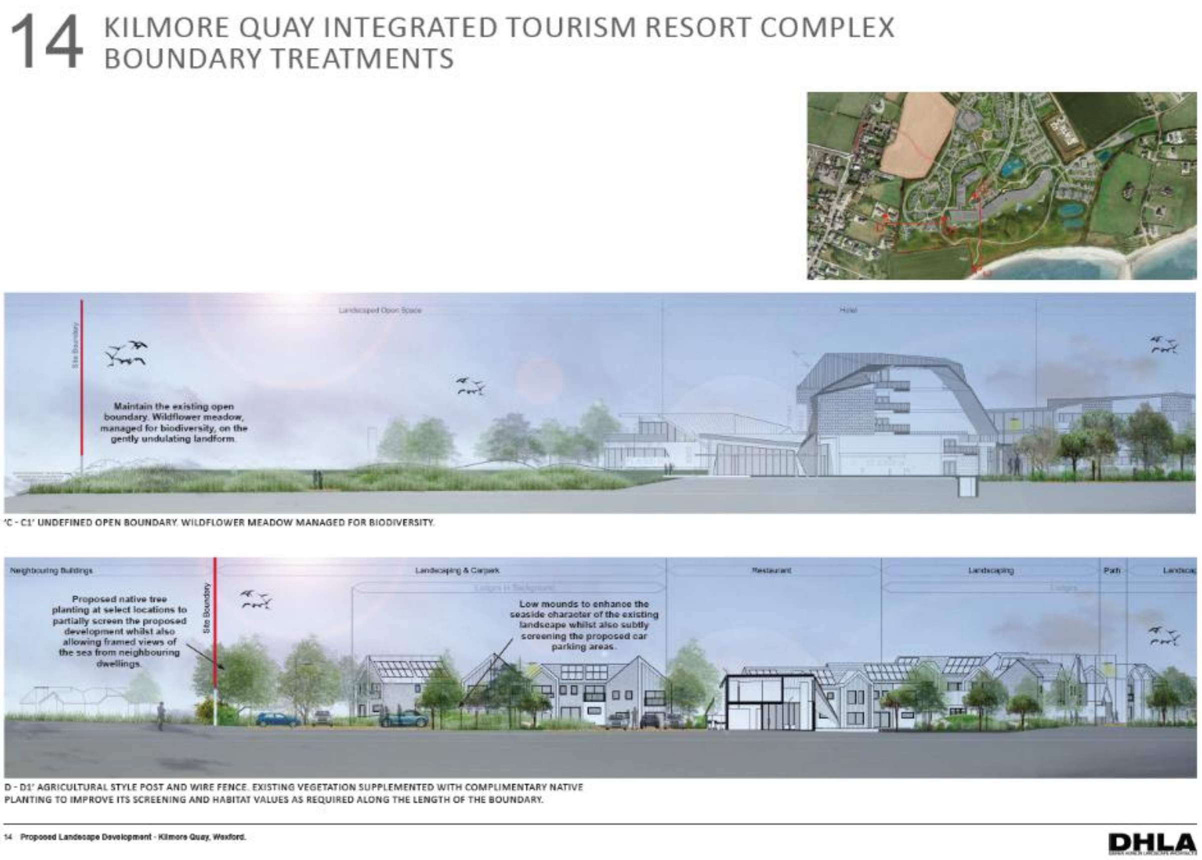


Figure 10-9 Sections showing buildings absorbed into the landscape

RECEIVED: 05/08/2025

10.6.2 Operational Phase

As the proposed landscaping matures the larger growing tree species such as oak, alder and pine can be expected to grow in this coastal location to significant heights of approximately 10-15m and will be grow to be significant landscape features in themselves that will counter balance the tallest part of the development. The smaller growing tree species can be expected in this coastal location to reach 5-10m in height and will counterbalance the smaller scale parts of the proposed development.

10.6.3 "Worst Case" Scenario

The worst-case effects arise when the mitigation measures as proposed substantially fail. As the design and layout is a major part of the mitigation and built into the proposed scheme it is highly unlikely that this would fail. If the proposed development were to start and not be completed it would become subject to local authority actions to remedy the situation. This would result in landscape and visual impacts lasting in the medium to long term as natural regeneration of pioneer species would be expected to grow and help mitigate impacts.

The failure of the proposed landscape mitigation measures is very unlikely as the landscape specifications are based on best practice planting and storage procedures for plant material. Also, if the proposed development is granted, the proposed landscaping will become a part of the plans and particulars of the planning application and as such can be made subject of an enforcement notice by the local authority to rectify the situation.

10.7 Residual Effects

Notwithstanding the proposed ameliorative and mitigation measures proposed during the construction phase, it is considered that the initial development of the site, including removal of hedgerows and general construction activity will result in overall residual effects that are moderate, negative, temporary impacts and ongoing residual effects that will be moderate, negative short-term impacts by the closest receptors and reduce rapidly with distance to impacts which are minor/negligible, neutral short term impacts.

On completion, the disturbance and change associated with the construction stage will be gradually altered by the influence that the new development establishes on the character and visual context of its environs. In this regard it is considered that the proposed development of the site will have a residual moderate/minor local impacts on the landscape and visual character of its environs and reduce rapidly with distance to impacts which are minor, neutral and long term impacts.

10.8 Monitoring

10.8.1 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 planting season after completion of the main civil engineering and building work.

RECEIVED: 05/08/2025

10.8.2 Operational Phase

Monitoring of the mitigation measures will form part of the landscape management plan. Replacement trees, replacement planting and pruning measures will be captured in landscape maintenance plans and are intrinsically linked to the proposed mitigation measures. All landscape works will be in an establishment phase for the initial three years from planting. A landscape maintenance plan/specifications accompanies the planning application. Prior to completion of the landscape works, a competent landscape contractor will be engaged and a detailed maintenance plan, scope of operation and methodology will be put in place.

10.9 Interactions

In terms of interactions, the impact on the landscape relates to many of the impact areas considered. In the current context, the most significant interactions are considered in the following Chapters:

- Population and Human Health

The enhanced landscape design contributes positively to local amenity, supporting mental well-being and encouraging outdoor recreation and tourism.

- Biodiversity,

Proposed landscape planting and green infrastructure can enhance habitat diversity and support ecological connectivity across the site.

- Land and Soils.

The landscape strategy includes soil conservation and reuse, supporting sustainable land management and long-term site stability.

The impact on landscape is significant but consistent with the prevailing planning policy context and sustainable development objectives enunciated in international, national, regional and local policy.

10.10 Difficulties Encountered When Compiling

No significant difficulties were encountered during the landscape and visual impact assessment.

10.11 References

- Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (EIA Directive);
- The National Landscape Strategy (NLS) for Ireland 2015-2025;
- Guidelines on the information to be contained in Environmental Impact Assessment Reports, Environmental Protection Agency (2022 (EPA Guidelines 2022);

RECEIVED: 05/08/2025

- Guidelines for Landscape and Visual Impact Assessment, 3rd edition, 2013 (GLVIA), published by the Landscape Institute;
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment, 2018, published by the Department of Housing, Planning and Local Government;
- Technical Information Note on Townscape Character Assessment, 2016, published by the Landscape Institute;
- Residential Visual Amenity Assessment (RVAA) Technical Guidance Note 2/19, published by the Landscape Institute;
- Transport Infrastructure Ireland Publication no. PE-ENV-01101, published December 2020: Landscape Character Assessment (LCA) and Landscape and Visual Impact Assessment (LVIA) of Specified Infrastructure Projects - Overarching Technical Document;
- Wexford County Development Plan 2022-2028 (WCDP 2022-2028).

RECEIVED: 05/08/2025

11.1 Introduction

This archaeological, architectural and cultural heritage impact assessment report has been prepared by Horizon Archaeology Ltd on behalf of Enviroguide CE to assess and define the impact, if any, on the known archaeological, architectural and cultural heritage resources, of the proposed development an Integrated Tourism Resort Complex within Nemestown and Beak townlands, Co. Wexford. The development will consist of a central hotel, ranging in height from 1 to 4-storeys over a lower ground floor and provides 163 no. bedrooms, 42 no. family suites, bar and restaurants, function/conference centre facility and spa/leisure complex. 55 no. large family friendly tourist lodges, pavilion restaurant, hotel staff accommodation and external sports, recreation and play facilities provided throughout the site.

The development includes refurbishment and reuse of the Beak Cottage, farmstead buildings and courtyard for tourism and heritage purposes, with family lodge reception and recreation management, resort shop, café/restaurant, arts/crafts spaces.

Facilities also include maintenance store, bicycle shelters, car / bus drop-off and parking, landscaped green spaces with pedestrian routes through the site.

Vehicular access to the development is from the Kilmore Road (R739) with pedestrian/cycle connections into Kilmore Quay village centre and to Nemestown.

This report includes mitigation measures designed to avoid, reduce or offset any potential adverse impacts.

The key objectives of this report are to assess, as far as is reasonably possible from existing records, any impacts the proposed development may have on the known archaeological, architectural and cultural heritage assets. The following key issues are addressed:

- Direct and indirect construction impacts on recorded and unrecorded archaeological or architectural heritage features.
- Direct and indirect operational impacts on recorded and unrecorded archaeological or architectural heritage features.
- Residual and cumulative impacts on recorded and unrecorded archaeological or architectural heritage features.

This report concludes that the proposed development will not directly impact on any known archaeological or cultural heritage assets. The development will result in a direct positive impact on architectural heritage assets (Beak Cottage, a building that is contained in the NIAH, and a ruined 18th century farmyard complex). Prior to the commencement of construction works a written, photographic and measured survey of the identified architectural heritage assets that will be impacted by the development will be completed.

The proposed development will take place in the vicinity of several known archaeological assets. Ground disturbance works for the new development will potentially impact on the any subterranean (unknown) archaeological heritage resources.

Post planning archaeological mitigation in the form of an archaeological geophysical survey, and archaeological test trenching, is recommended to ameliorate the risk of impacting on any archaeological heritage assets. Construction stage archaeological monitoring of ground disturbance works, will be completed. These archaeological measures will take place following

RECEIVED: 05/08/2025

consultation with and approval by the National Monuments Service of the Department of Housing, Local Government and Heritage, and Wexford County Council.

11.1.1 Quality Assurance and Competency of Experts

Daniel O'Mahony

Daniel graduated from Waterford Institute of Technology in 2008 with a BSc in Land Management before completing a conversion course (HDip) in Archaeology at University College Cork in 2011. While there, he also completed a two year research masters (MPhil) focusing on the Christianisation of the Hiberno-Scandinavians, graduating in 2013. He furthered his education and research experience by undertaking a PhD at University College Dublin researching the deserted medieval settlement of Newtown-Jerpoint, Co. Kilkenny which he was awarded in 2024.

He has worked from 2010 to present in commercial archaeology. His duties have included desk-based research, surveying, excavation, monitoring, and post-excavation work. He has also assisted in several research projects involving excavation and geophysical survey at sites in both Ireland and Britain.

11.2 Study Methodology

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

A study area of 1km has been imposed around the proposed development area. An impact assessment and mitigation strategy has been prepared. The impact assessment is undertaken to outline potential adverse impacts that the proposed development may have on the known resources, while the mitigation strategy is designed to avoid, reduce or offset such adverse impacts.

11.2.1 Data Sources

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

- Record of Monuments and Places (RMP) of County Wexford;
- Topographical Files (Topo) of the National Museum of Ireland;
- Record of Protected Structures (RPS) for County Wexford.
- Cartographic and documentary sources relating to the study area;
- Aerial photographs of Ordnance Survey Ireland and Google aerial photography;
- National Inventory of Architectural Heritage (NIAH).

Record of Monuments and Places (RMP) is a list of archaeological sites known to National Monuments Service. Back-up files of the Sites and Monuments Record (SMR) provide details of documentary sources and field inspections where these have taken place. There are eight sites recorded on the RMP within the 1km study area (see Figure 11.1).

Topographical Files of the National Museum of Ireland is the 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

RECEIVED: 05/08/2025

artefacts are important sources of information in the discovery of sites of archaeological significance.

The Record of Protected Structures (RPS) includes all known structures within County Wexford that are of architectural, historical, archaeological, artistic, cultural, social, scientific or technical importance. By inclusion in the RPS these structures are afforded legal protection under the Planning and Development Act 2000. The RPS for County Wexford is maintained by Wexford County Council and is available at the following address:

https://www.wexfordcoco.ie/sites/default/files/content/Planning/WexCoPlan13-19/Volume2.pdf

Cartographic sources are important in tracing land use development within an area of land take, as well as providing topographical information on sites and areas of archaeological potential. Cartographic analysis of relevant maps has been made to identify any topographical anomalies that may no longer remain within the landscape. Documentary sources were consulted to gain background information on the historical and archaeological 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 potential to contain previously unidentified archaeological remains.

Wexford County Development Plan 2022-2028 contains Objectives on the preservation and management of archaeological features. It was consulted to obtain information on sites within the proposed development area and the 1km study area.

National Inventory of Architectural Heritage (NIAH) is a section within the Department of Culture, Heritage and the Gaeltacht. The work of NIAH involves identifying and recording on a non-statutory basis the architectural heritage of Ireland from 1700 to the present day.

There is no specific legislation in Ireland to protect cultural heritage assets. In terms of development impact appraisals, cultural heritage is often defined as comprising tangible and intangible resources such as memorials, customs and practices, folklore, traditions, language, and knowledge. Ireland's National Inventory of Intangible Cultural Heritage provides official state recognition of cultural heritage resources (https://nationalinventoryich.tcagsm.gov.ie/national-inventory/). There are no known Cultural Heritage Assets within the development area.

11.2.2 Field Inspection

Field inspection is necessary to determine the extent, character and condition of archaeological remains, and can also lead to the identification of previously unrecorded sites and portable finds through topographical observation and local information. A site visit was carried out on 24th July 2024, and all areas of proposed land take were walked and visually assessed.

11.3 The Existing and Receiving Environment (Baseline Situation)

11.3.1 Archaeological and Historical Background

The following section presents summary details of the main periods within the Irish archaeological record with references to associated monuments located within the study area.

The dating framework used for each period is based on Guidelines for Authors of Reports on Archaeological Excavations as published by the National Monuments Service.

There are no archaeological sites located within the proposed development site. There are eight recorded archaeological sites within the surrounding 1km wide study area and, of these, the closest to the development site is a later medieval tower house complex in the townland of Ballyteige consisting of a tower house (RMP WX052-018001-), a bawn wall (RMP WX052-018002-), a gateway (RMP WX052-018003-) and a well (RMP WX052-018004-). The potential also exists for the presence of unrecorded sub-surface archaeological features and artefacts within the proposed development site.

RECEIVED: 05/08/2025

Table 11.1: List of recorded archaeological sites within c.1km of proposed development site

SMR No.	MONUMENT CLASS	TOWNLAND	ITM E	ITM N
WX052-018001-	Castle - tower house	BALLYTEIGE (Bargy By.)	696629	604493
WX052-052----	Windmill	CHAPEL (Bargy By.)	697782	604755
WX051-011----	Signal tower	CROSSFARNOGUE	696402	603416
WX052-019----	Windmill	CHAPEL (Bargy By.)	697660	604671
WX052-020----	Ringfort - rath	CHAPEL (Bargy By.)	697992	604908
WX052-018002-	Bawn	BALLYTEIGE (Bargy By.)	696615	604502
WX052-018003-	Gateway	BALLYTEIGE (Bargy By.)	696622	604487
WX052-018004-	Well	BALLYTEIGE (Bargy By.)	696615	604523

RECEIVED: 05/08/2025

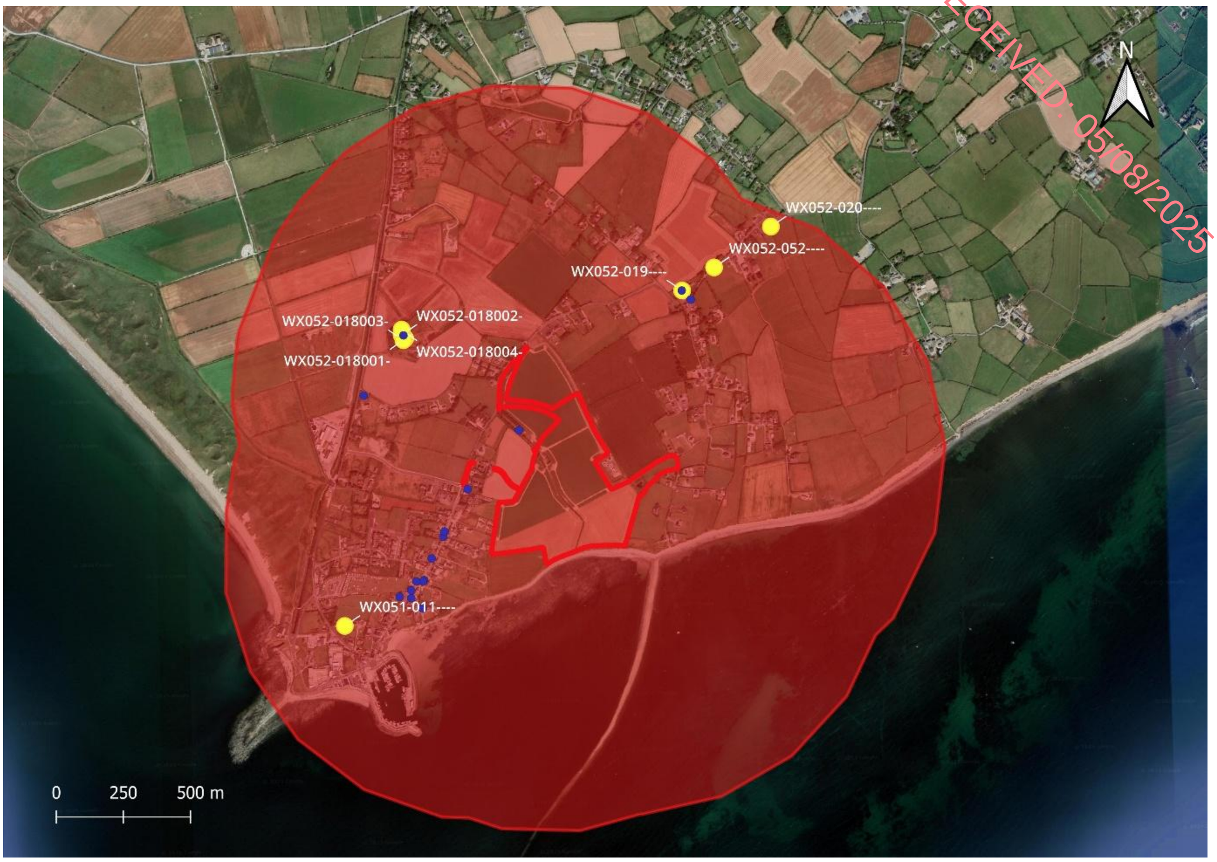


Figure 11.1: Location of RMP sites (yellow points) and NIAH structures (blue dots) within c.1km of the proposed development (Source: Department of Culture, Heritage, Regional, Rural and Gaeltacht Affairs)

11.3.1.1 Prehistoric

Recent evidence in the form of a butchered bear patella found in Alice and Gwendoline Cave near Ennis in Co. Clare now suggests that humans were present in Ireland during the Paleolithic period between 12,800 to 12,600 cal BC (Dowd and Carden, 2016, 161). However, the majority of recorded evidence for early human settlement in Ireland dates to the Mesolithic period (7000–4000 BC) when groups of hunter-gatherers arrived on the island, While the Mesolithic settlers did not construct any settlements or monuments that leave any above ground traces, their presence in an area can often be identified by scatters of worked flints in ploughed fields or shell middens adjacent to the coastline. There are no recorded sites dating to the Mesolithic period within the study area. The Neolithic period (4000-2400 BC) began with the arrival and establishment of agriculture as the principal form of economic subsistence, which resulted in more permanent settlement patterns. As a consequence of the more settled nature of agrarian life, new site-types, such as more substantial rectangular timber houses and various types of megalithic tombs, begin to appear in the archaeological record during this period. While there is archaeological evidence for a dispersed settlement pattern within the Leinster region during the Mesolithic period, that developed into a more extensive settlement during the Neolithic period. There are no recorded sites dating to the Mesolithic or Neolithic period within the study area.

RECEIVED: 05/08/2025

11.3.1.2 Later Prehistoric periods

Metalworking arrived in Ireland with the advent of the Bronze Age period (c. 2400–500 BC). This period was also associated with the construction of new monument types such as standing stones, stone rows, stone circles and fulachta fia. Fulacht fia translates as cooking places of the wild (or of deer), they are often interpreted as the remains of cooking sites and are the most numerous archaeological site type in Ireland, radiocarbon dating of excavated examples has generally produced dates in the Bronze Age (c.2400-500BC). A number of alternative interpretations have been forwarded as to the function of these archaeological sites, such as their potential uses as bathing, saunas, garment washing and dyeing, leather processing and even brewing sites. The development of new burial practices saw the construction of funerary monuments such as cairns, barrows, boulder burials and cists. The later first millennium BC and the early centuries AD comprise the Irish Iron Age, which is the most obscure period in the Irish archaeological record. While there is general agreement that the introduction of an iron technology was a significant factor in the eventual demise of bronze working on a large scale, but how, why and when this came about in Ireland is far from clear. There are no recorded sites or monuments within the study area dating to the later prehistoric period.

11.3.1.3 Early Medieval

This period began with the introduction of Christianity in Ireland and continued up to the arrival of the Anglo-Normans during the 12th-century (c. 400–1169 AD). The establishment of the Irish church was to have profound implications for political, social and economic life and is attested to in the archaeological record by the presence of church sites, associated places for burial and holy wells. The early medieval church sites were morphologically similar to ringforts but are often differentiated by the presence of features such as church buildings, graves, stone crosses and shrines. This period saw the emergence of the first phases of urbanisation around the large monasteries and the Hiberno-Norse ports. However, the dominant settlement pattern of the period continued to be rural-based in sites such as ringforts, which comprise roughly circular enclosures delimited by roughly circular earthen banks formed of material thrown up from a concentric external ditch. Ringforts are one of the most numerous monuments in the Irish landscape and the early medieval terms for these sites – rath/lios/dun these still form some of the most common place-name elements in the country. Archaeological excavations indicate that the majority of ringforts were early medieval farmsteads with internal timber buildings and were surrounded by associated field systems. The study area contains a single ringfort (WX052-020----) designated as a rath which dates to the early medieval period. It comprises a slightly raised and grass-covered subcircular area defined by a degraded earth bank with an external stone facing.

11.3.1.4 Late medieval period

The arrival and conquest of large parts of Ireland by the Anglo-Normans in the late 12th-century broadly marks the advent of the Irish late medieval period, which continued up until the beginning of the post-medieval period in c.1550. Within the late medieval period, towns, markets, and fairs were established and change and reform was implemented in the Irish church. Castles of earth and timber (motte-and-bailey) as well as large masonry castles were constructed to perform military and administrative functions, as well as residences for the ruling elite. At first the agricultural landscape shifted towards arable farming before becoming

RECEIVED: 05/08/2025

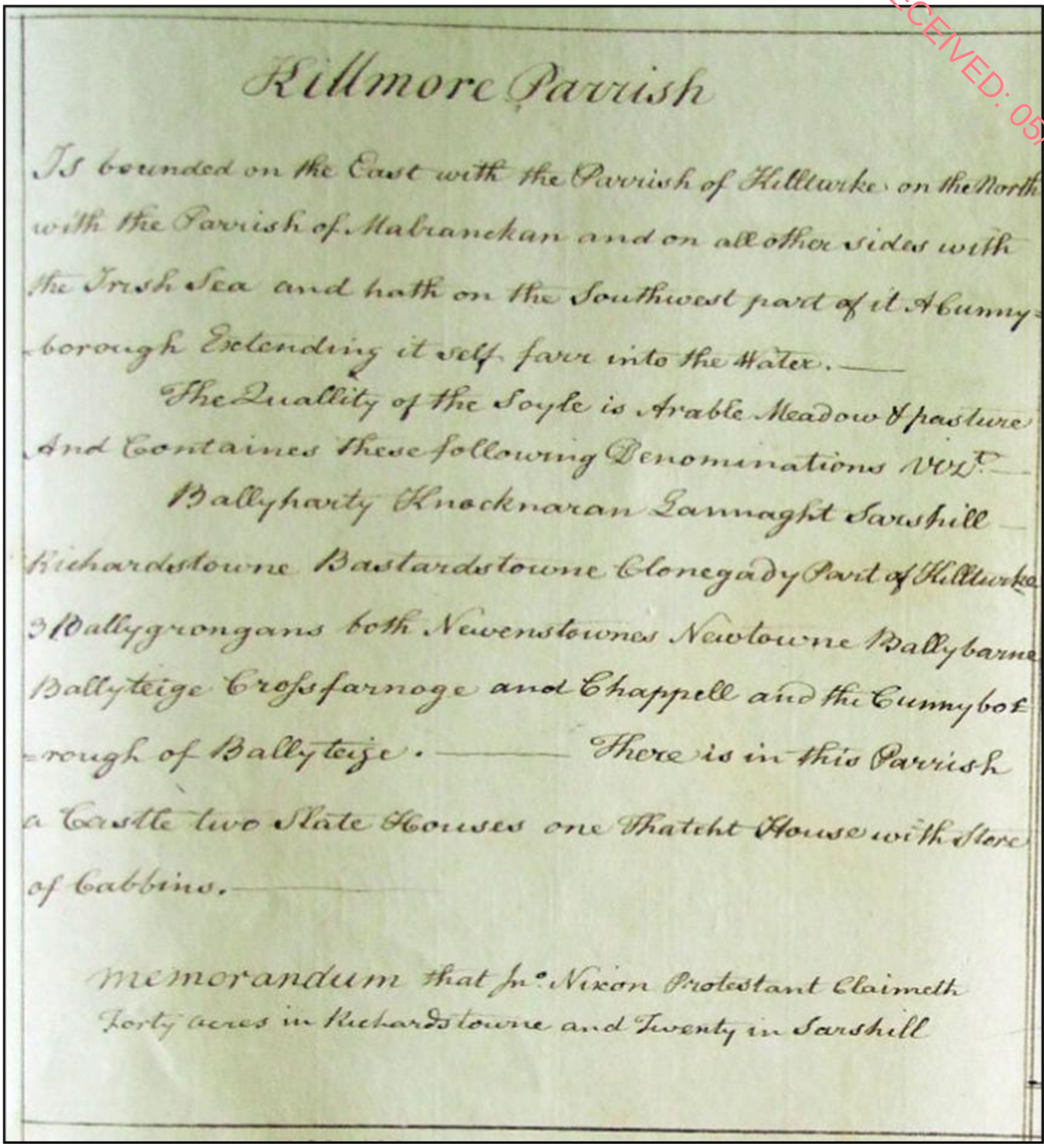
mixed. The black death and the Bruce invasion occurred during the 14th century along with the beginning of a resurgence of Gaelic authority across much of the island.

By the 15th-century the native Irish chieftains and lords began to establish tower houses and smaller castles as centres of territorial control. A tower house (WX052-018001-) exists in the townland of Ballyteige accompanied by a bawn wall (WX052-018002-), gate (WX052-018003-) and well (WX052-018004-). The tower house, which probably replaced an earlier castle, was built by the Whitty family who held the townland since the early 13th century as vassals of the Anglo-Norman Earl William Marshal. Tower houses such as this vary in size and form on a regional basis, although they all consist of a combination of service and residential chambers stacked vertically with connecting ante-chambers, accessed by intra-mural stairs and passages. The ground floor functioned as a basement for storage, and the upper floors were habitation spaces for the lord and his family. The tower house at Ballyteige has an attached farmhouse built during the 18th century which may have replaced an earlier hall building. The bawn wall would have enclosed a courtyard area containing a range of ancillary buildings such as small cabins, dove cotes, sheds, stables, dairy parlours and industrial workshops. At Ballyteige, a stone lined will housed within a tower survives within the bawn enclosure.

11.3.1.5 Seventeenth Century

The post-medieval period in Ireland, particularly in Wexford, was marked by significant social, economic, and political changes. Following the Tudor conquest of Ireland, Wexford, like much of the country, experienced substantial land redistribution as English and Scottish settlers arrived, leading to the establishment of new estates and towns. The Cromwellian conquest further altered the landscape, with confiscated lands granted to English soldiers and creditors. This period also saw the growth of market towns such as Wexford and New Ross, which became important centres for trade and commerce. The influence of Protestantism increased as Anglican churches were built, though Catholicism remained prevalent among the native Irish. These shifts were often accompanied by tensions and conflicts, reflecting the broader struggle for control and identity in Ireland during this transformative era. A windmill (WX052-052----), used to process grain into flour, was constructed in the townland of Chapel to the northwest of the proposed development. It was first mentioned in the possession of Richard Whitty when he died in 1623. The Whittys of Ballyteige were transported to Connaught in 1653 by the Cromwellians and their lands were then granted to the Colclough's of Tintern. The windmill was later demolished and is no longer visible above the ground.

RECEIVED: 05/08/2025



Killmore Parrish

Is bounded on the East with the Parrish of Killturke on the North with the Parrish of Mabranckan and on all other sides with the Irish Sea and hath on the Southwest part of it A Cunny-borough Extending it self farr into the Water. —

The Quallity of the Soyle is Arable Meadow & pasture And Containes these following Denominations viz.t

Ballyharty Knocknaran Garnaght Sarshill Richardstowne Bastardstowne Clonegady Part of Killturke 3 Ballygrongans both Newenstownes Newtowne Ballybarne Ballyteige Crossfarnoge and Chappell and the Cunnybo-rough of Ballyteige. — There is in this Parrish a Castle two Slate Houses one Thatcht House with Store of Cabbins. —

memorandum that Jn.o Nixon Protestant Claimeth Forty acres in Richardstowne and Twenty in Sarshill

Figure 11.2: Description of Kilmore Parish on the terrier attached to William Petty's Down Survey, dating to 1656.

11.3.1.6 Eighteenth and nineteenth centuries

In the 18th and 19th centuries, Wexford underwent considerable transformation, reflective of broader changes occurring across Ireland. The 18th century was characterised by the growth of agricultural productivity and the expansion of trade, with Wexford's ports playing a crucial role in the export of agricultural produce, particularly grain and livestock. This period also saw the construction of grand Georgian houses and improvements in infrastructure, including roads and bridges, which facilitated trade and communication. However, the late 18th century was also a time of political unrest, culminating in the 1798 Rebellion, during which Wexford became a focal point of insurgent activity. John Henry Colclough, who had held Ballyteige castle and had been a member of parliament, was executed for his participation in the insurrection (Madden 1842, 435-7). It was likely during the 18th century that the Colclough family constructed the farmhouse that adjoins the tower house.

RECEIVED: 05/08/2025

The signal towers that lined the Irish coast during the early 19th century were part of a broader network of communication systems developed in response to the threat of invasion during the Napoleonic Wars (1803-1815). These towers utilised a variety of signalling methods, including the Balls and Flags system, which consisted of masts with hoists of canvas balls and flags to convey coded messages over distances. This method was crucial for rapid communication between coastal stations, ensuring that any approach of enemy ships could be swiftly reported (Cusick).

The signal station at Crossfarnoge, near Kilmore Quay in Wexford, was part of a network of over 80 signal stations constructed by the British Board of Ordnance in the early 19th century to warn of a potential French invasion. Located approximately 520m north-northeast of Crossfarnoge Point and around 300m west-southwest of Kilmore Quay village, this station was part of a continuous chain stretching from Malin Head in Donegal to Dublin Bay. The signal station was established by 1804, with its signal mast erected by 1805. Positioned on low terrain that gradually rises to the northeast, the station provided a strategic vantage point for coastal surveillance.

However, by the mid-1810s, the threat of invasion had diminished, and the system was largely abandoned. The exact site of the Crossfarnoge signal station remains uncertain, but it was likely situated near the centre of the peninsula, a short distance north-northeast of Crossfarnoge Point. It was demolished before the Ordnance Survey first edition six-inch map was compiled in 1839-40. This early demolition might have been influenced by concerns raised in 1811 about disused signal towers being mistaken for lighthouses, leading to shipwrecks, particularly along the Waterford coastline. These concerns led to the demolition of several signal stations, possibly including Crossfarnoge, to prevent further maritime confusion. Despite its early removal, the signal station at Crossfarnoge remains a notable part of Ireland's coastal defence history during the Napoleonic era.

The 19th century brought further challenges and changes. The Great Famine of the 1840s had a devastating impact, leading to significant population decline due to death and emigration. In the latter half of the century, efforts to recover saw a shift towards dairy farming and the development of cooperatives. Additionally, industry in Wexford began to develop, with the establishment of distilleries, breweries, and textile mills contributing to the local economy. The social landscape also evolved, with the rise of the Catholic Church's influence and the gradual decline of the Protestant Ascendancy. Political movements advocating for tenant rights and Irish self-governance gained momentum, setting the stage for the political developments of the early 20th century.

A second windmill (WX052-019----) was constructed in the townland of Chapel during the nineteenth century – the year 1836 was inscribed on the south jamb of the west doorway. It stands at about 7m tall with three floors and was accessed through opposing doorways in the east and west walls. It is situated about 140m south-west of the site of the earlier windmill (WX052-052----). This may have been constructed by the Jospeh Hutchinson who held the land upon which it was built during the time of Griffith's Valuation, around the middle of the century. Also at that time, the townland of Ballyteige was owned by the Young family who subsequently leased it along with the castle to the Meadows family (Griffith's Valuation 1847-1864).

The site of the proposed development is located within the Kilmore parish, which was described as follows during the 19th century (Lewis 1837):

RECEIVED: 05/08/2025

KILMORE, a parish, in the barony of BARGY, county of Wexford, and province of LEINSTER, 9½ miles (S.S.W.) from Wexford; containing 1796 inhabitants. This place is situated on the eastern shore of the lough formed by the burrow of Ballyteigue, a long narrow sand bank extending from Ballyteigue for nearly four Irish miles, to the entrance of the lake at its western extremity; the burrow abounds with rabbits, and the lake with a variety of wild fowl. The parish comprises 3331 statute acres, which are partly good grazing land, but principally under tillage; the soil is fertile, and the system of agriculture has been much improved; with the exception of the burrow, there is neither bog nor waste land. Limestone exists on the lands of Ballycross, but has not yet been quarried; an abundance of sea manure, or tag weed, procured at spring tides and after storms, affording an excellent dressing for the lands. Good building stone is found on the townland of Sarscilla. The seats are Ballycross, that of J. Rowe, Esq.; Ballyharty, of S. Green, Esq.; Ballyseskin, of H. Archer, Esq.; and Ballyteigue, of J. Young, Esq. At Crossfarnogue Point is a small pier, where coal is occasionally landed; and more than 100 boats, averaging four men each, all of which rendezvous here, are engaged in the herring, lobster, and cod fisheries off this coast. The construction of a good pier at this point, which might be accomplished at an expense of about £1500, would afford protection to the numerous fishing vessels frequenting the place, and enable the fishermen to render more effectual assistance to vessels in distress.

The steam-boat Water Witch was wrecked off this place in 1833, and several lives were lost. The present pier is small and of very rude construction, having been built by the fishermen themselves, about 25 years since. The tide at this point rises from 11 to 12 feet at high water of springs, and 6 feet at neap tides. A coast-guard station, one of the six forming the district of Wexford, has been established at the point. The parish is in the diocese of Ferns; the rectory is impropriate in John Rowe, Esq., of Ballycross, and the vicarage forms part of the union of Tomhaggard. The tithes amount to £453. 2. 8½., of which £337. 7. 8½ is payable to the impropriator, and £115. 15. to the vicar. In the R. C. divisions it is the head of a union or district, comprising also the parishes of Mulrankin, Tomhaggard, and Kilturk, in each of which, except the last, there is a chapel; that of Kilmore is a spacious building, erected in 1803, adjoining which a house for the priest has been lately built. There are two schools under the New Board of Education, chiefly supported by the proceeds of an annual charity sermon and a public dinner: a parochial school-house also has been recently erected. Near Crossfarnogue Point, where was formerly a telegraph, are the remains of Ballyteigue castle, formerly belonging to the Whitty family, and now incorporated with the modern mansion of J. Young, Esq.

The mid-19th century Primary Valuation of Ireland (also known as Griffiths Valuation) list John H Talbot as the owner of much of the development site. The lands were sublet to a variety of leaseholders including Edward Doyle, John Parle, and Matthew Meyler, who rented the farm complex that is in ruins in the development site.

11.3.2 Summary of Previous Fieldwork in the Development Area

Reference to Summary Accounts of Archaeological Excavations in Ireland (www.excavations.ie) revealed that four archaeological investigations took place within the townlands containing and surrounding the proposed development site:

Townland: Nemestown, License no: 09D38; 09R117, Author: Eoghan Kieran, Moore Marine Services

RECEIVED: 05/08/2025

Results: An underwater impact assessment of a proposed sewage outfall revealed no archaeological deposits or features.

Townland: Ballyteige, License no: 17E0574, Author: Catherine McLoughlin

Results: Archaeological excavation of burials dating to the 17th and 18th centuries was undertaken at Crossfarnoge (Forlorn Point) following the discovery of skeletal remains following Storm Ophelia.

Townland: Beak and Nemestown, License no: 19E0047, Author: Fiona Rooney

Results: During test trenching for a wastewater treatment plant (WWTP), two areas of archaeological significance were exposed within a single trench. One area was defined by a deposit of burnt stone and clay measuring 4.8m in length which according to the author appeared to extend beyond the width of the trench (1.8m) (see fig. 5). Flint debitage was revealed while cleaning back this feature. The second area was defined by a layer of stones with mid-brown clay containing charcoal This measured 3m in length and also appeared to extend beyond the width of the trench (1.8m).

Townland: Beak and Nemestown, License no: 19E0047, Author: Dave Pollock

Results: Topsoil stripping on a greenfield length of pipeline route approaching the WWTP, and on the rest of the WWTP site, exposed a few scattered features of archaeological interest, including a small group around a fire-spot. Two in the group produced likely prehistoric pottery (see fig. 5).

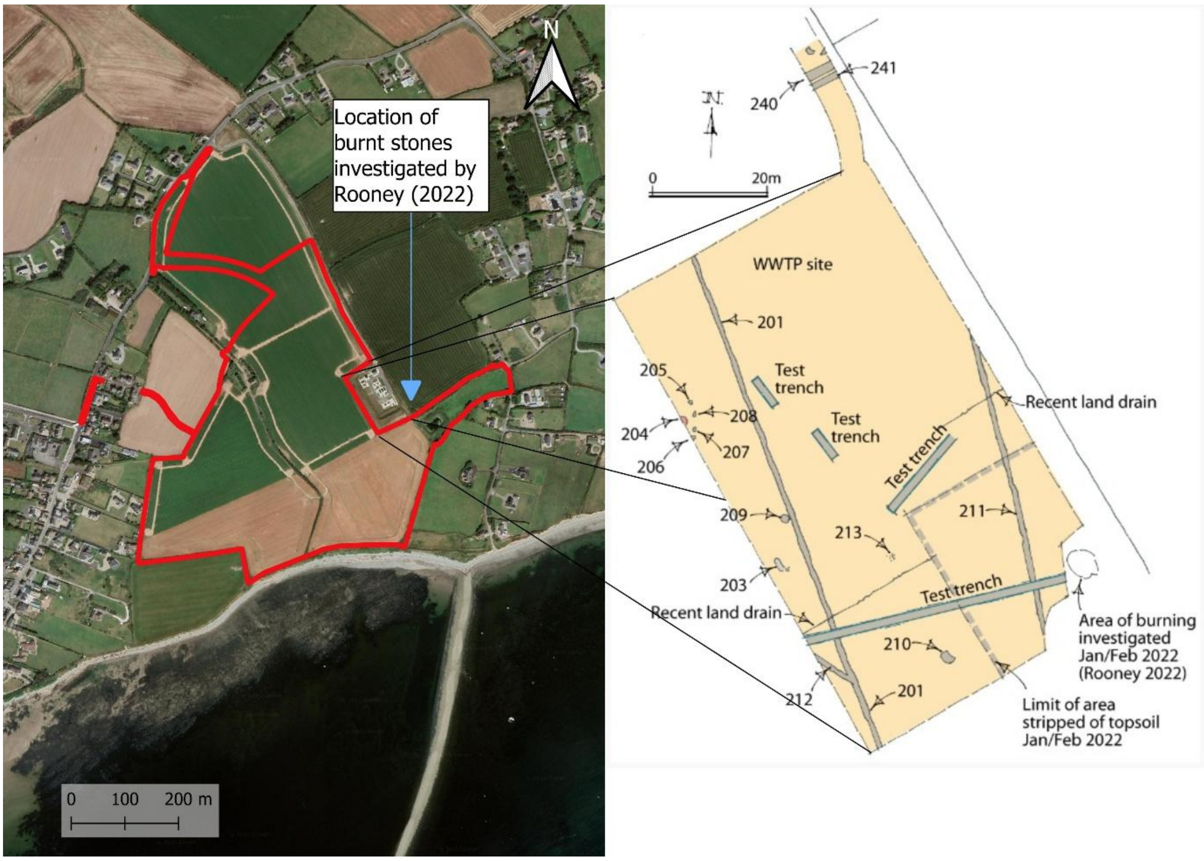


Figure 11.3: The location of the area of burnt stone investigated by Ronney in 2022 (left). The extent of stripped area (right; after Pollock 2022).

RECEIVED: 05/08/2025

11.3.3 Cartographic Analysis

11.3.3.1 Ordnance Survey Map, 6” to 1 mile (1:10,560), First Edition, 1839

The development area is recorded as being divided into five separate fields on the First Edition map (Fig. 6), The coastline to the south of the site was approximately 100m further south from its current position. Several farm buildings, accessed via a lane off of the R739 are depicted towards the north-west corner of the site, from which a track extended into the south-eastern field. Some of these farm buildings are extant, as ruined structures, and were identified during the site inspection. No other buildings, archaeological features, or features of interest are shown within the proposed development site.

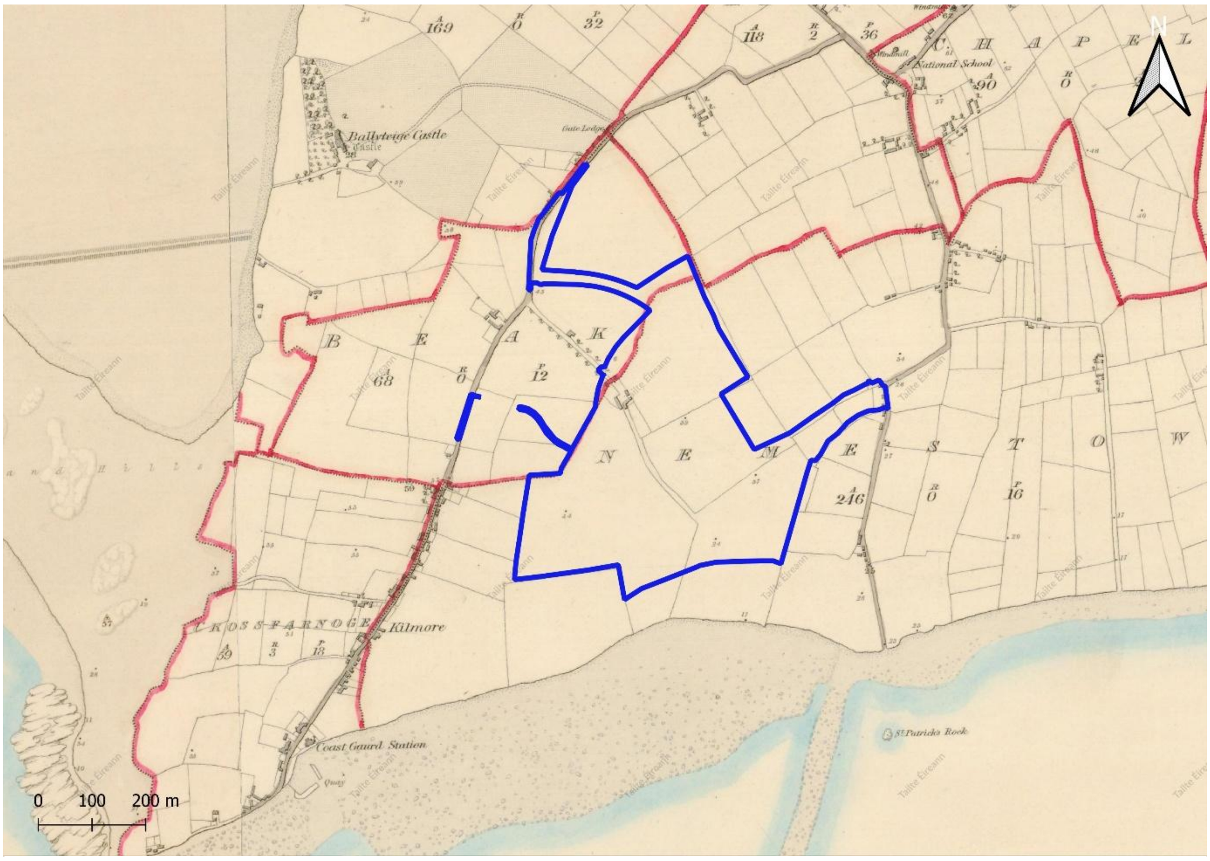


Figure 11.4: Extract from First Edition 6” to 1 mile Ordnance Survey Map surveyed in 1839, showing the proposed development area.

11.3.3.2 Ordnance Survey Map, 25” to 1 mile (1:2,500), First Edition, 1902

The First Edition 25” to 1 mile map shows the same field divisions as the 6” to 1 mile map surveyed in 1839. The track which is shown on the earlier map is depicted going to the coastline and then westwards along the coastline as far as Kilmore Quay. The coastline appears to have receded to a distance of approximately 40m from the southern boundary of the proposed development site. The farm buildings are also depicted, still with roofs. No other buildings, archaeological features, or features of interest are shown within the proposed development site.

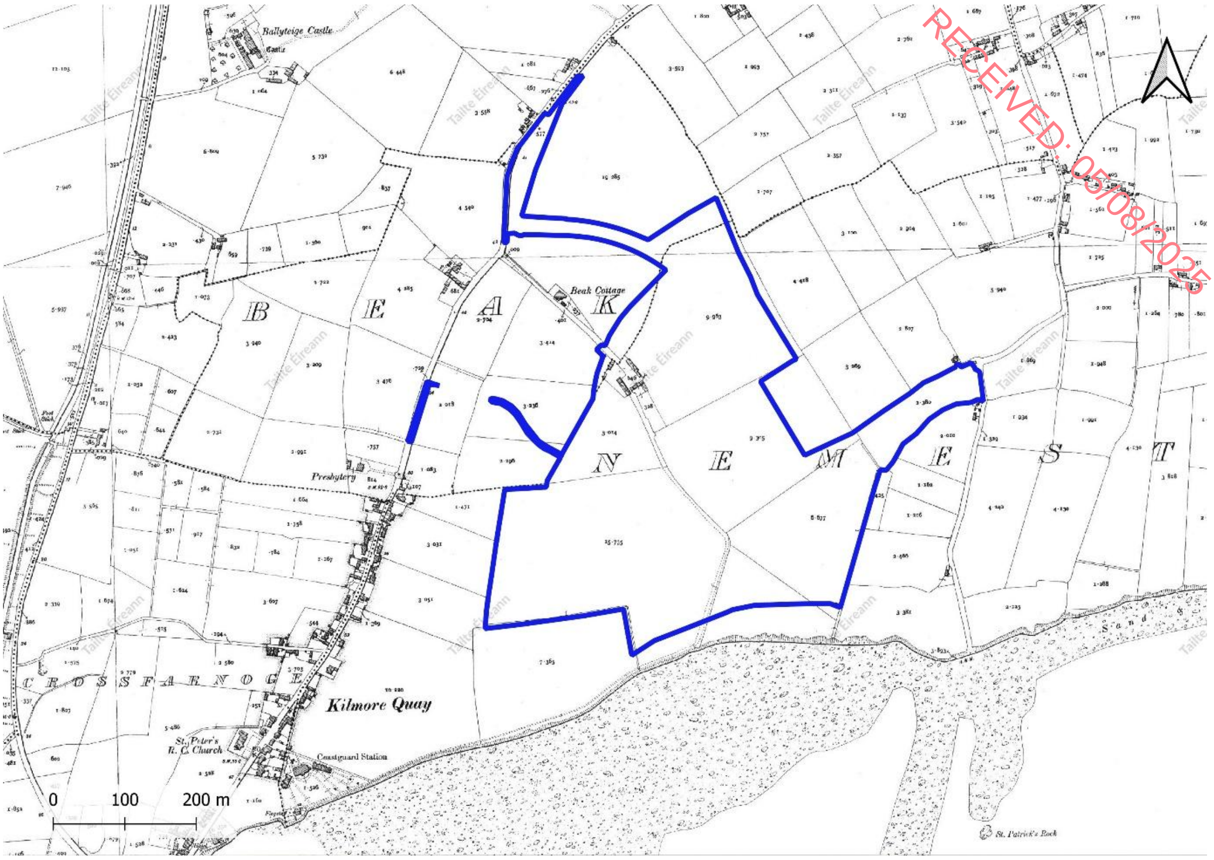


Figure 11.5: Extract from First Edition 25" to 1 mile Ordnance Survey Map surveyed in 1902, showing the proposed development area.

11.3.4 Aerial Photographs and lidar imagery

Aerial photographs held by Ordnance Survey Ireland (www.map.geohive.ie) were consulted to look for the presence of archaeological remains within the proposed development area.

The 1995, 2000, 2005, 2012 and 2018 Ordnance Survey photographs all record a landscape under tillage, similar to what was noted during the site visit (see Section 11.3.10 Field Inspection below). The proposed development area was subject to a previous Lidar survey, the results of which were consulted for this report.

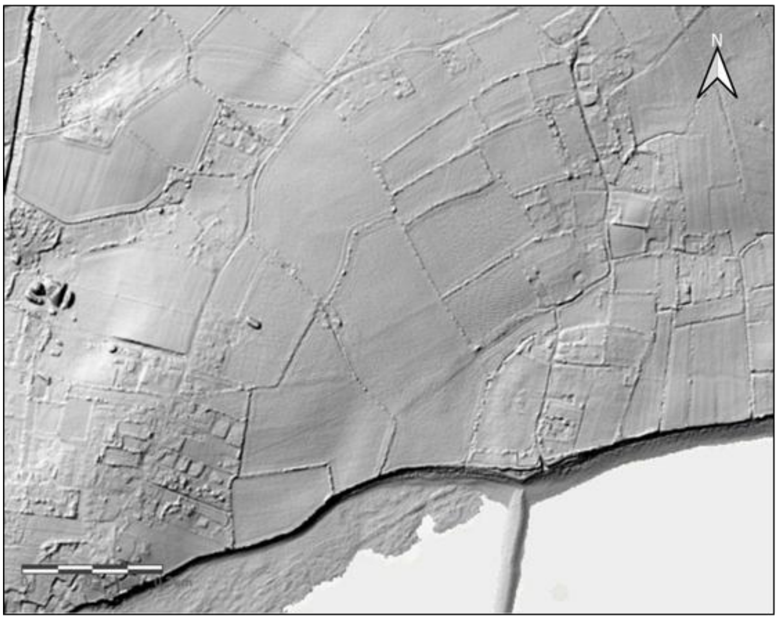


Figure 11.6: Lidar Hillshade showing the area of the proposed development (OPW).

Lidar is a non-invasive remote survey method that can reveal subtle ground surface features often invisible to traditional photography. There was no evidence of any archaeological

RECEIVED: 05/08/2025

features recorded on aerial photographs or lidar imagery within the proposed development site.

11.3.5 County Development Plan

The Wexford County Development Plan 2022-2028 was consulted for this report The Wexford County Development Plan 2022–2028 outlines specific archaeological and architectural heritage objectives, as follows:

Objective AH06

To conserve and protect archaeological sites, monuments (including their settings), underwater archaeology and objects including those listed or scheduled for inclusion on the Record of Monuments and Places and/or the Register of Historic Monuments or newly discovered sub-surface archaeological remains

Objective AH02

To recognise the importance of monuments and sites and protect the character and integrity of these monuments and sites where appropriate. The Council will consult the National Monuments Service where a development is proposed that may impact on an archaeological monument and/or site.

Objective AH03

To protect the heritage of groups of important archaeological sites and monuments, inclusive of their contextual setting and interpretation, in the operation of development management.

Objective AH04

To fully consider the protection of archaeological heritage when undertaking, approving or authorising development. In considering such protection the Council will have regard to the advice and recommendations of the National Monuments Service and the principles set out in Framework and Principles for the Protection of the Archaeological Heritage (Department of Arts, Heritage, Gaeltacht and the Islands, 1999).

Objective AH05

To require an archaeological assessment and/or investigation by qualified persons for development that may, due to its size, location or nature, have a significant effect upon archaeological heritage and to take appropriate measures to safeguard this archaeological heritage. In all such cases the Planning Authority shall consult with the National Monuments Service in the Department of Culture, Heritage and the Gaeltacht.

Objective AH06

To promote a presumption in favour of preservation in-situ of archaeological remains and settings when dealing with proposals for development that would impact upon archaeological sites and/or features. Where preservation in-situ is not possible the Council will consider preservation by record in appropriate circumstances.

Objective AH07

To protect historic and archaeological landscapes, including battlefields, and promote access to such sites provided that this does not threaten the feature.

RECEIVED: 05/08/2025

Objective AH08

To include archaeological landscapes, battlefields and historic landscapes as part of the updated Landscape Character Assessment of the County to be prepared following the publication of a National Landscape Character Assessment.

Objective AH09

To protect historic urban defences (both upstanding and buried) and associated features and safeguard them from inappropriate development in accordance with National Policy on Town Defences (Department of Environment, Heritage and Local Government, 2008).

Objective AH10

To identify appropriate archaeological sites in the county to which public access could be provided, and work to secure public access and the provision of signage and interpretation panels, where appropriate, in consultation with the landowner and the National Monument Service, subject to normal planning and environmental criteria and the development management standards contained in Volume 2.

Objective AH11

To retain existing street layouts, historic building lines and traditional plot widths which derive from medieval or earlier origin.

Objective AH12

To protect historical burial grounds within County Wexford and encourage their maintenance in accordance with best practice conservation principles.

Table nos. 13.4 and 13.5 of the Wexford County Development Plan contains lists of National Monuments which are the subject of preservations orders, and National Monuments which are in state ownership or guardianship respectively. There are no such National Monuments within the proposed development area or the 1km study area.

Table no. 13.6 contains a list of battlefield sites. There are no battlefield sites within the proposed development area or the 1km study

Volume 5 of the Wexford County Development Plan contains the Record of Protected Structures for the county. There are 48 Protected Structures with an address at Kilmore. None of these sites are within the development area.

Volume 6 of the Wexford County Development Plan contains a list of Existing Architectural Conservation Areas within the county. There are no Architectural Conservation Areas within the proposed development area or the 1km study area.

11.3.6 National Monuments

The Department of Culture, Heritage and the Gaeltacht maintains a database on a county basis of National Monuments in State Care: Ownership and Guardianship. The term National Monument is defined in Section 2 of the National Monuments Act (1930) as:

> "a monument or the remains of a monument the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto" (www.archaeology.ie).

RECEIVED: 05/08/2025

There are no National Monuments in State Care within the proposed development area or the 1km study area.

There are no sites with Preservation Orders or Temporary Preservation Orders within the proposed development area or the 1km study area.

There are no World Heritage Sites or sites included in the Tentative List as consideration for nomination to the World Heritage List within the proposed development area, the 1km study area or 5km of the proposed development area.

11.3.7 Topographical Files of the National Museum of Ireland

Information on artefact finds and excavations from County Wexford is recorded by the National Museum of Ireland. Location information relating to such finds is important in establishing prehistoric and historic activity in the study area.

There are no entries recorded in the Topographical Files for the townlands within the study area.

11.3.8 Toponyms

Townland names are an important source in understanding the archaeology, geology, land-use, ownership and cultural heritage of an area. The following translations were taken from www.logainm.ie .

Kilmore Quay - Irish: *Cé na Cille Móire* translates as quay of the big church.

Nemestown – Irish: *Baile Néim*. *Baile* translates as town or townland, Neme likely relates to a personal name.

Beak – Irish: *Béac*. Unknown translation.

Ballyteige – Irish: *Baile Thaidhg* translates as Tadhg's town.

Crossfarnoge – Irish: *Crois Fhearnóg*. *Crois* translates as cross or crossroads. The translation of *Fhearnóg* is unknown.

Libgate – Irish: *Geata Lib*. Unknown translation, possibly related to a road.

Ballygrangans – Irish: *Baile Grangáin*. *Baile* translates as town. Grangan may be a surname.

Chapel – Irish: *An Séipéal* is a direct translation referring to a chapel building.

11.3.9 National Inventory of Architectural Heritage

National Inventory of Architectural Heritage (NIAH) maintains a non-statutory register of buildings, structures etc. recorded on a county basis.

There is one building (Beak Cottage; NIAH No 15621008) listed in the National Inventory of Architectural Heritage within the development site. The NIAH entry for Beak Cottage describes the building as follows:

RECEIVED: 05/08/2025

'Description: Detached three-bay single-storey marine villa, rebuilt 1870, on a rectangular plan. Occupied, 1901. Vacant, 1911. Renovated, ----. Replacement hipped artificial slate roof with ridge tiles, paired cement rendered central chimney stacks having corbeled stepped stringcourses below capping, and uPVC rainwater goods on slightly overhanging eaves. Replacement cement rendered walls. Hipped segmental-headed central door opening with timber mullions supporting timber transom, and concealed dressings framing timber panelled double doors having sidelights below fanlight. Square-headed flanking window openings with cut-granite sills, and concealed dressings framing replacement six-over-six uPVC sash windows without horns retaining part exposed sash boxes. Interior including central entrance hall retaining carved timber surrounds to door openings framing timber panelled doors; and carved timber surrounds to door openings to remainder framing timber panelled doors with timber panelled shutters to window openings. Set in landscaped grounds.

Appraisal: A marine villa representing an integral component of the later nineteenth-century domestic built heritage of Kilmore Quay with the architectural value of the composition, one most likely retaining the basis of an earlier house marked on the first edition of the Ordnance Survey (surveyed 1840; published 1841), confirmed by such attributes as the compact rectilinear plan form centred on a Classically-detailed doorcase showing a pretty fanlight; and the slightly oversailing roofline. Having been well maintained, the elementary form and massing survive intact together with quantities of the original fabric, both to the exterior and to the interior, thus upholding much of the character or integrity of a marine villa having historic connections with the Mayler family including Mathew Mayler (d. 1895; Bassett 1885, 177).'

(source: https://www.buildingsofireland.ie/buildings-search/building/15621008/beak-cottage-beak-kilmore-quay-wexford).

The proposed development includes for the refurbishment, renovation and reuse of Beak Cottage. There are fifteen other entries recorded on the NIAH building survey within the 1km study area, though none of these are within the proposed development area. All but two of the NIAH entries are also contained within the Record of Protected Structures for county Wexford.

*Table **Error! No text of specified style in document.**-1 List of structures contained within the National inventory of Architectural Heritage (NIAH).*

Reg. No.	Name	Type	Townland	RPS	ITM
15621001		mill (wind)	CHAPEL (Bargy By.)	Yes	697661, 604671
15621002		post box	CHAPEL (Bargy By.)	No	697693, 604637
15621006	Ballyteige Castle	farm house	BALLYTEIGE (Bargy By.)	Yes	696624, 604501
15621007	The Thatched Cottage	house	BALLYTEIGE (Bargy By.)	Yes	696476, 604280

RECEIVED: 05/08/2025

Reg. No.	Name	Type	Townland	RPS	ITM
15621008	Beak Cottage	house	BEAK	No	697054, 604148
15621009	Kilmore Quay Garda Síochána Station	garda station/constabulary barracks	BEAK	Yes	696860, 603931
15621013	Bluebell Cottage	house	NEMESTOWN	Yes	696700, 603591
15621014	The Snug	house	NEMESTOWN	Yes	696696, 603583
15621015	Cois Cladagh	house	CROSSFARNOGUE	Yes	696653, 603524
15621017	Olinda	coastguard station	NEMESTOWN	Yes	696696, 603486
15621018	Saint Peter's Catholic Church	church/chapel	CROSSFARNOGUE	Yes	696611, 603526
15621020	An Teach Bán	house	CROSSFARNOGUE	Yes	696654, 603553
15621021		house	CROSSFARNOGUE	Yes	696673, 603586
15621024		house	CROSSFARNOGUE	Yes	696730, 603673
15621025	An Teach Oileán	house	CROSSFARNOGUE	Yes	696770, 603754
15621026	Saltees Cottage	house	CROSSFARNOGUE	Yes	696774, 603773

11.3.10 Field Inspection

The field inspection sought to assess the site, its previous and current land use, the topography and any additional environmental information relevant to the report. The inspection took place on 24th July 2024 in wet overcast conditions.

RECEIVED: 05/08/2025

The sites is bounded by a combination of mature hedging and wire fencing to the west and concrete post and rail and wire fencing to the east and north. The south end of the site is open to the strand. On the west side of the site is a group of roofless farm complex from which a mettled path extends into the site for about 100m. This farm complex is depicted on the 19th century Ordnance Survey maps of the area. It likely dates to the 18th century. The farm buildings are constructed with limestone rubble, and are ruined and heavily colonised by vegetation. The proposed development includes for the renovation, refurbishment and reuse of this farm complex.

The site is relatively level, with only a very gently southwards slope, at the northern end before sloping gently to moderately from north to south from the middle towards the coastline. Surface water collected in level areas from recent rain. Carrots had been plated in recently cultivated ground in the northern part of the site while a crop of wheat was growing in the southern and western parts. The views are moderate from the northern half of the site. They improve from the centre of the site, where the roof tops of Kilmore Quay, including the church can be seen along with the Ballyteige tower house in the west. The modern houses to the east can also be viewed. The view northwards from the middle and south of the site is inhibited by the rising ground level. From the southern end of the site there are moderate views to north and east and poor views to south and west.

No archaeological features or artefacts were revealed within any areas of the proposed development as a result of carrying out the walkover survey.

RECEIVED: 05/08/2025

Figure 11.7: Showing view west towards Kilmore Quay from south-west area of Proposed Development.

Figure 11.8: Showing view north from south-west area of proposed land.

Figure 11.9: Showing view west towards Kilmore Quay from south end of proposed land.

Figure 11.10: Showing view North from south end of proposed land.

RECEIVED: 05/08/2025

Figure 11.11: Showing view east from north end of proposed land.

Figure 11.12: Showing view south-west from north end of proposed land with Ballyteige tower house in the background.

Figure 11.13: Showing view south from east end of proposed land.

Figure 11.14: Showing view east from middle of proposed land.

RECEIVED: 05/08/2025

Figure 11.15: Showing view south towards historical farm buildings.

Figure 11.16: Showing path leading south from historical farm buildings.

Figure 11.17: Showing path leading south from historical farm buildings.

11.3.11 Conclusions

There are no known or legally protected archaeological, architectural or cultural heritage sites within the proposed development area. There are eight Recorded Monuments within the 1km study area. There are no National Monuments, sites with Preservation Orders or Temporary Preservation Orders, World Heritage Sites or Candidate World Heritage Sites within the development area. Reference to Summary Accounts of Archaeological Excavations in Ireland revealed that four fieldwork projects have been carried out in the townlands containing and surrounding the proposed site, two of which have revealed possible evidence of previously unrecorded prehistoric activity near to the eastern edge of the site. There are no archaeological features recorded on historic cartographic sources within the area of proposed land take. There was no evidence of any archaeological features recorded on aerial photographs or Lidar imagery within the proposed development area. The Lidar imagery (OPW) is a non-invasive survey technique. There are no entries recorded in the Topographical Files of the National Museum of Ireland for any of the townlands within the study area. No archaeological features or artefacts were revealed within any areas of proposed land take as a result of carrying out the walkover survey.

There are no buildings that are included in the Record of Protected Structures for County Wexford, within the development area. There are fourteen buildings included in the Record of Protected Structures for County Wexford, within 1km of the development area. There are no Architectural Conservation Areas within the proposed development area or the wider 1km study area. There is one building (Beak Cottage; NIAH No 15621008) listed in the National Inventory of Architectural Heritage within the development site. There are fifteen buildings listed on the National Inventory of Architectural Heritage within the 1km study area. The site inspection identified that a ruinous 18th century farm complex that does not have statutory protection, is within the development.

RECEIVED: 05/08/2025

11.4 Characteristics of the Proposed Development

The proposed site is located approximately 200m east of Kilmore Quay village, 18km to the southwest of Rosslare Harbour, and 18km south of Wexford town. The development will consist of a central hotel, ranging in height from 1 to 4-storeys over a lower ground floor and provides 163 no. bedrooms, 42 no. family suites, bar and restaurants, function/conference centre facility and spa/leisure complex. 55 no. large family friendly tourist lodges, pavilion restaurant, hotel staff accommodation and external sports, recreation and play facilities provided throughout the site. The development includes refurbishment and reuse of the Beak Cottage, farmstead buildings and courtyard for tourism and heritage purposes, with family lodge reception and recreation management, resort shop, café/restaurant, arts/crafts spaces. Facilities also include maintenance store, bicycle shelters, car / bus drop-off and parking, landscaped green spaces with pedestrian routes through the site. Vehicular access to the development is from the Kilmore Road (R739) with pedestrian/cycle connections into Kilmore Quay village centre and to Nemestown.

The development will also include new infrastructure network with wastewater treatment, subterranean services, roads, carparking, and landscaped grounds and designated biodiversity areas. The development area will comprise an area of approximately 16ha.

11.4.1 Construction Phase

The development will involve the construction of a new hotel, self-catering accommodation buildings, ancillary buildings, roads and paths, underground services and utilities, and landscaping on approximately 16ha of agricultural land. The development works will involve the mechanical excavation of existing topsoil and underlying deposits, followed by construction of new buildings and associated infrastructure. The development will also see the renovation, refurbishment and reuse of Beak Cottage and the ruinous early modern farm complex that is within the development site.

11.4.2 Operational Phase

The operational phase of the proposed development will involve the continuous use and management of a resort hotel with 163 bedrooms, associated amenities such as a bar, restaurant, spa, and leisure centre, as well as 42 family suites, 55 large family friendly tourist lodges, and various ancillary buildings. The infrastructure network, including wastewater treatment, roads, and landscaped grounds, will be maintained regularly.

11.5 Potential Impact of the Proposed Development

11.5.1 Construction Phase

11.5.1.1 Direct Construction Impacts

The development will not result in any impacts (direct or indirect) on any known cultural heritage assets.

The development will result in a direct slight impact an Architectural Heritage asset; Beak Cottage, a building that is contained in the NIAH. The proposed refurbishment, renovation and reuse of the early modern farm complex will result in a direct positive impact, by reversing the

RECEIVED: 05/08/2025

effects of neglect, weathering and collapse, ensuring the survival of the farm complex for the future.

As a result of carrying out this desk-based assessment, the following potential archaeological impacts have been identified:

- There are no Recorded Monuments within the proposed development area. As a result, there will be no direct construction impact on the recorded archaeological resource.
- There are eight Recorded Monuments within the 1km study area. There is the potential that previously unknown archaeological features remain subterranean within the development. The proposed development risks a permanent direct slight construction impact on any previously unrecorded archaeological remains that may exist within the proposed development area.
- The proposed development will have no visual or noise construction impact on the archaeological resource.
- The proposed development will have no visual or noise construction impact on the architectural resource.

11.5.1.2 Indirect Construction Impacts

- There will be no indirect construction impacts on the archaeological, architectural or cultural heritage resources.

11.5.1.3 Residual Construction Impacts

- There will be no residual construction impacts on the archaeological, architectural or cultural heritage resources

11.5.2 Operational Phase

11.5.2.1 Direct Operational Impacts

- The proposed development will have a positive direct impact on the architectural heritage assets of Beak Cottage, and the early modern farm complex. The proposed refurbishment, renovation and reuse of Beak Cottage will return these buildings to functionality and will ensure its continued use for the future.
- The proposed development will have no visual operational impact on the archaeological cultural heritage resources.
- The renovated and refurbishment of the architectural heritage assets of Beak Cottage, and the early modern farm complex, will have a positive visual operational impact on architectural heritage.
- The proposed development will have no noise operational impact on the archaeological, architectural or cultural heritage resources.

11.5.2.2 Indirect Operational Impacts

- There will be no indirect operational impacts on the archaeological, architectural or cultural heritage resources.

RECEIVED: 05/08/2025

11.5.2.3 Residual Operational Impacts

- There will be no residual visual operational impact on the archaeological, architectural or cultural heritage resources.

11.5.3 Potential Cumulative Impacts

11.5.3.1 Cumulative Construction Impacts

- There will be no cumulative construction impacts on archaeological, architectural or cultural heritage resources.

11.5.3.2 Cumulative Operational Impacts

- There will be no cumulative operational impacts on the archaeological, architectural or cultural heritage resources.

11.5.4 "Do Nothing" Impact

There are no Cultural Heritage Assets within the development area. Under the 'Do Nothing' scenario, there would be no cultural heritage impacts. There are two architectural heritage assets within the development area. Under the 'Do Nothing' scenario, these assets will continue to deteriorate and will eventually be unrecoverable. There are no known archaeological sites within the development area, based on existing records and surveys. There remains the potential for undiscovered archaeological resources. In this case, the "Do Nothing Impact" means these resources will remain undisturbed, though they might not be identified or protected. Continued coastal erosion and vegetation growth could potentially reveal or obscure undiscovered archaeological resources. Under the 'Do Nothing' scenario, there will be no anticipated impacts on known archaeological resources, and the area will remain in its current state.

11.6 Avoidance, Remedial & Mitigation Measures

11.6.1 Construction Phase

A written, photographic and measured survey of the identified architectural heritage assets will be completed prior to the commencement of works. The proposed refurbishment and renovation of Beak Cottage, and the ruinous early modern farm complex, will be undertaken by conservation professionals, under the guidance of a Conservation Grade II Architect, and are will be carried out in accordance with the Advice Series on working on historic properties, published by the Department of Housing, Local Government and Heritage, and available at the following link: https://www.buildingsofireland.ie/resources/.

A post planning archaeological geophysical survey will be undertaken. This survey will be followed by targeted test trenching, to be carried out at the locations of any proposed subsurface groundworks for new buildings, services routes, and other infrastructure. Test Trenching will be carried out under Licence from the National Monuments Service of the Department of Housing, Local Government and Heritage, following consultation with the National Museum of Ireland, and Wexford County Council. Provision will be made for the

RECEIVED: 05/08/2025

preservation in situ (avoidance) or preservation by record (archaeological excavation) of any archaeological features or deposits that may be identified during test trenching.

Targeted archaeological test trenching will be carried out to confirm the presence of absence of archaeological features that had been identified in the geophysical survey, within the development site. The purpose of test excavation is to establish the nature and extent of archaeological deposits and features present in a location which it is proposed to develop (though not normally to fully investigate those deposits or features) and allow an assessment to be made of the archaeological impact of the proposed development. Archaeological test trenching will be used to examine locations of new buildings, infrastructure, landscaping, and construction impacts. The archaeological test trenching will take place under licence issued by the National Monuments Service of the Dept of Housing, Local Government and Heritage. If archaeological resources are discovered during test trenching, the following steps will be taken:

- Immediate Cessation of Work: Construction in the immediate area of the discovery will stop to prevent further disturbance.
- Assessment: The on-site archaeologist will conduct a preliminary assessment of the find to determine its significance.
- Notification: The relevant authorities, such as the National Monuments Service and National Museum of Ireland, will be notified immediately. Depending on the significance of the discovery, further investigation, excavation, or preservation measures may be required.
- Documentation: The discovery will be fully documented, including photographs, detailed notes, and GPS coordinates, to ensure an accurate record is kept.

A report on the findings of the test trenching will be prepared and submitted to the relevant authorities and stakeholders. These reports will include details of any discoveries, the actions taken, and recommendations for any further archaeological work required.

Archaeological monitoring of construction stage ground disturbance works will be completed. The archaeological test trenching will be targeted, and will examine areas of new infrastructure for the proposed development. Archaeological monitoring of ground disturbance works during construction activities, will mitigate the of any adverse impacts on subterranean archaeology assets.

Please note that mitigation measures are subject to approval by National Monuments Service- Department of Housing, Local Government and Heritage.

11.6.2 Operational Phase

The Operational Phase will not impact on any cultural heritage assets.

The daily activities and ongoing maintenance during this phase will have a positive impact on the identified architectural heritage assets of Beak Cottage and the ruined early modern farm complex. These architectural heritage assets will benefit from maintenance and upkeep during the Operation Phase of the proposed development. Also, the refurbishment and renovation of the identified architectural heritage assets will positively impact on the setting and appearance of these assets.

RECEIVED: 05/08/2025

The Operational Phase will not impact known archaeological resources, but any unforeseen discoveries will require appropriate management in line with archaeological best practices. This includes the reporting of archaeological artefacts and features to the National Monument Service and the National Museum of Ireland.

11.6.3 "Worst Case" Scenario

The worst-case scenario would involve the discovery of previously unknown archaeological sites or artefacts during the construction or operational phase, potentially during groundworks, routine maintenance, landscaping, or other ground-disturbing activities. Such discoveries could delay operations and necessitate archaeological intervention, including excavation and preservation efforts.

If undiscovered archaeological resources exist within the development area, they could be inadvertently damaged or destroyed during activities such as road maintenance, landscaping, or infrastructure repairs. This would result in the irreversible loss of archaeological heritage.

Environmental degradation, such as erosion, flooding, or landscaping activities, could disturb the soil and inadvertently expose and damage undiscovered archaeological sites. This could complicate preservation efforts and reduce the integrity of any archaeological heritage.

While the likelihood of these scenarios is considered low given the absence of known archaeological sites, the implementation of robust archaeological mitigation measures will be crucial.

The development includes the renovation and refurbishment of architectural heritage assets. The worst-case scenario would be the inappropriate renovation and refurbishment of these assets, resulting from poor design, lack of skilled and competent personnel, the use of unsuitable materials, or unsuitable construction methods.

11.7 Residual Impacts

Despite thorough surveys and investigations, there is always a residual risk that undiscovered archaeological resources might exist within the development area. Even after implementing mitigation measures, such as pre-construction surveys and test trenching, there remains a small possibility that archaeological materials could be uncovered during the operational phase. These discoveries might result in the need for further archaeological work, potentially affecting the timeline and operation of the resort.

If any archaeological resources are discovered and impacted during the operational phase, even after mitigation efforts, there will be a residual effect on the integrity of those resources. For example, if artefacts are found and partially disturbed before proper identification and protection, this will compromise their archaeological value and context.

Over the long term, activities associated with the resort's operation—such as ongoing landscaping, maintenance, or infrastructure work—might still pose a risk to any remaining or undiscovered archaeological resources. While these risks are reduced by initial mitigation measures, they cannot be entirely eliminated.

RECEIVED: 05/08/2025

11.8 Monitoring Measures

11.8.1 Construction Phase

There are a number of obligatory processes required as part of archaeological licence applications to the National Monuments Service and these will allow for monitoring of the successful implementation of the construction phase mitigation measures presented in Section 11.6.1. A method statement detailing the proposed strategy for archaeological supervision of ground disturbance works during the construction phase will be submitted to the National Monuments Service as part of the licence application. This will clearly outline the proposed extent of ground works and outline the consultation process to be enacted in the event that any unrecorded archaeological remains are identified, which may include preservation in situ by avoidance or preservation in record by archaeological excavation. A report will be compiled on all archaeological site investigations which will clearly present the results in written, drawn and photographic formats. Copies of this report will be submitted to the National Monuments Service, Wexford County Council and the National Museum of Ireland

11.8.2 Operational Phase

As detailed in Section 11.6.2, a suitably qualified archaeologist will be retained to advise on the design of any potential future developments (if any) within the Proposed Development. The appointed archaeologist will prepare an archaeological impact assessment of any such potential development which will be carried out in consultation with the Wexford County Council Archaeologist and the National Monuments Service.

11.9 Interactions

There are no interactions between Archaeological and Cultural Heritage resources and the following factors: Population and Human Health, Biodiversity, Land and Soils, Hydrology, Air Quality, Climate, Noise and Vibration, and Traffic.

There is a weak interaction between Archaeological and Cultural Heritage, and Landscape and Visual Amenity. The construction of the proposed development will result in a change to the visual context of the identified architectural heritage assets.

There is a weak interaction between Archaeological and Cultural Heritage and Material Assets: Waste and Utilities. The new Material Assets including roads, built services and utilities, that will be constructed for this project will require ground disturbance activities which risk impacting on subterranean archaeological features.

Interaction	Archaeological and Cultural Heritage	
	Construction	Operational
Population & Human Health	X	X
Biodiversity	X	X
Land and Soils	X	X
Hydrology	X	X
Air Quality	X	X
Climate	X	X

RECEIVED: 05/08/2025

Interaction	Archaeological and Cultural Heritage	
	Construction	Operational
Noise and Vibration	X	X
Landscape and Visual Amenity	✓	✓
Archaeological and Cultural Heritage	N/A	N/A
Material Assets: Waste and Utilities	✓	✓
Traffic	X	X
X	No Interaction	
✓	Weak Interaction	
✓	Some Interaction	
✓	Strong Interaction	

Table 11.3: Showing Interactions between Factors

11.10 Difficulties Encountered When Compiling

No difficulties were encountered during the compiling of this report.

RECEIVED: 05/08/2025

11.11 References

Archaeological Survey of Ireland. 1996. Archaeological Inventory of County Wexford. Dublin.

Bassett, G. H, 1885. Wexford County Guide and Directory. Dublin. Sealy, Bryers, and Walker.

Department of Arts, Heritage, Gaeltacht and the Islands. 1999. Framework and Principles for the Protection of the Archaeological Heritage. Dublin.

Department of Culture, Heritage and the Gaeltacht. Unpublished. Record of Monuments and Places, County Wexford.

Dowd, M. and Carden, R. F. 2016 “First Evidence of a Late Palaeolithic Human Presence in Ireland”. Quaternary Science Reviews 139

Edwards, N. 2006. The Archaeology of Early Medieval Ireland. Oxford.

Environmental Protection Agency. 2022. Guidelines on the Information to be Contained in Environmental Impact Statements. Dublin.

Gahan, D. 1995 The Peoples Rising -Wexford in 1798

Lewis, S. 1837. A Topographical Dictionary of Ireland. Two Volumes. London.

Madden, R. R. 1842. Madden's History of The United Irishmen 1842 vol 1. London. accessed: https://www.askaboutireland.ie/aai-files/assets/ebooks/151_163_175_The-United-Irishmen/151_The-United-Irishmen-1.pdf

National Museum of Ireland. Topographical Files, County Wexford. Unpublished.

Stout, M. 1997. The Irish Ringfort. Dublin.

Waddell, J. 2005. The Prehistoric Archaeology of Ireland. Galway.

Walsh, J.R. 2000. “The early Church”, in Jefferies, H.A. and Devlin, C. (eds.). History of the Diocese of Derry from Earliest Times. Dublin.

Wexford County Council. 2022. Wexford County Development Plan 2022 – 2028. Wexford.

Wexford County Council. 2022. Volume 5 Record of Protected Structures. Wexford County Development Plan 2022 – 2028. Wexford.

Cartographic Sources

Ordnance Survey Map Editions 1839, 1907 - 1909 and 1911

Internet Sources

www.askaboutireland.ie Griffth’s Valuation

www.archaeology.ie National Monuments Service

www.bing.com/maps Bing aerial photography

www.excavations.ie Database of Irish Excavation Reports

www.gsi.ie Lidar imagery

www.logainm.ie	Placenames Database of Ireland
www.map.geohive.ie	Ordnance Survey Ireland aerial photographs
www.Wexford.ie	Wexford County Council

RECEIVED: 05/08/2025

RECEIVED: 05/08/2025

12 Material Assets: Waste and Utilities

12.1 Introduction

This chapter of the EIAR was prepared to assess the potential significant effects of the Proposed Development on material assets including built services and waste.

12.1.1 Quality Assurance and Competency of Experts

This chapter has been prepared by Rachel Redmond, Environmental Consultant with DNV. Rachel has a Bachelor of Science (Hons) in Environmental Science from University College Cork and a Specialist Diploma in Corporate Environmental Planning from University of Galway. Rachel has over 3 years of experience as an environmental consultant preparing Environmental Impact Assessment Reports of a similar scale and nature to the Proposed Development.

This chapter has been reviewed by Laura Griffin Laura Griffin, Environmental Consultant at DNV. Laura has a Master of Science (Hons) degree in Climate Change from Maynooth University and a Bachelor of Arts (Hons) degree in English and Geography from Maynooth University. Laura has 5+ years of professional experience. Laura has experience preparing Environmental Impact Assessment (EIA) Screening Reports, Air Quality and Climate, Noise and Vibration and Material Assets (Waste and Utilities) Chapters of Environmental Impact Assessment Reports (EIAR)s.

This chapter has been approved by Catherine Keogan, Technical Director and EIA Lead at DNV. Catherine is an environmental consultant with 20 years' experience in consultancy, specialising in EIAs for a wide range of infrastructure developments.

12.2 Study Methodology

12.2.1 Relevant Legislation and Guidance

The methodology adopted for the assessment takes cognisance of the relevant guidelines, in particular the following:

- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EIAR) (EPA, 2022);
- Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects (EPA, 2021);
- Waste Framework Directive (Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste) as amended by Directive (EU) 2018/851;
- Regulations 2020, S.I. No. 323 of 2020 (Waste Directive) (European Union, 2020);
- Waste Management Acts 1996 (as amended);
- The National Waste Management Plan for a Circular Economy 2024-2030; and
- Wexford County Development Plan 2022 – 2028.

The scope of work undertaken for the impact assessment included a desk-based study of built services, utilities and waste management infrastructure within the area surrounding the site. The desk study involved collecting relevant data for the site and surrounding area, including

RECEIVED: 05/08/2025

published information and details pertaining to the Proposed Development provided by the Applicant and the design team.

Information on built assets in the vicinity of the site was assembled by the following means:

- ESB Networks Utility Maps;
- Uisce Éireann Utility Plans;
- Gas Networks Ireland Service plans;
- EIR E-Maps;
- Utilities Report (Metec, 2025);
- Climate Action and Energy Statement (Metec, 2025);
- Civil Engineering Planning Report (DRA Consulting Engineers, 2025);
- Resource and Waste Management Plan (DNV, 2025);
- Operational Waste Management Plan (DNV, 2025); and
- Construction Environmental Management Plan (DNV, 2025).

All phases of the Proposed Development were considered in the assessment of potential effects on Material Assets (Waste and Utilities) within the study area. Assessment of the likely impact of features of the Proposed Development, was carried out in accordance with the following codes of practice, guidelines, legislation, and plans:

- National Code of Practice for the Customer Interface Version 5 (ESB Networks, 2021);
- Construction Standards for MV Substation Buildings (ESB Networks, 2019);
- Irish Water Code of Practice for Water Infrastructure Connections and Developer Services Design and Construction Requirements for Self-Lay Developments July 2020 (Revision 2);
- IS EN752, Drain and Sewer Systems Outside Buildings;
- Water Services Acts 2007 to 2017;
- CIRIA Report c753 "The SuDS Manual" (CIRIA, 2015);
- Section 3.2 of the Urban Development and Building Heights: Guidelines for Planning Authorities (2018);
- Waste Framework Directive (Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste) as amended by Directive (EU) 2018/851;
- European Union (Waste Directive) Regulations 2011 - 2020, S.I. No. 323 of 2020;
- Waste Management Acts 1996 to 2011; and
- National Waste Management Plan for a Circular Economy 2024-2030.

12.2.2 Description and Assessment of Potential Effects

Effects vary in quality from negative, to neutral or positive. The effects of impacts will vary in significance based on the receiving environment. Effects will also vary in duration. The terminology and methodology used for assessing the significance and the corresponding 'effect' throughout this chapter is as described in Chapter 1 of this EIAR.

12.2.3 Local and National Waste Action Plans

The National Waste Management Plan for a Circular Economy (NWMPCE) 2024 -2030, sets out the framework for the prevention and management of waste across Ireland. This document is a statutory document underpinned by national and EU waste legislation, and reflects the targets set out for construction and demolition waste in the Waste Framework Directive (WFD).

RECEIVED: 05/08/2025

The strategic vision of the NWMPCE is to rethink the approach to managing waste, and to move towards a 'circular economy' approach where resources are reused or recycled as much as possible, and the overall generation of waste is minimised.

In order to achieve this vision, the NWMPCE has set out a number of specific and measurable performance targets in relation to construction and demolition waste:

- Achieve a 2% reduction per annum is proposed for total construction and demolition waste to achieve a cumulative 12% reduction by 2030 (baseline is 9 million tonnes), and
- Achieve 70% construction and demolition waste sent for reuse, recycling and other recovery of construction and demolition waste (excluding natural soils and stones, and hazardous wastes).

The NWMPCE aims to "*prioritise waste prevention and circularity in the construction and demolition sector to reduce the resources that need to be captured as waste*". In order to achieve the objectives, set out in NWMPCE, it is imperative that robust resource and waste management plans are developed for and designed into the pre-construction, construction and operational phases of the Proposed Development.

12.2.4 Article 27 of the European Communities (Waste Directive) Regulations 2011

Under Article 27 of the European Communities (Waste Directive) Regulations 2011 (SI No. 126 of 2011) as amended (referred to hereafter as Article 27), uncontaminated soil and stone free from anthropogenic contamination which is excavated during the construction phase of a development can be considered a by-product and not a waste, if (a) further beneficial use of the material is certain, (b) it can be used directly without any further processing, (c) it is produced as an integral part of the development works and (d) the use is lawful and will not have any adverse environmental or human health impacts (EPA, 2019).

For Article 27 to apply, the beneficial use mentioned in point (a) above must be identified for the entirety of the excavated soil from the Proposed Development prior to its production, with that use taking place within a definite timeframe, for it to be regarded as certain.

12.3 The Existing and Receiving Environment (Baseline Environment)

The surrounding area is predominantly residential and agricultural. The site is bound by the R739 Road to the north; greenfields and existing housing to the west; Kilmore Quay Beach to the south; a petrol station and detached house rear gardens to the south; and open green field lands to the east.

12.3.1 Surrounding Environment

The site is within a short distance of Kilmore Quay and is located along the beachfront of Kilmore Quay Bay Beach. There are a number of amenities in the area for both locals and tourists including but not limited to; Ballyteige Castle, Kilmore Quay Holiday Park, Kilmore Quay Angling and a memorial garden. Bus route Nos. 390 and 383 serve the Kilmore Quay area.

RECEIVED: 05/08/2025

12.3.2 Electricity Supply

12.3.2.1 Local Supply and Grid Connection

The closest transformer station to the site is a 110 kV station located in Rosspile. This station is connected to the Wexford station via 110 kV overhead lines. There is a 220kV station located in Great Island with associated 220 KV overhead lines running to Cullenagh, Crory and Turlough. Additionally, the great island power station is located approximately 30km from the site.

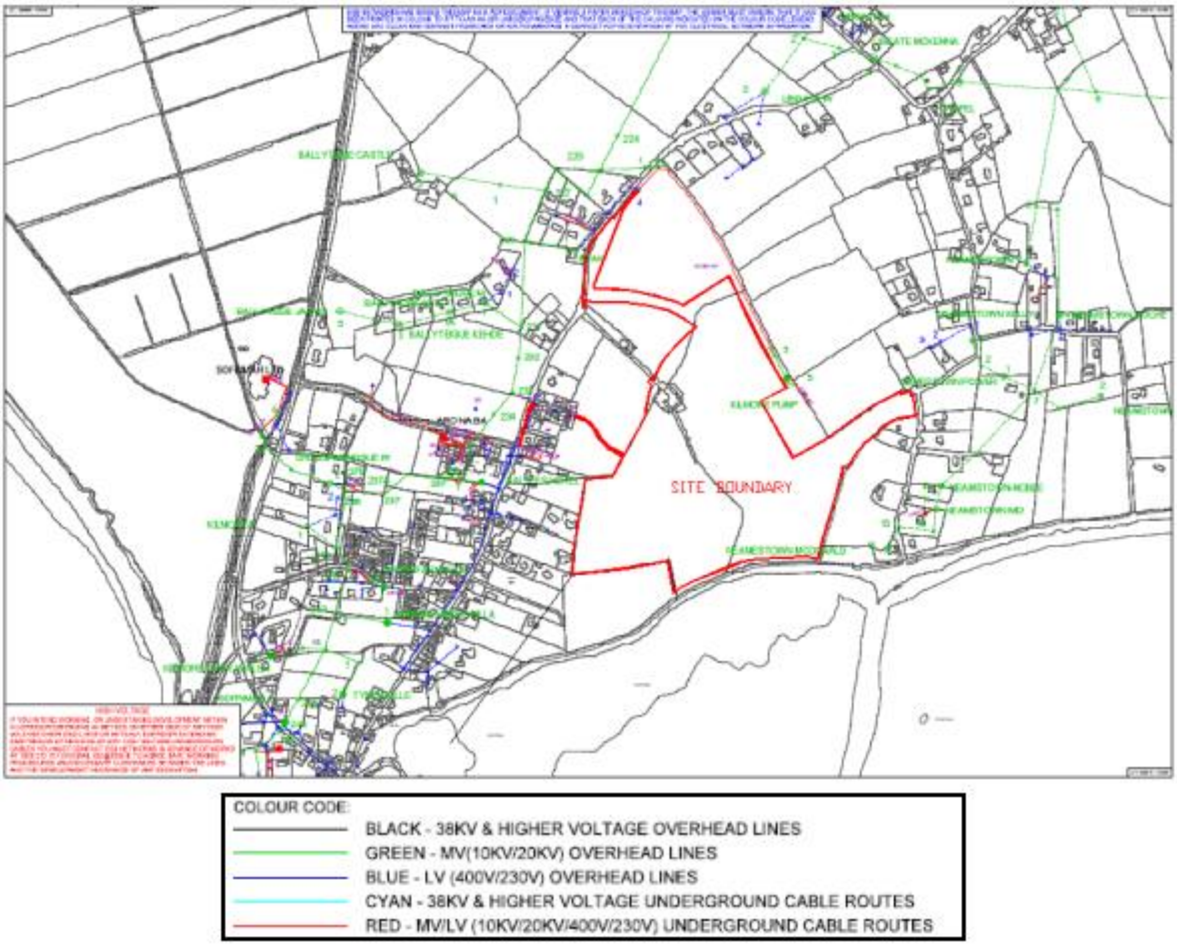


Figure 12-1 ESB Networks Map of the surrounding area (Extracted from Utilities Report (Metec, 2025))

12.3.2.2 Onsite Supply and Consumption

There is currently no onsite consumption of electricity.

12.3.3 Gas Supply

Gas Networks Ireland builds, develops and operates Ireland's gas infrastructure, maintaining over 14,521km of gas pipelines and two sub-sea interconnectors. Gas Networks Ireland is responsible for connecting all new gas customers to the network, and for work on service pipes and meters at customers' premises, on behalf of gas suppliers in Ireland.

According to the Gas Networks Ireland map, gas is currently unavailable at the site.

RECEIVED: 05/08/2025

12.3.4 Information and Communication Technology (ICT)

National Broadband Ireland was set up by the Irish Government to facilitate the roll out of fibre broadband across Ireland. The Department of the Environment, Climate and Communications have developed an interactive map which details the progress of the rollout of the National Broadband Plan. The High-Speed Broadband Map identifies locations and premises as amber or blue and the map is updated on a quarterly basis. Amber areas depict target areas for the State intervention of the National Broadband Plan. Blue areas indicated that commercial operators have instated or are in the process of delivering high speed broadband services. The site is located within an amber area of the national broadband map and is therefore an area targeted for state intervention.

The telecommunications network in the area is predominantly made up of Eircom Ltd. (Eir) infrastructures.

Figure 12-2 Eir Network Map in the surrounding location (Extracted from Utilities Report (Metec, 2025))

12.3.5 Storm Water Drainage

The site is currently used as agricultural lands which drains by a series of existing open drain channels, discharging to an existing open drain located to the southeast boundary of the site.

12.3.6 Water Supply and Demand

There is an existing groundwater well located on the site. The groundwater well has been assessed to determine whether there is sufficient water available to service the site. Water quality sampling was undertaken at the site to determine whether the water would be potable. The monitoring results for the samples collected at the site concluded that the pumping well meets the applicable drinking water parametric values for the parameters analysed.

RECEIVED: 05/08/2025

12.3.7 Wastewater Management

As the site is currently in agricultural use, there is no prior foul network at the site. The Client has an agreement in place with Uisce Éireann to connect a wastewater flow from the Proposed Development to the Kilmore Quay Wastewater Treatment Plant (WWTP). A 160mm diameter inlet pipe has been constructed by Uisce Éireann during the Phase 1 construction works of the WWTP to facilitate this connection.

12.3.8 Waste Management

Wexford County Council is the local authority responsible for setting and administering waste management activities in the area of the site. Wexford County Council's waste management activities are governed by the requirements set out in the Southern Region Waste Management Plan 2015 – 2021 which has since been replaced by the National Waste Management Plan for a Circular Economy 2024-2030. The Waste Management Plan for a Circular Economy 2020 – 2025 sets out the strategies for Ireland to transition to a circular economy. The site currently has no waste management requirements.

12.4 Characteristics of the Proposed Development

Chapter 2 of this EIAR describes the Proposed Development in further detail.

12.5 Potential Effect of the Proposed Development

This section assesses the impact of the Proposed Development on the Material Assets of the area.

12.5.1 Construction Phase

12.5.1.1 Electricity Supply

The Main Contractor will apply for a power supply from ESB Networks to serve both the site compound and the construction site. A suitably qualified electrical engineer will calculate the supply requirements to ensure they are adequate for all site compound and construction activities. In the event of delays in securing the necessary power supply for offices and cranes, generators may be utilised. Diesel generators will be equipped with sound enclosures and will undergo regular servicing to mitigate noise and odour pollution. They will also be placed in spill trays to prevent ground contamination. Temporary site lighting will be installed to ensure safe and well-illuminated walkways around the site compounds, as well as task lighting for the construction areas.

Connecting a new integrated tourism resort complex to the electricity distribution system must be carried out in accordance with ESB Networks' specifications, and in particular with the guidance provided in the documents ESB Networks National Code of Practice for the Customer Interface Version 5 (2021) and ESB Networks Construction Standards for MV Substation Buildings (2019). The developer will be required to undertake the preparatory work such as installation of ducting and provision of substation plinth or building. A temporary suspension of the network locally to facilitate the connection works may be required during the construction phase, and an additional temporary suspension will also occur when power is provided to the site of the Proposed Development. These temporary suspensions will be

RECEIVED: 05/08/2025

controlled by ESB Networks as the statutory undertaker and in accordance with standard protocols. The potential impact from the construction phase on the local electrical supply network is likely to be negative, slight, and short-term and is considered non-significant in the context of the EIA Directive.

12.5.1.2 Gas Supply

Connecting a new integrated tourism resort complex to the gas network system must be carried out in accordance with Gas Networks Ireland's specifications.

Given the absence of gas infrastructure at the site, it is not intended to provide a new gas connection to the Proposed Development. Additionally, there is no requirement for gas services for any client equipment. Heating and hot water services will be provided via high-efficiency, electrically driven heat pump technology, which offers a superior performance compared to traditional gas-fired systems.

12.5.1.3 Information and Communication Technology (ICT)

Connections will be required to the existing ICT network during the construction phase of the Proposed Development which, if not conducted in accordance with best practice, has the potential to impact on local telecoms and ICT connectivity. However, due to the temporary and phased nature of the construction phase the potential impact of the construction phase on the local telecoms network is considered negative and not significant in the context of the EIA Directive

12.5.1.4 Storm Water Drainage

The existing site is currently used as agricultural land and drains via a series of existing open channels that discharge.

There will be no direct discharge to groundwater or surface water during the construction phase of the Proposed Development.

There may be a temporary increase in the exposure of the underlying shallow groundwater during excavation works. Surface water runoff will be prevented from entering open excavations with sandbags or other approved methods proposed by the appointed contractor. Furthermore, the appointed contractor will ensure that machinery does not enter the groundwater if encountered during construction.

All run-off from the site or any areas of exposed soil will be managed as required with temporary pumping and following appropriate treatment as required. Surface water runoff from areas stripped of topsoil and surface water collected in excavations will be directed to onsite settlement ponds where measures will be implemented to capture and treat sediment laden runoff prior to discharge at a controlled rate.

Construction phase activities that could potentially impact on water quality are detailed in the Chapter 7: Hydrology of this EIAR and control measures for potential emissions to surface water, groundwater and soil are detailed in the CEMP (DNV, 2025).

It is not expected to cause any likely significant effects on the wider surface water drainage network.

RECEIVED: 05/08/2025

12.5.1.5 Water Supply and Demand

Site offices and construction activities will create a demand for water supply to the site. A temporary connection is required to facilitate on-site works for the Proposed Development. The Main Contractor will carry out a site survey to identify the locations of the water connections to the site. It will be the Main Contractor's responsibility to apply to Uisce Éireann for connections to the water main ideally utilising existing connections.

Commencement of construction will therefore result in a net increase in the water demand for the site of the Proposed Development.

Monitoring required as a condition of any consent for discharges or water supply will be the responsibility of the appointed Contractor. The appointed Contractor will also be responsible for any additional monitoring that may be required by the Client.

Some local diversions may be required to water supplies to accommodate the construction works which may require temporary outages. Additionally, new connection works may cause water supply disruptions during the construction phase. These disruptions will be controlled by Uisce Éireann and Wexford County Council (WCC) in accordance with standard protocols. The likely effect will be negative, slight, short term and temporary (not significant in the context of the EIA Directive.

12.5.1.6 Wastewater Management

Drainage will be required to service the site toilets and canteen facilities. The Main Contractor will carry out a site survey to identify the locations of the water and foul drainage connections to the site. It will be the Main Contractor's responsibility to apply to Uisce Éireann for connections to the water main and foul drain, ideally utilising existing connections.

New connection works may cause disruptions to the foul water network during the construction phase. These disruptions will be controlled by Uisce Éireann and WCC in accordance with standard protocols. Due to the nature of the works during the construction phase, the likely effect will be negative, slight, short term and temporary (not significant in the context of the EIA Directive.

12.5.1.7 Waste Management

The majority of waste arising during the construction phase will comprise soil and stone materials associated with the excavation works required for foundations and connections to utilities and services. A member of the construction team will be appointed as the Waste Officer to ensure commitment, operational efficiency and accountability during the construction phase of the Proposed Development.

The waste streams that will be generated by construction activities are as follows:

- Topsoil and subsoil;
- Packaging and general waste from construction activities;
- General site clearance waste; and
- Municipal waste generated by workers.

All waste generated during the construction phase will be segregated onsite to enable ease in re-use and recycling, wherever appropriate. Material will be segregated on-site for the appropriate waste stream and disposal destination. The Waste Officer or appointed delegate

RECEIVED: 05/08/2025

will ensure waste streams are adequately identified. The segregation and management of waste storage and stockpiling will be routinely inspected and audited by the Waste Officer. In general, the priority of the RMWP shall be to promote recycling, reuse and recovery of waste and diversion from landfill wherever possible. This will be also managed in accordance with the principles set out in the RWMP (DNV, 2025).

After in-situ reuse and recycling options have been fully considered, all residual waste streams will be collected by appropriately authorised waste collection contractors and will be managed using suitably permitted/licensed waste disposal or materials recovery facilities.

A breakdown of the approximate quantities of C&D waste materials that will be generated throughout the construction phase of the Proposed Development, based on the information available to date and estimated quantities provided by the Main Contractor, is presented in Table 12-1. The List of Waste (LoW) code for each waste stream is also shown.

These wastes are as defined in the RWMP (DNV, 2025), which is submitted as a separate document with this planning application.

Table 12-1 Predicted Quantities of C&D Waste and LoW Code

Waste Type	LoW Code	Approximate Quantity (tonnes)
Concrete	17 01 01	1,271.82
Timber	17 02 01	1,017.46
Plastic	17 02 03	254.36
Metals (including their alloys)	17 04 01, 17 04 02, 17 04 03, 17 04 04, 17 04 05, 17 04 06, & 17 04 07	254.36
Plasterboard	17 08 02	508.73
Mixed construction and demolition wastes	17 09 04	1,780.55
	Total	**5,087.29**

Note: It is difficult to quantify the volume of other waste arisings however all waste is to be diverted towards recovery where it cannot be reused or recycled.

Excavations for external infrastructure works are estimated to be approximately 50,000m^3, it is proposed that this material will be retained on site for landscaping.

The total estimated volume of construction and demolition waste to be generated is c.5,087m^3. The disposal of such material will occur on a phased basis thereby reducing any potential effects on the surrounding road network. All material to be disposed of offsite will be transported to a licensed waste disposal facility. Due to the use of permitted/licensed waste collection/waste management facilities, it is not predicted that the production of waste will cause any likely significant effects on the environment. It is the responsibility of the Main Contractor to ensure that waste collection contractors are legally permitted to carry the waste, and that the facility they bring the waste to is licensed to handle that type of waste as outlined in the Waste Management Acts 1996-2005.

RECEIVED: 05/08/2025

The potential impact from the construction phase on waste recovery and disposal will be negative, slight and short-term and is considered non-significant in the context of the EIA Directive.

12.5.2 Operational Phase

12.5.2.1 Electricity Supply

Electricity will be required to provide lighting, power supply and heating for each individual unit for the Proposed Development. Heating and hot water services will be provided via high-efficiency, electrically driven heat pump technology.

The Utilities Report (Metec, 2025) states that ESB Networks has identified two substations in Kilmore Quay with spare capacity estimated between 200–1000 kVA. However, this may not be sufficient to meet the demands of the Proposed Development. To address this, an 18 MVA substation located approximately 15 km away in Killinick, Co. Wexford has been identified as a potential source for electrical supply, should local capacity fall short. The proposed supply strategy is to have a single Medium Voltage (MV) supply serving the entire development.

The effect of the Proposed Development on the electricity supply network during the operational phase is likely to increase demand to the existing supply. The potential impact from the operational phase on the electricity supply network is likely to be neutral and not significant in the context of the EIA directive in the long term.

12.5.2.2 Gas Supply

As there is no gas supply at the site and no requirement for gas during the construction or operational phase there are no predicted effects on the gas supply resulting from the Proposed Development.

12.5.2.3 Information and Communication Technology (ICT)

The Utilities Report (Metac, 2025) states that as part of the design process, the impact of the Proposed Development on major telecommunications links have been considered. Three, Eir, and Vodafone have telecommunication masts in the surrounding area. The telecom masts in the greater surrounding area is shown in Figure 12-3 below.

Figure 12-3 Telecommunication masts in the surrounding area (Extracted from Utilities Report (Metec, 2025))

It is expected that the effect of the Proposed Development on the surrounding ICT is neutral, not significant in the context of the EIA Directive and long-term.

12.5.2.4 Surface Water Drainage

Surface water run-off will be collected from impermeable surfaces (roofs, roads, footpaths, etc.) via rainwater pipes, drainage channels, rain gardens, swales and a detention basin which subsequently discharge via flow control devices to the existing open channel drain located on the southeastern boundary of the site, mimicking the existing green field run-off.

A Civil Engineering Planning Report was prepared by DRA Consulting Engineers (2025) which outlines the proposed storm water drainage at the site.

The key components of the stormwater drainage system is outlined within the engineering planning report as follows:

- *The internal roadways within the site discharge runoff to dry swales with an underlying filter drain running parallel to the roadway.*
- *The proposed car parks located to the west of the site, that mainly serve the proposed Lodges, Farmstead and Pavilion Restaurant will discharge runoff into bioretention structures (rain gardens and dry swales with an underlying filter drain).*
- *Car parks located on the eastern boundary will collect runoff via dry swales with an underlying filter drain distributed across the different car parks as shown on drainage drawings.*

RECEIVED: 05/08/2025

- *The emergency access roadways collect the generated runoff with filter drains located within the centre of the roadway.*
- *The stormwater collected on the building roofs throughout the site will be collected via rainwater pipes and will converge with the runoff generated in the above areas. Rainwater harvesting will be utilised for run-off from the hotel roof and will be available for irrigation of landscaping*
- *The abovementioned green SuDs structures will act as catchments points for surface water runoff and will act as the primary water filter.*
- *The surface water network has been designed as a cascaded system where the runoff is collected within the different bioretention structures and rainwater pipes and directed to storage structures located throughout the site. These storage structures are fitted with flow control devices to slow down the discharge and allow as much infiltration as is possible into the underlying soils.*
- *The cascading system also provides a fail safe where stormwater can discharge to other parts of the network should a blockage or maintenance issue arise.*
- *All residual runoff from the site will be directed towards the southeast boundary of the site, following the natural grade of the land, where the runoff will pass through a rain garden and a detention basin before discharge. These features will be used to store residual surface water and act as a secondary filter for the runoff generally and the primary filter for roof runoff. Residual runoff, in peak events, will be discharged to the existing open channel to the south east corner of the site at the Green Field Run-Off Rate for the site.*
- *The propose surface water networks have been designed for the 100-year storm event plus a 20% storage allowance for climate change and 10% for creep*

The proposed Sustainable Drainage Systems (SuDS) features have been designed in accordance with the Greater Dublin Strategic Drainage Study (GDSDS) for surface water management and in accordance with the CIRIA SuDs Manual 2015.

The Civil Engineering Planning Report (DRA, 2025) outlines water quality risk management approaches as outlined within the Ciria SuDS Manual 2015.

Given the design of the surface water management strategy for the Proposed Development and the implementation of SuDS features, it is considered that there be an overall neutral, imperceptible, long-term impact on the receiving surface water quality and is considered non-significant in context of the EIA Directive.

12.5.2.5 Water Supply and Demand

During the operational phase there will be a demand for water from the public water supply. The mains water supply is operated in accordance with relevant existing statutory consents.

An assessment of the groundwater supply at the site was completed which indicated that there is a stable supply of groundwater available, which is capable of supplying the average daily demand of the development. Water quality samples were also assessed for potability which concluded that the samples taken at the pumping well meet the applicable drinking water parametric values for the parameters analysed.

RECEIVED: 05/08/2025

It is therefore proposed that the development will be served by two groundwater wells with a supplementary back-up mains supply from Uisce Éireann feeding into a drop tank to prevent backflow into the mains water system.

A Pre-Connection Enquiry was submitted to Uisce Éireann on 1st November 2024 which included for a proposed connection to an existing water mains along the R739. The pre-connection enquiry sought a connection from Uisce Éireann to supply the full water demand for the development (assuming failure of pump system). An engagement process was undertaken with the Uisce Éireann CDS Team and a Confirmation of Feasibility (COF) was received from Uisce Éireann on 29th April 2025. This COF confirming that the connection to the existing watermain was feasible subject to 1.6km of water network upgrade works being undertaken which must be funded by the applicant.

The 24-hour potable water storage tank will be combined with the firefighting storage tank which will provide a minimum water supply of 120,000 litres in the event of a fire. The tanks will initially fill with treated well water, if the level falls due to demand or potentially reduced flow from the boreholes, a low-level switch will open the mains water inlet and allow the mains water to supply the tank. When the water level gets to the high-level switch, both valves will close. The tank will be fitted with a Type “AB” Air Gap to prevent backflow to the public main.

Mains pumps and booster sets will charge the site water main. A fire hydrant system and water supply will be provided to serve the development in accordance with “Standard Requirements for Fire Hydrants and Water Supplies in Developments in County Wexford.”

The likely effect of the increase in water demand is expected to be negative, imperceptible (non-significant in terms of the EIA Directive) long-term on mains water supply.

12.5.2.6 Wastewater Management

Discussions have taken place with Uisce Éireann and an agreement is in place with regards to connect a wastewater flow up to a maximum reserve capacity of 744PE from the Proposed Development to the Kilmore Quay WWTP. A 160mm diameter inlet pipe has been constructed by Uisce Éireann during the Phase 1 construction works of the WWTP to facilitate this connection.

The scale of the development and the accommodation schedule has been developed to utilise the maximum reserve capacity of 744PE. A Pre-Connection Enquiry was submitted to Uisce Éireann on 1st November 2024 outlining in detail the propose foul loading from the development.

The proposed private foul sewer network will be designed and constructed in accordance with the Uisce Éireann Code of Practice and Standard Details. This private foul sewer network will remain in the ownership of the applicant who will also be responsible for its maintenance.

The proposed foul systems will be a closed, gravity system. Also, separate foul and surface water drainage systems serve the site, with separate outfalls to the respective foul and surface water systems.

The foul water from the Proposed Development will ultimately be treated at the Kilmore Quay Wastewater Treatment Plant. The increase in wastewater being discharged to the public sewer will have a neutral, long-term, non-significant (in terms of the EIA Directive) impact and on the capacity of the sewer.

RECEIVED: 05/08/2025

12.5.2.7 Waste Management

DNV has prepared an Operational Waste Management Plan (OWMP) for the Proposed Development. The OWMP contains full details of the types and quantities of waste that may arise at the Proposed Development. The predicted waste types that will be generated at the Proposed Development include the following:

- Mixed Municipal Waste (MSW) / General Waste;
- Dry Mixed Recyclables (DMR) - includes cardboard, plastic packaging, aluminium cans, tins, paper, and Tetra Pak cartons;
- Organic (food) waste; and
- Glass – bottles and jars.

In addition to the typical waste materials that will be generated on a daily basis, there will be some additional waste types generated in small quantities that will need to be managed separately including:

- Bulky wastes – including furniture, carpets, mattresses;
- Waste electrical and electronic equipment (WEEE);
- Batteries;
- Textiles – clothes or soft furnishings;
- Light bulbs or fluorescent tubes;
- Chemicals – old medicines, paints, detergents; and
- Waste oil

In addition, there will be some additional commercial "office" type wastes such as paper and printer ink, batteries, and waste electrical and electronic equipment (WEEE).

The List of Waste (LoW) code (previously referred to as European Waste Code or EWC) for typical waste materials expected to be generated during the operation of the Proposed Development are provided in Table 12-7.

Table 12-7 Expected Waste Types and List of Waste Codes

Waste Description	List of Waste Code
Mixed Municipal Waste	20 03 01
Dry Mixed Recyclables	20 03 01
Biodegradable Kitchen Waste	20 01 08
Glass	20 01 02
Bulky wastes	20 03 07
Waste electrical and electronic equipment*	20 01 35* 21 01 36
Batteries and accumulators*	20 01 33*

RECEIVED: 05/08/2025

Waste Description	List of Waste Code
	20 01 34
Textiles	20 01 11
Fluorescent tubes and other mercury containing waste*	20 01 21
Chemicals (solvents, pesticides, paints & adhesives, detergents)*	20 01 13/19/27-28/29-30
Plastic	20 01 39
Metals	20 01 40
Paper and Cardboard	20 01 01

**Individual waste type may contain hazardous materials*

The waste storage capacity requirements for the Proposed Development have been calculated in the OWMP for the hotel, lodges and staff accommodation, and for the commercial units.

The calculation for typical weekly waste arisings and subsequent storage requirements for domestic dwellings outlined within the OWMP (DNV, 2025) is as follows:

number of dwellings × {(volume arising per bedroom [70 L] × average number of bedrooms) + 30}[a]

[a] *Based on average household occupancy.*

Based on the calculations within the OWMP (DNV, 2025) and based on weekly waste collections, there would be a requirement to accommodate storage for a volume of 44,730L, or the equivalent of 41no. 1,110L wheeled bins. Based on weekly waste collections, it is anticipated that 40no. 1,100L bins and 34 no. 140L bins (or equivalent) will be required in the waste storage areas (16no. 1,100L bins for Mixed Municipal Waste (MMW), 24no. 1,100L bins for Dry Mixed Recyclables (DMR), 19no. 140L bin for Organic (food) Waste, and 15no. 140L bin for glass) (DNV, 2025).

A number of Waste Storage Areas have been allocated for the hotel, lodges and staff accommodation residents at ground level. It will be the responsibility of the residents/resort staff to bring their segregated waste to Waste Storage Areas and place into the appropriately labelled bins. Each bin will be clearly labelled to identify what wastes can and cannot be placed in the bin and labels will be pictorial. The route to the Waste Storage Areas, and the area itself, will be wheelchair accessible, adequately lit, and appropriately ventilated.

Residents will have secure access to the Waste Storage Areas (pin code or fob key). This will prevent unauthorised access to waste bins by the general public.

Any additional household wastes such as bulky waste, WEEE, batteries, textiles etc. must be brought by the apartment residents to a local recycling facility.

RECEIVED: 05/08/2025

Access to a Waste Collection Service will be provided upon the first occupancy, irrespective of the occupancy levels of the new units.

The OWMP (DNV, 2025) states that based on the floor area of the commercial units, there will be a requirement for 10no. 1100 Litre bin for Dry Mixed Recyclables (DMR), 7 no. 1100 Litre bin for Mixed Municipal Waste (MMW) / General Waste and 17 no. 140 litre bins for Organic (food) Waste, and Glass if required.

A breakdown of the bin numbers is provided in Table 12–2. The frequency of bin collections can be increased as required, and individual bin requirements can be adjusted once the overall bin capacity is met at a minimum.

Table 12-2 Estimated Waste Volumes for Commercial Units

		Organic (food) Waste	Glass	Dry Mixed Recyclables (DMR)	Mixed Municipal Waste (MMW)
Bin Size	**Description**	**140**	**140**	**1,100**	**1,100**
Commercial Unit	Hotel Commercial	9	3	7	4
	Pavillion Restaurant	1	1	1	1
	Farmstead	2	1	2	2

By implementing the actions outlined in the OWMP, a high level of recycling, reuse and recovery will be achieved at the development in line with European targets and the National Waste Management Plan for a Circular Economy 2024-2030.

In the absence of mitigation, the potential impact from the operational phase on municipal waste disposal is likely to be long term, negative and moderate and non-significant in terms of the EIA Directive.

12.5.3 Potential Cumulative Effects

Cumulative effects can be defined as "*impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project*". Effects which are caused by the interaction of effects, or by associated or off-site projects, are classed as indirect effects. Cumulative effects are often indirect, arising from the accumulation of different effects that are individually minor.

A review of other off-site developments and proposed developments was completed as part of this assessment.

Extant permissions and current live planning applications that have been taken into consideration for the purposes of determining cumulative impacts are detailed in Chapter 2 Description of the Proposed Development of this EIAR (Section 2.6).

RECEIVED: 05/08/2025

Having regard to other developments in the area, which are either under construction or where construction has not yet commenced, there is potential for greater impact arising from the demand of additional population and tourists within in the area.

During the construction phase, there will be a greater demand on existing local waste management services and on regional waste acceptance facilities.

The capacity of waste collection companies and waste management facilities in County Wexford have been designed with forward planning and expansion in mind to cater for a growing population. It is necessary that all developments provide the infrastructure and services to assist with segregating waste at source, in order to reduce the generation and disposal of non-recyclable mixed waste.

In relation to water services, water supply to the Proposed Development will be from an onsite water supply served by 2 groundwater wells. As detailed in the Hydrological Assessment Report (DNV, 2025a included in Volume 3), the required groundwater supply for the Proposed Development of approximately 241m^3/day (approximately 10m3/hour) could be sustainably derived from the underlying bedrock aquifer according to the assessment of the data gathered during the 72-hour pumping tests at PW1 (average discharge rate of approximately 9.7m3/hour maintained for the duration of the pumping test) and the fact that it reached near steady state towards the end of the pumping test. There are no registered groundwater wells recorded within a 2km radius of the site (GSI, 2025). Therefore, there will be no cumulative effects associated with the Proposed Development on the supply network and water resources. The associated cumulative effect on the hydrological and hydrogeological receiving environment will be 'neutral', 'imperceptible' and 'permanent' and this impact is considered non-significant in the context of the EIA Directive.

It is considered that cumulatively there will result in a permanent effect on the receiving networks and services, however, the impact is not considered to be significant having regard to the capacity of services.

12.5.4 "Do Nothing" Effect

If the Proposed Development were not to proceed, waste and utilities at the site will remain as per the baseline and will change in accordance with trends within the wider area (including influences from potential new developments in the surrounding area). Under the Do-Nothing Scenario, construction works associated with the Proposed Development will not take place. Impacts from increased use of material assets and waste from the Proposed Development will also not occur.

12.6 Avoidance, Remedial and Mitigation Measures

12.6.1 Construction Phase

Specific avoidance, remedial and mitigation measures will be required for the Proposed Development. The measures that will be taken to ensure that there will be no significant impact on the surrounding Material Assets during the construction phase include:

Waste will be stored onsite in such a manner as to:

- Prevent environmental pollution;

- Minimise nuisance generation such as dust; and
- Maximise waste segregation to minimise potential cross contamination of waste streams and facilitate subsequent re-use, recycling, and recovery.

RECEIVED 05/08/2025

In the event that hazardous soil, or historically deposited waste is encountered during the site bulk excavation phase, the contractor will notify Wexford County Council and provide a Hazardous/Contaminated Soil Management Plan, to include estimated tonnages, description of location, any relevant mitigation, destination for disposal/treatment, in addition to information on the proposed authorised waste collector(s). According to the RWMP, it is anticipated that there will be no asbestos containing materials (ACMs) generated during the construction phase of the Proposed Development. If ACMs are identified on site at a later stage, the client will be notified, and a suitable management plan will be implemented for the safe removal and disposal. Waste containing asbestos cannot be reused or recovered in any way and this material will require offsite removal and appropriate hazardous waste disposal to control the risks posed from asbestos fibres.

Additionally, a CEMP will be in effect for the full duration of the construction works. The Health and Safety Authority's "Code of Practice for Avoiding Danger from Underground Services" will be followed during construction and excavation activities and all underground and overhead utilities and public services will be identified and protected during the construction phase. All temporary suspensions to public services will be controlled by the relevant statutory undertaker, in accordance with standard protocols and all services will be reinstated as soon as possible post connection. Potable water networks and foul water sewers will be properly tested prior to connection.

12.6.2 Operational Phase

An OWMP (DNV, 2025) has been produced for the Proposed Development which outlines measures to be taken to achieve waste prevention, maximum recycling and recovery of waste with a focus on diversion of waste from landfill wherever possible. Waste segregation will be implemented at the Proposed Development to minimise potential cross contamination of waste streams and facilitate subsequent re-use, recycling and recovery. The Management Company appointed will be responsible for ensuring that all Waste Contractors hold the appropriate authorisations.

The ratio of bins detailed within the OWMP (DNV, 2025) is in line with the European Commission's proposal to introduce 70% plus re-use and recycling targets for Mixed Municipal Waste (MMW) by 2030. This waste collection proposal also provides a waste management solution that has sufficient flexibility to support future targets and legislative requirements.

12.6.3 "Worst Case" Scenario

In the event that the Proposed Development was to proceed, a worst-case scenario in relation to built services and infrastructure (electricity, telecommunications, gas, water supply infrastructure, and sewerage), would be where the works involved during construction resulted in an extended power or telecommunications outage, or disruption to water supply or sewerage systems for existing properties in the area due to unforeseen delays on site.

RECEIVED: 05/08/2025

12.7 Residual Effects

Having regard to the mitigation measures proposed within this and other chapters of the EIAR, no significant residual impacts are anticipated.

12.8 Monitoring

12.8.1 Construction Phase

The monitoring of Construction and Demolition (C&D) waste during the construction phase of the Proposed Development is recommended to ensure that impacts are not experienced beyond the site boundary. The Main Contractor will be responsible for monitoring and record keeping in respect of waste leaving the facility and that these records will be maintained on site.

12.8.2 Operational Phase

The resort management company will be required to maintain the bins and storage areas in good condition as required by the WCC Waste Bye-Laws. The waste strategy presented in the OWMP (DNV, 2025) will provide sufficient storage capacity for the estimated quantity of segregated waste. The designated areas for waste storage will provide sufficient room for the required receptacles in accordance with the details of this strategy.

12.9 Interactions

The Proposed Development will provide additional housing in a densely populated urban area. Material assets, utilities and waste interact with other environmental receptors as follows:

- Population and Human Health: The improper removal, handling and storage of hazardous waste could negatively impact on the health of construction workers. Extended power or telecommunications outages, or disruption to water supply or sewerage systems for existing properties in the area could negatively impact on the surrounding human population and their overall health. Potential impacts on population and human health are addressed in Chapter 4;
- Biodiversity: The improper handling and storage of waste during the construction and operational phases could negatively impact on biodiversity. Potential impacts on biodiversity are addressed in Chapter 5;
- Land and Soil: Improper handling and segregation of hazardous or contaminated wastes could lead to the contamination of soil and stones excavated from the site. Potential impacts on land and soils are addressed in Chapter 6;
- Water (Hydrology and Hydrogeology): Any connections to the public water network (water supply or foul sewer) during the construction and operational phases will be under consent from Uisce Éireann. The use of groundwater supply has the potential to effect the hydrogeology. During the construction phases of both developments, there will be a greater demand on existing local waste management services and on regional waste acceptance facilities. Potential impacts on water are addressed in Chapter 7 of this EIAR;

RECEIVED: 05/08/2025

- Climate: The Proposed Development has been designed in accordance with all relevant building design standards. Sustainable power and heat sources have been included as part of the building design to reduce reliance on imported fossil fuels and reduce greenhouse gases (GHG) emissions.
- Traffic: Waste collection activities at the Proposed Development have the potential to impact upon traffic movements in the Kilmore Quay area. Potential impacts on traffic are addressed in Chapter 13.

12.10 Difficulties Encountered When Compiling

No difficulties were encountered in the preparation of this chapter.

12.11 References

Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects (EPA, 2021)

Civil Engineering Planning Report (DRA Consulting Engineers, 2025

Climate Action and Energy Statement (Metec, 2025)

Environmental Protection Agency (EPA) (2022) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports

DNV (2025) Construction Environmental Management Plan

DNV (2025) Resource and Waste Management Plan

DNV (2025) Operational Waste Management Plan

Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EIAR) (EPA, 2022)

Irish Water Code of Practice for Water Infrastructure Connections and Developer Services Design and Construction Requirements for Self-Lay Developments July 2020 (Revision 2)

Local Government Ireland (2024), The National Waste Management Plan for a Circular Economy 2024-2030

Regulations 2020, S.I. No. 323 of 2020 (Waste Directive) (European Union, 2020)

The National Waste Management Plan for a Circular Economy 2024-2030

Utilities Report (Metec, 2025)

Waste Framework Directive (Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste) as amended by Directive (EU) 2018/851

Waste Management Acts 1996 (as amended)

Wexford County Development Plan 2022 – 2028

RECEIVED: 05/08/2025

13 MATERIAL ASSETS – ROADS AND TRAFFIC

13.1 Introduction

This chapter sets out the significance of effects associated with an increase in traffic during the construction and operation of the Proposed Development. The Roads and Traffic study is concerned with the effect of changes in Average Daily Traffic (ADT) on transport infrastructure. This chapter takes cognisance of the Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022) hereafter referred to as the EPA Guidelines. These Guidelines make provision for the professional judgement of the author in determining the significance of effects. To support this judgement other sources from the Institute of Environmental Management and Assessment (IEMA) and Traffic Infrastructure Ireland (TII) are referenced.

This chapter has been informed by the following:

- Traffic and Transport Assessment (TTA) prepared by Meinhardt. The TTA provides a quantitative assessment of Proposed Development operational peak hour traffic impacts on the capacity of local junctions in accordance with TII TTA Guidelines (TII, 2014). The assessment methodology for a TTA and EIAR Roads and Traffic Chapter are not the same. The TTA concludes the Proposed Development is not anticipated to have a detrimental impact on peak hour junction performance.
- Stage 1 Road Safety Audit (RSA) prepared by RoadPlan Consulting.
- Framework Mobility Management Plan (MMP) prepared by Meinhardt.
- Architectural drawings and reports prepared by Stephen Carr Architects.
- Drawings and report prepared by DRA Consulting Engineers (DRA).

13.1.1 Quality Assurance and Competence

Staff who have prepared, verified, and authorised this chapter alongside their relevant qualifications and experience are:

- Kyle McKinnon (Author), Associate, MEng Civil Engineering – 13 years' experience in Transport Planning. Kyle has experience of preparing EIARs for a variety of projects across the UK and Ireland spanning various sectors, most recently a new LNG Terminal on the Shannon Estuary. In addition to his role at Meinhardt, Kyle currently acts as Honorary Treasurer for Chartered Institution of Highways and Transportation (CIHT) Scotland.
- Carolyn Rollo (Verification and Approval), Regional Director, MA (Hons) Geography – 18 years' experience in Transport Planning. In addition to Carolyn's role as Regional Director in Meinhardt, responsible for transport planning in Ireland and Scotland, she is Past Chair of CIHT Scotland, lectures to peers on Transport Assessments, guest lecturers at Glasgow Caledonian University and sits on Glasgow's Urban Design Panel. Carolyn has undertaken

RECEIVED: 05/08/2025

numerous EIARs for projects such as a new LNG Terminal on the Shannon Estuary and for a 800 no. unit residential development in Balbriggan.

13.2 Study Methodology

13.2.1 Environmental and Traffic Impact Assessment Guidance

The following guidance has been used to inform this chapter:

- EPA Guidelines.
- TII TTA Guidelines (TII, 2014).
- IEMA Guidelines: Environmental Assessment of Traffic and Movement (IEMA, 2023) hereafter referred to as the IEMA Guidelines.
- TII Publications Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections, (TII, 2016). Used to determine projected traffic growth.
- TII Publications DN-GEO-03031 - Rural Road Link Design, (TII, 2023). Used to determine the carrying capacity of road links based on parameters such as road width and speed.

The following paragraphs provide more detail on key guidance and how this has been interpreted for the purpose of this study.

13.2.1.1 EPA Guidelines

An important element of the EPA Guidelines is associated with the assessment of likely effects. Roads and Traffic **effects are likely**; if consent is granted there will be an increase in road traffic during construction and operation.

Table 13-1 provides a summary of the assessment approach described in the EPA Guidelines and how this approach is considered for the study.

Table 13-1: EPA Guidelines Assessment Approach

EPA Guidelines Topic	EPA Guidelines Approach	EPA Guidelines Measure	Interpretation from Roads and Traffic perspective
Existing Environment Significance	What quality value or designation is assigned to this aspect of the environment?	Negligible, Low, Medium or High	What importance do road links have for the communities they serve?
Existing Environment Sensitivity	How sensitive is this aspect of the environment to change?	Negligible, Low, Medium or High	If existing traffic flows are low and traffic increases are high, then this would mean road links are sensitive to change or vice versa.

RECEIVED 05/08/2025

EPA Guidelines Topic	EPA Guidelines Approach	EPA Guidelines Measure	Interpretation from Roads and Traffic perspective
Description of Effect Character	Does the Proposed Development alter the character of the existing environment?	Negligible, Low, Medium or High	Does the Proposed Development alter the character of the existing road network?
Description of Effect Magnitude	What is the magnitude of the Proposed Developments impact on the existing environment?	Negligible, Low, Medium or High	What is the predicted quantitative change in traffic flow?
Description of Effect Duration	How long does the effect last?	Momentary, Brief, Temporary, Short-term, Medium-term, Long-term, Permanent, Reversible, Frequent	How long are increases in traffic levels anticipated to last?
Description of Effect Probability	How probable is the effect to occur?	Likely or Unlikely	What is the probability that increases in traffic will occur? Already defined as likely.
Description of Effect Consequences	How significant are the consequences of change on the environment?	Negligible, Low, Medium or High	What are the consequences of increased traffic flows on the transport network?

Figure 13-1 shows that when combining the description of effect with the existing environment the significance of the effect can be determined. There are seven degrees of effect significance: Imperceptible, Not Significant, Slight, Moderate, Significant, Very Significant and Profound.

EPA Guidelines state that the EIAR should include *'A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment..'*. Therefore, any effects considered Significant, Very Significant or Profound are understood to require mitigation.

RECEIVED: 05/08/2025

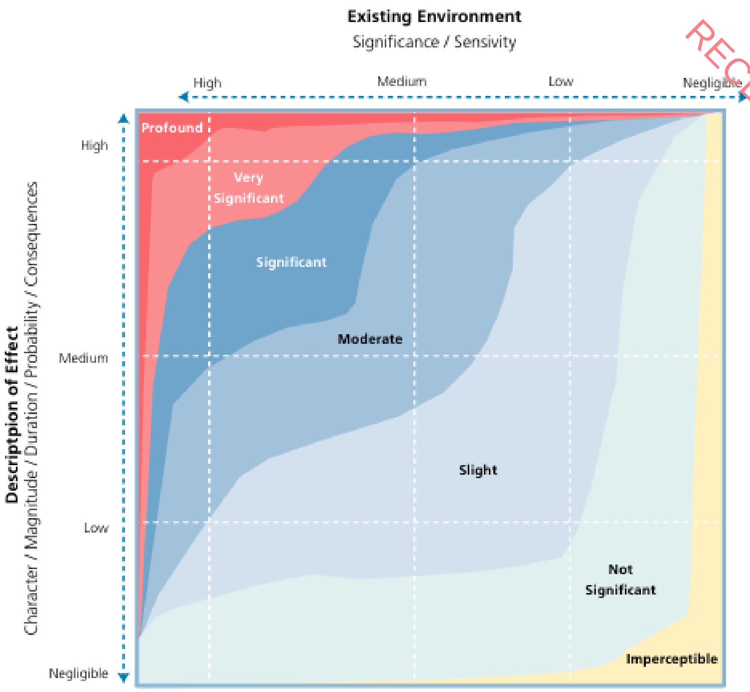


Figure 13-1: EPA Guidelines Significance of Effect Classification

The EPA Guidelines do not provide information to support in determining the magnitude of effects quantitatively e.g if traffic flows increased by a certain percentage what would the effect of this change be. To support with determining the effects of change quantitatively sources from TII and IEMA are considered.

13.2.1.2 TII TTA Guidelines

These guidelines provide a wealth of information for practitioners in assessing the impact of developments on the transport network. This includes the impact of traffic but also the implications of development on active and public transport networks. These guidelines however do not provide a mechanism to determine environmental effects in a consistent manner with the EPA Guidelines.

The TII TTA Guidelines have been used to inform the TTA prepared for the Proposed Development. The TTA concludes the Proposed Development is not anticipated to have a detrimental impact on peak hour junction performance.

The TII TTA Guidelines have however been considered in this study to support in determining assessment year scenarios e.g opening year and future design years.

13.2.1.3 IEMA Guidelines

The IEMA Guidelines suggest that the following criteria are adopted to assess whether public road links are impacted sufficiently to be the subject of environmental assessment:

- *"Rule 1 – Include highway links where traffic flows will increase by more than 30%[1] (or the number of heavy goods vehicles will increase by more than 30%)"; and*

[1] *30% increase applies to Daily Traffic*

- *"Rule 2 – include highway links of high sensitivity where traffic flows have increased by 10% or more".*

RECEIVED: 05/08/2025

The IEMA Guidelines state that projected changes in traffic of less than 10% over the course of a day creates no discernible environmental impact given that daily variations in background traffic flow may fluctuate by this amount, and that a 30% change in traffic flow represents a reasonable threshold for including a public road link within an assessment.

Department for Transport, historically, has assumed that 30%, 60% and 90% changes in traffic levels should be considered as 'slight', 'moderate' and 'substantial' impacts respectively. As neither the EPA or TII TTA Guidelines provide a quantitative approach to determining the magnitude of environmental effects due to increased traffic in a consistent assessment manner, the IEMA Guidelines are used. In order to cross reference these effects with the EPA Guidelines the magnitude of effects are transposed as 'slight = low', 'moderate = medium' or 'substantial = high'.

It is important to recognise where existing traffic levels are low (for example, on rural roads), any increase in traffic flow is likely to result in a predicted increase in traffic levels which is greater than 30%. Where this situation presents itself, it is important to consider any increase both in terms of its relative increase in respect of existing traffic flows, as well as the overall total flow in respect to the available capacity of the section of road being considered (as per TII Rural Road Link Design).

The IEMA Guidelines have been utilised to help define the study area and the magnitude of effect associated with percentage changes in traffic as a consequence of the Proposed Development.

13.2.2 Public Consultation and Scoping Feedback

A pre-application meeting was held with Wexford County Council (WCC) on 12 November 2024. WCC are supportive of the principle of hospitality development in Kilmore Quay, however raised concerns relating to active travel connections between the site and the village centre. Meinhardt and DRA, in consultation with WCC, have developed a strategy and design which facilitates active travel connections and can integrate with the Kilmore Quay Traffic Management Plan, which is being led by WCC. Please refer to architectural and engineer drawings which show the integration of the Proposed Development with Kilmore Quay, this integration is summarised in this chapter.

A public consultation event was held on 2 May 2025. Transport comments raised at this event included the impact of Proposed Development construction and operational traffic and active travel route integration. This chapter assesses the effect of both construction and operational traffic.

Meinhardt submitted a scoping letter to WCC setting out the proposed technical approach to this chapter as well as the TTA. In a telephone call WCC agreed with the proposed approach.

13.2.3 Defining the Baseline

The study area was determined by locations anticipated to be impacted by Proposed Development construction and operational traffic and agreed during scoping with WCC. The study area includes:

RECEIVED: 05/08/2025

- The R739 between Chapel and Kilmore Quay village centre.
- Ard Na Ba.
- The L3056 between its junction with Ard Na Ba and Kilmore Quay village centre.

The study area is shown in Figure 13-2.

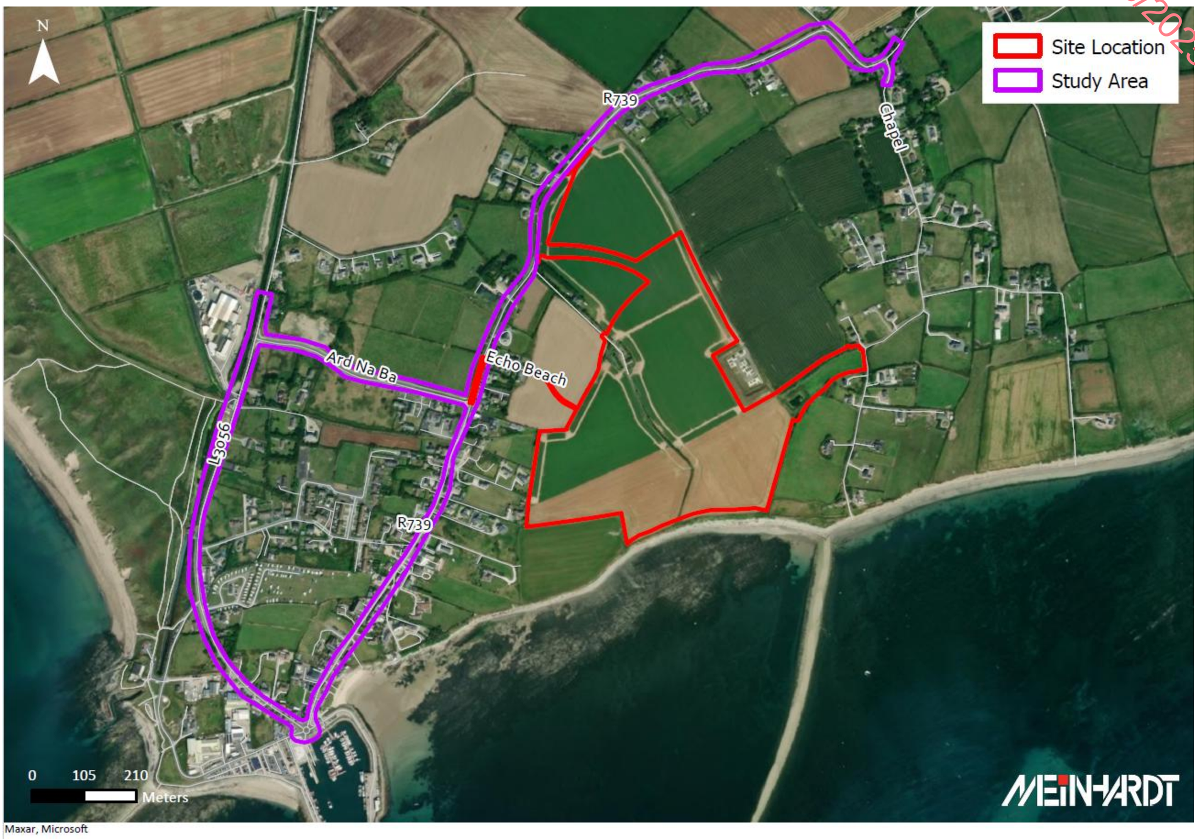


Figure 13-2: Study Area

Traffic survey data was collected in August 2024 to determine baseline traffic flows within the study area. August was chosen as it represents the likely operational peak period of the Proposed Development. A desk-top review, site visit (by DRA) and engagement with WCC has been used to inform the baseline characteristics of the transport network for example locations of footways, cycle routes and so forth.

Figure 13-3 shows the locations where traffic data was collected. Junction Turning Count (JTC) data was collected on Tuesday 13th August 2024 over a 24-hour period. An Automatic Traffic Count (ATC) was conducted for 1 week (Tuesday 13th August to Monday 19th August 2024) at the approximate location of the Proposed Development site (site) access.

RECEIVED: 05/08/2025

Figure 13-3: Traffic Data Collection Locations

Average Daily Traffic (ADT) flows at road links within the study have been extracted from the traffic data. These road link locations are shown in Figure 13-4 and described as follows:

1) R739 at the Proposed Development site access.
2) R739 between Chapel and the Proposed Development site access.
3) Ard Na Ba.
4) L3056 in proximity to Ard Na Ba.

Road links on the R739 and L3056 connecting into Kilmore Quay village centre (road links south of Ard Na Ba) have not been considered as part of this study as the change in ADT traffic because of the Proposed Development is anticipated to be less than 10%. This is detailed further in Section 13.5.2.2.

Figure 13-4: Road Links

13.2.4 Phasing and Cumulative Development

The Proposed Development would be delivered in one phase with an anticipated year of opening in 2031. Construction of the Proposed Development is anticipated to start in 2027 / 2028 with peak traffic movements occurring early in the programme, most likely in 2028.

Scoping with WCC has not identified the requirement to include for any committed development.

13.2.5 Assessment Scenarios

The scenarios tested within this study include:

- Existing Baseline (2024).
- Do-Nothing (2028, 2031, 2046).
- Construction Peak (Assumed 2028).
- Do-Something (Proposed Development) - Opening Year (2031) and Design Year (2046).

The scenarios take cognisance of TII TTA Guidance 2014.

RECEIVED: 05/08/2025

13.3 The Existing Receiving Environment

13.3.1 Context

Figure 13-5 shows the context of the site in relation to existing local amenities and attractions. The following paragraphs describe the characteristics of the existing transport network and the multi-modal accessibility of the site.

Figure 13-5: Site Context

13.3.2 Character

13.3.2.1 Walking and Cycling

At present there are no formal footways along the R739 (except for a short section within the village centre), street lighting is however available between the village centre and Ard Na Ba. Cycling is achievable on the carriageway.

Along Ard Na Ba, street lighting is provided as are shared walk / cycle facilities.

Between the village centre and Castle View, street lighting and footways are available along the L3056.

Echo Beach has street lighting and an approximate 1.5m wide footway.

The R739 and the L3056 are identified by WCC as on-road Eurovelo Cycle Routes as shown in Figure 13-6 and Figure 13-7.

RECEIVED: 05/08/2025

In addition to road carriageway active travel provision, Kilmore Quay benefits from a number of off-road active travel routes for recreational purposes such as beach walks and the Kilmore Quay Walking / Recreation Trail.

Figure 13-6: Cycle Routes

Source: WCC

RECEIVED: 05/08/2025

Earthstar Geographics

Figure 13-7: Cycle Routes

Source: WCC

Figure 13-8 shows that all of Kilmore Quay is within an approximate 20-minute walk of the site (circa 1,600m) while Figure 13-9 shows that the village is within an approximate 5-minute cycle of the site (circa 1,000m).

RECEIVED: 05/08/2025

Figure 13-8: Walking Isochrones

Figure 13-9: Cycling Isochrones

13.3.2.2 Public Transport

Figure 13-10 shows existing bus stop locations in proximity to the site. These bus stops are served by Service 390. **Error! Reference source not found.** shows bus route and service frequency.

RECEIVED: 05/09/2025

Figure 13-10: Public Transport Network

Table 13-2: Bus Timetables

Kilmore Quay Bus Route	Monday - Sunday			
	Route	First Bus	Last Bus	Frequency
390 – Kilmore Quay – Wexford, Redmond Square	Kilmore Quay – Kilmore – Bridgetown – Murrintown – Piercestown - Wexford	Monday-Saturday: 07:35 Sunday: 12:30	Monday-Saturday: 18:30 Sunday: 16:30	Monday-Sunday: 1x service every 2 hours
390 - Wexford, Redmond Square – Kilmore Quay	Wexford – Piercestown – Murrintown – Bridgetown – Kilmore – Kilmore Quay	Monday-Saturday: 07:00 Sunday: 11:30	Monday-Saturday: 17:35 Sunday: 15:30	Monday-Sunday: 1x service every 2 hours

Source: Wexford Bus, Seasonal Timetables Apply – Correct as of 12/06/2025

RECEIVED: 05/08/2025

13.3.2.3 Vehicles and Parking

The R739 at Link 1, located in proximity to the site access is approximately 6.3m wide. At the location of the proposed site access the speed to the north is posted as 80km/h and to the south as 60km/h. Based on TII Rural Link Road Design the R739 at Link 1 is assumed to have a two-way carrying capacity of approximately 5,000 Annual Average Daily Traffic (AADT).

The R739 at Link 2 in proximity to Chapel has an approximate width of 6.5m and a speed limit of 80kph. Based on TII Rural Link Road Design the R739 at Link 2 is assumed to have a two-way carrying capacity of approximately 5,000 AADT.

Ard Na Ba (Link 3) is subject to a 50km/h speed limit and is approximately 5.75m wide. Based on TII Rural Link Road Design the Ard Na Ba (Link 3) is assumed to have a two-way carrying capacity of approximately 5,000 AADT. TII Rural Link Road Design is applicable due to the width and speed limit the Link operates under.

Link 4, the L3056 in proximity to Ard Na Ba is approximately 6.4m wide and subject to a 60km/h speed limit. Based on TII Rural Link Road Design the L3056 at Link 4 is assumed to have a two-way carrying capacity of approximately 5,000 AADT.

On-street car parking is prohibited along the R739 between Ard Na Ba and the village centre. Within the village, public off-street car parking opportunities are available.

At present no publicly available site-specific road safety collision information is available from the Road Safety Authority.

13.3.2.4 Traffic Flow

As previously outlined, ADT flow information has been collected at each link for a baseline scenario of August 2024 as shown in Table 13-3.

Table 13-3: Baseline ADT Traffic Flows

Road Link Number	Road Name	Vehicle Type	Baseline 2024
1	R739 (Site Access ATC)	All	2,460
		HGV	119
2	R739 (Chapel)	All	2,480
		HGV	104
3	Ard Na Ba	All	525
		HGV	25
4	L3056	All	1,701
		HGV	62

RECEIVED: 05/08/2025

Table 13-3 demonstrates that all road links are currently operating well within an anticipated carrying capacity of 5,000 AADT.

13.3.3 Significance

Based on the context and character of the existing transport network and using professional judgement the significance of the road links within the study area are as follows:

- R739 – **Medium** on account this is a Regional Road, a bus route, designated cycle route and key to the connectivity of the Kilmore Quay community with the wider local area.
- Ard Na Ba – **Low** on account this is a local distributor road within the village.
- L3056 – **Medium** on account this is a key route to / from Kilmore Quay and is a designated cycle route.

13.3.4 Sensitivity

The sensitivity of road links within the study area is considered to be **Medium** on account:

- Baseline traffic flows are, by comparison with the carrying capacity of these types of roads, low thus there would be a sensitivity to change associated with any increase in traffic.

13.4 Do Nothing

A series of interventions are proposed, by WCC, within Kilmore Quay. These interventions include:

- Removal of heavy goods vehicle (HGV) traffic along the R739 between Ard Na Ba and the Harbour, HGVs would be re-routed via Ard Na Ba and the L0356.
- Introduction of a 20km/h speed limit on the R739 south of Ard Na Ba.
- Introduction of shared space on the R739 south of Ard Na Ba.
- New pedestrian crossing points in numerous locations with the village.
- Sections of new footway along the R739 south of Ard Na Ba.
- Formalisation of bus stops on the R739.
- Increasing the width of existing footways in the village.
- Provision of sections of new footway along the L0356 between the Harbour and Ard Na Ba.

A public consultation event was held for the Kilmore Quay Traffic Management Plan in Summer 2024. The programme for delivery of the Plan is not yet publicly available.

Whilst it is appreciated that the Plan would introduce a redistribution of HGV traffic at a localised level to avoid the village centre, this has not been accounted for in future scenario testing due to the low levels of redistribution, anticipated at approximately 45 two-way HGV movements per day across the study area network which equates to a maximum change of +8% on Road Link 3. As previously noted, changes in daily traffic of less than 10% are not considered to have discernible environmental effect.

As no committed developments are to be considered, as agreed with WCC, and the Kilmore Quay Traffic Management Plan is anticipated to have no discernible impact on traffic flows in

RECEIVED: 05/08/2025

the village the 'Do Nothing' scenario is therefore only concerned with background traffic growth.

Background traffic growth is therefore considered for each scenario, informed by TII Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections, Table 5.3.2. Central Growth rates for light and heavy vehicles have been adopted as recommended in Chapter 5 of this publication.

Anticipated ADT at each road link within the study area for the Do-Nothing Scenario is shown Table 13-4.

Table 13-4: Do-Nothing Scenario ADT Flows

Road Link Number	Road Name	Vehicle Type	Base Year	Do-Nothing		
			2024	2028	2031	2046
1	R739 (Site Access ATC)	All	2,460	2,573	2,661	2,787
		HGV	119	130	140	182
2	R739 (Chapel)	All	2,480	2,593	2680	2,803
		HGV	104	114	122	159
3	Ard Na Ba	All	525	549	568	595
		HGV	25	27	29	38
4	L3056	All	1,701	1,778	1,838	1,918
		HGV	62	68	73	95

It should be noted that in the context of two-way rural link capacity of an assumed 5,000 AADT there would be no capacity concerns associated with the Do-Nothing scenario.

13.4.1 Character

The Do-Nothing Scenario would have a **negligible** effect on the character of all road links within the study area.

13.4.2 Magnitude

The magnitude of change associated with the Do-Nothing scenario would be **low** at all road links, with only a small increase in traffic levels anticipated through background growth.

13.4.3 Duration

The duration of the Do-Nothing scenario can be considered **permanent**.

13.4.4 Probability

The probability of the Do-Nothing scenario is assumed **likely**.

13.4.5 Consequence

Consequences of the Do-Nothing scenario are considered **negligible**.

RECEIVED: 05/08/2025

13.4.6 Effect Significance

Based on Sections 13.4.1 to 13.4.5, the Do-Nothing scenario would have an overall low effect on the existing environment which has low to medium sensitivity. As such, the degree of effect significance can be considered **Slight**.

13.5 Characteristics of the Proposed Development

13.5.1 Construction Phase Characteristics – Construction Peak Scenario

A 36-month construction phase is anticipated. Whilst a full construction programme has not yet been prepared it is anticipated that peak construction efforts would occur for a 3-month period during 2028. At this point in the programme a maximum of 6 no. two-way construction movements would occur per hour. Typical construction days would be 10 hours per day, resulting in a maximum of 60 no. two-way daily trips during the busiest construction period. It is estimated that 80% of these would be HGVs (48 no. two-way trips) with the remaining trips associated with light goods vehicles and construction staff.

It is anticipated that all construction traffic would travel to and from the site via the R739 from the north. This would avoid impacting on the L3056, Ard Na Ba and Kilmore Quay village centre. A construction access is anticipated to be provided from the R739 in proximity to the Proposed Development site access (operational phase site access) with construction compounds provided within the site boundary.

As such, Links 1 and 2 would be used by construction traffic. Table 13-5 shows anticipated ADT flows in 2028 with the inclusion of Proposed Development construction traffic.

Table 13-5: Construction Peak Scenario ADT Flows

Road Link Number	Road Name	Vehicle Type	Construction Peak ADT
			2028
1	R739 (Site Access ATC)	All	2,633
		HGV	178
2	R739 (Chapel)	All	2,653
		HGV	162

13.5.2 Operational Phase Characteristics – Do-Something Scenario

In summary, when operational, the Proposed Development would include:

- <u>Hotel</u> of 33,762 sqm Gross Internal Area (GIA) which includes for:
    - 205 no. rooms comprising:
        - 163 no. rooms
        - 42 no. family suites (2 no. bedrooms per suite)
        - Total of 247 no. bedrooms
    - Play, bar and lounge facilities.
    - 2 no. restaurants.
    - Events Centre with a maximum capacity of 400 no. people.

RECEIVED: 05/08/2025

    - Spa and Leisure Centre.
    - Back of house areas.
- 55 no. holiday lodges covering a total of 9,583 sqm GIA comprising:
    - 30 no. x 3-bed lodges
    - 21 no. x 4-bed lodges
    - 2 no. x 6-bed lodges
    - 2 no. x 8-bed lodges
    - Total of 202 no. bedrooms
- Farmstead covering 1,467 sqm GIA which acts as the welcome point for lodge residents. The Farmstead would include a small shop, café, toilets and office facilities.
- Pavillon Restaurant covering 608 sqm GIA comprising 2 no. restaurants with a maximum capacity of 120 no. covers.
- Staff accommodation totalling 2,256 sqm GIA which includes 11 no. apartments (55 no. bedrooms) split across 6 no. buildings.
- Recreational activities including crazy golf and padel courts.
- Associated infrastructure such as roads, paths, maintenance facilities, substation, service blocks, refuse storage and parking.

As the proposed development represents a unique hospitality offering it is important to recognise there would be an element of linked trips associated with travel patterns, for example a visitor who uses the Pavillon Restaurant and crazy golf only generates one external trip on the local road network.

Four User Groups are anticipated at the Proposed Development in terms of impact on the external road network:

1. Residents checking in / out of the hotel and lodges.
2. Residents travelling on day trips external to the Proposed Development site.
3. Visitors to the Proposed Development e.g for a meal in the restaurant or a visit to the spa.
4. Staff of whom an estimated 65 no. would travel to site for work from the local area per day.

The primary access to the site for all vehicles is via a new priority junction with the R739. For emergency vehicles only and active travel users, access is also available from Nemestown.

For pedestrians and cyclists, a dedicated link (approximately 2.5m wide) is proposed to Echo Beach. Along the R739 from Echo Beach to Ard Na Ba the applicant proposes to provide a new footway within the taken in charge road network as well as a new crossing facility. To the north of the primary site access a footpath is also proposed within the ownership of the applicant. Within the site a network of active travel routes are proposed. A possible future active travel connection is feasible from Echo Beach north to the proposed site access within the taken in charge road network. The feasibility of active travel connections has been agreed between DRA and WCC.

Error! Reference source not found. provides a breakdown of the proposed parking provision.

RECEIVED: 05/08/2025

Table 13-6 – Proposed Parking Provision

	Standard Car Parking Spaces	Accessible Car Parking Spaces	EV Parking Spaces	EV Accessible Parking Spaces	Total Car Parking Spaces	Bus Parking Spaces	Cycle Parking Spaces
Hotel	258	19	69	5	351		83
Lodges	83	7	23	1	114		23
Farmstead	17	1	5	1	24		5
Pavillon	9	1	3	1	14		3
Staff Accommodation	7	1	2	1	11		61
Site						8	
Totals	374	29	102	9	514	8	175

13.5.2.1 Travel Demands

Based on a first principles assessment, thus allowing consideration to linked trips, the accompanying TTA sets out the approach for the calculation of estimated external people and vehicle trips during the peak summer period. These travel demands are summarised in Table 13-7,

Table 13-8 and Table 13-9 below.

Table 13-7: Estimated Daily External People Trips

Resort Facility	Arrivals	Departures	Total Daily Two-Way Trips
Resident Check In / Check Out	124	124	248
Resident Trips	198	198	396
Visitor Special Event	130	130	260
Visitor Food & Beverage	394	394	788
Visitor Spa	91	91	182
Staff	65	65	130
Total Daily Trips	**1,002**	**1,002**	**2,004**

Table 13-8: Estimated Servicing and Delivery Daily Trips

Servicing and Delivery Type	Arrivals		Departures		Total Two-Way Servicing and Delivery Trips		
	Light Vehicle	HGV	Light Vehicle	HGV	Light Vehicle	HGV	Total
Waste Collection (Food, Recycle, Other)		3		3		6	6
Landscaping	1		1		2		2

Servicing and Delivery Type	Arrivals		Departures		Total Two-Way Servicing and Delivery Trips		
	Light Vehicle	HGV	Light Vehicle	HGV	Light Vehicle	HGV	Total
Food Delivery	1	1	1	1	2	2	4
Laundry	1	1	1	1	2	2	4
Maintenance	1		1		2		2
Other Deliveries - Mail / parcels etc	1		1		2		2
Total	**5**	**5**	**5**	**5**	**10**	**10**	**20**

RECEIVED: 05/08/2025

Table 13-9: Proposed Development Estimated Total Daily External Vehicle Trips

Resort Facility	Arrivals	Departures	Total Daily Vehicle Trips
Residents Check In / Check Out	44	44	99
Resident Trips	79	79	159
Visitor Special Event	52	52	104
Visitor Food & Beverage	219	219	438
Visitor Spa	50	50	101
Staff	56	56	113
Servicing	10	10	20
Total	**517**	**517**	**1,034**

**Rounding errors may exist*

Daily trip generation estimates are used in Section 13.6.2 to establish the effect of the Proposed Development on each road link in the study area.

13.5.2.2 Trip Distribution

Trips have been distributed based on a first principles approach which takes cognizance of:

- Likely origins and destinations of residents and visitors of the Proposed Development taking account of traffic from Dublin / Dublin Airport, Rosslare Harbour and Wexford town centre to the north and east and Limerick and Cork to the west;
- A proportion of daily resident trips to Kilmore Quay village centre; and
- Existing turning proportions extracted from the baseline JTCs.

The first principles approach has identified a distribution profile as follows:

- 60% of Proposed Development traffic enters and exits the Proposed Development via the R739 from the north.

RECEIVED: 05/08/2025

- 40% of Proposed Development traffic enters and exits the Proposed Development via the R739 from the south:
  - Of the 40%, 5% travel to and from Kilmore Quay village centre.
  - The remaining 35% travel via the L3056 and Ard Na Ba.

13.5.3 Operational Phase Traffic Characteristics

Daily flows at each road link have been estimated based on background traffic growth and Proposed Development trip generation and distribution for the Do-Something scenario. This is shown for opening year and design years in **Error! Reference source not found.**.

Table 13-10: Do-Something Scenario ADT Flows

Road Link Number	Road Name	Vehicle Type	Do-Something ADT	
			2031	2046
1	R739 (Site Access ATC)	All	3,282	3,407
		HGV	150	192
2	R739 (Chapel)	All	3,301	3,423
		HGV	132	169
3	Ard Na Ba	All	1,188	1,215
		HGV	29	38
4	L3056	All	2,458	2,539
		HGV	73	95

Road links within Kilmore Quay village centre have not been assessed as the maximum percentage impact associated with Proposed Development traffic is anticipated to be less than 10% based on a 5% distribution of Proposed Development vehicle traffic accessing the village.

13.6 Potential Effects of the Proposed Development

13.6.1 Construction Phase

As **Error! Reference source not found.** demonstrates, the overall traffic effect of construction traffic on baseline traffic is approximately 2% at each link. The percentage impact of HGVs on each link is between 27% to 30%.

Table 13-11: Construction Peak 2028 Traffic % Change

Road Link Number	Road Name	Percentage Change All Vehicles	Percentage Change HGVs
1	R739 Northbound (Site Access ATC)	2%	27%

Road Link Number	Road Name	Percentage Change All Vehicles	Percentage Change HGVs
2	R739 Eastbound (Chapel)	2%	30%

RECEIVED: 05/08/2025

13.6.1.1 Character

Character change within the study area during the construction phase would be limited to the introduction of a construction access on the R739 and potential reduction in average traffic speeds along Road Links 1 and 2 caused by slower moving construction vehicles.

Therefore, the effect on character is considered **low**.

13.6.1.2 Magnitude

The assessment of magnitude adopts thresholds set out in IEMA Guidelines as set out in Section 13.2.1.3.

The magnitude of overall traffic generation during the construction phase on Road Links 1 and 2 is considered **low** given the increase in all traffic is 2%.

For HGV traffic, the magnitude on Road Link 2 can be considered **Moderate** due to an anticipated increase of 30%.

13.6.1.3 Duration

The construction phase is anticipated to last 36 months with peak movements occurring for a three-month period, assumed in 2028. Therefore, the duration can be considered **short-term**.

13.6.1.4 Probability

Should the Proposed Development be brought forward the probability of traffic impact during the construction phase is **likely** on all road links.

13.6.1.5 Consequence

The consequence of the traffic impact of the construction phase on Road Links 1 and 2 is considered **low.** The anticipated increase in traffic can be accommodated by the carrying capacity of the road link. A potential reduction in traffic speeds because of increased HGV traffic could result in journey delays.

13.6.1.6 Effect Significance

The Proposed Development would have an overall low effect on the existing environment which has low to medium sensitivity. As such, the degree of effect significance can be considered **Moderate**.

13.6.2 Operational Phase

Table 13-12 shows the percentage change in ADT in the study area under the Do-Something scenario for opening year and design year.

RECEIVED: 05/08/2025

Table 13-12: ADT Do Something Scenario % Change

Road Link Number	Road Name	Vehicle Type	Percentage Impact from Do Nothing	
			Opening Year (2031) - With Proposed Development.	Design Year (2046) – With Proposed Development.
1	R739 Northbound (Site Access ATC)	All	19%	18%
		HGV	7%	5%
2	R739 Eastbound (Chapel)	All	19%	18%
		HGV	8%	6%
3	Ard Na Ba Eastbound	All	52%	51%
		HGV	0%	0%
4	L3056 Northbound	All	25%	24%
		HGV	0%	0%

This shows a maximum impact of 52% at Ard Na Ba (Link 3) and a maximum HGV percentage impact of 8% on the R739 in proximity to the junction with Chapel (Link 2).

13.6.2.1 Character

The Proposed Development would impact the character of Road Links 1 and 2 by introducing a frontage to the site along the R739 including a new footway and pedestrian crossing. Additional traffic generated by the Proposed Development may also have an impact on average traffic speeds across all road links due to an increase in ADT.

The change in character during the operational phase for Opening Year and Design Year scenarios is considered **Medium**.

13.6.2.2 Magnitude

A maximum traffic impact of 52% is anticipated on Road Link 3. In line with IEMA Guidelines this would constitute a **Medium** effect on magnitude.

13.6.2.3 Duration

The operational phase would have a **permanent** effect.

13.6.2.4 Probability

Should the Proposed Development be brought forward the probability of traffic impact during the operational phase is **likely** during the opening year and design year scenarios on all road links.

13.6.2.5 Consequence

The consequence of the traffic impact of the operational phase on all road links is considered **low**. Increased traffic volumes could cause journey delay on road links within the study area. The anticipated increase in traffic can be accommodated by the carrying capacity of the road link.

RECEIVED: 05/08/2025

13.6.2.6 Effect Significance

The Proposed Development would have an overall medium effect on the existing environment which has low to medium sensitivity. As such, the degree of effect significance can be considered **Moderate**.

13.7 Mitigation

During all tested scenarios, the maximum degree of significance anticipated is **Moderate**. As such, in accordance with EPA Guidance, no mitigation is required.

Despite this, in order to manage the impact of construction traffic, in particular HGVs during the construction phase, a detailed Construction Traffic Management Plan (CTMP) would be prepared prior to commencement on site.

A Construction Environmental Management Plan (CEMP) has been prepared to support the planning application. This outlines good practice and management techniques to ensure the construction phase is carried out in an environmentally sustainable manner. As part of this a series of traffic management measures are outlined to manage the impact of construction traffic. It is anticipated that these would inform the detailed CTMP, which may be conditioned as part of consent and prepared prior to commencement of enabling works for the Proposed Development.

Mitigation, in the form of a detailed MMP is proposed in order to manage the impact of the Proposed Development during the operational phase. A Framework MMP has been prepared as part of the planning submission for the Proposed Development and this would be subject to regular update including at the commencement of operation. It is anticipated a detailed MMP would form a condition of consent.

The MMP sets out measures which the applicant is willing to introduce to support sustainable travel choices amongst residents, visitors and staff. A summary of proposed MMP measures include but are not limited to:

- Awareness raising of sustainable travel choices.
- Possible cycle hire scheme for hotel / lodge residents.
- Parking Management Plan.
- Workplace travel plan initiatives.

13.8 Residual Impacts

As no significant effects are anticipated in the study area and with the preparation of a CTMP and MMP no residual impacts are anticipated.

13.9 Monitoring

13.9.1 Construction Phase

Monitoring of traffic during the construction phase would be undertaken through the preparation and upkeep of a detailed CTMP. This is typically prepared by the lead contractor and includes a monitoring process, agreed in consultation with the local authority, to ensure proper management of construction traffic is adhered to.

RECEIVED: 05/08/2025

13.9.2 Operational Phase

The Framework MMP includes measures for monitoring traffic and travel behaviours through the lifetime of the operational phase. This includes aspects such as travel surveys which provide a mechanism for the monitoring of mode share and other travel behaviour aspects.

13.10 Interactions

In accordance with EPA Guidelines, the following EIAR chapters have interactions with Roads and Traffic, the level of interaction is also dictated by these Guidelines:

- Population and Human Health (Weak Interaction).
- Air Quality & Climate (Weak Interaction).
- Noise and Vibration (Some Interaction during Construction, Weak Interactions during Operation).

As traffic increases during construction and operation there are direct and indirect effects of this traffic on population, human health, air quality, climate, noise and vibration. Anticipated construction and operational traffic data has been shared to inform the respective assessments for these interactions. A summary of the conclusions of these respective assessments is as follows:

- Chapter 4 Population and Human Health – From a socio-economic perspective during construction the effect of the Proposed Development is not significant. During operation the Proposed Development is anticipated to have a positive, slight, long term socio-economic effect. In respect of human health interactions Chapter 4 summarises the effects as described in Chapter 8a, Chapter 8b, Chapter 10 and this Roads and Traffic Chapter.
- Chapter 8a Air Quality - construction and operational traffic is anticipated to have an imperceptible effect on air quality, a good practice measure to manage air quality effects is proposed in the form of a Dust Management Plan.
- Chapter 8b Climate – the effects of traffic related CO2 emissions during the construction and operational phase are deemed imperceptible. Measures to promote sustainable travel are identified as a means of reducing CO2 emissions during the operational stage. This would be achieved through the MMP.
- Chapter 10 Noise and Vibration – an increase in traffic noise is anticipated to equate to a negligible (construction) and minor (operational) magnitude of change. Good practice in the form of the CEMP and CTMP is anticipated to manage noise and vibration effects.

13.11 Difficulties Encountered When Compiling

No difficulties were encountered in compiling this chapter of the EIAR.

13.12 References

- Environmental Protection Agency (EPA) Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022).
- Traffic Infrastructure Ireland (TII), Traffic and Transport Assessment Guidelines (TII, 2014).

- Institute of Environmental Management and Assessment (IEMA) Guidelines: Environmental Assessment of Traffic and Movement (IEMA, 2023).
- TII Publications Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections, (TII, 2016). Used to determine projected traffic growth.
- TII Publications DN-GEO-03031 - Rural Road Link Design, (TII, 2023). Used to determine the carrying capacity of road links based on parameters such as road width and speed.

RECEIVED: 05/08/2025

RECEIVED: 05/08/2025

14 RISK MANAGEMENT

14.1 Introduction

This chapter sets out the assessment of the vulnerability of the Proposed Development to risks of major accidents and/or disasters. It assesses the expected effects of the project to risk of major accidents and disasters including the methodology used for the assessment. The interactions and mitigation and monitoring measures are included in Chapters 15 and 16 respectively.

14.1.1 Quality Assurance and Competency of Experts

This chapter was prepared by Lakshmi Priya Mohan, Environmental Consultant within DNV's EIA team. Lakshmi has a Master of Science degree in Environmental Science degree from University College Dublin, Master of Science degree in Zoology from Ethiraj College for Women, India, and Bachelor of Science in Zoology from Madras Christian College India. Lakshmi has worked as an Environmental Consultant with DNV since 2023.

The report has been reviewed by Gráinne Ryan, Principal Consultant with DNV. Gráinne has worked in consulting for over 11 years. Gráinne's project experience in the waste, pharmaceutical, residential, industrial and commercial sectors cover the planning, consenting and operational stages

This chapter has been approved by Catherine Keogan, Technical Director and EIA Lead at DNV. Catherine is an environmental consultant with 37 years' experience in consultancy, specialising in EIAs for large-scale residential, commercial developments, pharmaceutical, BESS and solar projects working closely with a range of developers, planning consultants and architects within the public and private sector. Catherine has a B.Sc. (Hons) in Analytical Science and a Post Graduate Diploma in Renewable Energy Technology Systems.

14.2 Study Methodology

14.2.1 Scope and Context

The relevant legislation that applies to this chapter is the Planning and Development Regulations 2001 as amended, and in particular Schedule 6 – Information to be contained in EIAR. The following paragraph of Schedule 6, Paragraph 2(e)(i)(IV), specifically refers to "*a description of the likely significant effects on the environment of the Proposed Development resulting from … the risks to human health, cultural heritage or the environment (for example due to accidents or disasters)*".

Paragraph 2(h) further expands with "*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*."

RECEIVED: 05/08/2025

Additionally, the Chemicals Act (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2015 (S.I. No. 209 of 2015) (the "COMAH Regulations"), which implement the Seveso III Directive (2012/18/EU), and which revoked the 2006 Major Accident Regulations also applies to this chapter.

14.2.2 Guidelines and Reference Material

Cognisance has been taken of the Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA 2022). This document follows the requirements laid out in the Directive 2014/52/EU.

Specifically, the EPA Guidelines state that the EIAR must take account of "*the vulnerability of the project to risk of major accidents and /or disasters relevant to the project concerned and that the EIAR therefore explicitly addresses this issue. The extent to which the effects of major accidents and / or disasters are examined in the EIAR should be guided by an assessment of the likelihood of their occurrence (risk)… 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 plants. 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. The EIAR should refer to those separate assessments while avoiding duplication of their contents*."

Reference has also been made to the Department of the Environment, Heritage & Local Government (DoEHLG) Publication 'Guide to Risk Assessment in Major Emergency Management 2010' and the Office of Emergency Planning, Department of Defence (DOD) Publication 'A National Risk Assessment for Ireland 2020'. A consolidated list of national hazards for Ireland identified in the DOD document are identified in Table 14-1.

Table 14-1 Consolidated List of National Hazards (Source: A National Risk Assessment for Ireland (2020) Department of Defence)

Hazard: Civil	Hazard: Natural
• Large Crowd Event • Pandemic • Water Supply Distribution and Contamination • Food Chain Contamination • Animal Disease • Terrorist Incident	• Storm • Snow and Ice (including prolonged low temperature) • Flooding (including pluvial, fluvial and coastal)
Hazard: Transportation	**Hazard: Technological**
• Maritime Incident • Air Incident • Transport Hub (including Airports, Ports and Rail Stations)	• Structural Collapse (including Dam, Tunnel, Bridge and Building) • Nuclear Incident (Abroad) • Cyber Incident

Hazard: Civil	Hazard: Natural
	• Disruption of Energy Supply (including oil, gas, electricity and communications)

RECEIVED: 05/08/2025

14.2.3 Risk Assessment Methodology

The risk assessment methodology 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 (DoEHLG, 2010).

Table 14-2: Classification of National Likelihood Criteria (Source: A National Risk Assessment for Ireland (2020) Department of Defence)

National Likelihood Criteria		
Rating	**Classification**	**Average Recurrence Interval**
1	Extremely Unlikely	500 or more years between occurrences
2	Very Unlikely	100-500 year between occurrences
3	Unlikely	10-100 years between occurrences
4	Likely	1-10 years between occurrences
5	Very Likely	Less than 1 year between occurrences

14.3 Predicted Impacts

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 phases:

Phase 1: Assessment

RECEIVED: 05/08/2025

The DOD 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 list was screened and major events caused by geological faults or natural phenomena 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. **Error! Reference source not found.** lists the major accidents and/or disasters reviewed.

RECEIVED: 05/08/2025

Table 14-3: Major Accidents and/or Disasters Reviewed

Major Accident or Disaster	Relevant for this Proposed Development	Why relevant?	Potential Receptor	Covered within EIAR?
Civil				
Large Crowd Event (An event with over 5,000 people)	N	Not considered vulnerable due to the nature of the Proposed Development, i.e. Integrated Tourism Resort complex.	N/A	N/A
Water Supply Contamination	N	Waterborne diseases can be caused by consuming contaminated drinking water. No public health issues have been identified for the Proposed Development.	Local water supply users	Chapter 7 Hydrology of this EIAR identifies the control measure required to avoid contamination of water supplies during operational works.
Food Chain Contamination	N	Not considered vulnerable.	N/A	N/A
Animal Disease	N	Not considered vulnerable.	N/A	N/A
Terrorist Incident	N	Not considered vulnerable.	N/A	N/A
Transportation				
Maritime Incident	N	The site is located adjacent to the Irish Sea however it is not considered vulnerable to maritime incidents. Kilmore Quay Harbour is located approximately 1km southwest of the site. Rosslare Europort is located approximately 18km northeast of the site.	Port users and infrastructure	N/A
Air Incident	N	Considering the distance between the Proposed Development and the nearest aerodrome and airfield, and PSZs, an aircraft strike disaster is not considered relevant to the Proposed Development.	N/A	Public Safety Zones for Waterford Airport are assessed in Section 14.4 of this chapter.
Transport Hub (Includes Airports, Ports and Rail Stations)	N	The site is not considered to be a Transport Hub and therefore is not considered vulnerable	N/A	N/A

RECEIVED: 05/08/2025

Natural				
Cultural, Archaeological and Architectural Heritage	Y	The construction phase will include groundworks, such as topsoil stripping, which has the potential to affect any small or isolated archaeological features or deposits that have the potential to survive beneath the current ground level.	Previously unrecorded archaeological features and deposits	Chapter 11 Archaeology and Cultural Heritage of this EIAR assessed the impact of the Proposed Development on the Archaeological and Cultural Heritage.
Landslides	N	There are no recorded landslides at or within a 30km radius of the Proposed Development site. The site also has a “Low” landslide susceptibility classification (GSI, 2025).	N/A	Chapter 6 Land and Soils of this EIAR assessed the vulnerability of the Proposed Development to landslides.
Sinkholes	N	The site is not located within an area associated with karst geology and therefore there are no identified risks associated with karst features.	N/A	Chapter 6 Land and Soils of this EIAR assessed the vulnerability of the Proposed Development to sinkholes.
Earthquakes	N	The site is not considered vulnerable as the area is not geologically active.	N/A	N/A
Floods/ Storm surge/tidal flooding	N	All built elements of the Proposed Development site are located within Flood Zone C and not deemed to be at any significant risk of flooding. The findings of this Site-Specific Flood Risk Assessment indicate that flood risk to the site can be managed without increasing flood risk elsewhere.	Proposed Development	Chapter 7 Hydrology of this EIAR, the Site Specific Flood Risk Assessment (SSFRA) identifies the vulnerability of the project to flooding.
Severe weather such as storms, blizzards, droughts, tornados, heatwaves	N	Not considered vulnerable. In the event of severe weather events, the national meteorological service, Met Éireann, provides advance notice of severe weather, usually several days in advance. When appropriate, colour-coded weather warnings are issued. The Office of Emergency Planning works with the government departments and other key public authorities in order to ensure the best possible use of resources and compatibility across different emergency planning requirements.	N/A	N/A
Air Quality events	N	Not considered vulnerable. Dust suppression techniques will be used at the site during the construction phase and vehicles will be turned off once idle to reduce emissions.	Construction workers/local businesses/employees	Chapter 8 Air Quality of this EIAR identifies preventative measures to be taken with regards to protecting ambient air quality.

RECEIVED: 05/08/2025

Wildfires	N	Not considered vulnerable due to the location of the site of the Proposed Development.	N/A	N/A
Fire	Y	Fire Brigade access routes will be provided. A fire hydrant system and water supply will be provided to serve the development in accordance with Wexford County Council's guidance on 'Standard Requirements for Fire Hydrants and Water Supplies in Developments in County Wexford'.	Construction workers/local businesses/employees	Section **Error! Reference source not found.** of this chapter deals with Fire Safety and Emergency Response.
Invasive species	Y	Invasive alien plant species (IAPS) could spread to or from the site as a result of movement of material and vehicles. Two low-impact, invasive, non-native plant species were recorded in the middle of the cluster of buildings at the site, namely, montbretia and New Zealand flax. In the absence of mitigation, the spread of invasive species could lead to negative, long-term, significant impacts on adjacent habitats.	Native species / local biodiversity	Chapter 5 Biodiversity of this EIAR identifies preventative measures to be taken with regards to invasive species where relevant.
<u>Technological</u>				
Structural Collapse (Building, Dam, Bridge, Tunnel)	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	The design criteria of the buildings are in accordance with all relevant building design standards.
Flood defence failure	N	Appropriate drainage design, SuDS and attenuation design, have all been included in the design of the Proposed Development and will be installed according to appropriate regulations and guidelines.	N/A	Chapter 7 Hydrology of this EIAR assess the Proposed development in relation to flooding.
Nuclear incident	N	Not considered vulnerable. There are no nuclear power stations near the Proposed Development. The closest is Trawsfynydd Nuclear Power Station, which is located approximately 165km southeast of the Site of the Proposed Development in Wales.	N/A	N/A
Cyber incident	N	Not considered vulnerable.	N/A	N/A
Disruption of energy supply (oil, gas, electricity)	N	Not considered vulnerable. Temporary suspensions of power may be required to the local network while connecting the Proposed Development to the network. Temporary suspensions will be controlled by the statutory undertaker (e.g., ESB Networks) and in accordance with standard protocols	Local residents/ businesses	Chapter 12 Material Assets of this EIAR contains information on energy systems.

RECEIVED: 05/08/2025

Utilities failure (communications)	N	Not considered vulnerable. In Ireland, the fixed-line communications market is dominated by Eir; while Eir, Three, and Vodafone own Ireland's mobile telecommunications infrastructure. New connections will be controlled by the network provider in accordance with standard protocols. Building heights (max 15.6m) are below the standard heights for cellular towers (20-40m), and microwave transmission links will not be affected.	N/A	Chapter 12 Material Assets of this EIAR contains information on communications systems.
Utilities failure (water supply)	N	Not considered vulnerable. A pre-connection enquiry was submitted to Irish Water in relation to a Water & Wastewater connection for the Proposed Development. An Engineering Assessment Report has been prepared.	N/A	Chapter 7 Hydrology and Chapter 12 Material Assets of this EIAR contain 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. An Engineering Assessment Report has been prepared.	N/A	Chapter 7 Hydrology and Chapter 12 Material Assets of this EIAR contain information on wastewater and sewage removal and treatment
Utilities failure (solid waste)	N	Not considered vulnerable. A Preliminary Construction and Environmental Management Plan has been prepared for the Construction Phase. Designated bin and recyclable store areas have been designed into the Proposed Development.	N/A	Chapter 12 Material Assets of this EIAR contains information on solid waste removal and treatment
Industrial accidents (defence, energy, oil and gas refinery, food industry, chemical industry, manufacturing, quarrying, mining)	N	Not considered vulnerable. The site is not a regulated site under the Chemicals Act (Control of Major Accident Hazards involving Dangerous Substances) Regulations (2015) (COMAH), which implement the Seveso III Directive (2012/18/EU), and it is not connected to a regulated site. The closest Upper Tier Seveso Site is European Refreshments, Sinnottstown, Drinagh, Wexford located approximately 16km northeast. The closest Lower Tier Seveso Site is the SSE Generation Ireland Ltd, Great Island Generation Station, Campile, New Ross located approximately 30km northwest.	N/A	N/A

RECEIVED: 05/08/2025

14.4 Management Plans

14.4.1 Fire Safety and Emergency Response Plan

Emergency Response Plans will be put in place in advance of activities commencing on site. Maintenance checks system will be employed. Due to the nature of proposed operations on-site the risk of fire is considered to be low. However, the strategy must allow for the increase in labour on site and additional machinery and vehicles to and from the facility.

The 24-hour potable water storage tank will be combined with the firefighting storage tank which will provide a minimum water supply of 120,000 litres in the event of a fire. The tanks will initially fill with treated well water, if the level falls due to demand or potentially reduced flow from the boreholes, a low-level switch will open the mains water inlet and allow the mains water to supply the tank. When the water level gets to the high-level switch, both valves will close. The tank will be fitted with a Type “AB” Air Gap to prevent backflow to the public main.

Mains pumps and booster sets will charge the site water main. A fire hydrant system and water supply will be provided to serve the development in accordance with “Standard Requirements for Fire Hydrants and Water Supplies in Developments in County Wexford” (Civil Engineering Planning report, 2025).

14.4.2 Public Safety Zone

Public Safety Zones (PSZs) are mapped out around airport runways to protect the public on the ground from possible aircraft crashes in populated areas. PSZs are used to prevent inappropriate use of land where the risk to the public is greatest, e.g., by limiting the type and allowable height of buildings and structures within the zones.

The site is located approximately 35km east of Waterford Airport which is outside the PSZs of the airport runways. The next closest airport is Dublin Airport which is located approximately 140km north of the Proposed Development. Considering the distance between the Proposed Development and the nearest airfield, and associated PSZs, an aircraft strike disaster is not considered relevant to the Proposed Development.

14.4.3 Potential Major Emergency Management Sites and Seveso Sites

Seveso Sites are defined as industrial sites that due to the presence of dangerous substances in sufficient quantities, are regulated under Council Directives 96/82/EC and 2003/105/EC, commonly referred to as the Seveso II Directive. Seveso Sites are categorised as Lower, or Upper, by the type and quantity of hazardous substances stored at the site.

The Proposed Development is not a regulated site under the Chemicals Act (Control of Major Accident Hazards involving Dangerous Substances) Regulations (2015) (COMAH), which implement the Seveso III Directive (2012/18/EU), and it is not connected to a regulated site.

The site is located in the Garda Division of Wexford / Wicklow which includes the districts of Baltinglass, Bray, Enniscorthy, New Ross, Wexford and Wicklow. The closest Upper Tier Seveso Site is European Refreshments located approximately 16km northeast. The closest Lower Tier Seveso Site is the Great Island Generation Station located approximately 30km northwest (Figure 14-1).

RECEIVED: 05/08/2025

Table 14-4 Seveso Sites in County Wexford (Wexford County Development Plan 2022-2028)

Seveso Tier	Site Details	Distance
Upper Tier	European Refreshments, Sinnottstown, Drinagh, Wexford	16km northeast
	Nitrofert Ltd, Raheen Port, New Ross	35km northwest
	Rochefreight Warehousing Ltd, Wexford Road, Rosslare Harbour.	17km northeast
Lower Tier	Goulding Chemicals Ltd, Stokestown, New Ross	33km northwest
	SSE Generation Ireland Ltd, Great Island Generation Station, Campile, New Ross.	30km northwest

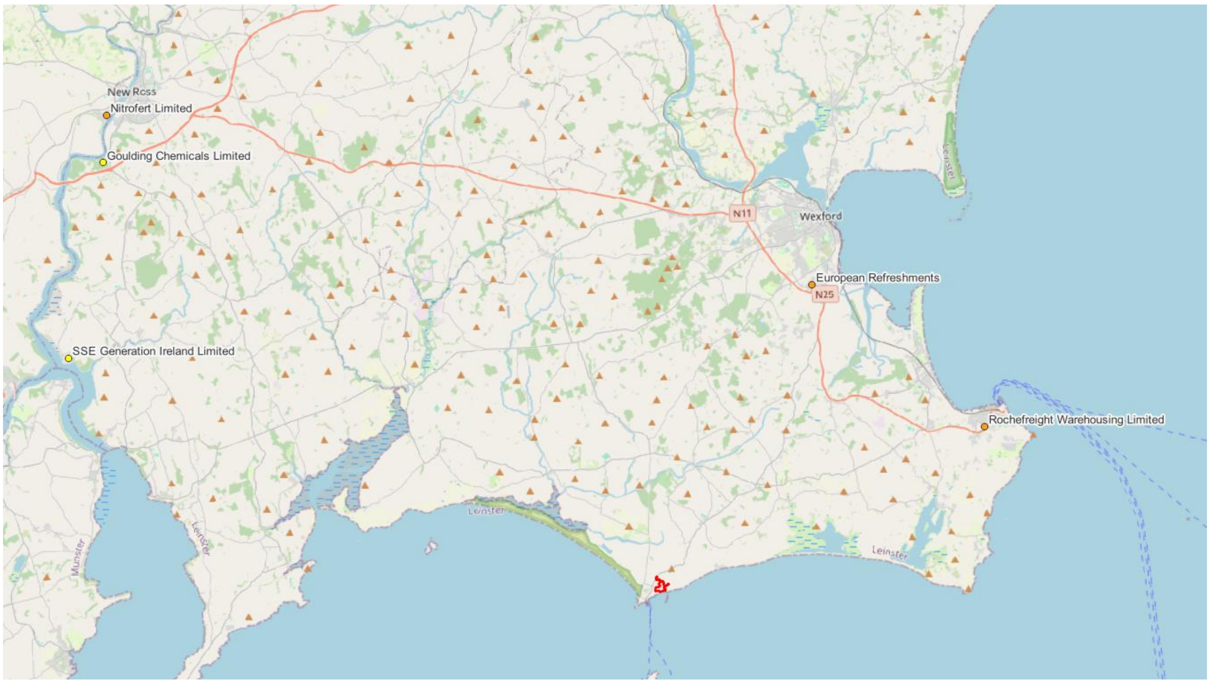


Figure 14-1 Seveso Sites surrounding the Proposed Development (Health and Safety Authority 2024)

Based on the distance of the Proposed Development from any Seveso Sites the risk of a potential major emergency is not considered relevant to this Proposed Development.

14.4.4 Flood Risk Management

There are no EPA mapped watercourses within or bounding the site. The closest surface water feature recorded is the Eastern Celtic Sea coastal waterbody (EU Code: IE_SE_050_0000) is located adjacent to the southern boundary of the site.

The Proposed Development is not indicated as liable to flood in events up to and exceeding the 1 in 1000-year event, therefore the proposed development is within Flood Zone C. Development of Less Vulnerable development such as the proposed is generally appropriate within flood zone C as per the OPW Guidelines. The Proposed Development will not have adverse impacts or impede access to a watercourse, floodplain or flood protection and management facilities and will be flood resilient in design.

RECEIVED: 05/08/2025

All proposed structures are within Flood Zone C. The flood risk to the site can be managed without increasing flood risk elsewhere. The Proposed Development is considered to be appropriate in accordance with guidelines set out in 'The Planning System and Flood Risk Management – Guidelines for Planning Authorities' (Site Specific Flood Risk Assessment, 2025).

14.5 Residual Impacts

Control measures will be put in place on site for health and safety and environmental management as per conditions of the planning permission, relevant codes of practices and relevant legislation.

Through the implementation of mitigation measures detailed in the relevant technical chapters of this EIAR, 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.

14.6 Monitoring

There is no monitoring required with regards to risk management. All monitoring proposals for the interacting chapters have been detailed in the relevant technical chapters and are included in Chapter 16 Mitigation Measures and Monitoring.

14.7 Difficulties Encountered When Compiling

No difficulties were encountered in completing this chapter.

RECEIVED: 05/08/2025

14.8 References

- Chapters 4 to 13 of Volume 2 of this EIAR
- Environmental Resources Management Ireland Ltd (2005) Public Safety Zones Report
- Environmental Protection Agency (2022) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports
- Garda Mapping Section – Seveso Sites Ireland WebMap https://www.arcgis.com/home/item.html?id=a01b5a0a6ff24f10adff30beaa3b6fd0
- Irish Water Greater Dublin Area water restrictions chart https://www.water.ie/help/supply/water-shortages/
- Office of Emergency Planning (2020) ‘A National Risk Assessment for Ireland 2020’ Department of Defence Publication
- Statutory Instrument (SI). No. 296/2018 - European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018

RECEIVED: 05/08/2025

15 INTERACTIONS

15.1 Introduction

As a requirement of Planning Regulations and the Environmental Protection Agency's '*Guidelines on information to be contained in Environmental Impact Assessment Reports*' (2022), interrelationships between various environmental aspects must be considered when assessing the impact of the Proposed Development, as well as individual significant impacts. The significant impacts of the Proposed Development and the proposed mitigation measures have been detailed in the relevant chapters of this report. However, as with all developments that pose potential environmental impacts, there also exists potential for interactions/interrelationships between the impacts of different environmental aspects. The results may exacerbate or ameliorate the magnitude of impacts. This chapter of the EIAR addresses the interactions between the various environmental factors of the Proposed Development.

The following Section is directed by Article 3 Section 1(e) of the EIA Directive. The EPA Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022), Advice Notes for Preparing Environmental Impact Statements (Draft, September 2015) and OPR Practice Note PN02 Environmental Impact Assessment Screening (June 2021) were also considered.

Article 3 of the Directive states:

1. 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).

15.1.1 Quality Assurance and Competence

This chapter was prepared by Lakshmi Priya Mohan, Environmental Consultant with DNV. Lakshmi has a Master of Science in Environmental Science degree from University College Dublin, Master of Science degree in Zoology from Ethiraj College for Women, India, and Bachelor of Science in Zoology from Madras Christian College India. Lakshmi is employed as an Environmental Consultant with DNV and has experience preparing Environmental Impact Assessment (EIA) Screening Reports, Effects Interactions and Mitigation and Monitoring chapters of EIARs for a wide variety of infrastructure, residential .and commercial projects.

This chapter has been reviewed by Catherine Keogan, Technical Director and EIA Lead at DNV. Catherine is an environmental consultant with over 20 years' experience in consultancy, specialising in EIAs for a range of developments, working closely with a range of developers, planning consultants and architects within the public and private sector.

RECEIVED: 05/08/2025

15.2 Study Methodology

The interactions between impacts on different environmental factors have been addressed throughout this EIAR. Close co-ordination and management with the EIAR team was carried out to ensure that all likely relevant interactions were addressed at the scoping stage of the EIAR, and interactions have been adequately assessed.

Following an assessment of the EIAR, a matrix was produced to display where interactions between impacts on different factors have been addressed. This has been carried out by use of chapter headings included in the EIAR and details of any interaction during all phases of the Proposed Development.

15.3 Interactions

The following matrix has been produced to show where potential significant interactions between effects on different factors have been addressed, see Table 15-1.

As this EIAR has been prepared by a number of specialist consultants, an important aspect of the EIA process was to ensure that interactions between the various disciplines have been taken into consideration. The principal interactions requiring information exchange between the environmental specialists and the design team are summarised in Table 15-2 to Table 15-12.

RECEIVED: 05/08/2025

Table 15-1: Interactions between Factors

Interaction	4. Population and Human Health	5. Biodiversity	6. Land and Soils	7. Hydrology and Hydrogeology	8 (a) Air Quality	8 (b) Climate	9. Noise and Vibration	10. Landscape and Visual	11. Archaeology and Cultural Heritage	12. Material Assets - Waste and Utilities	13. Material Assets Traffic
Population and Human Health		x	✓	✓	✓	✓	x	✓	x	✓	✓
Biodiversity	x		✓	✓	✓	✓	✓	✓	x	✓	x
Land and Soils	x	x		✓	✓	✓	x	✓	x	✓	x
Hydrology and Hydrogeology	✓	✓	✓		x	✓	x	x	x	✓	x
Air Quality	✓	x	✓	x		x	x	x	x	x	✓
Climate	✓	x	x	x	✓		x	x	x	✓	✓
Noise and Vibration	✓	✓	x	x	x	x		x	x	x	✓
Landscape and Visual Amenity	✓	x	✓	x	x	x	x		✓	x	x
Archaeology and Cultural Heritage	x	x	x	x	x	✓	x	x		x	x
Material Assets - Waste and Utilities	x	x	✓	✓	x	x	x	x	✓		x
Material Assets – Traffic	✓	x	✓	x	✓	x	✓	x	x	✓	

Green	No Interaction
Yellow	Potential Interaction
Grey	N/A

Table 15-2 Population and Human Health

RECEIVED: 05/08/2025

Population and Human Health	
Summary	
Chapter 4 of this EIAR, *Population and Human Health,* details the direct and indirect effects of the Proposed Development on Population and Human Health; and sets out any required mitigation measures where appropriate. The Proposed Development has the potential to cause dust nuisances during the construction phase as well as noise and vibrations from plant machinery and traffic.	
Interactions	
Hydrology and Hydrogeology	Pollution events can impact the water quality and thus impact the human health of the surrounding population. Appropriate surface water control measures will be implemented as part of the Proposed Development. No public health issues associated with the water conditions at the site have been identified for the construction phase or operational phase of the Proposed Development. There are no likely significant adverse impacts as a result of Hydrology and as such there will be no significant impacts on population and human health. Hydrology has been fully assessed in Chapter 7 of this EIAR.
Air Quality and Climate	Interactions between Air Quality and Climate and Population and Human Health have been considered as the operational phase has the potential to cause health issues as a result of impacts on air quality from dust nuisances and potential traffic derived pollutants. Chapters 8a and 8b note that the impact of the Proposed Development on air quality and climate is predicted to be imperceptible with respect to the operational phase in the long term. Traffic-related pollutants which may affect population and human health have been deemed as having an overall insignificant impact therefore will not have a significant impact on population and human health.
Noise and Vibration	Construction activities such as site clearance, building construction works, and trucks and vehicles entering and exiting the site have the potential to interact with the surrounding population and human health and cause noise disturbance. The impact assessment of noise and vibration has concluded that additional noise associated with the construction and operational phase will not cause a significant adverse effect.

	Operational phase noise impacts have also been assessed in relation to traffic and plant equipment and no significant adverse effects will be experienced. As such, there will be no significant impact on population and human health.
Landscape and Visual	The Proposed Development will alter the visual appearance of the site which is predominantly a greenfield site. It is not considered that the Proposed Development by virtue of its visual appearance will not cause any significant impacts and as such there will be no significant impact on population and human health.
Material Assets: Traffic	Construction and operational activities will result in an increased number of traffic movements. There is a potential impact on population and human health in relation to the capacity and operation of the surrounding road network. The overall impact of the Proposed Development on the transportation infrastructure in the local area will not be significant and subsequently there will be no significant impact on population and human health.
Conclusions	
It is unlikely that significant adverse impacts on Hydrology, Air Quality, Noise and Vibration, Landscape and Visual and Traffic and Transport will occur, and mitigation measures have been set out for any of these potential interactions.	

RECEIVED: 05/08/2025

RECEIVED: 05/08/2025

Table 15-3: Biodiversity

Biodiversity	
Summary	
Chapter 5 of this EIAR*, Biodiversity,* details the direct and indirect effects of the Proposed Development on the local flora and fauna; and sets out any required mitigation measures where appropriate.	
Interactions	
Hydrology and Hydrogeology	The key environmental interaction with biodiversity is water. An assessment of the potential impact of the Proposed Development on the hydrological and hydrogeological environment is described in Chapter 7 - 'Hydrology' of this EIAR and the accompanying AA/NIS (Enviroguide, 2025a), to ensure the quality (pollution and sedimentation) and quantity (surface water run-off) of water is of the appropriate standard. Interactions between hydrology and biodiversity can occur through impacts to water quality, arising, for example from an accidental pollution event during the construction and/or operational phase. This interaction if unmitigated has the potential to result in impacts on ecological receptors e.g., designated sites, that are hydrologically linked to the Site. However, mitigation measures are proposed in the NIS report, and below within this Chapter, to prevent any significant impacts on water quality throughout the construction and operational lifetime of the Proposed Development.
Noise and Vibration	An assessment of the potential impact of the Proposed Development in the form of excess noise and vibrations associated with the Proposed Works are laid out in Chapter 9 - 'Noise & Vibration'. These impacts are considered to be relevant to the ecological sensitivities associated with the site of the Proposed Development discussed in this Chapter, in particular breeding and wintering birds; and mitigation measures addressing these potential impacts are described in full below and in Chapter 9. There is potential for interactions between noise and sensitive fauna, e.g., birds, that occur in adjacent habitats from increased noise levels during the construction phase. However, upon implementation of the proposed mitigation measures within both this Chapter of the EIAR and the accompanying AA/NIS (Enviroguide, 2025a), there will be no significant impacts on any sensitive receptors throughout the construction and operational lifetime of the Proposed Development.

RECEIVED: 05/08/2025

Conclusions
Potential negative impacts have been identified for Hydrology and Hydrogeology, and Noise and Vibration. Mitigation measures have been outlined in Chapter 7 and 9 respectively.

Table 15-4: Land and Soils

RECEIVED: 05/08/2025

Land and Soil	
Summary	
Chapter 6 of this EIAR, *Land and Soils*, details the direct and indirect effects of the Proposed Development on the local land, soils, and geology; and sets out any required mitigation measures where appropriate. There are a number of potential pollutants associated with the construction and operational phases which have the potential to impact on the environment. The excavation and infilling of soils at the site have the potential to generate nuisance impacts such as dust, noise and sediment run-off. Consideration is given to habitats and species protected by national and international legislation or considered to be of particular conservation importance.	
Interactions	
Population and Human Health	There is a potential risk of dust generated from excavation and stockpiling of soil during the construction phase of the Proposed Development posing a human health risk in the absence of standard avoidance and mitigation measures which will be implemented to be protective of human health. Furthermore, appropriate industry standard and health and safety legislative requirements will be implemented during the construction phase of the Proposed Development that will be protective of site workers.
Biodiversity	An assessment of the potential impacts of the Proposed Development on the Biodiversity of the site, with emphasis on habitats, flora and fauna which may be impacted as a result of the excavation and importation of materials to the site are included in Chapter 5 of this EIAR. It also provides an assessment of the impacts of the Proposed Development on habitats and species, particularly those protected by national and international legislation or considered to be of particular conservation importance and proposes measures for the mitigation of these impacts.
Hydrology and Hydrogeology	An assessment of the potential effect of the Proposed Development on the hydrological and hydrogeological environment is included in Chapter 7 of this volume. In the absence of avoidance, remedial, and mitigation measures, construction activities may potentially create pathways for potential sources of contamination to enter underlying groundwater. During the construction phase of the Proposed Development, groundwater vulnerability is expected to temporarily increase. Construction activities will involve the use of potentially hazardous materials such

RECEIVED: 05/08/2025

	as cementitious materials, fuels, oils, and other substances. An uncontrolled release of these materials, whether through containment failure or handling accidents, could effect the surrounding environment. In addition, in the absence of avoidance, remedial and mitigation measures, there is a potential for sediment from excavated soils entering runoff and discharging into the site drainage during the construction phase. Procedures for the protection of the receiving water environment are set out in Chapter 7 of this EIAR.
Air Quality and Climate	The excavation of soils across the site and the temporary stockpiling of soils pending reuse or removal offsite has the potential to generate nuisance impacts (i.e., dust) during the construction phase of the Proposed Development. An assessment of the potential impact of the Proposed Development on air quality and climate is included in Chapter 8 of this EIAR.
Landscape and Visual	During the construction phase and into the operational phase of the Proposed Development, the site landscape will undergo a change from undeveloped lands to commercial with associated landscaping, specifically the development of an Integrated Tourism Resort Complex. An assessment of the potential impact of the Proposed Development on the receiving landscape is included in Chapter 10 of this EIAR.
Material Assets: Traffic, Transport, and Waste	Where possible, it is intended to retain and re-use the excavated soil and subsoil on the site for engineering fill and landscaping. However, where required, unsuitable soil and subsoil will be removed offsite in accordance with all statutory legislation. There is also a requirement to import aggregate materials during the construction phase of the Proposed Development. An assessment of the potential impact of the Proposed Development on the and Material Assets (Waste and Utilities) and Material Assets (Traffic and Transport) are included in Chapter 12 and Chapter 13 of this EIAR respectively.

Conclusions
Potential impacts have been outlined in the respective Chapters specified above. The mitigation measures outlined in the OCEMP, and the respective Chapters outlined above, will ensure that there will be no significant adverse impacts on the receiving land, soil and geology associated with the construction phase and the operational phase of the Proposed Development.

Table 15-5: Hydrology and Hydrogeology

RECEIVED: 05/08/2025

Hydrology and Hydrogeology	
Summary	
Chapter 7 of this EIAR, *Hydrology and Hydrogeology*, provides an assessment of the potential impacts of the Proposed Development on hydrology, water and hydrogeology and sets out any required mitigation measures where appropriate. Consideration is given to habitats and species protected by national and international legislation or considered to be of particular conservation importance.	
Interactions	
Population and Human Health	An assessment of the potential impacts of the Proposed Development on human health is included in Chapter 4 of this EIAR. No public health issues associated with the water (hydrology and hydrogeology) conditions at the site 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. During the operational phase of the Proposed Development the water supply will be derived from an onsite supply served by 2 no. groundwater wells. As detailed in the Hydrological Assessment Report (DNV, 2025a included in Volume 3: Appendix 7.1 of the EIAR), there are no human health issues for site workers associated with groundwater quality beneath the site. However, the potential for seasonal variations in groundwater quality will be considered in the detailed design of the supply wells.
Biodiversity	An assessment of the potential impacts of the Proposed Development on the biodiversity of the site, with emphasis on habitats, flora and fauna which may be impacted, as is included in Chapter 5 - Biodiversity of this EIAR, such as potential pollution of waterbodies impacting on flora and fauna in the absence of mitigation measures. Chapter 5 of this EIAR addresses impacts of the Proposed Development on habitats and species, particularly those protected by national and international legislation or considered to be of particular conservation importance and proposes measures for the mitigation of these impacts.

RECEIVED: 05/08/2025

Land and Soils	An assessment of the potential impact of the Proposed Development on the existing land, soils and geological environment during the construction phase and operational of the Proposed Development is set out in Chapter 6 of this EIAR. In the absence of avoidance and mitigation measures, there is a potential for sediments from excavated soils entering the drainage network and tracking downstream during the construction phase.
Material Assets: Waste and Utilities	An assessment of the potential impact of the Proposed Development on the material assets including built services and infrastructure has been set out in Chapter 12 of this EIAR. During the construction phase of the Proposed Development, discharges of water to the public foul sewer will be in accordance with the necessary discharge licence issued by UE under Section 16 of the Local Government (Water Pollution) Acts and Regulations. During the operational phase of the Proposed Development the water supply will be derived from an onsite supply served by 2 no. groundwater wells. As detailed in the Hydrological Assessment Report (DNV, 2025a included in Volume 3: Appendix 7.1 of the EIAR), the underlying aquifer can sustainably meet the supply requirement of 10m^3/day for the Proposed Development. However, the further monitoring and assessment of the potential for seasonal variations in groundwater quality and capacity will be further considered in the detailed design of the supply wells. In addition, during the operation phase of the Proposed Development, any discharges to the public foul sewer and supplementary water supply to the Proposed Development will be under consent from UE.
Conclusions	
The protective/avoidance/mitigation measurements that will be applied as set out in the OCEMP, will ensure that the Proposed Development will not give rise to any likely significant impacts.	

Table 15-6: Air Quality

RECEIVED: 05/08/2025

Air Quality	
Summary	
Chapter 8 (a) of this EIAR, *Air Quality*, provides an assessment of the potential impacts of the Proposed Development on ambient air quality and sets out appropriate mitigation measures where necessary. The greatest potential effects on air quality include dust from the construction phase of the Proposed Development.	
Interactions	
Population and Human Health	Interactions between air quality and population and human health have been considered as the proposed development has the potential to cause health issues as a result of impacts on air quality from dust nuisances and potential traffic derived pollutants. However, the mitigation measures employed at the proposed development will ensure that all impacts are compliant with ambient air quality standards and human health will not be affected. Furthermore, traffic-related pollutants have been assessed and determined as having an overall insignificant impact, therefore air quality impacts from the proposed development are not expected to have a significant impact on population and human health.
Biodiversity	Interactions between air quality and biodiversity have been considered as the construction phase has the potential to interact with flora and fauna in adjacent habitats and designated sites due to dust emissions arising from the construction works. However, the mitigation measures employed at the Proposed Development will ensure that the impacts to flora and fauna are not significant.
Land and Soil	Construction phase activities such as land clearing, excavations, stockpiling of materials etc. have the potential for interactions between air quality and land and soils in the form of dust emissions. With the appropriate mitigation measures to prevent fugitive dust emissions, it is predicted that there will be no significant interactions between air quality and land and soils during the construction phase. There are no potentially significant interactions identified between air quality, and land, soils and hydrogeology during the operational phase.

Climate	Air quality and climate have interactions due to the emissions from the burning of fossil fuels during the construction and operational phases generating both air quality and climate impacts. There is no impact on climate due to air quality however the sources of impacts on air quality and climate are strongly linked.
Traffic	There can be a significant interaction between air quality and traffic. This is due to traffic-related pollutants that may arise. In the current assessment, traffic derived pollutants which may affect air quality have been deemed not significant. Therefore, the impact of the interaction between air quality and traffic is not significant.
Conclusions	
Mitigation measures employed at the Proposed Development will ensure that no significant impacts occur.	

RECEIVED: 05/08/2025

Table 15-7: Climate

RECEIVED: 05/08/2025

Climate	
Summary	
Chapter 8 (b) of this EIAR, *Climate*, provides an assessment of the potential impacts of the Proposed Development on ambient climate and sets out appropriate mitigation measures where necessary. The greatest potential effects on climate include Green House Gas (GHG) from the construction phase of the Proposed Development.	
Interactions	
Population and Human Health	Human health and well-being are closely linked to climate factors, with climate change potentially exacerbating health issues such as heat stress, respiratory conditions, and vector-borne diseases. The development's impact on local climate conditions and its potential influence on public health must be carefully assessed to prevent adverse health outcomes.
Biodiversity	The relationship between climate and biodiversity is significant as well. Changes in temperature and precipitation patterns can alter habitat conditions, disrupt species distributions, and affect ecological balances. These shifts may impact local flora and fauna, necessitating careful consideration of conservation measures to protect biodiversity within and around the development area.
Hydrology	Interactions between climate and water resources are also notable. Climate variability, such as increased rainfall or prolonged droughts, can affect water availability, quality, and management practices. This includes impacts on stormwater runoff, flood risk, and water supply. The development must incorporate effective water management strategies to address these potential issues and ensure resilience to changing climate conditions.
Land and soil	Soil interactions with climate are critical, with changes in climate affecting soil moisture, erosion rates, and land productivity. Increased rainfall may lead to soil erosion, while extended dry periods can degrade soil quality. Addressing these interactions is

	essential for maintaining soil health and implementing sustainable land use practices.
Archaeology and Cultural Heritage	Cultural heritage sites are also at risk due to climate change, with increased weathering, flooding, and temperature fluctuations potentially accelerating their deterioration. Protecting these valuable resources requires assessing the potential impacts of climate change and implementing appropriate conservation measures.
Conclusions	
Mitigation measures employed at the Proposed Development will ensure that no significant impacts occur.	

RECEIVED: 05/08/2025

RECEIVED: 05/08/2025

Table 15-8: Noise and Vibration

Noise and Vibration	
Summary	
Chapter 9 of this EIAR, *Noise and Vibration*, provides a description and assessment of the likely impact of the proposed activities from noise, and sets out appropriate mitigation measures where necessary.	
Interactions	
Biodiversity	There is potential for interactions between noise biodiversity from increased noise levels during the construction phase. While the proposed construction phase will result in a temporary increase in noise and vibration, it is considered that this would not cause a significant disturbance to the local fauna due to the mitigation measures proposed. Confirmation of surrounding special protection areas such as Ballytiege Burrow SPA located due west of the Proposed Development.
Traffic and Transport	There is potential for interactions between noise and traffic from increased noise levels during the construction phase. AADT/traffic figures were used to predict the construction traffic noise impact and the operational traffic noise impact on the surrounding noise sensitive receptors
Conclusions	
Noise associated with the operational plant or machinery will not create any significant adverse impacts beyond the site boundary. Mitigation and monitoring measures will be incorporated to further reduce the potential for noise generation from the Proposed Development.	

Table 15-9: Landscape and Visual

RECEIVED: 05/08/2025

Landscape and Visual	
Summary	
Chapter 10 of the EIAR, *Landscape and Visual Assessment*, provides a description and assessment of the likely impact of the Proposed Development on the landscape and visual amenities of the area.	
Interactions	
Population and Human Health	The enhanced landscape design contributes positively to local amenity, supporting mental well-being and encouraging outdoor recreation and tourism.
Biodiversity	Proposed landscape planting and green infrastructure can enhance habitat diversity and support ecological connectivity across the site.
Archaeology and Cultural Heritage	The landscape strategy includes soil conservation and reuse, supporting sustainable land management and long-term site stability.
Conclusions	
No significant effect interactions identified for Landscape and Visual aspects of the surrounding environment are expected from the Proposed Development.	

RECEIVED: 05/08/2025

Table 15-10: Archaeology and Cultural Heritage

Archaeology and Cultural Heritage	
Summary	
Chapter 11 of the EIAR, *Archaeology and Cultural Heritage,* provides information on the known architectural, archaeological, and cultural heritage sites in the study area.	
Interactions	
Landscape and Visual	There is a weak interaction between Archaeological and Cultural Heritage, and Landscape and Visual Amenity. The construction of the proposed development will result in a change to the visual context of the identified architectural heritage assets.
Material Assets: Waste and Utilities	There is a weak interaction between Archaeological and Cultural Heritage and Material Assets: Waste and Utilities. The new Material Assets including roads, built services and utilities, that will be constructed for this project will require ground disturbance activities which risk impacting on subterranean archaeological features.
Conclusions	
There are no interactions between Archaeological and Cultural Heritage resources and the following factors: Population and Human Health, Biodiversity, Land and Soils, Hydrology, Air Quality, Climate, Noise and Vibration, and Traffic.	

Table 15-11: Material Assets: Waste and Utilities

RECEIVED: 05/08/2025

Material Assets - Waste and Utilities	
Summary	
Chapter 12 of the EIAR, Material Assets: Waste and utilities provides an assessment of the potential impacts of the Proposed Development on Material Assets including built services and infrastructure.	
Interactions	
Population and Human Health	The improper removal, handling and storage of hazardous waste could negatively impact on the health of construction workers. Extended power or telecommunications outages, or disruption to water supply or sewerage systems for existing properties in the area could negatively impact on the surrounding human population and their overall health. Potential impacts on population and human health are addressed in Chapter 4.
Biodiversity	The improper handling and storage of waste during the construction and operational phases could negatively impact on biodiversity. Potential impacts on biodiversity are addressed in Chapter 5.
Land and Soil	Improper handling and segregation of hazardous or contaminated wastes could lead to the contamination of soil and stones excavated from the site. Potential impacts on land and soils are addressed in Chapter 6.
Hydrology	Any connections to the public water network (water supply or foul sewer) during the construction and operational phases will be under consent from Uisce Éireann. The use of groundwater supply has the potential to effect the hydrogeology. During the construction phases of both developments, there will be a greater demand on existing local waste management services and on regional waste acceptance facilities. Potential impacts on water are addressed in Chapter 7 of this EIAR.
Climate	The Proposed Development has been designed in accordance with all relevant building design standards. Sustainable power and heat sources have been included as part of the building design to reduce reliance on imported fossil fuels and reduce greenhouse gases (GHG) emissions.
Material Assets: Traffic	Waste collection activities at the Proposed Development have the potential to impact upon traffic movements in the Kilmore Quay area. Potential impacts on traffic are addressed in Chapter 13.

Conclusions
With the implementation of all mitigation measures detailed in the respective Chapters, there will be no negative residual impacts upon the Material Assets: Waste and Utilities.

RECEIVED: 05/08/2025

Table 15-12: Material Assets - Traffic

RECEIVED: 05/08/2025

Material Assets - Traffic	
Summary	
Chapter 13 of the EIAR, *Material Assets: Traffic*, provides an assessment of the potential impacts of the Proposed Development on Material Assets including traffic.	
Interactions	
Population and Human Health	From a socio-economic perspective during construction the effect of the Proposed Development is not significant. During operation the Proposed Development is anticipated to have a positive, slight, long term socio-economic effect. In respect of human health interactions Chapter 4 summarises the effects as described in Chapter 8a, Chapter 8b, Chapter 10 and this Roads and Traffic Chapter.
Air Quality	Construction and operational traffic is anticipated to have an imperceptible effect on air quality, a good practice measure to manage air quality effects is proposed in the form of a Dust Management Plan.
Climate	The effects of traffic related CO2 emissions during the construction and operational phase are deemed imperceptible. Measures to promote sustainable travel are identified as a means of reducing CO2 emissions during the operational stage. This would be achieved through the MMP.
Noise and Vibration	An increase in traffic noise is anticipated to equate to a negligible (construction) and minor (operational) magnitude of change. Good practice in the form of the CEMP and CTMP is anticipated to manage noise and vibration effects.
Conclusions	
With the implementation of all mitigation measures detailed in the respective Chapters, there will be no negative residual impacts upon the Material Assets: Traffic.	

RECEIVED: 05/08/2025

15.4 References

Chapter 4 Population and Human Health

Chapter 5 Biodiversity

Chapter 6 Land and Soil

Chapter 7 Hydrology and Hydrogeology

Chapter 8 Air Quality

Chapter 9 Noise and Vibration

Chapter 10 Landscape and Visual Impact Assessment

Chapter 11 Archaeology and Cultural Heritage

Chapter 12 Traffic

Chapter 13 Material Assets: Waste Management and Utilities

RECEIVED: 05/08/2025

16 Mitigation and Monitoring Measures

16.1 Introduction

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

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

This chapter of the EIAR collates and summarises the mitigation commitments made in Chapter 4 to Chapter 13.

16.2 Summary of Mitigation Measures

16.2.1 Population and Human Health

16.2.1.1 Construction Phase

16.2.1.1.1 Mitigation

No specific mitigation measures are required during the construction phase of the Proposed Development in relation to population and human health, given the lack of direct effects resulting from the Proposed Development. However, where required, mitigation measures in relation to water quality, air quality, climate, noise and vibration, traffic and landscape and visual are identified in their respective chapters in this EIAR.

16.2.1.1.2 Monitoring

No specific monitoring measures are required during the construction phase of the Proposed Development in relation to population and human health, given the lack of direct effects resulting from the Proposed Development. However, where required, mitigation measures in relation to water quality, air quality, climate, noise and vibration, traffic and landscape and visual are identified in their respective chapters in this EIAR.

16.2.1.2 Operational Phase

16.2.1.2.1 Mitigation

No specific mitigation measures are required during the operational phase of the Proposed Development in relation to population and human health, given the lack of direct effects resulting from the Proposed Development. However, where required, mitigation measures in relation to water quality, air quality, climate, noise and vibration, traffic and landscape and visual are identified in their respective chapters in this EIAR.

RECEIVED: 05/08/2025

16.2.1.2.2 Monitoring

No specific monitoring measures are required during the operational phase of the Proposed Development in relation to population and human health, given the lack of direct effects resulting from the Proposed Development. However, where required, mitigation measures in relation to water quality, air quality, climate, noise and vibration, traffic and landscape and visual are identified in their respective chapters in this EIAR.

RECEIVED: 05/08/2025

16.2.2 Biodiversity

Avoidance Measures

The Project has implemented the following two avoidance measures in its design in order to protect habitats, species and designated sites from significant impacts:

- A 100m coastal buffer along the southern boundary of the Site, within which no building development is to occur, although a small path and a SuDS attenuation area / wetland habitat creation (for waterbirds) will be situated within this buffer zone.
- Removal of any direct pathway between the Proposed Development and Saltee Beach to the south. The Proposed Development will provide vehicular, pedestrian and cyclist access to Kilmore Quay village only, to avoid disturbance to birds utilising the shoreline.

Best Practice Measures

Best practice development standards and mitigation measures are also to be implemented during the Construction Phase of the Proposed Development. The measures listed are outlined in more detail in the Construction and Environmental Management Plan (CEMP) (DNV, 2025b) accompanying this application under separate cover.

All works carried out as part of the Proposed Development will comply with all Statutory Legislation including the Local Government (Water Pollution) acts, 1977 and 1990. Personnel working on the Site will be trained in the implementation of environmental control and emergency procedures. Procedures and relevant documents produced will be formulated in consideration of standard best international practice including but not limited to:

- CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors.
- Construction Industry Research and Information Association (CIRIA) Environmental Good Practice on Site (C650), 2005.
- BPGCS005, Oil Storage Guidelines.
- UK Pollution Prevention Guidelines (PPG) UK Environment Agency, 2004; Construction Industry Research and Information Association CIRIA C648: Control of water pollution from linear construction projects: Technical guidance (Murnane et al. 2006).
- CIRIA C648: Control of water pollution from linear construction projects: Site guide (Murnane et al. 2006); and
- Inland Fisheries Ireland (2016). Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters.

16.2.2.1 Construction Phase

16.2.2.1.1 Mitigation

Mitigation 1: Surface Water Protection Measures

In addition to the best practice measures included within the Outline CEMP and summarised above, a range of mitigation measures are proposed to ensure that no surface water from the Site enters the pond at the Site, or drainage ditch along the eastern boundary of the Site.

RECEIVED 05/08/2025

These surface water mitigation measures will treat the source (e.g., refuelling of plant to be carried out at designated refuelling station locations on Site) or remove the pathway (e.g., no release of wastewater generated on-site during the Construction Phase). These measures will protect surface waters during the Construction Phase of the Proposed Development.

All works carried out as part of the Proposed Development will comply with all Statutory Legislation including the Local Government (Water Pollution) Acts, 1977 and 1990 and the contractor will cooperate fully with the Environment Section of Wexford County Council in this regard.

Personnel working on the Site will be trained in the implementation of environmental control and emergency procedures. Procedures and relevant documents produced will be formulated in consideration of standard best international practice.

The following standard measures will be implemented by the appointed Contractor (unless otherwise stated) to protect surface water during the Construction Phase of the Proposed Development:

- Run-off from machine service and concrete mixing areas will under no circumstances be allowed to enter the local nearby drainage network or exit the Site and enter the sea just south of Kilmore Quay.
- Discharge water generated during the placement of concrete will be stored and removed off-site for treatment and disposal.
- There will be no washing out of any concrete trucks on Site.
- Leachate generation from stockpiles or waste receptacles will be prevented by using waterproof covers.
- If contaminated soils are encountered during construction works or if material becomes contaminated by, for example, a fuel spill or hydraulic fluid leak, the contaminated materials will be segregated, placed on an impermeable membrane to prevent contamination of the underlying ground, and covered to prevent contaminants being mobilised by rainwater run-off. The materials will remain covered until such time as they can be compliantly removed from the site by appropriately authorised waste management contractors.
- A regular review of weather forecasts for heavy rainfall will be conducted, and a contingency plan will be prepared before and after such events to minimise any potential run-off containing silt, sediment, or other pollutants.
- Refuelling of plant during the Construction Phase will only be carried out at designated refuelling station locations on Site. Each station will be fully equipped for spill response and a specially trained and dedicated Environmental and Emergency Spill Response team will be appointed before the commencement of works on Site.
- Robust and appropriate Spill Response Plan and Environmental Emergency Plans will be implemented for the duration of the works.
- A register will be kept of all hazardous substances either used on-site or expected to be present. The register shall be always available and shall include as a minimum: valid safety sheets; Health & Safety, environmental controls to be implemented when storing, handling, using and in the event of spillage of materials; emergency response procedures/precautions for each material; the Personal Protective Equipment (PPE) required when using the material.

RECEIVED: 05/08/2025

Fuel and Chemical Storage

Appropriate storage facilities will be provided on Site. Areas of high risk include:

- Fuel and chemical storage.
- Refuelling Areas.
- Site Compound.
- Waste storage areas.

If required, fuel, oils and chemicals will be stored on an impervious base within a bund, however, it is recommended that all fuel, oil and chemical storage will be off Site.

All tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Environmental Protection Agency guidelines 'Storage and Transfer of Materials for Scheduled Activities' (2904). All tank and drum storage areas shall, as a minimum, be bunded to a volume not less than the greater of the following:

- 110% of the capacity of the largest tank or drum within the bunded area; or
- 25% of the total volume of substance that could be stored within the bunded area.

Concrete mixer trucks will not be permitted to wash out on Site with the exception of cleaning the chute into a container which will be removed off Site to an authorised facility.

Mitigation 2: Silt and Sediment Control

During the construction phase, machinery such as diggers have the potential to stir up sediment, especially during rainy periods. This sedimentation has the potential to be transferred to the nearby drainage ditches in the absence of mitigation measures. The following mitigation measures will prevent silt and sediment originating at the Site from entering the drainage ditch along the eastern bounds of the Site.

- Silt fences will also be installed around any soil mounds / bunds.
- An Ecological Clerk of Works (ECoW) will be appointed to ensure best practices are carried out during any works carried out near the drainage ditch on-Site.
- Prior to the commencement of operations, install silt traps within the existing drains that connect with aquatic zones, either directly or indirectly through other relevant watercourses.
- Silt traps will be staggered along the length of the drainage ditch, and not only at the lower reaches towards its outflow.
- Silt trap design can vary, from depressions added to the watercourse bed, to log sections laid lengthways into the drain, to the use of geotextile barriers.

Once silt traps and silt fences become functional, they will be checked regularly and maintained as necessary, in order to ensure continued effectiveness throughout operations.

Mitigation 3: Dust Suppression and Prevention Measures

The following general dust control measures will be followed for the duration of the Construction of the Site and will ensure no significant dust related impacts occur to nearby sensitive receptors.

RECEIVED: 05/08/2025

- Haulage vehicles transporting gravel and other similar materials to Site will be covered by a tarpaulin or similar.
- Access and exit of vehicles will be restricted to certain access/exit points.
- Vehicle speed restrictions of 20km/hr will be in place.
- Bowsers will be available during periods of dry weather throughout the Construction period.
- During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser will operate to ensure moisture content is high enough to increase the stability of the soil thereby reducing the amount of dust.
- Stockpiles will be stored in sheltered areas of the Site, covered, and watered regularly or as needed if exposed during dry weather.
- Gravel should be used at Site exit points to remove caked-on dirt from tyre tracks.
- Hard surfaced roads will be wet swept to remove any deposited materials.
- Unsurfaced roads will be restricted to essential traffic only.
- If required to control dust nuisance wheel-washing facilities will be located at the exit from the construction area.
- Dust production as a result of Site activity will be minimised by regular cleaning of the access roads using vacuum road sweepers and washers. Access roads should be cleaned at least 0.5km on either side of the approach roads to the access points.
- Public roads outside the Site shall be regularly inspected for cleanliness, as a minimum daily, and cleaned as necessary. A road sweeper will be made available to ensure that public roads are kept free of debris.
- The frequency of cleaning will be determined by the Site agent and is weather and activity dependent.
- The height of any required stockpiles will be kept to a minimum and slopes should be gentle to avoid windblown soil dust.
- The following will be dampened during dry weather:
    - Unpaved areas subject to traffic and wind.
    - Stockpiles.
    - Areas where there will be loading and unloading of dust-generating materials.

Under no circumstances will wastewater from equipment, wheel or surface cleaning enter the local drainage network.

Mitigation 4: Root Protection Zones

Protective tree fencing in compliance with BS 5837:2012 ‘Trees in relation to design, demolition and construction – Recommendations’ will be erected prior to any Construction works being undertaken to prevent damage to the canopy and root protection areas of existing trees to be retained at the Site.

The fencing will be signed off by a qualified arborist prior to construction to ensure it has been properly erected. No ground clearance, earthworks, stock-piling or machinery movement will be undertaken within these areas.

The project Arborist will be instructed **prior to commencement on Site**; to ensure that appropriate tree protection measures are in place. These measures will entail robust fencing around the root protection zones of all trees and hedgerows being retained on Site. An

RECEIVED: 05/08/2025

adequate level of signage will also be provided to highlight 'no work zones' and ensure that Site creep and damage to retained habitats does not occur. The northern and southern boundary hedgerows must be sufficiently protected for the duration of the Construction Phase to maximise their ecological value in the final landscape plan.

The project Arborist, the project Ecologist and the Site Manager will work together to ensure these sections of hedgerow/woodland are protected for the duration of the works.

Mitigation 5: Invasive Species Removal

Montbretia

Montbretia can be controlled by chemical or physical means, or a combination of both, which is the preferred method of control as per the TII guidance document for invasive species treatment (TII, 2020). As per this guidance for chemical control, "*Infestations of Montbretia can be effectively treated with herbicide during the active growing season. Due to the potential for re-infestation from seeds, corms and/or rhizome fragments, regular monitoring and follow-up treatment, as dictated by the monitoring, will be required over a number of years*".

The guidance for physical control states "*Physical control of Montbretia is difficult as individual corms easily break from their chains and can result in ready re-infestation or further spread. Where infestations are limited in extent, the entire stand can be excavated and buried or disposed of to a licensed landfill or incineration facility under licence. The most effective time to remove Montbretia is before the flowering/seeding season. The corms are very hardy and are not suitable for composting. Due to the potential for re-infestation from corms, regular follow-up will be required over a number of years to deal with any re-growth*".

New Zealand flax

This low-impact non-native species does not have a specific removal methodology and can be removed from the Site as per the normal physical removal of vegetation prior to commencement of Construction works.

Mitigation 6: Biosecurity

The following best practice Site hygiene and biosecurity measures will be in place as a precautionary measure to avoid the potential introduction of new invasive floral species at the Site and / or transfer offsite via movement of materials/staff:

- All soils/materials being introduced to the Site will be sourced from a certified invasive flora-free source site, to ensure no introduction of invasive plant materials to the Site occurs.
- Personnel working on or between sites will ensure their clothing and footwear are cleaned, ensuring they are visually free from soil and organic debris, in order to prevent inadvertent spread of invasive plant material.
- All vehicles entering or leaving the Site will have been suitably checked and pressure-washed to ensure no introduction of invasive flora to and from the Site. Measures such as a drive through hygiene bath or footbaths will be considered where appropriate.
- Designated wash-down area to be located away from sensitive receptors such as watercourses, ditches, drains etc.

RECEIVED: 05/08/2025

- Material/water left after vehicles have been pressure-washed must be contained, collected and disposed of appropriately (these waters must not under any circumstances be discharged to drains or nearby ditches).

Mitigation 7: Timing of Vegetation Clearance

Any vegetation clearance at the Site will need to be cognisant of any potentially present fauna, and as such this mitigation is included as precautionary guidance, even though hedgerows are to be retained. **Error! Reference source not found.** below provides guidance for when vegetation clearance is permissible in relation to wintering, hibernating and breeding fauna. Information sources include British Hedgehog Preservation Society's *Hedgehogs and Development* and *The Wildlife (Amendment) Act, 2000* and the Herpetofauna Groups of Britain and Ireland (1998).

Vegetation removal will not occur within the period of March-August inclusive, and the hedgerow sections marked for removal will be conducted outside of this period. The preferred period for vegetation clearance is within the months of September and October to avoid the main breeding bird season, as well as mammal hibernation and common lizard hibernation (See Table 16-1); vegetation clearance at the Site should be supervised by an ecologist.

During any works at the site, should a breeding bird and/or an active nest be found, the nest will be protected through the demarcation of a 5m buffer zone (or appropriate area) around the nest, and no further works will take place in the vicinity of the nest until the young have fledged. Where continuance of works is critical during the nesting season, an ecologist will be instructed to survey the vegetation in question and make recommendations on how best to proceed. The area containing the nest would need to be protected with a suitable buffer to minimise disturbance until the ecologist has confirmed the young have fledged.

Table 16-1: Seasonal Restrictions on Vegetation Removal. Red Boxes Indicate When Clearance / Works Are Not Advised.

Ecological Feature	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Breeding Birds	Vegetation clearance permissible		**Nesting bird season** **No clearance of vegetation or works to relevant structures permitted unless confirmed to be devoid of nesting birds by an ecologist.**						Vegetation clearance permissible			
Wintering Birds	**Wintering bird sensitive season** Hand tools only		Vegetation clearance permissible								**Wintering bird sensitive season** Hand tools only	

RECEIVED: 05/08/2025

Ecological Feature	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Small terrestrial mammals (Hedgehog)	**Mammal hibernation season** **No clearance of vegetation or works to relevant structures permitted unless confirmed to be devoid of hibernating mammals by an ecologist.**			Vegetation clearance permissible							**Mammal hibernation season** **No clearance of vegetation or works to relevant structures permitted unless confirmed to be devoid of hibernating mammals by an ecologist.**	
Common Lizard	**Lizard Hibernation Season** **No habitat clearance permissible**			Active period Habitat (scrub, tall sward grass) clearance permissible							**Lizard Hibernation Season** **No habitat clearance permissible**	

Additionally, all vegetation clearance will be carried out in sections working in a consistent direction to prevent entrapment of protected fauna potentially present (e.g., hedgehog). A phased cutting approach under the supervision of a suitably qualified ECoW will be used to allow wildlife (e.g. small mammals, reptiles) to move away from any suitable habitat that will be removed:

- Phase 1 – Cutting vegetation to 150-200 mm and removing the arisings;
- Phase 2 – After a minimum of one hour, hand-searching the cut areas (conducted by an ECoW) and removing any sheltering habitat (e.g. logs or debris) then cutting vegetation to ground level and removing the arisings; and
- Phase 3 – Soil scrape.

Should any suitable refugia or day nesting habitats need to be removed, this will be carried out outside the most vulnerable breeding periods for hedgehogs wherever practicable (main hedgehog birthing months June and July) and outside of the main bird breeding season (March to August inclusive) (See Table 16-1) and will be supervised by the ECoW.

Mitigation 8: Waste Management

As best-practice all construction-related rubbish on site e.g., plastic sheeting, netting etc. will be kept in a designated area and kept off ground level so as to prevent small mammals such as hedgehogs from entrapment and death.

RECEIVED: 05/08/2025

Trenches/pits must be either covered at the end of each working day or include a means of escape for any animal falling in e.g., a plank or objects placed in the corner of an excavation (Species such as badgers will continue to use established paths across a site even when construction work has started).

Any temporarily exposed open pipe system will be capped in such a way as to prevent animals gaining access as may happen when contractors are off site.

Mitigation 9: Construction Phase Lighting

To minimise potential disturbance to local bats and any local birds utilising the coast or offshore islands due to lighting during the Construction Phase, construction works will be carried out during normal daylight working hours as follows:

- Monday to Friday: 08:00 and 19:00; and,
- Saturdays: 08:00 to 14:00
- No Sunday work will generally be permitted.

Where nighttime lighting cannot be avoided due to health and safety concerns, the lighting within the Proposed Development will be designed and installed to minimise the impact on local wildlife and in accordance with the Bat Conservation Trust guidelines on artificial lighting and bats (ILP, 2023) and in accordance with recommendations provided in the Guidelines for Ecologically Responsible Lighting (Crymble et al., n/d):

- There will be no light spill to the boundary habitats.
- There will be **no light spill outside of the southern boundary of the Site** onto the shoreline, and **light will be directed away from the shoreline**.
- All luminaires used will lack UV/IR elements.
- LED luminaires will be used because they are highly directional, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (<2700 Kelvins will be used to reduce the blue light component of the LED spectrum).
- Luminaires will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- Column heights should be carefully considered to minimise light spill. The shortest column height allowed should be used where possible.
- Only luminaires with an upward light ratio of 0% and with good optical control will be used.
- Luminaires will be mounted on the horizontal, i.e. no upward tilt.
- Any external security lighting will be set on motion-sensors and short (1min) timers.
- As a last resort, accessories such as baffles, hoods or louvres will be used to reduce light spill and direct it only to where it is needed.

RECEIVED: 05/08/2025

Where possible, the Construction Phase lighting will be switched off during non-working hours. However, during use, directional lighting will be the lighting of choice as this will minimise light spill from the site, into any surrounding areas. Without jeopardising site safety, lights will be pointed down at a 45-degree angle and away from sensitive receptors. Should the site compound require external lights for safety and security, these lights will also be pointed down at a 45- degree angle and away from sensitive receptors.

Mitigation 10: Noise and Visual Stimuli

Waterbirds are particularly susceptible to disturbance when roosting on mudflats such as those present in Saltee and during Construction, there is a combined risk of noise and visual disturbance which can result in an additive disturbance effect and even displacement of birds, wasting energy that would otherwise be used for foraging (Cutts et al., 2013). However, it is worth noting that some birds using the shoreline can become habituated to higher noise and visual stimuli (e.g. ringed plover) (Cutts et al., 2013) or are already tolerant of anthropogenic activity (e.g. gulls). Mitigation to reduce the effects of noise and visual stimuli posed by the Construction works (including human presence, plant, machinery and any other vehicles) is outlined below.

- Acoustic barriers should be installed along the entire length of the southern boundary of the area for development, along the northern boundary of the proposed 100m coastal buffer. Acoustic barriers are readily available online and have the benefit of reducing noise levels by up to 43dB[1].
- Acoustic barriers should be opaque so as to additionally reduce visual disturbance. As per Cutts et al (2013), the removal of the majority of visual stimuli in combination with the reduction in noise levels will decrease overall disturbance to waterbirds that may be using the shoreline to 'Low level disturbance'. This is defined as "*Works that are out of sight of birds and create a low-level noise"* at the bird, both of which will be achieved by the installation of the opaque acoustic barriers.

Noise levels at the Site in conjunction with wintering waterbirds birds present in along the shoreline will be monitored regularly by a suitably qualified ornithologist to ensure the effectiveness of the acoustic barriers. Where works are occurring outside of the sensitive seasons for birds (September to October), monitoring is not required, but acoustic barriers should remain in place as a precautionary measure.

Additionally, mitigation measures that can be applied at the Site to suppress noise generated during Construction are outlined below:

- Selection of plant with low inherent potential for generating noise.
- Siting of plant as far away from sensitive receptors as permitted by Site constraints.
- Avoidance of unnecessary revving of engines and switch off plant items when not required.
- Keep plant machinery and vehicles adequately maintained and serviced.
- Proper balancing of plant items with rotating parts.
- Keep internal routes well maintained and avoid steep gradients.
- Minimise drop heights for materials or ensure a resilient material underlies.

[1] Acoustic barriers: https://www.safesitefacilities.co.uk/products/construction-site-security/acoustic-barriers-noise-barriers

RECEIVED: 05/08/2025

- Where noise originates from resonating body panels and cover plates, additional stiffening ribs or materials should be safely applied where appropriate.

16.2.2.2 Operational Phase

16.2.2.2.1 Mitigation

Mitigation 11: Invasive Species Management

Certain plant species and their hybrids are listed as Invasive Alien Plant Species in Part 1 of the Third Schedule of the *European Communities (Birds and Natural Habitats) Regulations* 2011 (SI 477 of 2011, as amended). In addition, soils and other material containing such invasive plant material, are classified in Part 3 of the Third Schedule as vector materials and are subject to the same strict legal controls.

Despite the measures identified in the accompanying CEMP (Enviroguide, 2025b) for the importation of only clean materials, there is the potential for the inadvertent import of invasive species to the Site. If established, there is a risk of further spread both within and out of the Site.

As such, it is recommended that any newly landscaped areas, particularly where infill materials and soils have been imported for soft landscaping, are assessed during the Operational Phase within the next botanical season for the presence of any inadvertently introduced invasive species, with particular focus on those listed on Schedule III of SI 477 of 2011. If invasive species are detected, an Invasive Species Management Plan will be prepared, agreed with the Local Authority and implemented at the earliest possibility to limit the potential for further spread.

Mitigation 12: Operational Phase Lighting

<u>Bat-friendly Lighting</u>
Artificial lighting within the Proposed Development will be designed and installed to minimise the impact on local wildlife and in accordance with the Bat Conservation Trust guidelines on artificial lighting and bats (ILP, 2023):

- There will be no light spill to the boundary habitats.
- All luminaires used will lack UV/IR elements to reduce impact.
- LED luminaires will be used because they are highly directional, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (<2700 Kelvins will be used to reduce the blue light component of the LED spectrum).
- Luminaires will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- Column heights should be carefully considered to minimise light spill. The shortest column height allowed should be used where possible.
- Only luminaires with an upward light ratio of 0% and with good optical control will be used.

RECEIVED: 05/08/2025

- Luminaires will be mounted on the horizontal, i.e. no upward tilt.
- Any external security lighting will be set on motion-sensors and short (1min) timers.
- As a last resort, accessories such as baffles, hoods or louvres will be used to reduce light spill and direct it only to where it is needed.

Bird-friendly Lighting
Artificial lighting at the Site should be designed so as to minimise any potential for significant effects on SCI birds in flight throughout the Operational lifetime of the Site. Consideration should be given to the following common issues that arise as a result of light pollution: glare, light trespass, over-illumination and sky glow (Crymble, n/d). The following measures will ensure the protection of seabirds and other birds in flight throughout the lifetime of the Operational Phase of the Proposed Development:

- LED luminaires possessing a warm white spectrum (<2700k) will be used so as to reduce the blue light component. LED lights are also ideal due to their sharp cut-off, lower intensity, and dimming capabilities.
- External lighting will be set on motion-sensors and short (1min) timers.
- Balcony lighting should be switched off as default, with the option to turn lights on given to the room's occupants using a timer switch.
- Column heights should be carefully considered to minimise light spill. The shortest column height allowed should be used where possible.
- Fixtures should be downward facing with limited light spill. As a last resort, accessories such as baffles, hoods or louvres will be used to reduce light spill and direct it only to where it is needed.
- There will be **no light spill outside of the southern boundary of the Site** onto the shoreline, and **light will be directed away from the shoreline**. This should be relatively easy to achieve with the 100m coastal buffer in place along the southern bounds.
- Hotel guests should be informed upon arrival of the steps taken by the hotel owner or operator to reduce light pollution and the reasons why they are being implemented.

It is expected that the proposed planting at the Site will also act to provide additional screening between the Proposed Development and the shoreline/coast.

Biodiversity Enhancement Measures

The Landscape Plan incorporates native planting throughout the open green spaces of the Proposed Development. This will take the form of trees, hedgerow, shrubs, grasses and wildflower meadow. The planting schedule is attached below in figure 16-1 and can be found in full in the Landscape Report, along with specifications for plant material, the requirements of the Landscape Contractor and proposals for monitoring establishment of green spaces. The landscaping will offset habitat loss at the Site to an extent, producing an imperceptible net impact on habitats.

Enhancement 1: Wetland Creation

RECEIVED: 05/08/2025

Along the southern boundary of the Site, a 100m undeveloped buffer zone is provided to prevent any coastal erosion, within which (to the southeast) a parcel of wetland habitat will be created for the provision of enhanced habitat for waterbirds. This area is embedded within the landscape design for the Site (DHLA, 2025), with input from the project ecologist, and will be vegetated with appropriate native and some non-native species as per the All-Ireland Pollinator Plan 2021-2025. Species proposed for planting are listed in full in the Landscape Report (DHLA, 2025), and below in figure 16-1, extracted from the Landscape Plan for context.

The identified suitable land parcel will be enhanced to provide more suitable habitats to those currently present at the Site, which currently comprise arable fields with small areas of pooling water. The suitable land parcel in the southeast of the Site would be considered to require some works to amend it to be suitable for wintering birds due to the existing habitats present. The likely works required include soil scraping to encourage more water pooling, and asymmetrical grass cutting to provide a more varied sward height across the land parcel.

The parcel will utilise the two proposed SuDS ponds, which will be planted with suitable emerging, submerged and floating plants, bounded by native riparian vegetation. The areas surrounding the riparian vegetation will be planted with native wetland species and managed to ensure waterlogged areas are present. There will be no public access to this wetland area to avoid disturbance to establishing flora and any waterbirds using the area. Furthermore, the path along the coastal buffer zone will be screened from the wetland habitat to further protect waterbirds from any disturbance, through the use of supplementary planting and earthen berms.

To ensure that no additional adverse impacts on the local ecology are caused by the alteration of this land parcel, it is recommended that the amendments take place in September, prior to the beginning of the wintering bird season, and after the breeding bird season (March-August, inclusive). A walkover survey by a suitably qualified Ecologist to identify any potential rare and/or protected species that could be impacted by the alteration works will be carried out ahead of any works taking place.

RECEIVED: 05/08/2025

NATIVE TREES

The existing tree cover in the surrounding local landscape was surveyed to determine which species would compliment the existing vegetation & also grow in this exposed coastal environment.

Name	Type	Size	%
Alnus glutinosa	RB	(10-12cm, G.)	15
Betula pendula	RB	(10-12cm, G.)	15
Crataegus monogyna	RB	(8-10cm, G.)	10
Pinus sylvestris	RB	(3-4m High)	35
Sorbus aucuparia	RB	(8-10cm, G.)	10
Quercus robur	RB	(10-12cm, G.)	5
Arbutus unedo	CG	(3m High)	5
Ilex aquifolium	CG	(3m High)	5

ORNAMENTAL TREES

The use of native plant species is a core principle of the designed landscape associated with the proposed development. This dwarf pine species would be the only non native tree used.

Name	Type	Size	%
Pinus mugo	CG	(15L)	100

HEDGEROW PLANTING

Following a survey of the existing hedgerows on field boundaries within the aplication site, the below schedule was composed to replicate the predominant existing hedgerow type.

Name	Type	Size	%
Crataegus monogyna	BR	(Whip, 45cm)	40
Sambucus nigra	BR	(Whip, 45cm)	40
Malus sylvestris	BR	(Whip, 45cm)	10
Lonicera periclymenum	CG	(1L)	5
Ilex aquifolium	CG	(1L)	5

PERENNIALS

Once again with the selection of perennials native species was the priority. A small number of complimentary ornamental species are proposed to enhance the seasonal interest of the planting scheme and to emphasise the coastal seaside character of the planting design.

Name	Type	Size	Density.
Allium sphaerocephalon, (native)	CG	(1L, Pot)	3 per sq. m.
Deschampsia cespitosa, (native)	CG	(1L, Pot)	3 per sq. m.
Armeria maritima, (native)	CG	(1L, Pot)	4 per sq. m.
Erigeron karvinskianus	CG	(1L, Pot)	3 per sq. m.
Phlox subulata	CG	(1L, Pot)	4 per sq. m.
Crambe maritima, (native)	CG	(1L, Pot)	3 per sq. m.
Agapanthus sp.	CG	(1L, Pot)	3 per sq. m.
Limonium humile, (native)	CG	(1L, Pot)	3 per sq. m.
Leucanthemum vulgare, (native)	CG	(1L, Pot)	3 per sq. m.
Eryngium maritimum, (native)	CG	(1L, Pot)	3 per sq. m.
Eupatrorium cannabinum, (native)	CG	(1L, Pot)	3 per sq. m.
Molinia caerulea, (native)	CG	(1L, Pot)	3 per sq. m.

WETLAND PLANTING

The below planting schedule has been prepared by the project ecologist to maximise the nature conservation value of the proposed wetland area in the south east corner of the site.

Name	Notes
Marginal Vegetation, (Pond Fringes)	
Typha latifolia	Suitable for shallow water
Schoenoplectus lacustris	Suitable where water depth is >20cm
Typha angustifolia	Suitable for fluctuating depths
Carex riparia	Suitable for all depths
Phragmites australis	
Phalaris arundinaceae	Suitable for shallow water/ embankments
Carex rostrata	Suitable for shallow water

Name	Notes
Marsh/ Wetland Vegetation, (Riparian Zone)	
Lythrum salicaria	Plant in Autumn or Spring
Filipendula ulmaria	Plant between March-May
Cardamine praetensis	Plant in Autumn or Spring
Eupatorium cannabinum	Plant in Autumn or Spring
Caltha palustris	Plant in Autmn or late Spring
Manyanthes trifoliata	Plant in Autumn or Spring
Ajuga reptans	Plant in Autumn or Spring
Iris pseudacorus	Plant in late Spring or early Summer
Aquatic Plants, (within pond)	
Ranunculs aquatilis	Submerged
Callitriche stagnalis	Submerged
Hydrocharis morsus-ranae	Floating
Potamogeton natans	Floating
Alisma plantago-aquatica	Submerged & Floating
Persicaria amphibia	Semi Aquatic
Veronica scutellata	Semi Aquatic
Oenanthe crocata	Semi Aquatic
Wet Woodland Tree Species	
Salix caprea	
Salix cinerea	
Salix aurita	
Alnus glutinosa	
Betula pubescens	

NOTE:
BR = Bare Root
RB = Root Balled
G = Girth
H = Height
CG = Container Grown

Figure 16-1: Planting Schedule for the Site, Extracted from Dhla (2025)

Enhancement 2: Hedgerow Management

The planted hedgerows at the Site and any retained hedgerows will be managed using a low-intervention approach i.e., in a way that maximises the ecological value they provide, with habitat connectivity maintained along the western, northern and eastern margins of the Site; connecting it with the wider area.

This connectivity is vital for wildlife such as birds, bats, mammals and insect pollinators in a human landscape such as that which will be provided by the Proposed Development. Additionally, by managing hedgerows and woodland in a more natural way, they will provide more in terms of biodiversity; through increased plant diversity, increased provision of food resources and higher quality shelter to wildlife inhabiting and commuting through the area.

A low-intervention management approach may not be appropriate for internal ornamental hedgerows planted within the main residential area of the Proposed Development, due to aesthetics or logistics, however, it is suited to the external hedgerows present along the margins of the Site.

The following measures will be adopted by the Management Company tasked with maintaining the Site's landscaping into the future:

- The hedgerow areas located along the outer boundaries of the Site will, as much as is practicable, be allowed to link up with each other. The provision of an almost continuous vegetative margin around the Site; through planted native hedgerows and trees, will maintain habitat connectivity with the surrounding environment.
- Hedgerows will be maintained with a minimum **natural meadow strip of 1-2m** at their base wherever possible. Hedges with plenty of naturally occurring flowers and grasses at the base support will provide higher quality habitat for local wildlife using the hedges.
- The 1-2m strip at the base of the hedgerow will be cut on a reduced mowing regime to encourage wildflower growth and maximise the value of the hedgerow for pollinators.

RECEIVED: 05/08/2025

A **two-cut management approach** is ideal for suppressing coarse grasses and encouraging wildflowers. Cut the hedgerow basal strip **once during February and March** (this is before most verge plants flower and it will not disturb ground-nesting birds). Cut the verge **once again during September and October** (this slightly later cutting date allows plants that were cut earlier in the year time to grow and set seed).

N.B. Raising the cutter bar on the back cut will lower the risk to small mammals.

- Where hedgerow, scrub or woodland understorey trimming needs to occur, delay trimming as late as possible – until **January and February** as the surviving berry crop will provide valuable food for wildlife. The earlier this is cut; the less food will be available to help birds and other wildlife survive through the winter. Any hedge-row/scrub/woodland trimming will be done outside of the nesting season and due consideration of the Wildlife Act 1976 (as amended) must be taken.
- Where possible, cut these outer boundary hedgerows on a minimum **3-year cycle** (cutting annually stops the hedgerow flowering and fruiting), and cut in rotation rather than all at once - this will ensure some areas of hedgerow will always flower (blackthorn in March, hawthorn in May etc.).
- Where they occur naturally, bramble and ivy should be allowed to grow in hedgerows as they provide key nectar and pollen sources in summer and autumn.

Methods to Avoid

Hedgerows and woodland understorey will not be over-managed. Tightly cut hedges and vegetation mean there are fewer flowers and berries, thus reducing available habitats, feeding sources and suitable nesting sites.

Hedgerows will not be cut between March 1st and August 31st inclusive. It is both prohibited (except under certain exemptions) and very damaging for birds as this is the period they will have vulnerable nests containing eggs and young birds.

DO NOT use pesticide/ herbicide sprays or fertilisers at all as they can have an extremely negative effect on the variety of plants and animals they support.

Enhancement 3: Pollinator Habitat

The insertion of 5 no. insect hotels in select areas around the Site is proposed during its Operational Phase, the placement of which will be confirmed by the Ecologist. No herbicides or pesticides will be used in the vicinity of these insect hotels; to protect bees and pollinators from harm. Large bee or insect hotels will not be installed. Guidance from the All -Ireland Pollinator Plan states "*Don't install a large bee or insect hotel. Large bee hotels are attractive to humans, but not great for pollinators. They can encourage the spread of disease and attract predators. Avoid anything bigger than an average-sized bird box. There are many other ways to provide nesting habitats for pollinators, such as providing wild areas of undisturbed long grass, and scraping back some bare earth. If you want to make a bee hotel, make sure it is small, and position it away from bird feeders so the insects aren't easy targets*." A link to a "How-to-guide Creating wild pollinator nesting habitat" is provided for the development management company to put these habitats in place: https://pollinators.ie/wp-content/uploads/2022/12/Pollinator-Nesting-How-to-Guide-2022-WEB.pdf. An appointed ecologist will oversee the creation of these habitats.

RECEIVED: 05/08/2025

Enhancement 4: Reptile Hibernacula

It is recommended to enhance the Site for reptile use by providing suitable refuge and hibernacula to replace stone walls and boulder clusters removed from the Site. It is recommended that two areas of hibernacula are provided at the Site in the areas of open space.

Hibernacula for reptiles is relatively easy to create from rubble, wood and soil, all of which can likely be sourced from the Site during works. Rubble and wood in various sizes should be piled either in a shallow depression in a disorganised way to create nooks and crevices. Larger tree trunks or rocks should be placed so that they will protrude through the final mound to provide open entrances to the mound. This pile should then be covered in soil to allow the inner crevices to maintain a stable temperature through the winter and allow for hibernation. The top can be planted with for example grass and native wildflowers. See **Error! Reference source not found.** 16-2 below for examples of finished hibernacula.

Figure 16-2: Examples of Suitable Amphibian and Reptile Hibernacula And Refugia.

Enhancement 5: Hedgehog Highways

By fencing the boundaries of a Site, the land becomes fragmented and largely inaccessible to species such as hedgehog, which like to roam each night in search of food (garden pests e.g., slugs). This can easily be fixed by ensuring that the boundaries and barriers within and surrounding the Site are permeable for hedgehogs. This will allow hedgehogs to move freely between the Site and adjacent sites.

This can be achieved by:

- Providing 13 x 13 cm holes at ground level at various locations along the external mesh fencing (Hedgehog holes).
- Leaving a sufficient gap beneath gates.
- Leaving brick spaces at the base of brick walls.

Examples of hedgehog 'highways' are provided below in **Error! Reference source not found.** 16-3.

RECEIVED: 05/08/2025

Figure 16-3: Examples of Hedgehog Highways That Could Be Incorporated Into the Proposed Development.

The inclusion of hedgehog highways will be considered as part of the landscape design of the Site, specifically the external mesh fencing proposed. A variety of fence suppliers stock specific hedgehog-friendly fencing options, which can be easily incorporated at little or no additional cost. The 13 x 13cm holes can also be cut into mesh fencing on site quite easily. These simple measures will provide habitat connectivity at the Site for hedgehogs and reduce the impact of the land-use change on this species.

16.2.2.2.2 Construction and Operational Phase Monitoring

Table 16-3 below provides a summary of the required monitoring and pre-works inspections during the Construction Phase, as well as any surveys that should be completed during the Operational Phase. The monitoring, inspections and surveys will ensure that the identified mitigation measures are implemented and maintained efficiently and have the desired effect of protecting the local ecology from adverse impacts.

The monitoring/surveys outlined below will be included in a Biodiversity Management Plan (BMP) for the Proposed Development, along with the detailed mitigation measures for the construction and operational phases and Biodiversity Enhancement Measures.

Table 16-2: Summary of Mitigation Measures and the Responsible Peson for Monitoring During the Construction and Operational Phases

Measure	Monitoring
CONSTRUCTION PHASE	
Mitigation 1: Surface Water Protection Measures	Ongoing monitoring by Contractor
Mitigation 2: Silt and Sediment Control	Ongoing monitoring by Contractor
Mitigation 3: Dust Suppression Measures	Ongoing monitoring by Contractor
Mitigation 4: Root Protection Zones	Demarcated by Arborist. Ongoing monitoring by Contractor.
Mitigation 5: Invasive Species Removal	No monitoring required.
Mitigation 6: Biosecurity	Ongoing monitoring by Contractor

RECEIVED: 05/08/2025

Measure	Monitoring
Mitigation 7: Timing of Vegetation Removal	Any Site vegetation clearance within scrub, hedgerows, treeline or grassland habitats subject to supervision by an Ecologist and a phased approach.
Mitigation 8: Waste Management	Ongoing monitoring by Contractor
Mitigation 9: Construction Phase Lighting	No monitoring required.
Mitigation 10: Noise & Visual Stimuli	Ongoing monitoring by Contractor.
Enhancement 1: Wetland Creation	Installation by certified Landscape Architect and Ecologist. Ongoing monitoring by Contractor.
Enhancement 3: Pollinator Habitat	Installation by certified Landscape Architect. Ongoing monitoring by Contractor.
Enhancement 4: Reptile Hibernacula	The placement and construction of these structures should be carried out under supervision of an Ecologist to ensure they are fit for purpose.
Enhancement 5: Hedgehog Highways	No monitoring required.
Enhancement 6: Swift Boxes	The placement of swift boxes and setup of swift-calling system should be carried out under supervision of an Ecologist to ensure they are fit for purpose.
Enhancement 7: Bat Boxes	The placement of bat boxes should be carried out under supervision of an Ecologist to ensure they are fit for purpose.
OPERATIONAL PHASE	
Mitigation 11: Invasive Species Management	An Invasive Species Survey will be carried out by a qualified Ecologist during the next botanical season after soft landscaping has been completed.
Mitigation 12: Operational Phase Lighting	Ongoing monitoring by Contractor.
Enhancement 2: Hedgerow management	Ongoing monitoring by Management Company.

RECEIVED: 05/08/2025

16.2.3 Land and Soils

The mitigation measures as outlined below, will ensure that there will be no significant effect on the receiving land, soil and geology.

16.2.3.1 Construction Phase

16.2.3.1.1 Mitigation

An Outline Construction Environmental Management Plan (OCEMP) and Outline Resource and Waste Management Plan (ORWMP) have been prepared by DVN (DNV, 2025b and DNV, 2025c; submitted with the planning application under separate cover). The OCEMP and ORWMP will address construction environmental and resource and waste management during the construction phase of the Proposed Development. Following appointment, the contractor will be required to further develop the OCEMP and ORWMP and prepare and project specific CEMP and RWMP, for approval by Wexford County Council prior to any works commencing. The project specific CEMP and RWMP will provide detailed construction phasing, and methods to manage and prevent any potential emissions to ground and surface water with regard to the relevant industry standards (e.g., Guidance for Consultants and Contractors, CIRIA-C532', CIRIA, 2001). The project specific CEMP and RWMP will take cognisance of measures outlined in the EIAR, the OCEMP and the ORWMP submitted with the planning application.

The project specific CEMP and RWMP will be implemented for the duration of the construction phase, covering mitigation works that will be adopted as part of the construction works for the Proposed Development.

Import of Aggregates and Materials

Contract and procurement procedures will ensure that all imported aggregates and materials required for the construction phase of the Proposed Development will be sourced from reputable suppliers operating in a sustainable manner and in accordance with industry conformity/compliance standards and statutory obligations. The importation of aggregates and materials will be subject to management and control procedures which will include testing for contaminants, invasive species and other anthropogenic inclusions and assessment of the suitability for use in accordance with engineering and environmental specifications for the Proposed Development. Therefore, any unsuitable material will be identified prior to unloading / placement onsite.

Airborne Dust

Excavated soils will be carefully managed and maintained in order to minimise potential effect on soil quality and soil structure. Handling of soils will be undertaken in accordance with the documented procedures outlined in the OCEMP (DNV, 2025b) and the project specific CEMP in order to protect ground and minimise airborne dust. The normal measures required to prevent airborne dust emissions and associated nuisance arising from site work will be in place including measures to prevent uncovered soil drying out leading to wind pick up of dust and mud being spread onto the local road network and adjoining properties. This may require additional wetting at the point of dust release, dampening down during dry weather and wheel cleaning for any vehicles leaving the site. Hoarding will also be provided as required around

RECEIVED: 05/08/2025

the site works to minimise the dispersion of dust from the working areas. Potential effects and avoidance and mitigation measures associated with generation of dust are addressed in Chapter 8 of this EIAR.

Reuse of Soil and Subsoil

Soil and subsoil materials to be reused within the Proposed Development (i.e., for engineering fill and landscaping) will be subject assessment of the suitability for use in accordance with engineering and environmental specification for the Proposed Development. This will include:

- Define the criteria by which the suitability of the soils for reuse will be assessed (e.g., analytical parameters and limits), the engineering requirements such as geotechnical parameters for the material to be used within the works.
- Delineation of areas where excavated soil is intended for disposal off-site as waste, and where it is intended for reuse on site.
- Identification and recording of the location from where the soil will be excavated and its proposed reuse location and function.
- Engineering assessment to confirm its suitability for reuse.
- Any proposed treatment or processing required to enable its reuse, as well as any associated treatment permits, or licences required.

Management and Control of Soil and Stockpiles

Segregation and storage of soils for re-use on-site or removal off-site and waste for disposal off-site will be segregated and temporarily stored on-site pending removal or for reuse on-site in accordance with the OCEMP (DNV, 2025b) and the project specific CEMP which will be prepared by the main contractor in advance of construction works commencing.

Where possible, stockpiling of soil and stone on-site will be avoided. However, in the event that stockpiling is required, stockpiled materials, pending reuse on-site, will be located away from the location of any sensitive receptors (watercourse and drain).

Stockpiles of loose material will be a minimum of 20m from onsite drains. It is noted that a buffer zone of 5m from the adjacent open drainage channel along the southeast boundary of the site and a 100m coastal buffer along the southern boundary of the Site will be established by the main contractor prior to works commencing. Stockpiling of soil and stone will not be undertaken within the buffer zones.

When a stockpile has been sampled for re-use or waste classification purposes, it will be considered to be complete, and no more soil will be added to that stockpile prior to removal. An excavation/stockpile register will be maintained on-site.

The reuse of suitable excavated soil and bedrock for the proposed development (i.e., landscaping or engineering) will be undertaken in accordance with the engineered design and landscape plan for the proposed development.

RECEIVED: 05/08/2025

Surplus material, not suitable for re-use on-site, will be segregated, and stockpiled appropriately for removal off-site. For any excavated material identified for removal offsite, while assessment and approval of acceptance at a destination re-use, recovery site or waste facility is pending, excavated soil for recovery/disposal will be stockpiled as follows:

- A suitable temporary storage area will be identified and designated.
- All stockpiles will be assigned a stockpile number.
- Material identified for reuse on site, off site and waste materials will be individually segregated; and all segregation, storage & stockpiling locations will be clearly delineated on the Site drawings.
- Soil stockpiles will be covered to prevent run-off from the stockpiled material generation and/or the generation of dust.
- Material identified for reuse on site, off site and waste materials will be individually segregated.
- Any waste that will be temporarily stored / stockpiled will be stored on impermeable surface high-grade polythene sheeting, hardstand areas or skips to prevent cross-contamination of the soil below or cross contamination with soil.
- Regular watering will take place to ensure the moisture content is high enough to increase the stability of the soil and thus suppress dust.
- Stockpiles will be a minimum of 20m from onsite drains.
- Stockpiling of soil and stone will not be undertaken within the buffer zones (5m from the onsite drainage channel along the southeast boundary of the site and 100m from the southern boundary of the site).

Any waste generated from construction activities, including concrete, asphalt and soil stockpiles, will be managed in accordance with the procedures which will be outlined in the ORWMP (DNV, 2025c) and the project specific RWMP and will be stored onsite in such a manner as to:

- Prevent environmental pollution (bunded and/or covered storage, minimise noise generation and implement dust/odour control measures, as may be required).
- Maximise waste segregation to minimise potential cross contamination of waste streams and facilitate subsequent reuse, recycling and recovery.
- Prevent hazards to site workers and the general public during the construction phase (largely noise, vibration and dust).

Prior to site works commencing, the ORWMP (DOBA, 2025) will be updated to reflect specific measures to minimise waste generation and resource consumption, including providing details of proposed waste contractors and destinations for each waste stream.

RECEIVED: 05/08/2025

Soil Structure

The extent of the required work area and the bulk excavation at the site will be minimised where appropriate to prevent unnecessary excavation of soil and tracking over soil and subsoil outside of the excavation work areas as a result of compaction and rutting from construction traffic.

Soil including topsoil and subsoil will be segregated and stored appropriately to prevent deterioration of soil structure and quality to ensure the material will be suitable for re-use onsite.

Dedicated internal haul routes will be established and maintained by the contractor to prevent tracking over unprotected soils. The following criteria for the siting of haul routes must be adhered to:

- The length of haul routes on the site will be minimised.
- The contour of the natural ground will be followed as much as possible.
- The slope of haul routes will not exceed 15%.
- Haul routes will be constructed using permeable material, laid on geotextile.
- Trenchless gravel banks will be used to filter runoff, and where possible existing vegetation along the perimeter of the haul routes will be retained to provide an effective buffer against sediment leaving the area.
- Haul routes will be at least 10m from a watercourse and will be isolated from any watercourses with silt fencing.
- Haul routes will not be undertaken within the buffer zones (5m from the onsite drainage channel along the southeast boundary of the site and 100m from the southern boundary of the site). It is noted that site traffic will only be permitted within the 100m buffer to facilitate the construction of environmental control measures (i.e., silt fencing), pedestrian walkways and the proposed SuDS attenuation area.
- Additional exclusion zones will be established where soft landscaping is proposed in particular along site boundaries which are outside of the excavation areas to ensure soil structure is maintained.

Export of Resource (Soil and Subsoil) and Waste

Any waste generated from construction activities, including concrete, asphalt and soil stockpiles, will be managed in accordance with all legal obligations and statutory legislation, and the procedures outlined in the ORWMP (DNV, 2025c) and the project specific RWMP (to be developed by the main contractor in advance of construction works commencing) and will be stored onsite in such a manner as to:

RECEIVED: 05/08/2025

- Prevent environmental pollution (bunded and/or covered storage, minimise noise generation and implement dust/odour control measures, as may be required).
- Maximise waste segregation to minimise potential cross contamination of waste streams and facilitate subsequent re-use, recycling and recovery.
- Prevent hazards to site workers and the general public during Construction stage (largely noise, vibration and dust).

It will be the contractor's responsibility to either, obtain a waste collection permit or, to engage specialist waste service contractors who will possess the requisite authorisations, for the collection and movement of waste offsite.

Where appropriate, excavated soil and material intended for recovery or disposal offsite will require appropriate waste classification in order to select an appropriate receiving facility. Assessment of the excavated material will be carried out with due regard to the following guidance and legislation:

- Environmental Protection Agency document entitled Waste Classification; List of waste and determining if waste is Hazardous or Non-Hazardous.
- EU Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC (2002).
- Environmental Protection Agency documented entitled Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities.
- Environment Agency, 2018. Technical Guidance WM3: Guidance on the classification and assessment of waste.
- Any other guidance or legislation that might be applicable or relevant at the time of disposal

The re-use of soil and rock offsite will be undertaken in accordance with all statutory requirements and obligations including where appropriate re-use as by-product in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (SI No. 126 of 2011) as amended. Any surplus material not suitable for re-use as a by-product and other waste materials arising from the construction phase will be removed offsite by an authorised contractor and sent to the appropriately authorised (licensed/permitted) receiving waste facilities. As only authorised facilities will be used, the potential impacts at any authorised receiving facility sites will have been adequately assessed and mitigated as part of the statutory consent procedures.

Any waste soils will be transported under a valid waste collection permit issued under the Waste Management (Collection Permit) Regulations 2007, as amended and will be delivered to an appropriately authorised waste management facility.

RECEIVED: 05/08/2025

Materials and waste will be documented prior to leaving the site. All information will be entered into a waste management register kept on the site.

Vehicles transporting material with potential for dust emissions to an off-site location will be enclosed or covered with a tarpaulin at all times to restrict the escape of dust.

Public roads outside the site will be regularly inspected for cleanliness, as a minimum on a daily basis, and cleaned as necessary. Where required, trucks entering / leaving the site will pass through a wheel washing system. The wheels of all lorries will be cleaned as required prior to leaving the site to prevent the generation of dust or cause the build-up of aggregates and fine material in the public domain. The correct use and management of the wheel washing system (where required) will be undertaken by the main contractor to ensure that there is no harm or impact to the receiving water environment.

Concrete Works

The use of cementitious grout during the construction of footpaths and other site infrastructure will be required. Any potential impact to water quality will be avoided through the use of appropriate design and methods that will be implemented by the Contractor and in accordance with the OCEMP (DNV, 2025b), the project specific CEMP (which will be developed by the main contractor in advance of construction works commencing) and relevant industry standards.

Where possible precast concrete will be used for concrete works. However, where cast-in-place concrete is required (i.e., foundations, footpaths), all work will be carried out to avoid any contamination of the receiving water environment. All work must be carried out in dry conditions and be effectively isolated from any groundwater.

All ready-mixed concrete will be delivered to the site by truck. Concrete batching will take place offsite, wash down and wash out of concrete trucks will take place into a container located within a controlled bunded area which will then be emptied into a skip for appropriate compliant removal offsite in accordance with all relevant waste management legislation. Any excess concrete as part of the Proposed Development is not to be disposed of onsite.

A suitable risk assessment for wet concreting will be completed prior to works being carried out. Weather forecasting will be utilised to plan dry days for concrete pours. Prior to pours, the designated area of the site will be free of standing water and plastic covers will be ready in the case of sudden rainfall event. Pumped concrete will be monitored to ensure there is no accidental impact to land, soils and geology.

Handling of Fuels, Chemicals and Materials

The Contractor's construction compound will be located onsite for the duration of the construction phase of the project and will primarily consist of site offices & associated welfare facilities, car parking facilities, materials drop-off and storage areas and set down areas for HGVs.

Any diesel, fuel or hydraulic oils stored on-site will be stored in designated areas, these areas will be bunded and located away from surface water drainage and features. It is noted that the

RECEIVED: 05/08/2025

use of cleaning chemicals will be kept to a minimum. There will be clear labelling of containers so that appropriate remedial measures can be taken in the event of a spillage. Adequate security will be provided by the appointed contractor to potential pollutants against vandalism.

Bunds will have regard to Environmental Protection Agency guidelines 'Amendment to IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities' (EPA, 2013). All tank and drum storage areas will, as a minimum, be bunded to a volume not less than the greater of the following:

- 110% of the capacity of the largest tank or drum within the bunded area; or
- 25% of the total volume of substance that could be stored within the bunded area.

All fuel, soil and chemical storage will be bunded in the site compound and will be clearly marked. The bund will be at least 50m away from drains, excavations, and other locations where it may cause contamination. Furthermore, no storage of hydrocarbons or any polluting chemicals will occur within the established buffer zones (i.e., 5m from the onsite drainage channel along the southeast boundary of the site and 100m from the southern boundary of the site. Fuelling and lubrication of equipment will be carried out in a dedicated fuel filling point established onsite within the compound, where all equipment will be brought for refuelling.

Spill kits will be kept in these areas. Site crew will be trained in appropriate refuelling techniques. Equipment will not be left unattended during refuelling. Refuelling of construction machinery shall be undertaken in designated areas away from surface water drainage in order to minimise potential contamination of the water environment. Spill kits shall be kept in these areas in the event of spillages

Strict supervision of contractors will be adhered to in order to ensure that all plant and equipment utilised onsite is in good working condition:

- Any equipment not meeting the required standard will not be permitted for use within the Proposed Development site.
- Only emergency breakdown maintenance will be carried out onsite.
- Drip trays and spill kits will be available onsite and identified with signage for use in the event of an environmental spill or leak, to ensure that any spills from vehicles are contained and removed offsite.
- There may also be the requirement for use of portable generators or similar fuel containing equipment during the construction phase of the Proposed Development, which will be placed on suitable drip trays.
- Regular monitoring of the drip tray content will be undertaken to ensure sufficient capacity is maintained at all times.
- Site crew will be trained in appropriate refuelling techniques and in addition, heavy machinery used on the site will also be equipped with its own spill kit.

RECEIVED: 05/08/2025

- The appointed contractor will maintain an emergency response action plan and emergency procedures will be developed by the appointed contractor in advance of any works commencing. Construction staff will be familiar with the emergency response plan
- Furthermore, good housekeeping (e.g., site clean-ups, use of disposal bins, etc.) will be implemented on the site.

Emergency Procedures

The main contractor will maintain an emergency response action plan that will cover any foreseeable risks.

Emergency procedures will be developed by the main contractor in advance of works commencing and spillage kits will be available on- site including in vehicles operating on-site. Construction staff will be familiar with emergency procedures through induction, toolbox talks, and method statements to ensure that all staff members are well-prepared and knowledgeable about the necessary steps to take in the event of an emergency (e.g., accidental fuel spillages). Remedial action will be immediately implemented to address any potential impacts in accordance with industry standards and legislative requirements.

- Any required emergency vehicle or equipment maintenance work will take place in a designated impermeable area within the site.
- Emergency response procedures will be put in place, in the unlikely event of spillages of fuels or lubricants.
    - Containment measures.
    - Emergency discharge routes.
    - List of appropriate equipment and clean-up materials.
    - Maintenance schedule for equipment.
    - Details of trained staff, location, and provision for 24-hour cover.
    - Details of staff responsibilities.
    - Notification procedures to inform the EPA or Environmental Department of Wexford County Council.
    - Audit and review schedule.
    - Telephone numbers of statutory water consultees.
    - List of specialist pollution clean-up companies and their telephone numbers.
- Spill kits including oil absorbent material will be provided so that any spillage of fuels, lubricants or hydraulic oils will be immediately contained.

RECEIVED: 05/08/2025

- In the event of a leak or spill from equipment in the instance of a mechanical breakdown during operation, any contaminated soil will be removed from the proposed development site and compliantly disposed off-site. Residual soil will be tested to validate that all potentially contaminated material has been removed. This procedure will be undertaken in accordance with industry best practice procedures and standards.
- All construction works staff will be familiar with emergency procedures for in the event of accidental fuel spillages.
- All construction works staff on-site will be fully trained on the use of equipment.

These procedures will be undertaken in accordance with industry best practice procedures and standards. These measures will ensure that there is minimal risk to the receiving land, soil and geological environment associated with the construction phase of the Proposed Development.

Welfare facilities

Welfare facilities have the potential, if not managed appropriately, to release organic and other contaminants to ground or surface water courses. Foul drainage from temporary welfare facilities during the construction phase of the Proposed Development will be discharged to temporary holding tank(s) the contents of which will periodically be tankered offsite to a licensed facility. All waste from welfare facilities will be managed in accordance with the relevant statutory obligations by an appropriately authorised contractor.

Any connection to the public foul drainage network during the construction phase of the Proposed Development will be undertaken in accordance with the necessary temporary discharge licences issued by Uisce Eireann (UE).

16.2.3.1.2 Monitoring

During the construction phase the following monitoring measures will be considered:

- Routine monitoring and inspections during refuelling, concrete works to ensure no impacts and compliance with avoidance, remedial and mitigation measures.
- Inspections and monitoring will be undertaken during excavations and other groundworks to ensure that measures that are protective of water quality are fully implemented and effective.
- The appointed contractor will monitor excavations to ensure consistency with the descriptions and classifications according to waste acceptance criteria testing carried out as part of the site investigations which will be undertaken in advance of construction works commencing.
- A dust deposition monitoring programme will be implemented during the construction phase in order to verify the continued compliance with relevant standards and limits. Where required, the appointed contractor will undertake dust monitoring at a range of nearest sensitive receptors during the construction phase of the Proposed Development with the Technical Instructions on Air Quality Control (TA Luft) dust

RECEIVED: 05/08/2025

deposition limit set at 350 mg/m2/day, averaged over one year and applied as a 30-day average.

- Materials management and waste audits will be carried out at regular intervals to monitor the following:
    - Management of soils on-site and for removal offsite.
    - Record keeping.
    - Traceability of all materials, surplus soil and other waste removed from the subject site.
    - Ensure records are maintained of material acceptance at the end destination.

16.2.3.2 Operational Phase

16.2.3.2.1 Mitigation

Taking account of the design of the Proposed Development, it is concluded that there will be no likely significant impacts on the receiving land, soil, or geological environment during the operational phase. The predicted effects are considered to be imperceptible and not significant in the context of the EIA Directive. Therefore, there is no requirement for mitigation measures for the operational phase.

16.2.3.2.2 Monitoring

There are no monitoring requirements specifically in relation to land, soil and geology during the operational phase of the Proposed Development.

RECEIVED: 05/08/2025

16.2.4 Hydrology

The mitigation measures, as outlined below, will ensure that there will be no significant impact on the receiving groundwater and surface water environment. Hence, the Proposed Development will not have any impact on compliance with the EU Water Framework Directive, European Communities (Environmental Objectives) Surface Water Regulations, 2009 (S.I. 272 of 2009, as amended 2012 (S.I. No 327 of 2012), and the European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. No. 9 of 2010), as amended 2012 (S.I. 149 of 2012) and 2016 (S.I. No. 366 of 2016).

16.2.4.1 Construction Phase

16.2.4.1.1 Mitigation

An Outline Construction Environmental Management Plan (OCEMP) has been prepared by DVN (DNV, 2025b and DNV, 2025c; submitted with the planning application under separate cover). The OCEMP will address construction environmental management during the construction phase of the Proposed Development. Following appointment, the contractor will be required to further develop the OCEMP and prepare and project specific CEMP, for approval by Wexford County Council prior to any works commencing. The project specific CEMP will provide detailed construction phasing, and methods to manage and prevent any potential emissions to ground and surface water with regard to the relevant industry standards (e.g., Guidance for Consultants and Contractors, CIRIA-C532’, CIRIA, 2001). The project specific CEMP will take cognisance of measures outlined in the EIAR and the OCEMP submitted with the planning application.

The project specific CEMP will be implemented for the duration of the construction phase, covering mitigation works that will be adopted as part of the construction works for the Proposed Development. The measures will address the main activities of potential impact which include:

- Control and Management of water and surface runoff.
- Control and management of shallow groundwater during excavation and dewatering
- Management and control of soil and materials.
- Control of Management of works near water courses.
- Control of Management of materials from off-site sources.
- Control and management of piling.
- Appropriate fuel and Chemical handling, transport and storage.
- Management of accidental release of contaminants at the site.

The construction works will be managed in accordance with all statutory obligations and regulations and with standard international best practice. Good construction management practices will minimise the risk of pollution from construction activities at the site including where appropriate but not limited to:

- Construction Industry Research and Information Association (CIRIA), 2001. Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors.

RECEIVED: 05/08/2025

- CIRIA, 2015. Environmental Good Practice on Site (C741).
- Enterprise Ireland Oil Storage Guidelines (BPGCS005).
- Environmental Protection Agency (EPA), 2013. IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities.
- CIRIA, 2007. The SuDS Manual (C697).
- UK Environment Agency, 2004. UK Pollution Prevention Guidelines (PPG).
- CIRIA, 2006. Control of Water Pollution from Linear Construction Projects: Technical Guidance (C648).
- Inland Fisheries Ireland (2016). Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters

Control and Management of Water and Surface Runoff

There will be no direct discharge to groundwater or surface water during the construction phase of the Proposed Development.

All runoff from the site or any areas of exposed soil will be managed as required with temporary pumping and following appropriate treatment as required. Surface water runoff from areas stripped of topsoil and surface water collected in excavations will be directed to onsite settlement ponds to capture and treat sediment laden runoff prior to discharge at a controlled rate.

Where dewatering of shallow groundwater is required or where surface water runoff must be pumped from the excavations, water will be managed in accordance with best practice standards (i.e., CIRIA C750), the OCEMP (DOBA, 2025), the project specific CEMP and regulatory consents to minimise the potential impact on the local groundwater flow regime within the soil and bedrock.

All water leaving the site during construction will be desilted using standard techniques (e.g., settlement ponds, silt busters, silt socks etc.). Where required, local silt traps will be established onsite, these will be reviewed and moved regularly as necessary. Where required, the water will also be directed through a hydrocarbon interceptor prior to discharge from the site.

A buffer zone of 5m from the adjacent open drainage channel along the southeast boundary of the site. Furthermore, a 100m coastal buffer along the southern boundary of the Site, within which no building development is to occur with the exception of small path and a SuDS attenuation area / wetland habitat creation (for waterbirds) which will be situated within this buffer zone. Site traffic will only be permitted within this buffer to facilitate the construction of pedestrian walkways and the proposed SuDS attenuation area. Buffer zones will be established by erecting a temporary fence along the length of the site in that area with cognisance to Inland Fisheries Ireland (IFI) Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters (IFI, 2016). Silt fencing will comprise a silt curtain to prevent surface water runoff to the water course and will be retained in place for the duration of the construction phase until the development is complete. The project specific CEMP (which will be prepared by the main contractor in advance of construction works

RECEIVED: 05/08/2025

commencing) will identify how this silt curtain is to be installed and maintained throughout the construction phase.

All works carried out during the construction of the outfall to the open drainage channel along the southeast boundary of the site will adhere to the Inland Fisheries Ireland (IFI) Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters (IFI, 2016) and CIRIA C648 Control of Water Pollution from Linear Construction Projects (CIRIA, 2006). The following measures will be adhered to during the construction of the outfall.

- An Ecological Clerk of Works (ECoW) will be appointed to ensure best practices are carried out during any works carried out near the drainage ditch onsite.
- Prior to excavation of the drainage channel, the fenced exclusion zone will be set up to a maximum width of 5m.
- Silt traps will be staggered along the length of the drainage ditch, and not only at the lower reaches towards its outflow. Silt trap design can vary, from depressions added to the watercourse bed, to log sections laid lengthways into the drain, to the use of geotextile barriers. Once silt traps and silt fences become functional, they will be checked regularly and maintained as necessary, in order to ensure continued effectiveness throughout operations.
- The outfall headwall is to be constructed from precast concrete to allow its construction offsite, while hoisting of the structure will be carried out from the western side in line with the proposed underground drainage pipework.
- Once excavations for the outfall trench are complete, the base and sides of the trench will be seeded with a native wetland wild flora seed mix which will be allowed to establish for a 6-8 week period prior to the outfall trench becoming operational and receiving surface waters from the Proposed Development. This is a grass mix with some wildflower elements which will aid the overall biodiversity approach/green infrastructure and provide “green” erosion prevention of the outfall channel and prevent siltation of the drainage channel and ultimately the Irish Sea.

Unauthorised discharge of water (groundwater / surface water runoff) to ground, drains or watercourses will not be permitted. Existing surface water drainage located along public roads (i.e., Bóthar Maol, the R172 Blackrock Road and Finnabair Crescent) will be protected for the duration of the works. The appointed Contractor will ensure that the discharge of water to ground, drains or watercourses will be in accordance with the necessary discharge licences issued by UE under Section 16 of the Local Government (Water Pollution) Acts and Regulations for any water discharges to sewer or from Wexford County Council under Section 4 of the Local Government (Water Pollution) Act 1977, as amended in 1990 for discharges to surface water.

There may be a temporary increase in the exposure of the underlying shallow groundwater during excavation works. Where necessary, surface water runoff will be prevented from entering open excavations with sandbags or other approved methods proposed by the appointed contractor. Furthermore, the appointed contractor will ensure that machinery does not enter the groundwater if encountered during construction.

RECEIVED: 05/08/2025

A regular review of weather forecasts of heavy rainfall will be conducted, and a contingency plan will be prepared for before and after such events to minimise any potential nuisances. As the risk of the break-out of silt laden runoff is higher during these weather conditions, no work will be carried out during such periods where possible.

Drainage Construction and Commissioning

All new infrastructure will be installed and constructed to the relevant codes of practice and guidelines.

All surface water infrastructure will be pressure tested by an approved method during the construction phase in accordance with Local Authority Requirements.

Connections to the public network will be carried out to the approval and / or under the supervision of the Local Authority prior to commissioning.

All new sewers will be inspected by CCTV survey post construction, to identify any possible physical defects for rectification prior to operational phase.

In respect of surface water networks, during the construction period the system and traps are to be inspected a minimum 4 times a year as the accumulation of silt is prevalent during this period. The number of inspections should be pro-active and if silting is found to be excessive in any of the apparatus the number of inspections should be raised accordingly and continually monitored and reviewed.

Pipe ends associated with the surface water network should be blocked/capped off with proprietary fittings until connected to the completed drainage system.

Handling of Fuels and Hazardous Materials

Fuelling and lubrication of equipment will be carried out in a designated area of the site away from any watercourses and drains (where not possible to carry out such activities offsite).

Any diesel, fuel or hydraulic oils stored onsite will be stored in designated areas, these areas will be bunded and located away from surface water drainage and features. It is noted that the use of cleaning chemicals will be kept to a minimum. There will be clear labelling of containers so that appropriate remedial measures can be taken in the event of a spillage. Adequate security will be provided by the appointed contractor to potential pollutants against vandalism.

Bunds will have regard to Environmental Protection Agency guidelines ‘Amendment to IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities’ (EPA, 2013). All tank and drum storage areas will, as a minimum, be bunded to a volume not less than the greater of the following:

- 110% of the capacity of the largest tank or drum within the bunded area; or
- 25% of the total volume of substance that could be stored within the bunded area.

All fuel storage areas will be bunded in the site compound and will be clearly marked. The bund will be at least 50m away from drains, excavations, and other locations where it may cause contamination. Fuel will then be transported from the compound to the plant and equipment in mobile units based on need, a dedicated fuel fill point will be set up onsite with all plant brought to this point for filling.

RECEIVED: 05/08/2025

Spill kits will be kept in these areas. Site crew will be trained in appropriate refuelling techniques. Equipment will not be left unattended during refuelling. Refuelling of construction machinery shall be undertaken in designated areas away from surface water drainage in order to minimise potential contamination of the water environment. Spill kits shall be kept in these areas in the event of spillages.

Concrete Works

The use of cementitious grout during the construction of footpaths and other site infrastructure will be required. Any potential impact to water quality will be avoided through the use of appropriate design and methods that will be implemented by the appointed contractor and in accordance with the project specific CEMP (which will be developed by the appointed contractor in advance of construction works commencing) and relevant industry standards.

Where possible precast concrete will be used for concrete works. However, where cast-in-place concrete is required (i.e., foundations, footpaths, headwalls), all work will be carried out to avoid any contamination of the receiving water environment. All work must be carried out in dry conditions and be effectively isolated from any groundwater and surface water.

The following mitigation measures will be implemented.

- Any in-situ concrete work to be lined and areas bunded (where possible) to stop any accidental spillage.
- No direct discharges made to waters where there is potential for cement or residues in the discharge.
- Designated impermeable cement washout areas must be provided and which are to drain into a designated settlement tank onsite pending removal offsite.
- Concrete batching will take place offsite or in a designed area with an impermeable surface.
- For concrete mixers, control measures will be employed during cleaning to ensure no impulsive hammering is undertaken at the mixer drum.
- Concrete wash down and wash out of concrete trucks will take place offsite or in an appropriate facility and any excess concrete is not to be disposed of onsite.

Weathering forecasting should be utilised to plan dry days for concrete pours. Prior to pours, the designated area of the site shall be free of standing water and plastic covers will be ready in the case of sudden rainfall event.

Piling

The project specific CEMP (which will be prepared by the main contractor in advance of construction works commencing) will identify how the proposed piling methodology will minimise the potential for the introduction of any temporary conduit between any potential sources of contamination at the ground surface and underlying groundwater. The piling method will include procedures to ensure any potential impact to water quality is prevented, including preventing surface runoff or other piling/drilling fluids from entering the pile bores and surrounding formation. Where there is a requirement to use lubricants, drilling fluids or

RECEIVED: 05/08/2025

additives, the contractor will use water-based, biodegradable, and non-hazardous compounds under controlled conditions.

Emergency Procedures

Emergency procedures will be developed by the appointed contractor in advance of works commencing and spillage kits will be available onsite including in vehicles operating onsite. Construction staff will be familiar with emergency procedures through induction, toolbox talks and method statements to ensure that all staff members are well-prepared and knowledgeable about the necessary steps to take in the event of an emergency (e.g., accidental fuel spillages). Remedial action will be immediately implemented to address any potential impacts in accordance with industry standards and legislative requirements.

- Any required emergency vehicle or equipment maintenance work will take place in a designated impermeable area within the site.
- Emergency response procedures will be put in place, in the unlikely event of spillages of fuels or lubricants.
- Spill kits including oil absorbent material will be provided so that any spillage of fuels, lubricants or hydraulic oils will be immediately contained.
- In the event of a leak or spill from equipment in the instance of a mechanical breakdown during operation, any contaminated soil will be removed from the site and compliantly disposed offsite. Residual soil will be tested to validate that all potentially contaminated material has been removed. This procedure will be undertaken in accordance with industry best practice procedures and standards.
- All construction works staff will be familiar with emergency procedures in the event of accidental fuel spillages.
- All construction works staff onsite will be fully trained on the use of equipment.

This procedure will be undertaken in accordance with industry best practice procedures and standards. These measures will ensure that there is minimal risk to the receiving land, soil and geological environment associated with the construction phase of the Proposed Development.

Stockpile Management

Stockpiled materials pending removal offsite or reuse onsite will be located in the designated areas only and there will be no storage of materials within 20m of the onsite drainage channel located along the southeast boundary of the site. Stockpiles will be located, arranged, and managed so that the risk to the receiving water from silt and contamination is minimised.

Stockpiles and runoff areas following clearance will have suitable silt barriers to prevent runoff of fines offsite. Stockpiles of earthwork and site clearance materials will be located on impermeable surface and covered with appropriate measures.

Welfare Facilities

Welfare facilities have the potential, if not managed appropriately, to release organic and other contaminants to ground or surface water courses. All waste from welfare facilities will be

RECEIVED: 05/08/2025

managed in accordance with the relevant statutory obligations through either a temporary connection to mains foul sewer (subject to receipt of the relevant consent from UE) or by tankering of waste offsite by an appropriately authorised contractor.

Wheelwash

Public roads outside the site will be regularly inspected for cleanliness, as a minimum on a daily basis, and cleaned as necessary. Trucks entering / leaving the site will pass through a wheel washing system. The wheels of all lorries will be cleaned prior to leaving the site so that traffic leaving the site compound will not generate dust or cause the build-up of aggregates and fine material in the public domain. This will be carried out in a dedicated wash down zone with dedicated site personnel. The correct use and management of these will be undertaken by the appointed contractor to ensure that there is no harm or impact to the receiving water environment.

Discharge from any vehicle wheel wash area is to be directed to an onsite settlement tank for discharge to the UE foul network (subject to receipt of the relevant consent from UE) or by tankering of waste offsite by an appropriately authorised contractor. Any debris or sediment within the wheel-wash will be emptied periodically for disposal offsite at a licenced facility.

Removal of Surplus Materials and Waste

All surplus materials and waste that will require removal offsite will be managed in accordance with all statutory obligations including where appropriate re-use as by-product in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (SI No. 126 of 2011) as amended (referred to hereafter as Article 27).

16.2.4.1.2 Monitoring

During the demolition and construction phase of the Proposed Development, the following monitoring measures will be considered:

- An Ecological Clerk of Works (ECoW) will be appointed to ensure best practices are carried out during any works carried out near the drainage ditch onsite.
- Inspections will be undertaken during excavations and other groundworks to ensure that measures are protective of water quality outlined in this EIAR and the project specific CEMP are fully implemented and effective.
- All surface water control measures including silt traps, silt fences and settlement ponds will be checked regularly and maintained as necessary, in order to ensure continued effectiveness throughout the construction phase.
- Discharges to surface water / foul sewers will be monitored where required in accordance with statutory consents (i.e., discharge license). Where required, water pumped from excavations will be treated and pumped to a holding area, where it will be sampled and tested by the contractor before discharge. Upon receiving analysis results and screening against required consent limits, the contractor will arrange for appropriate disposal. Groundwater will be treated and discharged to the foul sewer in accordance with the temporary discharge consent.

RECEIVED 05/08/2025

- Monitoring prior to, during and post headwall construction works of the outfall to open drainage channel along the southeast boundary of the site will be undertaken to ensure minimum disturbance of water quality in the receiving environment. The monitoring programme will include daily checks, weekly inspections and monthly audits. The programme of water quality monitoring and locations of sampling will be agreed with the local authority in advance of construction works commencing.
- Routine monitoring and inspections during refuelling, concrete works to ensure no impacts and compliance with avoidance, remedial and mitigation measures.

16.2.4.2 Operational Phase

16.2.4.2.1 Mitigation

It is considered that the design of the Proposed Development is in line with the objectives of the Water Framework Directive (2000/60/EC as amended) (WFD) to prevent or limit any potential impact on water quality of the receiving environment.

Water supply for the Proposed Development will be from an onsite supply served by 2 no. proposed groundwater wells (refer to Drawing No. 23246-160 to 23246-165 (DRA, 2025) submitted with the application under separate cover). Well-head protection will be constructed in accordance with the IGI Guidelines (IGI, 2007).

As documented in the Hydrogeological Assessment Report, the required groundwater supply for the Proposed Development of approximately 241m3/day (approximately 10m3/hour) could be sustainably derived from the underlying bedrock aquifer. However, the potential for seasonal variations in groundwater quality and capacity will be considered in the detailed design of the supply wells.

The ZOC and outer source protection zone for PW1 based on the required groundwater supply of 10m3/hour plus 50% contingency (i.e. 361.5m3/day or approximately 15m3/hr) as per the Groundwater Protection Schemes guidelines (DoEHLG/EPA/GSI, 1999) was calculated to be 422,110.43m2 (42.21ha). A groundwater source protection plan, taking account of the identified ZOC, will be implemented at the Proposed Development to ensure that there will be no impacts to groundwater.

Ongoing regular operational monitoring and maintenance of drainage and the SuDS measures will be incorporated into the overall management strategy for the Proposed Development. This will ensure that there are no impacts on water quality and quantity (flow regime) during the operational phase of the Proposed Development.

With regard to the proposed discharge of treated operational surface water from the Proposed Development to the open drainage channel located along the southeast boundary of the site and ultimately Irish Sea (i.e., the Eastern Celtic Sea coastal waterbody), the potential for surface water generated at the Proposed Development to cause significant effects to downstream sensitivities during the operational phase is considered negligible due in part to the SuDS measures and petrol interceptor incorporated in the fundamental scheme design.

16.2.4.2.2 Monitoring

The water supply for the Proposed Development will be derived from an onsite supply served by 2 no. groundwater wells. As detailed in the Hydrological Assessment Report (DNV, 2025a

RECEIVED: 05/08/2025

included in Volume 3: Appendix 7.1 of the EIAR), the underlying aquifer can sustainably meet the supply requirement of 10m^3/day for the Proposed Development. Furthermore, the results for samples collected (baseline and during pumping) at the existing supply well (PW1) meet the applicable drinking water quality assessment criteria (DW PVs) for the parameters analysed. However, further monitoring and assessment of the potential for seasonal variations in groundwater quality and capacity will be further considered in the detailed design of the supply wells.

Ongoing regular operational monitoring and maintenance of drainage and the SuDS measures will be undertaken throughout the lifetime of the operational phase of the Proposed Development.

RECEIVED: 05/08/2025

16.2.5 Air Quality

16.2.5.1 Construction Phase

16.2.5.1.1 Mitigation

Communications

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site;
- Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager;
- Display the head or regional office contact information; and
- Develop and implement a Dust Management Plan (DMP), the final dust management plan will form part of the overall construction management plan which will formally be prepared and submitted to Wexford County Council post grant of planning permission.

Site Management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken;
- Make the complaints log available to the local authority when asked;
- Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log book; and
- Hold regular liaison meetings with other high risk construction sites within 250m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes.

Monitoring

- Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the Wexford County Council when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, with cleaning to be provided if necessary;
- Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the Wexford County Council when asked; and
- Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.

Preparing and Maintaining the site

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible;

RECEIVED: 05/08/2025

- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site;
- Fully enclose site or specific operations where there is a high potential for dust production and the site is actives for an extensive period;
- Avoid site runoff of water or mud;
- Keep site fencing, barriers and scaffolding clean using wet methods;
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below; and
- Cover, seed or fence stockpiles to prevent wind whipping.

Operating Vehicle/Machinery and Sustainable Travel

- Ensure all vehicles switch off engines when stationary - no idling vehicles;
- Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable; and
- A speed restriction of 20 km/hr will be applied as an effective control measure for dust for on-site vehicles using unpaved haul roads.

Operations

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems;
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/ mitigation, using non-potable water where possible and appropriate;
- Use enclosed chutes and conveyors and covered skips;
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate; and
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

Waste Management

- Avoid bonfires and burning of waste materials.

Measures Specific to Earthworks

- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable;
- Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable; and
- Only remove the cover in small areas during work and not all at once.

RECEIVED: 05/08/2025

Measures Specific to Construction

- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.

Measures Specific to Trackout

- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use;
- Avoid dry sweeping of large areas;
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport;
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable;
- Record all inspections of haul routes and any subsequent action in a site log book;
- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned;
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable);
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits; and
- Access gates to be located at least 10 m from receptors where possible.

Measures Specific to Ecological Receptors

- Dust suppression: Using water sprays, dust suppressants, or covering materials to reduce dust particles;
- Vegetative barriers: Planting trees, shrubs or grasses to act as windbreaks and capture dust particles;
- Site management: Implementing good housekeeping practices, such as regular cleaning of access roads and minimising the movement of vehicles on unpaved surfaces;
- Monitoring: Regularly monitoring dust levels and ecological receptors to ensure that mitigation measures are effective; and
- Timing of activities: Scheduling dust-generating activities during periods of low wind or when ecological receptors are less sensitive.

16.2.5.1.2 Monitoring

The monitoring of construction dust during the construction phase of the Proposed Development is recommended to ensure that impacts are not experienced beyond the site boundary. Monitoring of dust can be carried out by using the Bergerhoff Method. This involves placing Bergerhoff Dust Deposit Gauges at a strategic locations along the site boundaries for a period of 30 +/- 2 days. The selection of sampling point locations should be carried out in consideration of the requirements of *VDI 2119* with respect to the location of the samplers relative to buildings and other obstructions, height above ground, and sample collection and

RECEIVED: 05/08/2025

analysis procedures. After the exposure period is complete, the Gauges should be removed from the site; the dust deposits in each Gauge will then be determined gravimetrically and expressed as a dust deposition rate in mg/m^2/day in accordance with the relevant standard.

16.2.5.2 Operational Phase

16.2.5.2.1 Mitigation

It has been determined that the operational phase air quality impact is negligible and therefore, no site-specific mitigation measures are proposed.

16.2.5.2.2 Monitoring

Due to the negligible impact on air quality from the operational phase of the Proposed Development, no specific monitoring is recommended except for monitoring via the Bergerhoff Method.

RECEIVED: 05/08/2025

16.2.6 Climate

16.2.6.1 Construction Phase

16.2.6.1.1 Mitigation

Embodied carbon of materials and construction activities is the primary source of climate impacts during the construction phase. Pre-construction carbon Avoidance, Remedial & Mitigation Measures include:

Design for Performance

- Request a Design for Performance approach from design teams and contractors.
- Include contractual targets for whole life carbon with a focus on Net Zero and nature-positive goals where possible.

Circularity in Design

- Require design teams to develop a circularity concept for projects, focusing on adaptability, disassembly, and reuse.
- Set a target for a percentage of reused and recycled materials in designs.

Building Lifecycle Report

- Ensure the building lifecycle report is regularly reviewed and updated in line with current policy and best practice for sustainable construction.

Carbon Literacy

- Develop carbon literacy within design and construction teams by providing training on carbon literacy, ESG reporting, and disclosure.
- Incorporate sustainability and carbon considerations into site team talks, construction targets, and reporting.
- Include training clauses for contractors and sub-contractors to upskill their teams in low-energy construction techniques.

Building Renovation Passports (BRPs)

- Request Building Renovation Passports for this asset as part of the roadmap to decarbonise each asset.

Cement Reduction

- Specify the minimum amount of cement needed in concrete and substitute where feasible to reduce cement usage.

Sustainable Procurement

- Review sustainable procurement and material choices during detailed design to identify and implement lower embodied carbon options.
- Request Environmental Product Declarations (EPDs) and prefer products with EPDs where possible within procurement restrictions.

RECEIVED: 05/08/2025

- Drive demand for EPDs by increasing the percentage of products used in the project with EPDs.

European Framework for Sustainable Buildings

- Commit to using key indicators from the European Framework for sustainable buildings, Level(s), with support from the IGBC.
- Focus on indicators such as Life Cycle Assessment (LCA), Life Cycle Cost (LCC), Indoor Air Quality (IAQ), and Circularity.

Energy and Carbon Performance Reporting

- Plan to disclose the operational energy and carbon performance of the project in your annual reporting.

Post-Occupancy Evaluation

- Allow for post-occupancy evaluation of completed developments to ensure feedback is passed to the design team.

Demolition and Construction Waste Management

- Create a demolition and construction programme allowing sufficient time to determine reuse and recycling opportunities for demolition waste.
- Appoint a competent demolition contractor to undertake a pre-demolition audit detailing resource recovery best practice and identifying materials for reuse and recycling.
- Reuse materials on site in the new build areas where possible.

EU Taxonomy Compliance

- Commit to complying with EU taxonomy requirements on the circular economy, specifically reuse, recycling, and material recovery of demolition and construction waste.
- Review and ensure compliance with the EU Taxonomy Regulation (EU) 2020/852 regarding circular economy practices for demolition and construction waste.

Local Material Sourcing

- Source materials locally where possible to reduce transport-related CO2 emissions.

Building Certifications

- Aim for building certifications such as HPI (Home Performance Index), LEED (Leadership in Energy and Environmental Design), or equivalent, to ensure sustainable and high-performance standards are met throughout the project.

Regarding the development’s resilience to climate change, the Contractor will be required to mitigate the effects of extreme weather, such as heavy rainfall, flooding, windstorms, and temperature fluctuations, through site risk assessments and method statements. Additionally, certified datasheets for construction materials will outline their operational temperature limits,

RECEIVED: 08/08/2025

ensuring that temperature-sensitive materials perform adequately. The Contractor will also address risks associated with fog, lightning, and hail through appropriate risk assessments and mitigation plans.

During the construction phase the following best practice measures shall be implemented on site to prevent significant GHG emissions and reduce impacts to climate:

- **Energy-Efficient Equipment:** Use energy-efficient machinery and equipment on-site. Regular maintenance and proper operation can also help reduce fuel consumption and emissions.
- **Renewable Energy:** Incorporate renewable energy sources, such as solar panels, to power construction activities. This can significantly reduce reliance on fossil fuels
- **Reduce Idling**: Prevention of on-site or delivery vehicles from leaving engines idling, even over short periods.
- **Sustainability Awareness**: Ensure that sustainability and carbon specifically is incorporated into site team talks, construction and reporting targets. Integrate training clauses for contractors and sub-contractors to upskill their onsite personnel including sub-contractors in low energy construction skills. Appoint sustainability champions to ensure that the project continues to perform in a sustainable manner.
- **Sustainable Transportation**: Encourage carpooling, use of public transportation, or electric vehicles for workers commuting to the site.
- **Monitoring and Reporting:** Regularly monitor and report GHG emissions from the construction site. This helps in identifying areas for improvement and ensuring compliance with environmental standards Sustainability spot checks should be added to ongoing site inspections and feedback shared with all onsite to ensure measures are being adopted.
- **Maintenance**: Ensure all plant and machinery are well maintained and inspected regularly.
- **Waste Management:** Implement a robust waste management plan to reduce, reuse, and recycle construction waste. Proper waste management can significantly cut down on emissions Minimising waste of materials due to poor timing or over ordering on site will aid to minimise the embodied carbon footprint of the site. Application of the waste hierarchy to all waste material generated.
- **Sustainable Procurement:** Sourcing low carbon materials locally where possible to reduce transport related CO2 emissions.

Below are project specific ideas under consideration for strengthening the visibility and storytelling around environmental initiatives:

- **Materials and Technology**

  Highlight the use of natural and local materials (stone, native timber, brick), smart systems, and high energy-efficiency ratings (AA or better).

- **Beekeeping and Wildlife**

RECEIVED: 05/08/2025

Incorporate beehives for native black bees (e.g. on rooftops), bird boxes, and composting and mulching systems near the maintenance area. The walkways / cycle lanes can become a nature trail, QR codes so international guests can learn more about Ireland's ecosystem. Wildlife meadows marked so it is not all grass.

- **Edible Landscaping**

  Use of the main entrance driveway / front-facing fields for orchards and edible planting. Include a glasshouse or polytunnel to grow lettuces, greens, microgreens, edible flowers, and herbs. While the resort won't grow all its food, daily-use items can be cultivated and woven into the guest experience.

- **Glasshouse**
  Allow the gardening team to propagate plants and offer them for retail, as done in Ashford Castle, Ballynahinch, and Virginia Lodge.

- **Foraging for Chefs and Mixologists**

  Across the resort, plant native edibles such as elderflower, rowan, crab apple, wild damsons, juniper, gorse, wild strawberries, wild roses, sorrel, wild garlic, three-cornered leek, and Scots pine. All the top hotels / restaurants are now building this into their experience. I am sure the appointed landscaper can build this into their landscaping plans. The more the better as a lot of this can be preserved and sold in the shop for guests to take home.

- **Herb Gardens**

  Create dedicated herb gardens / raised beds near the hotel and the pavilion restaurant, with culinary and mixology herbs like mint, lemon balm, rosemary, lovage, bay, and thyme. It has to be located near the kitchen so the team can walk out and pick just before service. They won't use it otherwise.

- **Hotel Edible Planting**

  Within the hotel, events centre, and spa areas itself, consider using large pots or sheltered planting areas for tropical edible species such as banana plants, citrus, kaffir lime, geraniums, and lemongrass. These not only enhance the sensory experience for guests but can also provide fresh garnishes for the bar and kitchen and even in the spa. It's a subtle but effective way to extend the biodiversity narrative and reinforce the connection between planting, culinary use, and sustainability.

16.2.6.1.2 Monitoring

We recommend the following monitoring strategies to ensure compliance with the environmental objectives outlined in this EIA. These strategies are essential for effectively managing the environmental impacts associated with the demolition and construction phases, with a particular focus on resource recovery, waste management, and the reduction of greenhouse gas (GHG) emissions.

Compliance with EU Taxonomy for Circular Economy

Given the project's commitment to meeting EU taxonomy requirements, we recommend the following:

RECEIVED: 05/08/2025

- Comprehensive Documentation and Reporting: It is essential to maintain detailed records that document compliance with the circular economy principles outlined in the EU taxonomy. This documentation should include logs of all recycled materials, percentages of materials reused on-site, and detailed descriptions of how circular economy practices are being implemented.
- Independent Third-Party Audits: We recommend engaging an independent auditor to periodically assess the project's compliance with the EU taxonomy. The audit should verify the accuracy of reported data and ensure that the circular economy requirements are fully adhered to throughout the project.

Monitoring of GHG Emissions Reduction Measures

To mitigate the project's impact on climate change, we propose the following monitoring activities:

- Appoint sustainability champions to ensure that the project continues to perform in a sustainable manner including monitoring and reporting of performance on site.
- Idle Time Monitoring for Vehicles and Machinery: We suggest installing GPS or telematics systems on all vehicles and machinery used on-site to monitor engine idling times. Automatic alerts should be set up to notify site managers when idling exceeds a specified threshold, enabling prompt corrective action to reduce unnecessary emissions.
- Maintenance Logs for Plant and Machinery: Implementing a digital maintenance log system to track the inspection and maintenance of all on-site equipment is recommended. This system should record inspection dates, maintenance activities, and any identified issues, ensuring that all machinery operates efficiently and with minimal emissions.
- Material Waste Minimisation Tracking: A monitoring system should be developed to track material orders and usage. This system should identify trends in over-ordering or inefficient material use, enabling the project team to take corrective actions that will help minimise the embodied carbon footprint of the site.

Application of Waste Hierarchy

To optimise waste management on-site, we recommend the following monitoring protocols:

- Waste Segregation Audits: Regular audits should be conducted to ensure that waste is being properly segregated according to the waste hierarchy (reduce, reuse, recycle). These audits will help identify opportunities for improving waste management practices and reducing overall waste generation.
- Monthly Waste Management Reports: We suggest generating monthly reports detailing the volume of waste reduced, reused, and recycled. These reports should be compared against predefined targets to assess the effectiveness of the waste management strategies and to identify areas for improvement.

Local Sourcing of Materials

RECEIVED: 05/08/2025

To reduce transport-related emissions and support local suppliers, we recommend the following:

- Supplier Distance Monitoring: A database of suppliers should be developed, documenting the distance of each supplier from the construction site. This database should be used to monitor and minimise the carbon footprint associated with material transportation, prioritising local suppliers wherever possible.
- Transport-Related Carbon Footprint Analysis: Conducting a carbon footprint analysis for the transportation of all materials to the site is recommended. This analysis should inform the selection of suppliers, with a preference for those within a closer radius to reduce CO2 emissions.

These monitoring recommendations are designed to ensure that the project adheres to its environmental commitments, particularly in the areas of resource recovery, waste management, and greenhouse gas emissions reduction. By implementing these strategies, the project will not only comply with regulatory requirements but also contribute to broader environmental sustainability goals. Regular reporting, on-site inspections, and third-party audits will be critical to maintaining compliance and achieving the desired environmental outcomes.

16.2.6.2 Operational Phase

16.2.6.2.1 Mitigation

A number of measures have been incorporated into the design of the development in order to mitigate against the impacts of future climate change. For example, adequate attenuation and drainage have been incorporated into the design of the development to avoid potential flooding impacts as a result of increased rainfall events in future years. These measures have been considered when assessing the vulnerability of the proposed development to climate change.

The Proposed Development has been designed to reduce the impact on climate as a result of energy usage during operation. Climate Action and Energy statement, Building Lifecycle, and BER reports prepared by Metec 2025 and submitted under separate cover with this planning application details a number of incorporated design mitigation measures that have been incorporated into the design of the development to reduce the impact on climate wherever possible.

Such measures included in the proposed development to reduce the impact to climate from energy usage are:

- The development will be in compliance with the requirements of the Near Zero Energy Building (NZEB) Standards.
- A renewable energy rating (RER) of 20% will be achieved to comply with Part L (2021) of the NZEB regulations.
- A Building Energy Rating (BER) of A2/A3 is being targeted.
- Improved building thermal transmittance (U-Values), air permeability and thermal bridging.
- Use of air source and exhaust heat pumps.

RECEIVED: 05/08/2025

- Sustainability information provided to building occupants
- Smart building technologies

In addition, electric vehicle and bicycle parking will be provided within the development which will promote the use of more sustainable modes of transport and reduce potential transport emissions. It is the design intent to specify that a minimum of 20% of car park spaces within the proposed development will be equipped with electric charging points, in accordance with Objective TS49 of the Wexford County Development Plan. Additionally, electrical infrastructure will be provided to all parking spaces to facilitate future upgrades to electric charging.

16.2.6.2.2 Monitoring

Environmental Management Plan that incorporates adaptive management principles.

Ensure climate change resilience plans are robust; continued monitoring of trends in weather events; and continued review of resilience measures related to interdependencies.

We recommend the following monitoring strategies to ensure that the proposed development meets its environmental objectives. These strategies focus on mitigating the impacts of climate change, enhancing energy efficiency, and promoting sustainable transport, all of which are aligned with best practices outlined in IEMA guidelines.

Monitoring of Climate Change Mitigation Measures

- **Attenuation and Drainage Systems Monitoring**: Consistent with IEMA's guidance on climate resilience, regular inspections should be undertaken to verify the functionality of the attenuation and drainage systems. These inspections should be conducted during construction, after significant rainfall events, and periodically thereafter to ensure long-term effectiveness in preventing flooding.
- **Climate Vulnerability Assessment Review**: In accordance with IEMA's recommendation to periodically reassess climate risks, we suggest reviewing the climate vulnerability assessment at regular intervals. This review should incorporate the latest climate projections to ensure the mitigation measures remain adequate and effective.

Monitoring of Energy Efficiency and Climate Impact Reduction

To minimise the impact of the development on climate through energy use during operation, the following monitoring activities are recommended:

- **NZEB Compliance Verification**: Continuous monitoring during the construction phase should ensure that the development complies with the Near Zero Energy Building (NZEB) Standards. This includes verifying that all building components and systems meet the NZEB criteria.
- **EU Taxonomy Alignment Monitoring**: Ensure that the development achieves energy performance that is at least 10% lower than the NZEB requirements. Regular energy performance assessments should be conducted to confirm alignment with the EU Taxonomy for sustainable development.

RECEIVED: 05/08/2025

- **Renewable Energy Ratio (RER) Compliance**: Monitor the implementation of renewable energy systems, such as solar panels and air source heat pumps, to ensure that the development achieves a Renewable Energy Ratio (RER) of 20%, in line with Part L (2021) of the NZEB regulations. Post-installation, periodic checks should be performed to verify ongoing compliance.
- **Building Energy Rating (BER) Target Achievement**: Regular energy audits should be carried out to monitor the building's energy performance, ensuring that the targeted Building Energy Rating (BER) of A2/A3 is achieved. This includes verifying the efficiency of insulation, windows, HVAC systems, and other energy-related components.
- **Thermal Performance Monitoring**: Continuous monitoring during construction should ensure that the building achieves the improved thermal transmittance (U-Values), air permeability, and thermal bridging standards specified in the design. Post-construction thermal imaging surveys and air tightness tests should be conducted to confirm that these standards have been met.

Monitoring of Renewable Energy Systems

To ensure the successful implementation and operation of renewable energy systems, the following monitoring measures are recommended:

- **Air Source Heat Pump Performance**: Regular inspections and maintenance checks should be conducted on the air source heat pumps to ensure they are operating efficiently and contributing effectively to the building's energy needs. Performance metrics such as Coefficient of Performance (COP) and Seasonal Performance Factor (SPF) should be tracked and compared against the expected values.
- **Occupant Sustainability Information**: Consistent with IEMA's emphasis on stakeholder engagement, it is important to ensure that all building occupants/hotel residents receive comprehensive sustainability information. This should include guidance on energy conservation practices and how to use renewable energy systems effectively. Feedback mechanisms, such as surveys, should be used to assess the impact of this information on occupant behaviour.

Monitoring of Sustainable Transport Initiatives

To promote sustainable transport and reduce transport-related emissions, we recommend the following monitoring strategies:

- **Electric Vehicle (EV) and Bicycle Parking Usage**: Regular monitoring should be carried out to assess the usage of electric vehicle charging stations and bicycle parking facilities within the development. This will help gauge the effectiveness of these measures in promoting sustainable transport modes. Usage data can inform whether additional facilities or adjustments are needed.
- **Transport Emissions Impact Assessment**: Periodic assessments should be conducted to evaluate the impact of the provided sustainable transport facilities on reducing overall transport emissions. This could include monitoring the uptake of

RECEIVED: 05/08/2025

electric vehicles by residents and the corresponding reduction in greenhouse gas emissions.

These monitoring recommendations are designed to ensure that the development's climate change mitigation measures, energy efficiency initiatives, and sustainable transport provisions are effectively implemented and maintained throughout the lifecycle of the project. By adhering to these strategies, the development will not only comply with relevant regulatory requirements but also contribute to broader environmental sustainability goals. Regular inspections, energy performance assessments, and occupant engagement will be crucial to achieving the desired environmental outcomes.

RECEIVED: 05/08/2025

16.2.7 Noise and Vibrations

16.2.7.1 Construction Phase

16.2.7.1.1 Mitigation

Bes practice measures for noise from construction sites are found within BS 5228 (2009+A1:2014) part 1. Construction noise impacts are expected to vary during the construction phase of the project, this impact will depend on the distance between the construction activities and noise sensitive receptors. The contractor will ensure that all best practice noise control measures will be used, to ensure any negative noise impacts at noise sensitive locations are minimised.

The best practice measures set out in BS 5228 (2009) Part 1 includes guidance on several aspects of construction site mitigation measures, this includes the

- selection of quiet plant and equipment;
- noise control at source of the noise;
- screening, and;
- public liaison.

General Recommendations

This section sets out noise mitigation options and detailed comment on each one specifically for the development site.

Selection of Plant and Machinery

The noise impact of all plant and machinery should be assessed prior to selection of the plant for the project. Where an item of plant is identified as noisy with the potential to cause a negative noise impact it should be reviewed to check if there is an alternative quieter version of the same plant to undertake the same construction task.

Noise Control at Source

Where replacing a noisy item of plant is not viable or practical, consideration should be given to control that noise at source. This includes modifying the piece of plant or machinery to generate less noise, using dampening to control vibration induced noise or rattling. Example best practice mitigation measures to be considered are as follows:

- All plant and equipment to be switched off when idling.
- The use of white noise reversing alarms.
- Restriction on the dropping and loading of materials to less sensitive hours.
- The use of local screening for noisy activities or works with hand tools.
- Not dropping materials onto hard surfaces and using rubber mats etc for the dropping of materials.
- Ensure all plant and equipment is well maintained and cleaned, all lubrication should be in line with manufacturers guidelines.

Screening

Screening when used correctly can be an effective method of reducing the construction noise impact on the NSL's. The use of site hoarding and careful selection of areas for noise works,

RECEIVED: 05/08/2025

using buildings on the site, site offices and the building being constructed to screen noise from the works.

Local screening of noisy works with the use of temporary acoustic barriers, examples are provided below:

- https://ventac.com/acoustic-products/noisebreak-acoustic-barrier/
- https://echobarrier.com/

Figure 16-4: Temporary construction noise barrier © Ventac

Public Engagement

It is recommended that a public liaison officer should be put forward by the contractor to liaise with the local residents on matters relating to noise. Residents should be informed of any noise works scheduled where there is the potential to generate high levels of construction noise or if specialist works etc need to be conducted out of the working hours. This person should also be the point of contact for all complaints and be responsible for reviewing the noise monitoring results and exceedances.

Site Specific Recommendations

Table 16-3 below outlines the recommended site-specific noise mitigation measures.

Table 16-3: Mitigation measures required during construction phase.

Construction Stage	Recommended Noise Mitigation Measures
Site Setup	Erect a minimum 2.4m high site hoarding that blocks the line of sight between noise source and receiver. Example construction for the site hording would be as follows: A 2.4m high and 9mm plywood (4.5 kg/m2). Barrier must be solid and not contain gaps at the bottom or between adjacent panels Local screening are required around d hand tools in addition to hoarding.
	An absorptive lining should be considered for screening around hand tools will need to have an absorptive lining to avoid reflections increasing noise at other receivers.

RECEIVED: 05/08/2025

Construction Stage	Recommended Noise Mitigation Measures
	On this project 8 NSL's have been identified it is recommended that a noise monitor should be placed on the boundary of the nearest noise sensitive locations closest to the works i.e. NSL1 and NSL6 in this case.
Substructure	Site hoarding to block line of sight. Local screening around noisy plant and equipment. Noise monitoring as above
Superstructure	Local screening around saws/hammers where possible. Use external new building to screen noise from works where possible.
	Noise monitoring as above
External finishes	Local screening around hand tools. Noise monitoring as above

16.2.7.1.2 Monitoring

Noise and vibration monitoring should be considered during the construction phase of the development. Particularly during the substructure stage of construction when piling operations are likely to occur. There are a multitude of noise sensitive receptors surrounding the development lands, NSL's 2, 3 and 8 are the most suitable locations for noise and vibration monitors to be erected as these are the closest to the construction works.

16.2.7.2 Operational Phase

16.2.7.2.1 Mitigation

Noise Mitigation Measures

Based on the assessment conducted on the operational phase of the development which takes into account the operation of the hotel, leisure centre, event centre, communal external amenity space, crazy golf, padel courts and car and bus parking. The predicted results of the operational noise assessment, there is no significant noise impact on the surrounding sensitive receptors, therefore no mitigation measures are required to control operational noise levels.

Mitigation measures may need to be incorporated at design development stage once the final plant and equipment schedule is developed and noise levels for each piece of equipment should be reviewed by an Acoustic Consultant to ensure compliance with the limits set in this report.

Vibration Mitigation Measures

There are no predicted vibration sources during the operational phase, therefore, mitigation measures are not required to control operational phase vibrations.

16.2.7.2.2 Monitoring

No specific operational phase monitoring is required for Noise and Vibration.

RECEIVED: 05/08/2025

16.2.8 Landscape and Visual

16.2.8.1 Construction Phase

16.2.8.1.1 Mitigation

The key landscape and visual mitigation measures used during the construction phase have been incorporated into the layout of the site and design of the proposed buildings and landscaping as outlined in the Architectural Design Statement and Masterplan and the Landscape Report documents (see extracts fig. 16-5 to 16-7). By responding to the site topography, modulation of the main building, façade articulation and suitable landscaping for a coastal situation the building is absorbed into the surrounding landscape as demonstrated in sections, verified views and CGI images. A range of materials and building typologies are used to complement the existing types found in the surrounding built environment and landscape. The set back of the larger buildings from the site boundaries mitigates the impact on local adjoining residents.

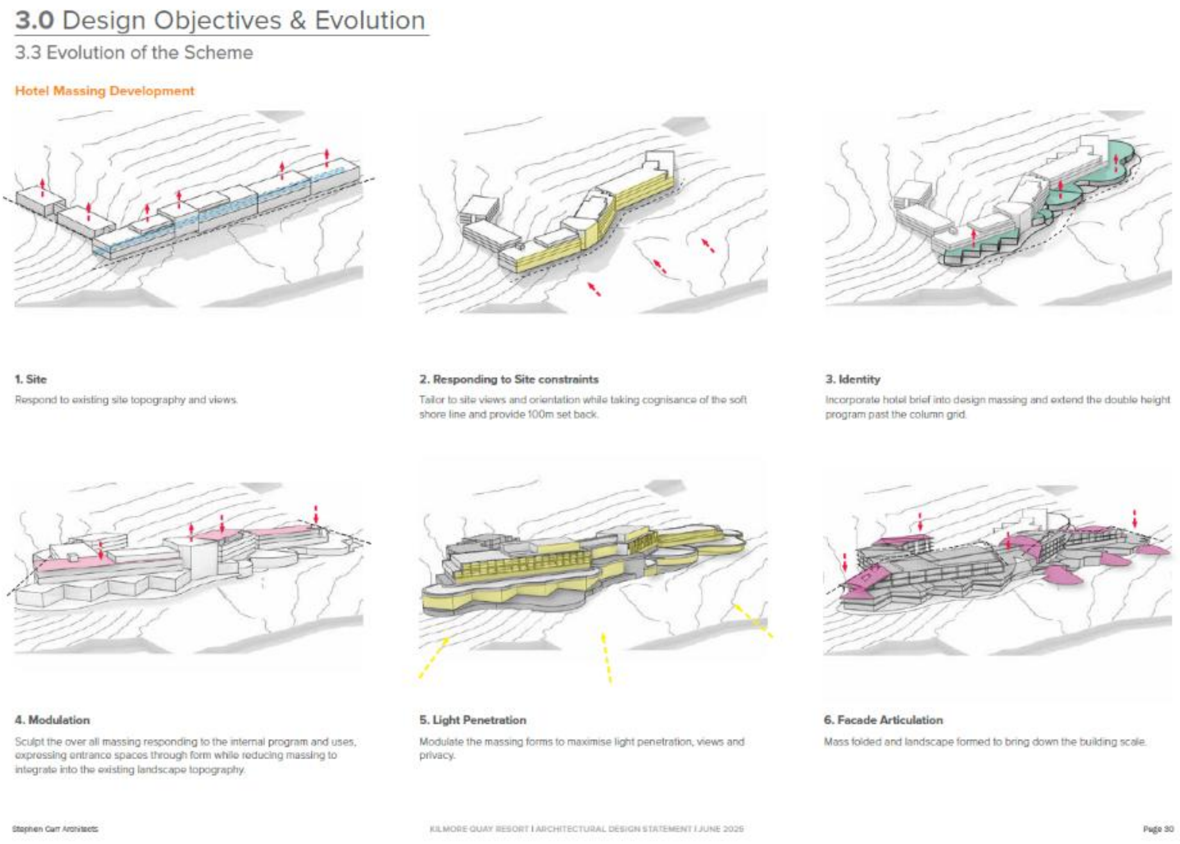
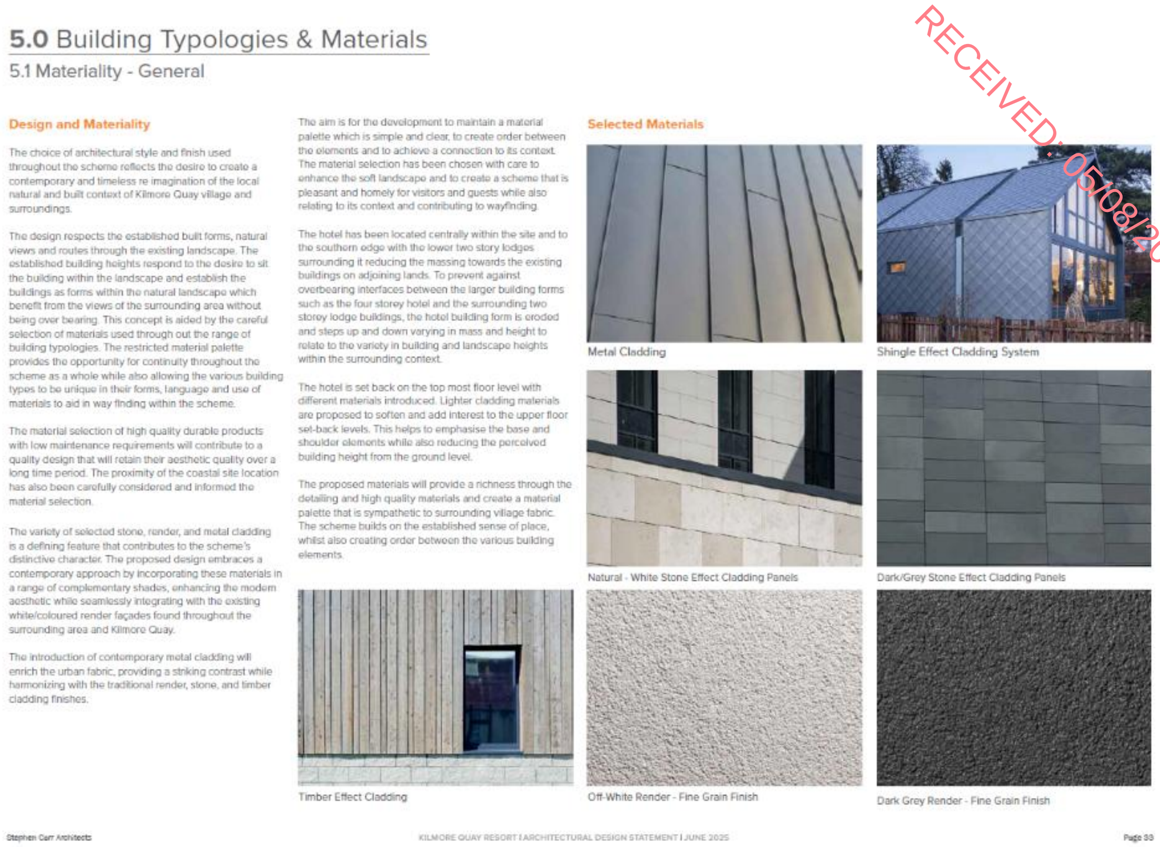


Figure 16-5 Main building design development

RECEIVED: 05/08/2025



5.0 Building Typologies & Materials

5.1 Materiality - General

Design and Materiality

The choice of architectural style and finish used throughout the scheme reflects the desire to create a contemporary and timeless re imagination of the local natural and built context of Kilmore Quay village and surroundings.

The design respects the established built forms, natural views and routes through the existing landscape. The established building heights respond to the desire to sit the building within the landscape and establish the buildings as forms within the natural landscape which benefit from the views of the surrounding area without being over bearing. This concept is aided by the careful selection of materials used through out the range of building typologies. The restricted material palette provides the opportunity for continuity throughout the scheme as a whole while also allowing the various building types to be unique in their forms, language and use of materials to aid in way finding within the scheme.

The material selection of high quality durable products with low maintenance requirements will contribute to a quality design that will retain their aesthetic quality over a long time period. The proximity of the coastal site location has also been carefully considered and informed the material selection.

The variety of selected stone, render, and metal cladding is a defining feature that contributes to the scheme's distinctive character. The proposed design embraces a contemporary approach by incorporating these materials in a range of complementary shades, enhancing the modern aesthetic while seamlessly integrating with the existing white/coloured render façades found throughout the surrounding area and Kilmore Quay.

The introduction of contemporary metal cladding will enrich the urban fabric, providing a striking contrast while harmonizing with the traditional render, stone, and timber cladding finishes.

The aim is for the development to maintain a material palette which is simple and clear, to create order between the elements and to achieve a connection to its context. The material selection has been chosen with care to enhance the soft landscape and to create a scheme that is pleasant and homely for visitors and guests while also relating to its context and contributing to wayfinding.

The hotel has been located centrally within the site and to the southern edge with the lower two story lodges surrounding it reducing the massing towards the existing buildings on adjoining lands. To prevent against overbearing interfaces between the larger building forms such as the four storey hotel and the surrounding two storey lodge buildings, the hotel building form is eroded and steps up and down varying in mass and height to relate to the variety in building and landscape heights within the surrounding context.

The hotel is set back on the top most floor level with different materials introduced. Lighter cladding materials are proposed to soften and add interest to the upper floor set-back levels. This helps to emphasise the base and shoulder elements while also reducing the perceived building height from the ground level.

The proposed materials will provide a richness through the detailing and high quality materials and create a material palette that is sympathetic to surrounding village fabric. The scheme builds on the established sense of place, whilst also creating order between the various building elements.

Timber Effect Cladding

Selected Materials

Metal Cladding

Shingle Effect Cladding System

Natural - White Stone Effect Cladding Panels

Dark/Grey Stone Effect Cladding Panels

Off-White Render - Fine Grain Finish

Dark Grey Render - Fine Grain Finish

Stephen Carr Architects

KILMORE QUAY RESORT I ARCHITECTURAL DESIGN STATEMENT I JUNE 2025

Page 33

Figure 16-6 Building typologies and materials

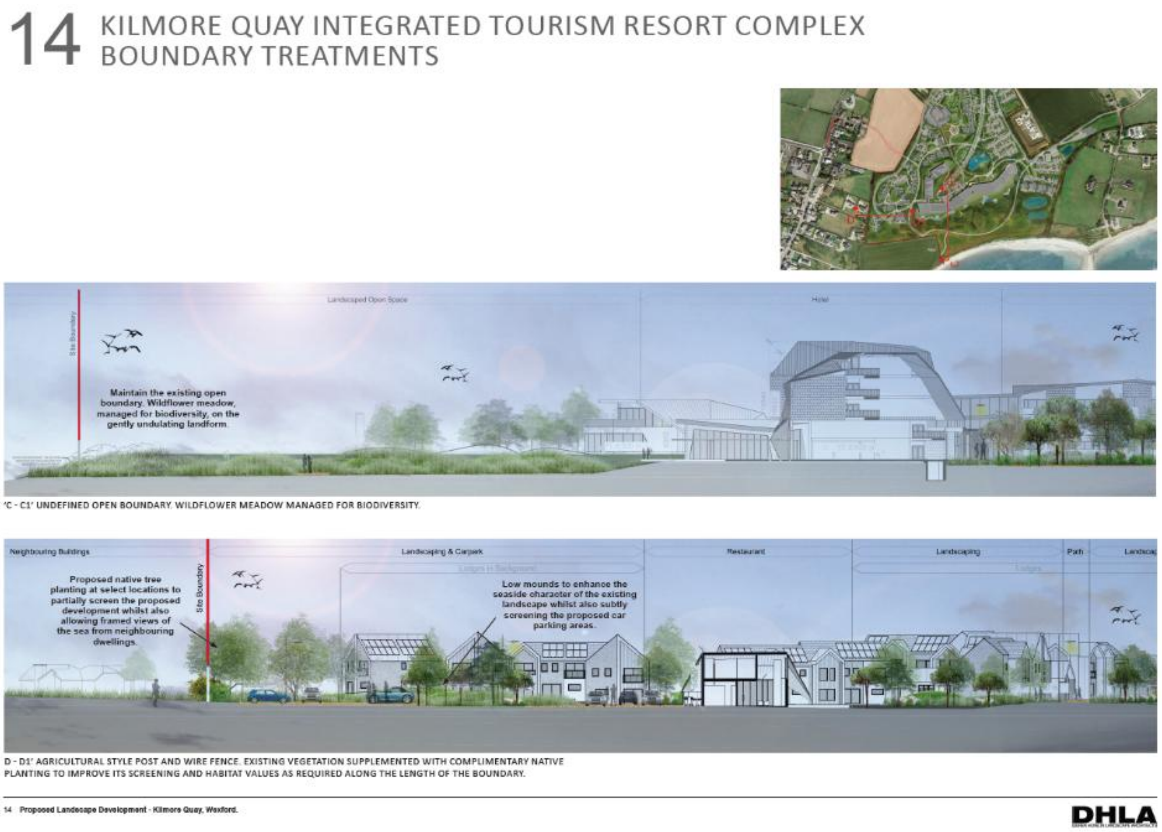


Figure 16-7 Sections showing buildings absorbed into the landscape

RECEIVED: 05/08/2025

16.2.8.1.2 Monitoring

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 planting season after completion of the main civil engineering and building work.

16.2.8.2 Operational Phase

16.2.8.2.1 Mitigation

As the proposed landscaping matures the larger growing tree species such as oak, alder and pine can be expected to grow in this coastal location to significant heights of approximately 10-15m and will be grow to be significant landscape features in themselves that will counterbalance the tallest part of the development. The smaller growing tree species can be expected in this coastal location to reach 5-10m in height and will counterbalance the smaller scale parts of the Proposed Development.

16.2.8.2.2 Monitoring

Monitoring of the mitigation measures will form part of the landscape management plan. Replacement trees, replacement planting and pruning measures will be captured in landscape maintenance plans and are intrinsically linked to the proposed mitigation measures. All landscape works will be in an establishment phase for the initial three years from planting. A landscape maintenance plan/specification accompanies the planning application. Prior to completion of the landscape works, a competent landscape contractor will be engaged and a detailed maintenance plan, scope of operation and methodology will be put in place

RECEIVED: 05/08/2025

16.2.9 Archaeology and Cultural Heritage

16.2.9.1 Construction Phase

16.2.9.1.1 Mitigation

A written, photographic and measured survey of the identified architectural heritage assets will be completed prior to the commencement of works. The proposed refurbishment and renovation of Beak Cottage, and the ruinous early modern farm complex, will be undertaken by conservation professionals, under the guidance of a Conservation Grade II Architect, and are will be carried out in accordance with the Advice Series on working on historic properties, published by the Department of Housing, Local Government and Heritage, and available at the following link: https://www.buildingsofireland.ie/resources/.

A post planning archaeological geophysical survey will be undertaken. This survey will be followed by targeted test trenching, to be carried out at the locations of any proposed subsurface groundworks for new buildings, services routes, and other infrastructure. Test Trenching will be carried out under Licence from the National Monuments Service of the Department of Housing, Local Government and Heritage, following consultation with the National Museum of Ireland, and Wexford County Council. Provision will be made for the preservation in situ (avoidance) or preservation by record (archaeological excavation) of any archaeological features or deposits that may be identified during test trenching.

Targeted archaeological test trenching will be carried out to confirm the presence of absence of archaeological features that had been identified in the geophysical survey, within the development site. The purpose of test excavation is to establish the nature and extent of archaeological deposits and features present in a location which it is proposed to develop (though not normally to fully investigate those deposits or features) and allow an assessment to be made of the archaeological impact of the proposed development. Archaeological test trenching will be used to examine locations of new buildings, infrastructure, landscaping, and construction impacts. The archaeological test trenching will take place under licence issued by the National Monuments Service of the Dept of Housing, Local Government and Heritage. If archaeological resources are discovered during test trenching, the following steps will be taken:

- Immediate Cessation of Work: Construction in the immediate area of the discovery will stop to prevent further disturbance.
- Assessment: The on-site archaeologist will conduct a preliminary assessment of the find to determine its significance.
- Notification: The relevant authorities, such as the National Monuments Service and National Museum of Ireland, will be notified immediately. Depending on the significance of the discovery, further investigation, excavation, or preservation measures may be required.
- Documentation: The discovery will be fully documented, including photographs, detailed notes, and GPS coordinates, to ensure an accurate record is kept.

A report on the findings of the test trenching will be prepared and submitted to the relevant authorities and stakeholders. These reports will include details of any discoveries, the actions taken, and recommendations for any further archaeological work required.

RECEIVED: 05/08/2025

Archaeological monitoring of construction stage ground disturbance works will be completed. The archaeological test trenching will be targeted and will examine areas of new infrastructure for the proposed development. Archaeological monitoring of ground disturbance works during construction activities, will mitigate the of any adverse impacts on subterranean archaeology assets.

Please note that mitigation measures are subject to approval by National Monuments Service- Department of Housing, Local Government and Heritage.

16.2.9.1.2 Monitoring

There are a number of obligatory processes required as part of archaeological licence applications to the National Monuments Service and these will allow for monitoring of the successful implementation of the construction phase mitigation measures presented in Section 11.6.1 of the Archaeology and Cultural Heritage Chapter. A method statement detailing the proposed strategy for archaeological supervision of ground disturbance works during the construction phase will be submitted to the National Monuments Service as part of the licence application. This will clearly outline the proposed extent of ground works and outline the consultation process to be enacted in the event that any unrecorded archaeological remains are identified, which may include preservation in situ by avoidance or preservation in record by archaeological excavation. A report will be compiled on all archaeological site investigations which will clearly present the results in written, drawn and photographic formats. Copies of this report will be submitted to the National Monuments Service, Wexford County Council and the National Museum of Ireland

16.2.9.2 Operational Phase

16.2.9.2.1 Mitigation

The Operational Phase will not impact on any cultural heritage assets.

The daily activities and ongoing maintenance during this phase will have a positive impact on the identified architectural heritage assets of Beak Cottage and the ruined early modern farm complex. These architectural heritage assets will benefit from maintenance and upkeep during the Operation Phase of the proposed development. Also, the refurbishment and renovation of the identified architectural heritage assets will positively impact on the setting and appearance of these assets.

The Operational Phase will not impact known archaeological resources, but any unforeseen discoveries will require appropriate management in line with archaeological best practices. This includes the reporting of archaeological artefacts and features to the National Monument Service and the National Museum of Ireland.

16.2.9.2.2 Monitoring

As detailed in Section 11.6.2 of the Archaeology and Cultural Heritage Chapter, a suitably qualified archaeologist will be retained to advise on the design of any potential future developments (if any) within the Proposed Development. The appointed archaeologist will prepare an archaeological impact assessment of any such potential development which will be carried out in consultation with the Wexford County Council Archaeologist and the National Monuments Service.

RECEIVED: 05/08/2025

16.2.10 Materials Assets – Waste and Utilities

16.2.10.1 Construction Phase

16.2.10.1.1 Mitigation

Specific avoidance, remedial and mitigation measures will be required for the Proposed Development. The measures that will be taken to ensure that there will be no significant impact on the surrounding Material Assets during the construction phase include:

Waste will be stored onsite in such a manner as to:

- Prevent environmental pollution;
- Minimise nuisance generation such as dust; and
- Maximise waste segregation to minimise potential cross contamination of waste streams and facilitate subsequent re-use, recycling, and recovery.

In the event that hazardous soil, or historically deposited waste is encountered during the site bulk excavation phase, the contractor will notify Wexford County Council and provide a Hazardous/Contaminated Soil Management Plan, to include estimated tonnages, description of location, any relevant mitigation, destination for disposal/treatment, in addition to information on the proposed authorised waste collector(s). According to the RWMP, it is anticipated that there will be no asbestos containing materials (ACMs) generated during the construction phase of the Proposed Development. If ACMs are identified on site at a later stage, the client will be notified, and a suitable management plan will be implemented for the safe removal and disposal. Waste containing asbestos cannot be reused or recovered in any way and this material will require offsite removal and appropriate hazardous waste disposal to control the risks posed from asbestos fibres.

Additionally, a CEMP will be in effect for the full duration of the construction works. The Health and Safety Authority's "Code of Practice for Avoiding Danger from Underground Services" will be followed during construction and excavation activities and all underground and overhead utilities and public services will be identified and protected during the construction phase. All temporary suspensions to public services will be controlled by the relevant statutory undertaker, in accordance with standard protocols and all services will be reinstated as soon as possible post connection. Potable water networks and foul water sewers will be properly tested prior to connection.

16.2.10.1.2 Monitoring

The monitoring of Construction and Demolition (C&D) waste during the construction phase of the Proposed Development is recommended to ensure that impacts are not experienced beyond the site boundary. The Main Contractor will be responsible for monitoring and record keeping in respect of waste leaving the facility and that these records will be maintained on site.

RECEIVED: 05/08/2025

16.2.10.2 Operational Phase

16.2.10.2.1 Mitigation

An OWMP (DNV, 2025) has been produced for the Proposed Development which outlines measures to be taken to achieve waste prevention, maximum recycling and recovery of waste with a focus on diversion of waste from landfill wherever possible. Waste segregation will be implemented at the Proposed Development to minimise potential cross contamination of waste streams and facilitate subsequent re-use, recycling and recovery. The Management Company appointed will be responsible for ensuring that all Waste Contractors hold the appropriate authorisations.

The ratio of bins detailed within the OWMP (DNV, 2025) is in line with the European Commission's proposal to introduce 70% plus re-use and recycling targets for Mixed Municipal Waste (MMW) by 2030. This waste collection proposal also provides a waste management solution that has sufficient flexibility to support future targets and legislative requirements.

16.2.10.2.2 Monitoring

The resort management company will be required to maintain the bins and storage areas in good condition as required by the WCC Waste Bye-Laws. The waste strategy presented in the OWMP (DNV, 2025) will provide sufficient storage capacity for the estimated quantity of segregated waste. The designated areas for waste storage will provide sufficient room for the required receptacles in accordance with the details of this strategy.

RECEIVED: 05/08/2025

16.2.11 Materials Assets – Traffic

16.2.11.1 Construction Phase

16.2.11.1.1 Mitigation

During all tested scenarios, the maximum degree of significance anticipated is **Moderate**. As such, in accordance with EPA Guidance, no mitigation is required.
Despite this, in order to reduce the impact of construction traffic, in particular HGVs during the construction phase, a detailed Construction Traffic Management Plan (CTMP) would be prepared prior to commencement on site.
A Construction Environmental Management Plan (CEMP) has been prepared to support the planning application. This outlines good practice and management techniques to ensure the construction phase is carried out in an environmentally sustainable manner. As part of this a series of traffic management measures are outlined to mitigate the impact of construction traffic. It is anticipated that these would inform the detailed CTMP, which may be conditioned as part of consent and prepared prior to commencement enabling works for the Proposed Development.

16.2.11.1.2 Monitoring

Monitoring of traffic during the construction phase would be undertaken through the preparation and upkeep of a detailed CTMP. This is typically prepared by the lead contractor and includes a monitoring process, agreed in consultation with the local authority, to ensure proper management of construction traffic is adhered to.

16.2.11.2 Operational Phase

16.2.11.2.1 Mitigation

Mitigation, in the form of a detailed Mobility Management Plan (MMP) is proposed in order to manage the impact of the Proposed Development during the operational phase. A Framework MMP has been prepared as part of the planning submission for the Proposed Development, and this would be subject to regular update including at the commencement of operation. It is anticipated a detailed MMP would form a condition of consent.

The MMP sets out measures which the applicant is willing to introduce to support sustainable travel choices amongst residents, visitors and staff. A summary of proposed MMP measures include but are not limited to:

- Awareness raising of sustainable travel choices.
- Possible cycle hire scheme for hotel / lodge residents.
- Parking Management Plan.
- Workplace travel plan initiatives.

16.2.11.2.2 Monitoring

The Framework MMP includes measures for monitoring traffic and travel behaviours through the lifetime of the operational phase. This includes aspects such as travel surveys which provide a mechanism for the monitoring of mode share and other travel behaviour aspects.