



Enviroguide
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EIAR Non-Technical Summary

PRESENTED TO

**Rathcool Flying Club
Townland of Rathcool, Co. Cork**

DATE

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Environmental Consultancy Services

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1 INTRODUCTION AND BACKGROUND

Request for Further Information (RFI) Update

This Environmental Impact Assessment Report (EIAR) has been prepared by Enviroguide Consulting (now DNV) for Rathcool Flying Club, herein after referred to as the Applicant, who is seeking planning permission for the construction of a hard surfaced runway (740m in length), taxiway and helipad with associated ground level lighting, associated interceptors, along with the relocation of an existing hangar, paramedic prefabricated base, crew prefabricated bases and all associated works at the townland of Rathcool, Co. Cork.

The application (Planning Reg Ref 254538), including this EIAR, was lodged on the 27th March 2025. A Request for Further Information (RFI) was received from Cork County Council on the 20th May 2025, requesting additional information.

This EIAR has been updated to reflect the requested information and the changes made as a result of the RFI.

This EIAR was originally prepared and submitted by Enviroguide Consulting. Following the integration of Enviroguide Consulting into DNV, all updates and supplementary information are now provided under DNV. The content and authorship remain consistent with the original submission, ensuring continuity and transparency.

Introduction

This Environmental Impact Assessment Report (EIAR) has been prepared by Enviroguide (now DNV) on behalf of Rathcool Flying Club (the Applicant), who is seeking planning permission for the construction of a hard surfaced runway (740m in length) and taxiway with associated ground level lighting, associated interceptors, along with the relocation of an existing hangar, paramedic prefabricated base, crew prefabricated bases, helipad, vehicular entrance all associated with the Health Service Executive (HSE) Air Ambulance, all of which to be serviced by a new proprietary waste water treatment system and associated site works.

Environmental Impact Assessment is a process of identifying and assessing the likely environmental, social and economic effects of a proposed development project, considering both negative and positive effects. Environmental Impact Assessments also involve finding ways to reduce negative effects and further improve beneficial effects. It ensures that planning decisions are made taking into account the environmental effects and with engagement from stakeholders.

This Environmental Impact Assessment Report presents the environmental impact assessment process which has been undertaken in line with the Planning and Development Regulations 2001.

The structure of the Environmental Impact Assessment that accompanies the planning application is set out in the following three volumes:

- Volume 1 Non-technical summary;
- Volume 2 Environmental Impact Assessment Report (EIAR); and,
- Volume 3 Supporting technical appendices.

Purpose of this Non-Technical Summary

This non-technical summary is a requirement under the European Union Directive 2014/52/EU for all projects that have been subject to an Environmental Impact Assessment.

The report describes the Proposed Development, the Environmental Impact Assessment process and summarises the likely significant environmental effects that would be caused by the development.

The Environmental Impact Assessment Process

The Environmental Impact Assessment has been carried out based on desktop studies, site visits, surveys and site-specific investigations.

The Environmental Impact Assessment Report outlines any necessary mitigation and monitoring measures required to avoid, reduce or offset any potentially significant effects.

Following the application of mitigation measures, the Environmental Impact Assessment Report will describe any remaining effects that may occur from the Proposed Development.

The Environmental Impact Assessment Report and accompanying planning application are being submitted for consideration to Cork County Council, which is the local authority for the Proposed Development.

Figure 2-1 shows the location of the Proposed Development.

2 SITE DESCRIPTION

The site is located in the townland of Knockcahill as well as Rathcool, Co. Cork and sits approximately 1.5km northwest of Rathcool village. The site contains the existing aerodrome facility used by the Rathcool Flying Club and the Health Service Executive's Air Ambulance service. The site contains three warehouse hangers. Two belong to the Rathcool Flying Club and one to the Health Service Executive (HSE) Air Ambulance. The site also contains a clubhouse which is used by the Rathcool Flying Club. It also contains a paramedic prefabricated base, crew prefabricated bases and a helipad which are used by the HSE Air Ambulance Service. Designated parking for Air Ambulance employees is provided adjacent to the paramedic prefabricated base. There is a grass runway used in wet weather, however, there is a period of approximately 8 weeks during the winter when the runway can't be used because it's too wet which is used by The Rathcool Flying Club and the Air Ambulance in dry weather. The remainder of the site is made up of grassland.

The site is surrounded by agricultural land in all directions. The River Blackwater borders the site at the north, while there is woodland bordering the site to the south west. There are three access points to the site. The primary access point is at the southeastern corner of the site and is used by members of the Rathcool Flying Club. There is a separate access point further south which is designated for members of the Air Ambulance Service and the most southerly access point is used as an emergency exit. These access points adjoin the L-5215 road.

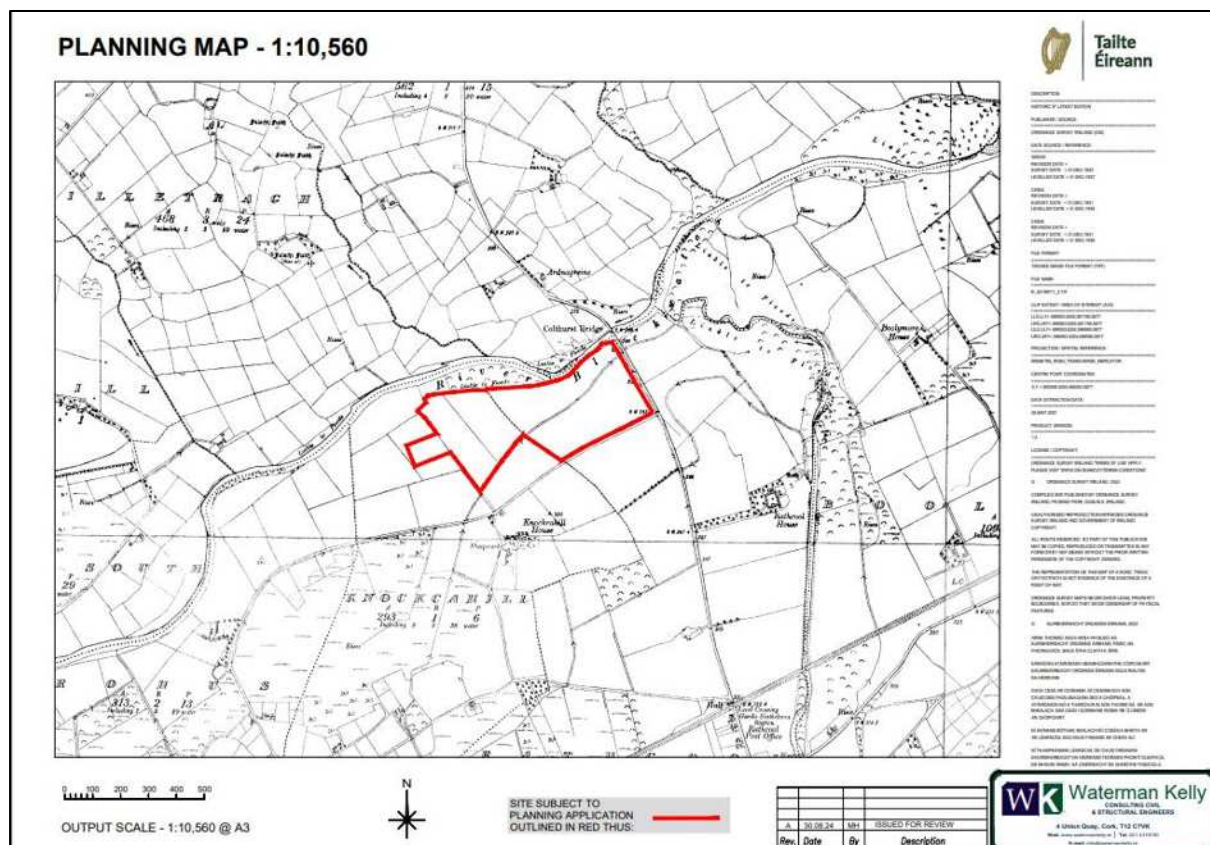


Figure 2-1: Site Location (Waterman Consulting Engineers, 2025)

3 DESCRIPTION OF THE PROPOSED DEVELOPMENT

The Rathcool Flying Club intend to apply for planning permission for the construction of a hard surfaced runway (740m in length) and taxiway with associated ground level lighting, associated interceptors, along with the relocation of an existing hangar, paramedic prefabricated base, crew prefabricated bases, helipad, vehicular entrance all associated with the Health Service Executive (HSE) Air Ambulance, all of which to be serviced by a new proprietary waste water treatment system and associated site works.

An application for the Proposed Development was lodged in 2022 and refused by Cork County Council due to concerns related to flooding, proximity of the site to the Blackwater SAC and discrepancies and conflicting information contained within the application documentation, including the Environmental Impact Assessment Report (application reference 22/6397).

The revised application will review all of the background information and address the concerns raised in the Council's decision for the previous application.

Construction Phase

It is estimated that the construction phase of the Proposed Development will be approximately 4 months from initial commencement on-site. It is intended that the works be constructed in 1 phase.

For the duration of the construction phase, it is envisaged that the maximum working hours will be 07:00 to 18:00 Monday to Friday (excluding bank holidays) and 08:00 to 14:00 Saturdays. Where works are required outside of these hours, permission will be sought from the local authority (Cork County Council).

It is estimated that 12,210 tonnes of material will need to be removed from the site. The excavated material will be stockpiled in a designated area of the site where it will be allowed to dry ahead of removal from the site. All topsoil is to be removed from site.

The machinery and plant predicted to be onsite during the construction phase include:

- Two 22 tonne excavators
- Two dozers
- One single drum compactor
- One motor grader
- Three 150 horsepower tractors
- Two 14 tonne trailers
- One paver / feeder
- One. tanker with splash plate

Traffic

Access control to the site will be maintained at all times by the appointed main contractor, who will be responsible for traffic management on site. Construction access will be via the existing public road, Local Road L-5215-0. A Traffic Management Plan will be prepared for all personnel which all personnel onsite will be made aware of. The parking of contractor's vehicles will be set out on site, ensuring traffic does not cause any unnecessary congestion and potential traffic hazards along the public road.

All trucks must enter the site, no parking along the public road will be permitted. Delivery of materials to site will be timed separately. It is envisaged that there will be no interruption to main traffic on this route. In the event of abnormal loads being delivered to site, the appointed main contractor will ensure that there will be a banksman present on the public road to instruct vehicles on where they are to go.

Relevant warning signs as per the traffic management plan will be erected at 25 metre and 50 metre distances of each side of all approaches to the site entrance to advise the public and motorists of construction activities.

The Proposed Site Compound consists of:

- Machinery storage area
- Fuel Storage area
- Portable toilets
- Employee/visitor parking
- Site office/canteen
- Wheel wash

Figure 3-1 shows the site compound and entrance.

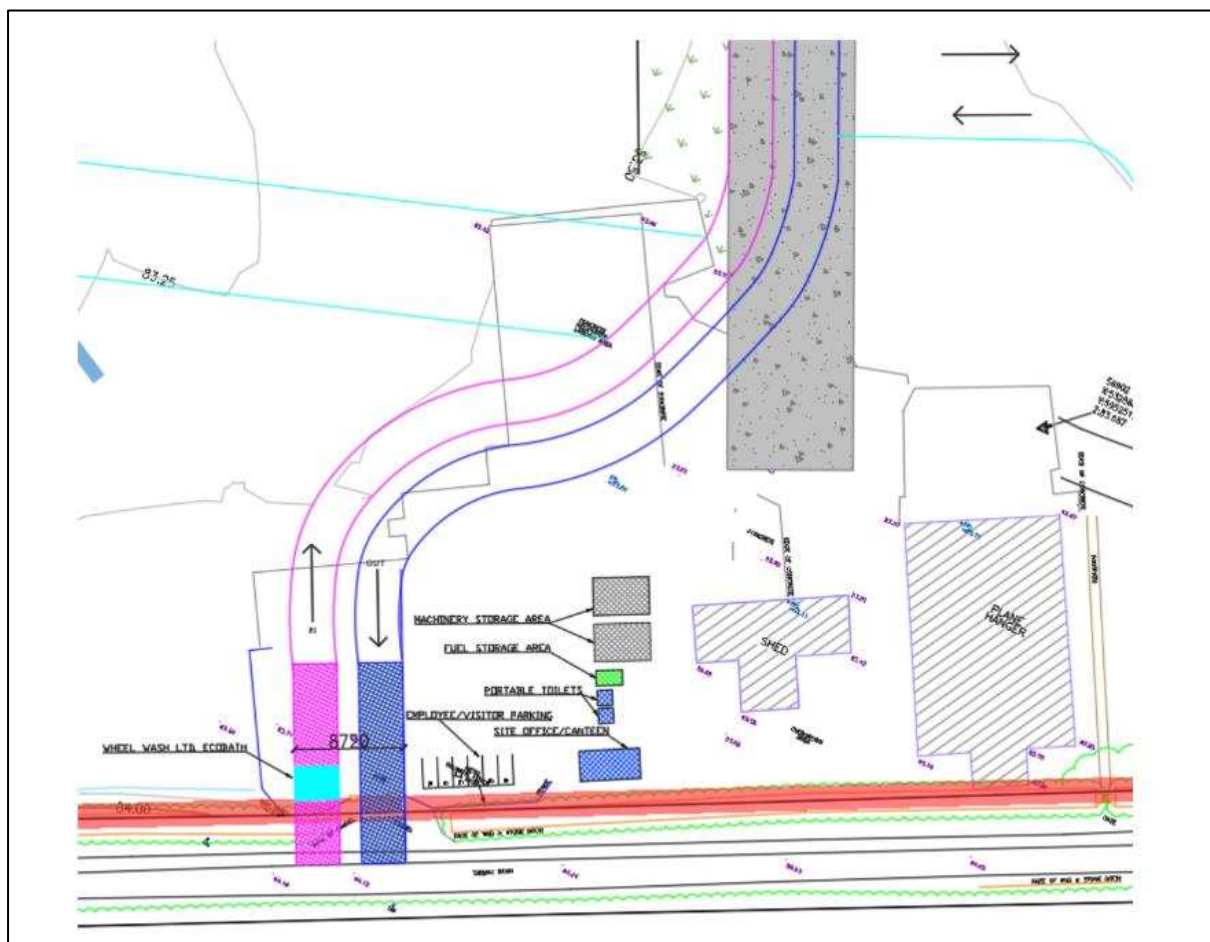


Figure 3-1: Proposed Site Compound and Entrance

Operational Phase

Once the construction phase is complete, the Proposed Development will continue to operate as an aerodrome, and it is expected that the Proposed Development will increase the number of members to up to 60 people by 2029.

The current recorded movements at the Proposed Development have averaged approximately 2500 movements per annum over the past 3 years. It is expected that the use of the Proposed Development by Rathcool Flying Club will increase by approximately 1,940 flight movements per annum by 2029, the use by the air ambulance service is projected to remain broadly in line with current patterns. Figure 3-3 below outlines the proposed site layout.



Alternatives Considered

Consideration of reasonable alternatives is an important part of the environmental impact assessment process and is necessary to consider the likely environmental effects as a result of a range of development plans for the site within the restrictions in place by environmental and planning conditions.

Alternative Locations

The objective of the Proposed Development is for the construction of a hard surfaced runway (740m in length) and taxiway with associated ground level lighting, associated interceptors, along with the relocation of an existing hangar, paramedic prefabricated base, crew prefabricated bases, helipad, vehicular entrance all associated with the Health Service Executive (HSE) Air Ambulance, all of which to be serviced by a new proprietary waste water treatment system and associated site works at an existing flying club / aerodrome. The existing runway on the site is also in use by the Rathcool Flying Club which is fully licensed by the Irish Aviation Authority, and it is currently in use by the Air Ambulance. No alternative sites have therefore been considered.

Alternative Uses

If the Proposed Development is not advanced, the site will remain as an existing flying club and air ambulance base. In light of the zoning objectives for the site, other land uses on site would not be considered appropriate alternatives or would not be in accordance with the planning policy context pertaining to the lands. In addition, the construction and operational phases of the Proposed Development align with the existing and future proposed land use within Rathcool Flying Club.

Considering the support for the Rathcool Aerodrome in the Cork County Development Plan 2022-2028 other land uses on site is not necessary to consider alternative uses for the Proposed Development.

Alternative designs and layouts

The Proposed Development has been designed to ensure maximum layout efficiency and the prevailing wind direction from the southwest. The proposed design also provides further separation from residential receptors.

An alternative design for this project was not feasible. The proposed design is fundamentally based on safety considerations, as it directs arriving helicopters and aircraft further away from the high ground present on the current approach to the existing runway.

It is considered that the layout of the scheme as proposed is the optimal solution for the lands. It is further considered that the design ensures that the development potential of a strategically positioned and underutilised plot is maximised.

Alternative processes

Alternative processes for the Proposed Development, at the construction phase works comprise relatively standard building construction processes. As such there are no specific alternative construction processes identified in the Environmental Impact Assessment Report.

Additionally, no new, unusual or technically challenging operational techniques are required for the operational phase of the Proposed Development, as such no alternative operational processes have therefore been considered at this point.

During the operational phase, the Proposed Development will continue to operate as an aerodrome providing for the Rathcool Flying Club and the Air Ambulance. Therefore, alternative processes were not considered.

4 POPULATION AND HUMAN HEALTH

This assessment considers the effect of the Proposed Development on population and human health. When assessing the socio-economic and population demographic effects, the study area consisting of the Rathcool Electoral Division has been assessed. For all other effects, specific sensitive receptors have been identified.

Construction Phase

It is anticipated that the construction phase of the Proposed Development will last approximately 6 months and will employ approximately 20 people during the construction period. It is considered that the Proposed Development will have a short-term positive effect on the population in terms of local job creation.

This is considered to be a short-term and positive effect on the local area.

Operational Phase

The operational phase of the Proposed Development includes for the operation of the Rathcool Flying Club. The flying club has been in operation since the 1960s and will continue to be business as usual. There will be 5 No. employees at the flying club including two pilots and two paramedics paramedic at any one time, and a person onsite for security reasons.

The flying club is predominantly used by pilots who fly planes as a hobby. Currently, the site is often unusable during the winter as the grass runway can be wet and not suitable for landing planes. The tarmac will allow for pilots to utilise the runway throughout the year.

Additionally, the site is used by the HSE air ambulance. During the night, the air ambulance are unable to land at the aerodrome due to a lack of lighting. The upgrade works will provide lighting at the aerodrome, and a more suitable landing area.

Mitigation and Monitoring Measures

No specific mitigation measures are required during the construction or operational phase of the Proposed Development in relation to population and human health, given the lack of direct, adverse effects resulting from the Proposed Development. However, mitigation measures in relation to air quality, noise, traffic, and waste are identified in their respective chapters in this EIAR.

No specific monitoring is proposed in relation to population and human health during the construction or operational phase.

Residual Effects

Based on there being no specific mitigation measures proposed for population and human health, the residual impacts will be the same as those detailed in the chapter.

Overall, there will be no significant adverse impacts on, or associated with population and human health attributed to the Proposed Development.

5 BIODIVERSITY

An appraisal of the likely significant effects on biodiversity (flora and fauna) arising out of the Proposed Development at Rathcool Aerodrome, Co. Cork was undertaken. Measures to mitigate the potential impacts on defined important ecological features are proposed. The assessment involved a desk study and field surveys by a suitably qualified ecologist. The methodologies used to determine the value of ecological receptors, to characterise the potential impacts of the Proposed Development and to assess the significance of impacts and any residual effects, are in accordance with the National Roads Authority (NRA) (now Transport Infrastructure Ireland) (2009) Guidelines for Assessment of Ecological Impacts of National Road Schemes and the Chartered Institute of Ecology and Environmental Management (CIEEM) (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Coastal, Freshwater and Marine. Important ecological features are valued as being of Local Importance (Higher Value) as per the criteria set out in the NRA (2009) guidelines.

A Natura Impact Statement (NIS) has been prepared and is included as a standalone report with the application. The NIS concluded that, with the implementation of best practice and the recommended mitigation measures, there will be no potential for direct, indirect or cumulative impacts arising from the Proposed Development at Rathcool Aerodrome, Co. Cork, either alone or in combination with any other plans or projects. No reasonable scientific doubt remains as to the absence of such adverse effects.

The proposed site supports semi-improved grassland and improved agricultural grassland fringed by linear woodland habitats, conifer plantation, drainage channels and the Blackwater (Munster) River. No amphibians were recorded within the site. Swallow nest at the club house building and Starling nest on the hangar within the site. Of the bird species recorded at the site and its environs, Grey Wagtail is on the Birds of Conservation Concern Ireland (BoCCI) Red List (Highest Conservation Concern), Linnet, Mallard, Starling, Swallow and Willow Warbler are on the Amber List (Moderate Conservation Concern); the remaining species are on the Green List (Least Conservation Concern). No bat roosts were recorded within the proposed site; however, seven bat species commute to the site to forage: common pipistrelle, soprano pipistrelle, Leisler's, Natterer's, Daubenton's, whiskered and brown long-eared bat. The highest level of bat activity was recorded adjacent to the Blackwater River and a low level of activity was recorded adjacent to the existing runway. No badger setts or otter holts were recorded within the site and its immediate environs.

Construction Phase

The Proposed Development will involve extension of the existing runway culvert for 30m, construction on meadow habitat of local ecological value and will require removal of approximately 170m of earth banks and hedgerows of local ecological value. In the absence of mitigation, there is potential for adverse effects on water quality within the Blackwater River, which forms part of the Blackwater River SAC, as a result of construction activities such as excavation and construction of a culvert extension.

Should works be timed inappropriately, there is potential for impacts on nesting birds during construction. No impacts will occur to roosting bats, however there is potential for impacts on foraging and commuting bats as a result of removal of sections of hedgerow and an increase in lighting during the construction phase. No evidence of otter breeding or resting sites was

recorded at the site and its immediate environs, however there is potential for temporary disturbance to otter should they be present along the Blackwater River adjacent to the site during construction.

Operational Phase

No potential for significant effects on the hydrological regime or water quality within the Blackwater River during the operational phase has been identified. Lighting of the runway has been designed to avoid light spill to sensitive wildlife habitat such as hedgerows and treelines and the riparian corridor of the Blackwater River, therefore no significant effects on aquatic species or foraging otter or bats from artificial light at night are expected to occur.

No ground nesting birds were recorded at the site and impacts on birds during the operational phase will be limited the risk of bird strike impacts on Swallow. In view of the characteristics of the aircraft using the aerodrome, i.e. light aircraft and helicopters rather than jets, it is considered that the risk of impacts on Swallow as a result of bird strike would be low and would be limited to a slight adverse effect at the local level.

Mitigation and Monitoring

Detailed and specific measures for the protection of water quality have been provided within the Biodiversity Chapter and Construction and Environmental Management Plan (CEMP) and construction works will be supervised by an Environmental Clerk of Works. Mitigation has also been provided for the protection of retained trees and hedgerows and nesting birds. Pre-construction surveys will be conducted to check for any change in current baseline conditions for invasive plant species, roosting bats, badger and otter and subsequent appropriate mitigation has been provided, as required based on the pre-construction survey results. The proposed landscaping plan will provide habitat for nesting birds and foraging and commuting bats.

During the construction phase, monitoring shall include inspection and photographic records of potential pathways for pollutants to reach and impact on sensitive aquatic species. A biological and chemical monitoring system will be put in place on the Blackwater River and the drainage ditch within the site. Landscape planting will be monitored for 60 months after the date of completion of the planting works. No monitoring requirements have been identified for the operational phase.

Residual effects

There will be a loss of 30m of drainage ditch habitat and associated emergent vegetation and a loss of 24,457m² of meadow habitat, resulting in a minor adverse residual effect on these habitats at the local level. There will be a loss of 170m earth bank and hedgerow habitat in the short-term, however, the landscaping plan includes 503m hedgerow enhancement planting and planting of 702m² native tree species, which will result in a net gain of woodland habitat in the medium to long term. This will provide foraging, commuting and shelter for mammals, birds and invertebrates and an enhanced ecological network.

With the successful implementation of landscaping proposals for the site and the specific mitigation measures provided within the Biodiversity Chapter and CEMP, it is anticipated that residual impacts on fauna will be limited to a slight adverse effect on foraging and commuting bats at the local (site) level as a result of commuting and foraging habitat loss and a slight

adverse effect on foraging Swallow. No significant adverse residual impacts to fauna are anticipated.

6 LAND AND SOIL

An assessment of the potential impact on the existing land, soil and geological environment was carried out by Enviroguide Consulting.

The assessment was carried out taking cognisance of the appropriate national guidelines and standards for Environmental Impact Assessment using data collected from a detailed desk study, the results of site investigations undertaken by O’Riordan Architectural and Building Services Ltd. in March 2022 and Clement O’Sullivan Engineering Design Solutions Ltd. in July 2024, and review of all relevant drawings and documents pertaining to the site and the Proposed Development. A detailed assessment of the potential impacts was undertaken, and appropriate avoidance and mitigation measures were identified to reduce any identified potential impact associated with the Proposed Development.

The construction phase of the Proposed Development will include the excavation of 10,875m³ of materials (7,629m³ topsoil and 3,246m³ subsoil) to depths ranging between 0.3 metres below ground level (mbGL) and 2.1mbGL for the construction of the proposed hard surfaced runway, taxiway and helipad, associated hardstanding areas, and utility infrastructure. Where possible, it is intended to reuse suitable excavated topsoil and subsoil for landscaping and engineering use. However, where required, surplus materials will require removal offsite in accordance with all statutory legislation.

The construction of the Proposed Development will also require the importation of an estimated 16,167m³ of aggregate fill materials (e.g., granular material beneath runway / taxiway, air ambulance base and for drainage and utility bedding / surrounds etc.).

An Outline Construction Environmental Management Plan (OCEMP) (Waterman Consulting Engineers, 2024) has been prepared as part of the planning application. The appointed Contractor will further develop the CEMP to provide detailed construction phasing and methods to manage and prevent any potential emissions to the receiving water environment having the relevant industry standards (e.g., Guidance for Consultants and Contractors, CIRIA - C532’, CIRIA, 2001).

The CEMP will be implemented for the duration of the construction phase, covering construction and waste management activities that will take place during the construction phase of the Proposed Development.

Mitigation measures 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 Earthworks;
- Control and Management of Soils, Subsoils and Stockpiles;
- Management and Control Procedures for the Exportation of Surplus Soils and Subsoils;
- Management and Control Procedures for the Importation of Aggregates and Materials;
- Control and Handling of Cementitious Materials;
- Control and Handling of Fuel and Hazardous Materials; and
- Accidental Release of Contaminants.

The operational phase of the Proposed Development consists of the typical activities in an aerodrome facility and there will be no bulk excavation of soils or bedrock or infilling of waste.

The land use at the site will remain unchanged and the Proposed Development will continue to be operated as an aerodrome facility.

Overall, there will be no significant adverse impacts on, or associated with the land, soils and geology attributed to the Proposed Development.

7 HYDROLOGY

The Hydrology chapter aims to evaluate the potential impacts to the water environment and identify appropriate mitigation measures. The methodology applied in this chapter includes a combination of desk study, site investigation on 16th of August 2023., and a detailed hydrological and hydrogeological analysis. Key sources include Geographical Information System (GIS) mapping tools from the Environmental Protection Agency (EPA), Geological Survey of Ireland (GSI), and other national and regional hydrological datasets. A subsequent update was made to the chapter following the request for further information (issued on the 22nd of May 2025) in response to the update to the Site Specific Flood Risk Assessment (SSFRA) to evaluate the impacts and risks to the air ambulance service (especially under flooding) in its analysis. The assessment also incorporates guidelines and legislative frameworks such as the European Union (EU) Water Framework Directive, the EU Groundwater Directive, and the EU Floods Directive, ensuring compliance with both national and international environmental standards. Guidance documents, such as the EPA Guidelines for Environmental Impact Assessment Reports (2022) and the Institute of Geologists of Ireland (IGI) guidelines for hydrology assessments, underpin the approach taken.

The Proposed Development site is located within the River Blackwater Catchment in Co. Cork, near the River Rathcool, with the River Blackwater bounding the northern edge of the site. The area features low-lying, undulating terrain prone to waterlogging due to poor soil permeability and limited drainage capacity. The site currently includes a stream running diagonally through it, which has been culverted in some sections, contributing to localized flooding and surface water ponding during heavy rainfall.

The hydrological environment is influenced by the site's subsoil, primarily clay and alluvium, which restrict vertical water infiltration. Groundwater beneath the site is part of two distinct aquifers: the Rathmore West Groundwater Body (moderately productive in local zones) and the Banteer Groundwater Body (karstified limestone). Both aquifers are classified as having "Good" status under the EU Water Framework Directive. The area's groundwater vulnerability ranges from moderate to low, reflecting the protective clay layers in the subsoil.

Parts of the site lying within mapped 1-in-100 and 1-in-1,000-year flood zones due to the proximity of the River Blackwater and overtopping of the stream. Historical flooding has been linked to both these water features. Vegetation along the stream and drainage channels plays a key role in managing surface water flows but is currently insufficient to mitigate waterlogging. These baseline conditions emphasize the need for careful drainage and flood management in the Proposed Development.

The source-pathway-receptor model in the hydrological assessment identifies the following:

- Sources - potential contaminants include effluent from wastewater treatment systems, hydrocarbons from aircraft and vehicles (fuel spills or leaks), and runoff from impermeable surfaces such as the runway and helipad.
- Pathways - contaminants can travel via surface runoff, infiltration into groundwater through subsoil, or overland flow during flood events. Flooding from the onsite stream or the River Blackwater could exacerbate these pathways, allowing pollutants to reach sensitive receptors.

- Receptors - key receptors are the onsite groundwater abstraction well, used for drinking water, and the River Blackwater, a designated Special Area of Conservation (SAC) with significant ecological value.

Construction Phase

During the construction phase of the Proposed Development, activities such as earthworks, installation of drainage systems, and the construction of impermeable surfaces (e.g., the runway and helipad) have the potential to impact the local water environment. Key risks include accidental spills of hydrocarbons from construction machinery, sediment runoff into nearby watercourses, and temporary disruption of existing drainage pathways. These impacts could affect surface water and groundwater quality if not managed sufficiently.

Flooding is another potential concern during construction, as the site is prone to waterlogging and lies within flood zones for the River Blackwater and the onsite stream. Floodwaters could mobilise contaminants and increase the risk of pollutants entering sensitive receptors, such as the River Blackwater and the onsite groundwater well.

Mitigation measures will be implemented to minimize these risks, including silt fencing to control sediment runoff, hydrocarbon spill prevention plans, and adherence to weather warnings to avoid working during high flood risk periods. Proper management of construction activities is essential to protect the water environment and ensure compliance with environmental regulations.

Operational Phase

During the operational phase, the Proposed Development, including the hard-surfaced runway, helipad, and associated facilities, has the potential to impact the local water environment. Key concerns include the handling and storage of hydrocarbons, such as fuel for aircraft, and the increased runoff from impermeable surfaces. If unmanaged, these could lead to contamination of surface water or groundwater.

The site's existing vulnerabilities, such as waterlogging and the risk of flooding, will be addressed through upgraded drainage systems and enhanced culverts. These improvements are expected to reduce flooding risks and better manage surface water runoff. Additionally, the use of hydrocarbon interceptors and modern wastewater treatment systems will minimize the potential for pollutants to reach sensitive receptors, such as the River Blackwater (a Special Area of Conservation) and the onsite groundwater well.

Overall, the development's mitigation measures, including improved drainage and contaminant management systems, are designed to ensure that operational activities have minimal impact on the local water environment while enhancing flood resilience.

Mitigation and Monitoring

The following measures and monitoring activities are designed to protect the sensitive receptors, including the River Blackwater and onsite groundwater well, from potential adverse impacts during both construction and operational phases.

Construction phase mitigation measures include:

- Sediment control - silt fencing and sediment traps to prevent runoff into nearby watercourses.

- Spill prevention - develop and enforce a spill response plan, ensuring that hydrocarbons and chemicals are handled carefully, with spill kits readily available on-site.
- Flood risk management - adhere to weather warnings and relocate equipment away from flood-prone areas during high-risk periods.
- Site drainage management - ensure temporary drainage is in place to manage surface water effectively and minimize waterlogging during construction activities.

Construction phase monitoring measures include:

- Regular inspections of watercourses for signs of sedimentation, discoloration, or hydrocarbon sheen.
- In situ water quality testing for parameters such as pH, turbidity, and conductivity to identify potential contamination.

Operational phase mitigation measures include:

- Hydrocarbon management - use of interceptors to treat runoff from the runway and helipad, and ensure all fuel storage is double-skinned and located on impervious surfaces.
- Enhanced drainage - upgrade of culverts and drainage systems to manage increased runoff and reduce flood risks effectively.
- Wastewater treatment – installation of a tertiary wastewater treatment system with sufficient capacity to prevent effluent contamination of groundwater or nearby watercourses.

Operational phase monitoring measures include:

- Monthly visual inspections of drains and watercourses to check for sediment, hydrocarbon contamination, or discoloration.
- Periodic water quality testing of surface and groundwater to ensure no significant impacts from operational activities.
- Regular maintenance and inspection of hydrocarbon interceptors and wastewater treatment systems to ensure optimal functionality.

Residual effects

Following the implementation of mitigation measures during the construction and operational phases, the residual effects on the water environment include the following:

Construction Phase:

- Surface Water - minor, short-term increases in turbidity may occur due to construction runoff, but these effects are expected to be localized and temporary, with no significant impacts on nearby watercourses like the River Blackwater.
- Groundwater - contamination risk from hydrocarbons or wastewater is considered negligible, as mitigation measures (e.g., spill response plans and tertiary treatment systems) will significantly reduce potential impacts.
- Flood risk - drainage management measures will ensure that any temporary disruptions during construction do not exacerbate flooding risks.

Operational Phase:

- Surface water - residual effects on surface water quality are expected to be imperceptible due to effective hydrocarbon interception and runoff management systems.
- Groundwater - there is a low likelihood of groundwater contamination, as the clay-rich subsoil and protective measures like advanced wastewater treatment systems will attenuate any potential pollutants.
- Flooding - upgraded culverts and drainage systems will mitigate flood risks, resulting in reduced ponding and better management of surface water.

In both phases, the remaining impacts on sensitive receptors, including the River Blackwater and the onsite groundwater well, are anticipated to be localized, and of no significant environmental concern.

8 AIR QUALITY AND CLIMATE

The air quality chapter examines the potential for the Proposed Development to impact upon air quality within the vicinity of the site.

A construction phase dust assessment has been carried out in accordance with the Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction (2024). The risk of dust impacts has been assessed separately for earthworks, construction and trackout and the dust emission magnitude has been classified for each of the three activities (this is known as 'Step 2A' of the dust assessment), using the definitions outlined for each activity within the Institute of Air Quality Management (IAQM) guidance. The dust emission magnitude is based on the scale of the anticipated works and is classified as small, medium and large. The sensitivity of the area was determined for dust soiling and human health impacts, respectively, as per the guidance (this is known as 'Step 2B' of the dust assessment). In accordance with the Institute of Air Quality Management (IAQM) guidance, the dust emission magnitude (Step 2A) and sensitivity of the area (Step 2B) have been combined and the risk of impacts from demolition, construction, earthworks and trackout have determined (before mitigation is applied) (this is known as 'Step 2C' of the dust assessment). This risk has then been used to inform the selection of appropriate mitigation measures.

Table 8-1 details the risk of dust impacts for demolition, earthworks, construction and trackout activities.

Table 8-1 Summary of Unmitigated Risks

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

The Institute of Air Quality Management (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, 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.

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. As a result, a detailed air assessment of construction stage traffic emissions has been scoped out from any further assessment as there is no potential for significant impacts to air quality.

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

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

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.

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

In addition, aircraft movements at the aerodrome were assessed using detailed modelling. This looked at emissions from aircraft during taxiing, take-off and landing. The results show that pollutant levels, including nitrogen oxides and particulate matter, will remain well below national and EU air quality standards. The highest concentrations occur close to the runway and quickly disperse, meaning there is no significant effect on homes or sensitive ecological sites.

No negative residual effects in the context of air quality are anticipated regarding the Proposed Development.

9 CLIMATE

The climate 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 a Principal Sustainability Consultant with DNV since March 2024. This Chapter of the EIAR addresses the potential climate impact of the proposed development at Rathcool, Co. Cork.

The climate chapter examines the potential for the Proposed Development to impact upon climate (for example greenhouse gas emissions) and its vulnerability to climate change.

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 the project throughout its entire lifespan (50 years). 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. This assessment has been undertaken in line with the Institute of Environmental Management and Assessment (IEMA) guide 'Assessing Greenhouse Gas Emissions and Evaluating their Significance', 2nd Edition, 2022 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. It has been conducted in accordance with Transport Infrastructure Ireland (TII) (2022a) PE-ENV-01104: Climate Guidance for National Roads, Light Rail and Rural Cycleways (Offline & Greenways) – Overarching Technical Document

Existing Environment

In 2023, Ireland's GHG emissions are estimated to be 58.82 million tonnes carbon dioxide equivalent (Mt CO₂eq), which is 6.1% lower (or 3.79 Mt CO₂eq) than emissions in 2022 (62.26 Mt CO₂eq) 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.

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 development will be located.

Impact Assessment

Do Nothing Scenario

If the proposed development were not to proceed, greenhouse gas emissions and climate conditions at the site will remain as per the baseline and will change in accordance with trends

within Ireland's Greenhouse Gas performance and climate changes (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. Impacts from embodied carbon, increased traffic volumes and associated emissions from the proposed development will also not occur. Therefore, the do-nothing scenario is considered neutral in terms of climate.

Construction Phase

Construction CCRA

A detailed CCRA of the construction phase has been scoped out, as discussed in Section 9.10.3.1, 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.

Construction GHG Emissions

The total embodied carbon for the construction phase, including the maintenance and replacement of materials throughout the development's lifetime, has been calculated at 1930 tonnes CO₂e (see Figure 1 below). 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.

When annualised over the Proposed Development's 50-year lifespan, the estimated total GHG emissions amount to 0.0001 % of Ireland's total GHG emissions in 2023 and 0.0001% of Ireland's non-ETS 2030 emissions target. Specifically, emissions from transport-related activities account for 0.0006% of the 2030 Transport budget, and industry-related emissions comprise 0.0010% of the 2030 Industry budget.

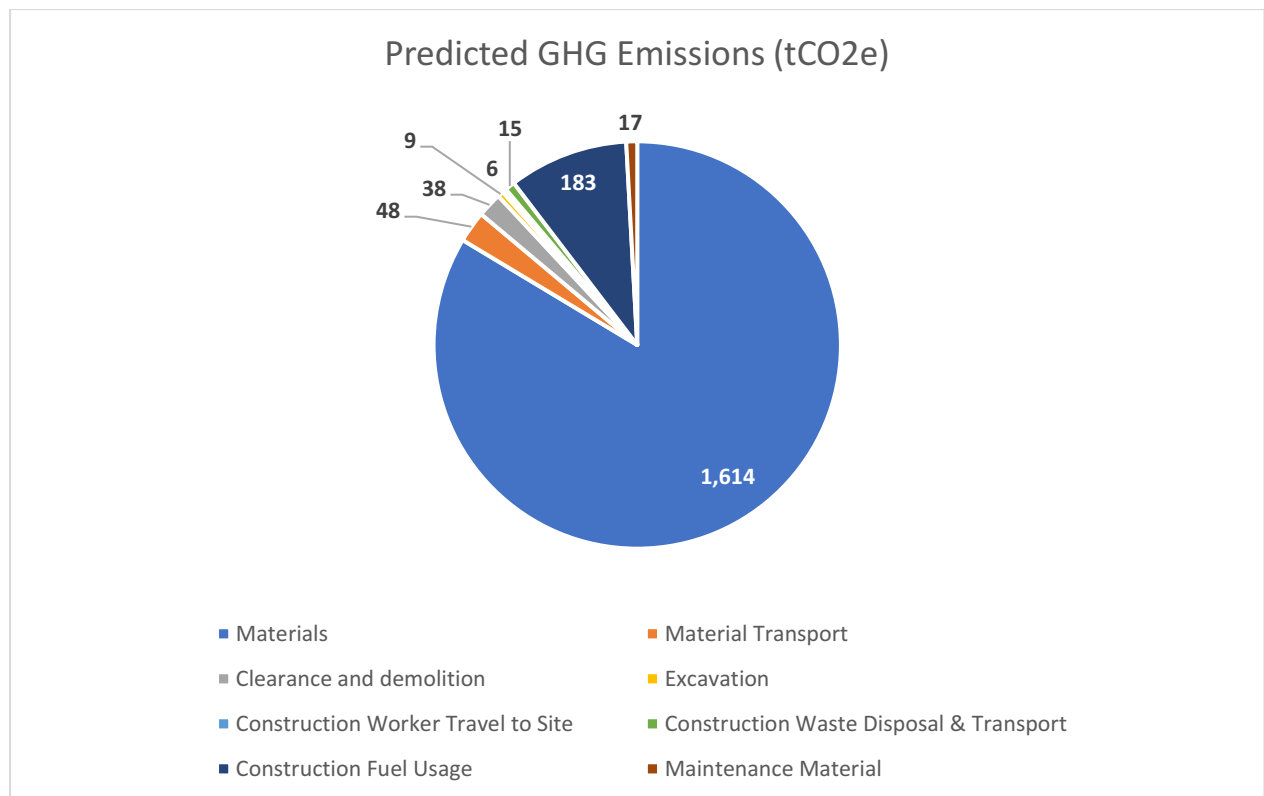


Figure 9-1: Construction Categories Greenhouse Gas Emissions tCO₂e

Operational Phase

Operational Phase CCRA

A screening CCRA i.e. vulnerability assessment, did not identify any residual medium or high risks to the proposed development as a result of climate change (See table 2 below). 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 within the climate chapter.

Table 9-1: Climate Change Vulnerability Assessment/Climate Screening

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)

Climate Hazard	Sensitivity	Exposure	Vulnerability
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)

Operational Phase GHG assessment

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 flight hours.

The estimated total operational GHG emissions, when annualised over the 50-year proposed development lifespan, are equivalent to 0.0000071% of Ireland's total GHG emissions in 2023 and 0.000126% of Ireland's non-ETS 2030 emissions target. The total GHG emissions associated with industry-related activities are 0.0000014% of the 2030 residential budget.

Cumulative Impact

The TII PE-ENV-01104 (2022) states that a typical cumulative assessment in Environmental Impact Assessment (EIA) is not applicable for GHG assessments because the impacts on global climate are not geographically constrained. However, by evaluating a project's GHG impact in relation to Ireland's net zero goals and sectoral carbon budgets, the assessment inherently becomes cumulative. This approach helps demonstrate the project's potential influence on Ireland's ability to meet its national carbon reduction targets.

Cumulative effects, which result from the combined effects of the proposed development and other existing or planned developments, can intensify climate-related risks and environmental pressures. Understanding these interactions is crucial for developing effective mitigation and adaptation strategies that align with broader sustainability objectives. It is considered that there are no other potential significant cumulative impacts associated with the proposed development and considered offsite permitted developments.

Mitigation

Construction Phase

Construction Phase Climate Change

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. The Contractor will also address risks associated with fog, lightning, and hail through appropriate risk assessments and mitigation plans.

Pre/Construction Phase GHG 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.

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.
- 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.

Energy and Carbon Performance Reporting

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

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.

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.

Operational Phase

Operational Phase Climate Change 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.

Operational Phase GHG Mitigation

A range of climate-friendly measures have been included in the development's design to reduce its impact on the environment and prepare for future climate change. These include enhanced drainage to prevent flooding, planting new hedgerows and native woodland to boost biodiversity and absorb carbon, and restoring meadow habitats using seeds from the existing site. Where possible, existing trees and landscape features will be kept. The development also plans to use sustainable aviation fuel and eventually electric planes to cut emissions, install solar panels for clean energy in the future, and encourage greener transport by providing electric vehicle and bicycle parking. Together, these steps aim to minimise carbon emissions, support biodiversity, and promote more sustainable ways of operating and travelling.

Residual Impacts

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. As per the assessment criteria the impact of the proposed development in relation to GHG emissions is considered **long-term, minor adverse and not significant**.

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.

Monitoring

Construction Phase

To optimise the reuse and recycling of demolition materials, a digital tracking system should be established to monitor materials identified for reuse or recycling. Weekly progress reports and regular on-site inspections are recommended to ensure proper handling and storage of materials. The demolition contractor's performance should be periodically reviewed to ensure adherence to the resource recovery plan and environmental standards.

To comply with EU taxonomy for the circular economy, comprehensive documentation and independent third-party audits are necessary. Monitoring greenhouse gas (GHG) emissions reduction measures include appointing sustainability champions, monitoring idle times for

vehicles and machinery, maintaining digital logs for equipment, and tracking material waste minimization.

Waste management should be optimised through regular waste segregation audits and monthly waste management reports. To reduce transport-related emissions, a supplier distance monitoring database and transport-related carbon footprint analysis are recommended.

These strategies aim to ensure the project meets its environmental commitments, supports sustainability goals, and complies with regulatory requirements through regular reporting, inspections, and audits.

To ensure the proposed development meets its environmental objectives, an Environmental Management Plan (EMP) with adaptive management principles is recommended. This includes robust climate change resilience plans, ongoing monitoring of weather trends, and regular reviews of resilience measures.

Key monitoring strategies include:

1. **Climate Change Mitigation:** Regular inspections of attenuation and drainage systems, and periodic reviews of climate vulnerability assessments to ensure effectiveness and adequacy of mitigation measures.
2. **Sustainable Transport Initiatives:** Monitoring the usage of electric vehicle charging stations and bicycle parking, and assessing the impact of these facilities on reducing transport emissions.
3. **Competency and Performance of Demolition Contractor:** To make sure the demolition process meets environmental goals, the project will carefully review pre-demolition audits to confirm materials suitable for reuse or recycling are correctly identified. The contractor's performance will also be checked regularly to ensure they follow the resource recovery plan and meet standards without causing delays.
4. **Compliance with EU Taxonomy for Circular Economy:** To comply with EU circular economy requirements, the project will keep clear records showing how materials are reused and recycled, and have independent experts regularly review and verify that all processes meet the EU standards.
5. **Local Sourcing of Materials:** To cut down on transport emissions and support nearby businesses, the project will keep track of supplier locations and choose local sources for building materials whenever possible. The environmental impact of transporting materials will be regularly analysed, helping to select suppliers that are closer to the site and further reduce carbon emissions.

These strategies aim to mitigate climate change impacts, enhance energy efficiency, and promote sustainable transport, aligning with best practices and regulatory requirements. Regular inspections, energy performance assessments, and occupant engagement are crucial for achieving the desired environmental outcomes.

Operational Phase

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.

10 NOISE AND VIBRATION

Introduction

Management has engaged ICAN Acoustics at Rathcool Aerodrome, Knockcahill, Rathcool, Mallow, Co. Cork, to assess the likely impact of a proposed construction of a hard Surface runway, taxiway, helipad, and updates to the paramedic prefab base. WWTP and vehicle entrance. It is understood that the Planning Department at Cork County Council has requested further information, which will be addressed in this report. ICAN Acoustics has prepared this Noise Impact Assessment (NIA) to assess the proposed development's potential noise and vibration impact in the context of current relevant Standards and Guidance. For the construction phase of the project, specific consideration is given to BS 5228:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites Parts 1 and 2, and guidance used by Transport Infrastructure Ireland, titled the 'Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes' (March 2024). In addition, consideration is given to the Cork Agglomeration Noise Action Plan 2024~2028. A baseline noise study of the area was completed, and predictions were made to determine the likely impacts of construction and operational noise on the nearest receptors to the site. This chapter classifies the effects described in accordance with the guidance provided in the Irish EPA's Guidelines on the information to be contained in Environmental Impact Assessment Reports, published in May 2022. Further, consideration was given to the 'UK Civil Aviation Authority: Survey of noise attitudes 2014: Aircraft CAP 1506' to assess the likely long-term changes in noise.

The site has a favourable layout with substantial separation distances between residential receptors, the proposed construction activities, and the aerodrome's ground activities. As part of the proposed work, a minor change in the runway's proposed heading (and a length increase) will shift the runway's centreline further from the nearest receptor, increasing separation distances between aircraft and residential receptors.

Construction Phase

During construction, typical construction machinery such as excavators, trucks and rollers will be used. Some construction traffic will also be required to deliver materials. The assessment shows that construction noise at the nearest houses will be low to moderate, comply with accepted guidelines, and be temporary. Vibration levels will be very low and unlikely to pose a risk of damage to buildings. A Construction Noise Management Plan will be implemented to control working hours, manage on-site activities, and minimise disturbance.

Predictions indicate that, given the substantial separation distances from the construction plant, the impact of construction noise will be slight at all locations except Location 3, which will be subject to slight to moderate construction noise during the project's construction phase.

Table 10-1: Review of Potential Daytime Construction Noise Impacts (slight, moderate, significant)

Ref.	Predicted Construction Noise Impacts for Various Phases dB LAeq,1hr			
	Site Preparation	Foundations	General Construction	Landscaping
Location 1	Slight	Slight	Slight	Slight
Location 2	Slight	Slight	Slight	Slight
Location 3	Slight	Moderate	Moderate	Slight
Location 4	Slight	Slight	Slight	Slight
Location 5	Slight	Moderate	Moderate	Slight
Location 6	Slight	Slight	Slight	Slight

Construction Mitigation Measures

Construction noise will be managed in accordance with relevant guidance, such as British Standard Institute (BSI) British Standard (BS) 5228-1:2009 +A1:2014 Code of Practice for noise and vibration control of construction and open sites - Part 1: Noise (hereafter referred to as BS 5228-1) (BSI 2014a) and BS 5228-2:2009+A:2014 Code of Practice for Noise and Vibration Control of Construction and Open Sites - Part 2: Vibration.

The site covers a wide area with notable separation distances between the residential receptors, therefore minimising the necessity for screening. The planning conditions are likely to stipulate construction operational hours, ensuring that construction does not take place during noise-sensitive times or on specific days of the week. From both construction and operational perspectives, the distance between the source and receptors provides an excellent way to mitigate noise from the site, and the site offers ample separation distances. The construction contractors may consider noise and vibration monitoring a standard practice at the nearest residential receptors to the development.

Operational Phase

After the work is completed, the runway will be slightly longer, resurfaced with tarmac, and slightly turned to improve safety and alignment with prevailing winds. The change in direction increases the distance to the nearest house on one side of the site and will slightly reduce noise there. Replacing the grass runway with tarmac means aircraft generally need less engine power for take-off, which also helps to reduce noise.

Residual Effects

The impacts of the construction noise are moderate and temporary. Regarding operational noise, the significance of HEMS staff cars on the surrounding road network is not significant. In the long term, both aircraft movements on the altered runway and the continued use of fixed-wing and HEMS rotary aircraft will be moderate and not significant, with a permanent and barely noticeable effect on noise levels.

Future Aircraft Activity

Aircraft movements are expected to increase gradually over time as the aerodrome grows. Over five years, movements are predicted to increase, resulting in an average increase in noise of about 2.5 decibels. This is a small change, is classed as not significant, and is generally very difficult for people to notice in everyday life, especially when it happens gradually. Even with this increase, overall noise levels at nearby houses remain well below levels associated with annoyance or health effects.

Air Ambulance Helicopter

The air ambulance helicopter is a modern, low-noise aircraft. The assessment also considered a worst-case scenario where the helicopter returns at night. Even in this case, predicted changes in noise are minimal, and in most locations, there is no change at all. All predicted noise levels remain well within acceptable limits.

Health and Quality of Life

The assessment shows that noise levels from the aerodrome, both now and in the future, are far below thresholds linked to health effects or serious disturbance. There is no expectation of significant impact on people or the wider environment resulting from noise or vibration from this project.

Overall Conclusion

The assessment concludes that the proposed development will not cause significant noise or vibration impacts. Construction impacts will be temporary and well-managed. Once operational, the slight, predicted increase in activity will only result in a minimal change in noise levels, which will not be significant or harmful. The runway improvements are primarily for safety and may, in some cases, slightly reduce noise. Overall, the project is considered acceptable from a noise and vibration perspective.

11 LANDSCAPE AND VISUAL ASSESSMENT

A landscape and visual impact assessment chapter has been prepared as part of the Environmental Impact Assessment Report. The purpose of the landscape and visual impact assessment is to assess the direct and indirect landscape and visual effects of the proposed development. This Non-Technical Summary aims provide a summary of the key findings of this chapter in non-technical language.

The Proposed Development consists of ‘The construction of a hard surfaced runway (740m in length) and taxiway (147.6m in length) with associated ground level lighting, associated interceptors, along with the demolition of an existing hangar to the east of the site and construction of a replacement hangar of approximately the same size and design to the west of the site; the demolition of the existing operations building and paramedic base building to the east of the site, and construction of a new operations and paramedic base building to the west of the site; and the demolition of an existing helipad to the east of the site, and construction of a new helipad to the west of the site, all associated with the HSE Air Ambulance. The development is to be served by a new proprietary waste water treatment system and includes the closure of an existing vehicular entrance onto the L-5215-0 road and its relocation further west along the same road, the upgrade of an existing entrance onto the L-5215-0 road, site landscaping and all other associated site development works.

The Landscape Assessment aims to measure the sensitivity of specific landscape resources and describe the significance of changes to that resource occurring as a result of the proposed development.

Landscape

Within the context of the current Cork County Development Plan (2022-2028) the subject site is not located in a “High Value landscape”.

The subject site is located in Landscape Character Area “11 Broad Marginal Middle ground Valley”. The principal transport route with respect to the proposed development is the N72 which travels between Killarney and Mallow. This road is approximately 2km to the north of the site. Two other local roads travel on the site perimeter. To the east this is a local road which joins the N72. To the south another local road travels the site boundary in a southwestern direction.

Chapter 5 of the Cork County Development Plan (2022-2028) details Heritage and Amenity assets of the County. Within this context a number of Scenic routes are identified throughout the county. No views will be possible of the proposed development from any Scenic routes.

From a landscape character perspective the sensitivity of the receiving landscape environment is assessed as being Medium and the Magnitude of Change of the proposed development is considered Low.

The landscape impact of the construction phase is assessed as being of Slight to Moderate Negative Short-term Significance and will not be substantially different from agricultural related impacts, where heavy combine harvesters are used within nearby farms and fields.

During the operation phase the negative short term impact identified during the construction phase will revert to a more settled landscape pattern. The ongoing maintenance practices will present a neutral, moderate and permanent impact

Visual

The zone of visual influence is the extent of visibility of the site from the landscape and is defined further by topography and built structures. Twelve key views were chosen to illustrate the visual impact of the Proposed Development. The views are numbered 1 to 12 and include long, mid and short-distance views. These are based on the analysis of the receiving environment.

It is expected that views of the proposed development would be limited from all cardinal points due to the existing topography as well as screening vegetation provided by existing trees and hedgerows.

For the 12No. views examined, 8 are anticipated to have no impact from the proposed development, with a further 3 deemed to have a “Not Significant” Impact and 1 is deemed to have a Moderate Impact in terms of Views.

The development will not have a significant impact on Scenic Routes, Protected Structures, areas of special designation or historical areas and has only a minor impact on visual receptors.

Site screening, the design of buildings and the selection of materials will minimise visual contrasts arising from colour, scale or configuration. The screening afforded by the layout of the entrance, in particular will minimise views of the site interior.

The Landscape Design Drawing (See Appendix 11.1) describes the landscaping measures that will be used to further screen the project.

12 ARCHAEOLOGY AND CULTURAL HERITAGE

This chapter presents the results of an assessment of potential impacts of the Proposed Development on the cultural heritage resource which includes archaeological sites and architectural heritage constraints such as Protected Structures and structures/lands listed in the National Inventory of Architectural Heritage. The assessment was informed by desktop research combined with field-walking surveys and programmes of archaeological test trenching. The recorded and potential cultural heritage resource within a study area extending for 1km in all directions from the Proposed Development was also reviewed to compile a detailed baseline context for the location.

The guidelines relevant to the assessment include the *Architectural Heritage Protection: Guidelines for Planning Authorities* (Department of Arts, Heritage and Gaeltacht 2011) and the *Framework and Principles for the Protection of Archaeological Heritage* (Department of Arts, Heritage, Gaeltacht and the Islands 1999). The assessment was also informed by the Environmental Protection Agency (2022) *Guidelines on the information to be contained in Environmental Impact Assessment Reports* and the International Council on Monuments and Sites (2011) *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*.

There is one recorded archaeological site within the Proposed Development site, and this comprises the northern end of a levelled ringfort site (CO030-145----). Ringforts comprise circular enclosures delimited with a ditch and bank that date to the early medieval period (c.400–1169 AD). A review of historic maps indicates that the ringfort was levelled in the 19th century and its southern half is now occupied by a road outside the south end of the Proposed Development site. While there are no visible surface traces of the levelled northern section of the ringfort within the Proposed Development site, its outline is visible on aerial images and is located c.25m to the east of the nearest element of the Proposed Development. A programme of archaeological test trenching within proposed construction areas was carried out in March 2023 and included trenches located to the west of the ringfort (Excavation Licence 23E0159). An earlier programme of archaeological test trenching was also undertaken in 2015 within an area c.30m to the east of the ringfort (Excavation Licence 15E0446). These site investigations revealed nothing of archaeological significance.

Construction Phase

There are no recorded archaeological sites located within the footprint of proposed construction works and Ringfort CO030-145---- is located c.25m to the east of the nearest proposed construction area. Archaeological test trenching within the construction area to the west of the ringfort revealed nothing of archaeological significance. In addition, as the levelled ringfort retains no visible surface remains, no indirect impacts on its setting are predicted during construction. Colhurst Bridge, which is located outside the northeast end of the Proposed Development, is listed as an archaeological site (CO030-247----) and is also included in the National Inventory of Architectural Heritage (Ref. 20903013). No interventions to this structure will occur during the construction phase. There are no other recorded archaeological sites located within 500m of the Proposed Development. There are no Protected Structures or structures/lands listed in the National Inventory of Architectural Heritage located within the Proposed Development site. In addition, the Proposed Development site does not contain any undesignated buildings of potential architectural heritage significance.

The construction phase of the Proposed Development will, therefore, not result in any predicted direct or indirect effects on the known archaeological or architectural heritage resource. While nothing of archaeological significance was identified during archaeological test trenching within the Proposed Development site, the potential still exists for the presence of unrecorded, sub-surface archaeological remains within construction areas and this will require mitigation.

The construction phase will entail the removal of a section of a field boundary which forms part of the townland boundary between Rathcool and Knockcahill which will result a direct, permanent, slight, adverse effect on this feature of local cultural heritage value.

Operational Phase

This phase will entail the continued operation of the property as an aerodrome site and this will not result in any predicted impacts on the cultural heritage resource.

Mitigation and Monitoring

Archaeological monitoring of ground works during the construction phase will be carried out by a suitably qualified archaeologist under licence by the National Monument Service. In the event that any archaeological sites or features are identified during monitoring, ground works will halt at that location while they are recorded. Any identified features will be left to remain securely *in situ* within a cordoned off area while the National Monuments Service and the Cork County Council Archaeologist are notified of the discovery and are consulted to determine further appropriate mitigation measures, which may entail preservation by avoidance or preservation by record through a licensed archaeological excavation. A report on the results of the archaeological works will be submitted to the National Monuments Service, Cork County Council and the National Museum of Ireland upon completion of construction phase ground works.

The appointed archaeologist will also supervise the establishment of an archaeological exclusion area delimited by secure fencing around the levelled ringfort (CO030-145----) within the Proposed Development site. The maintenance of the archaeological exclusion area during the operational phase will be limited to periodic grass-cutting and above ground strimming of roadside trees. The appointed archaeologist will also compile a written and photographic record of the section of the townland boundary between Rathcool and Knockcahill within the footprint of the proposed construction works. All ground works within the environs of the townland boundary will be subject to archaeological monitoring.

Residual effects

The mitigation measures detailed above will provide for either the preservation *in situ* of any currently unrecorded, sub-surface archaeological features that may exist within the footprint of the Proposed Development by avoidance or the proper and adequate recording of such features by full archaeological excavation. Preservation *in situ* will result in a not significant/imperceptible residual effect on the unrecorded archaeological resource. Preservation by record by archaeological excavation will result in a potential slight/moderate residual effect on the unrecorded archaeological resource. No other residual effects are predicted following the application of mitigation measures.

13 MATERIAL ASSETS: TRAFFIC AND TRANSPORT

This chapter assesses the characteristics of the application site and surrounding area, examines the likely transport implications, ensures sustainable accessibility is maximised and that appropriate infrastructure is provided to accommodate the proposed development

The key junction in the area surrounding the proposed development is as follows:

- Junction 1: The junction of the N72/R583.

Baseline 12 hour turning count surveys were undertaken at the identified junction as part of the study on August 2nd, 2023. On-site measurements including lane widths, junction turning radii, lane lengths and saturation flows were also undertaken on site.

Construction Phase

The Construction phase of the Proposed Development will have minimum impact on the surrounding roads. The road and existing sightlines will to be kept clear at all times. Contractor parking will be on site which will ensure that no unnecessary congestion or potential traffic hazards on the local roads.

Operational Phase

The results indicate that the junction operates currently within capacity and will continue to do so up to and including the design year 2040 with the development in place. The maximum future year RFC (Ratio of Flow to Capacity) is 35% in 2040 PM peak. This indicates a Stable Operational Phase Level of Service.

Mitigation and Monitoring

During the Construction phase, deliveries will be timed and coordinated to avoid conflict with collection of waste, other deliveries and rush hour traffic. Large deliveries will be scheduled outside peak hours to minimise disruption. Refer to the CEMP for more details in relation to the expected traffic associated with the Construction phase of the project.

In the operational stage, it is expected that the number of members will increase from the current 43 up to 60 people by 2029. It is projected that the increase in members will result in an increase in peak daily car trips from 9 to 13. The site is not open to the general public and so no additional traffic flows are expected to and from the development from the general public.

Residual effects

No residual impacts anticipated from the minimum increase in traffic generation associated with the development

14 MATERIAL ASSETS: WASTE AND UTILITIES

This chapter provides an assessment of the potential impacts of the Proposed Development on man-made physical resources in the environment, including built services and infrastructure comprising electricity supply, gas supply, information and communications technology (ICT), surface water drainage, water supply and demand, wastewater management and waste management infrastructure.

Electricity Supply

Construction Phase

During the construction phase, all wastes generated on-site will be sent for recycling, recovery, or disposal to a suitably licensed or permitted waste facility. As the quantity of waste that will be generated is small in scale, it is not considered that there will be any impact on waste management in the area.

Electricity and fuel will be required for the onsite machinery and equipment, however it is not expected that the required fuel and electricity will be significant.

As the Rathcool Flying Club is an operational development already, drinking water, welfare facilities, ICT infrastructure are already in place and currently being used. There will be a slight increase in the use of these items due to the expected 20 employees during the construction phase, however it is expected to be not significant.

The potential effects of the waste and utilities during the construction phase is expected to be not significant, slight, negative and short-term.

Operational Phase

During the operational phase, it is not expected that there will be an effect on the waste or utilities in the area. The Rathcool Flying Club is currently operational, and it is not expected that any further material assets will be required as a result of the Proposed Development, apart from the operation of the proposed wastewater treatment system.

The Rathcool Flying Club is a fully operational facility with existing ICT connections in place. The Proposed Development will not create any additional ICT demand or infrastructure development. Effects on ICT infrastructure are therefore not anticipated as a result of the Proposed Development.

There are no additional employees expected during the operational phase, therefore there will not be an increase in municipal waste and drinking water. The Proposed Development will include for secure bike storage and electric vehicle parking spaces. The provision of electric vehicle charging stations may result in an increase in electricity usage but it is not considered to be significant.

Drinking water at the site will be supplied via a drinking water well onsite which is already currently in use at the site.

The potential effect of the operational phase on the material assets is expected to be negligible, neutral and long term.

Mitigation Measures and Monitoring

As the use of material assets for the Proposed Development is considered to be minimal, it is not foreseen that any avoidance, remedial or mitigation measures will be required for the Proposed Development.

Specific avoidance, remedial and mitigation measures have been detailed in other chapters of the Environmental Impact Assessment Report (EIAR) to ensure that there will be no significant impact on the surrounding environment and associated sensitive receptors.

During the construction phase, an environmental monitoring programme will be developed and implemented by a site contractor for the operational lifetime of the Proposed Development. The monitoring programme will verify

- (i) that implemented controls prevent and minimise emissions from the Proposed Development and
- (ii) (ii) that there is no negative impact on the receiving environment via uncontrolled releases of pollutants, sediment, dust, noise or vibration.

The monitoring programme and sampling frequency will be agreed with Cork County Council.

Residual Impact

Potential residual impacts from the Proposed Development were considered as part of this environmental assessment. Having regard to the mitigation measures proposed within this and other chapters of the EIAR, no significant residual impacts are anticipated. The implementation of good environmental practices will ensure that there will be no significant adverse residual impacts on Material Assets associated with the Proposed Development.

15 RISK MANAGEMENT

It is critical that any project is screened against potential risks which it might encounter and/or impose on the nearby environment during its construction and operational phase. This chapter sets out the assessment of the vulnerability of the Proposed Development.

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, because of that identified vulnerability.

A methodology has been used including the following assessment:

- Identifying and screening the hazards;
- Screening the hazards;
- Identifying the impact;
- Assessing the likelihood of the major accident or disaster occurring, and
- Assessing any risks that remain.

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

16 INTERACTIONS

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

When considering interactions, the assessor has been vigilant in assessing pathways – direct and indirect – that can magnify effects through the interaction. In practice many impacts have slight or subtle interactions with other disciplines.

The environmental impact assessment report concludes that inter-relationships are negligible, and no additional significant effects are identified through effect interactions.

17 MITIGATION AND MONITORING

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 topic chapter exploring specific environmental aspects.

The mitigation and monitoring chapter of the environmental impact assessment collates and summarises the mitigation commitments made in Chapter 4 to Chapter 14.