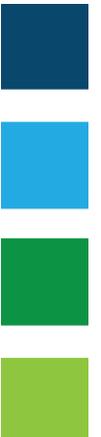




Chemoran Oranmore Facility
Environmental Impact Assessment Report
Volume I – Non-Technical Summary
November 2021

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CHEMORAN ORANMORE

ENVIRONMENTAL IMPACT ASSESSMENT REPORT – VOLUME I

Document Control Sheet	
Document Reference	10847-NTS-001
Report Status	Final
Report Date	November 2021
Current Revision	A
Client:	Chemoran Ltd.
Client Address:	Deerpark Industrial Estate, Oranmore, Co. Galway H91 D934
Project Number	10847

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Revision	Description	Author:	Date	Reviewed By:	Date	Authorised by:	Date
A	Final	RH/OT	Nov '21	RH/OT	Nov '21	RH	Nov '21

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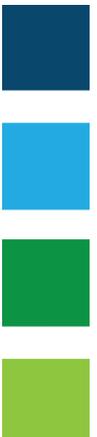


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1.0 INTRODUCTION

Chemoran Limited (hereafter referred to as Chemoran) intends to apply to the Environmental Protection Agency (EPA) for an Industrial Emissions (IE) Licence to carry out its activities at a site located in the Deerpark Industrial Estate, Carrowmoneash, Oranmore, County Galway.

Chemoran is an existing industrial facility which specialises in the manufacture of amine emulsifiers to be used in the production of cationic bitumen emulsions for use in road surfacing applications. The Chemoran facility is an operational facility within a larger site owned and operated by Colas Bitumen Emulsions (West) Ltd. (CBE (West)). The overall site is currently licensed by the EPA under an Industrial Emissions (IE) Licence (Reg. No. P0056-01).

Chemoran are applying to the EPA for a new IE Licence for the industrial activities carried out at the Chemoran facility only. The proposed activities to be carried out at Chemoran under a new IE Licence will comprise a continuation of the current activities as licensed under P0056-01. Subsequent to a successful IE Licence being granted to Chemoran, the existing IE Licence (held by CBE (West) Ltd.) will be amended to authorise and regulate those activities carried out at the CBE (West) facility only.

1.1 BACKGROUND TO ENVIRONMENTAL IMPACT ASSESSMENT

An Environmental Impact Assessment (EIA) is required to ensure that projects that are likely to have significant effects on the surrounding area and the environment are properly assessed. Any significant impacts discovered in the assessment must be avoided or minimised where possible. The findings and outcome of the EIA are presented as a report, known as an Environmental Impact Assessment Report (EIAR).

TOBIN Consulting Engineers has prepared the EIAR in accordance with relevant and specific environmental legislation, guidance and advice notes. The report has been compiled in consultation with statutory bodies and relevant interested parties.

This document is Volume I of the EIAR. It is a Non-Technical Summary (NTS), which gives a brief description of the project and the assessment of the relevant environmental matters in non-technical language. The additional Volumes contain information as described below:

- Volume II: Main EIAR – Contains detailed information relating to the proposed development and the findings of the impact assessment on the surrounding area. Volume II also contains drawings, figures and maps.
- Volume III: Appendices – Contains supplementary information and data that has been referred to the Main EIAR.

The purpose of this NTS is to provide a concise overview, in non-technical terms, of the issues, impacts and mitigation measures highlighted by the EIAR and presented in the Main EIAR, Volume II.

1.2 THE APPLICANT

Chemoran Ltd. has been in operation in Ireland for over 50 years producing specialised chemical products for use in the road construction and maintenance industry. The products manufactured by Chemoran are currently exported to over 50 countries.

Chemoran is a subsidiary company of Colas Teoranta, which in turn is owned by the major French construction and engineering firm, Colas SA. Currently, all of Chemoran's product range

is supplied to the various Colas Group companies worldwide for road construction and maintenance.

The Chemoran facility operates at the subject site in the Deerpark Industrial Estate, Oranmore, Co. Galway. This site is shared with CBE (West) which is another subsidiary company of Colas Teoranta. CBE (West) manufactures a range of water-based cationic bitumen emulsions and bitumen additives for use in road surfacing throughout Ireland. The products manufactured by CBE (West) include amine emulsifiers which are manufactured by Chemoran.

Chemoran has a long history working closely with their neighbouring site, CBE (West). CBE (West) Ltd. (originally established in 1927 as Cold Chon (Galway) Ltd.) moved to Oranmore in 1961 from Long Walk in Galway City. Chemoran Ltd. was later established at the site in Oranmore in 1967.

1.3 THE NEED FOR THE PROPOSED DEVELOPMENT

Chemoran has operated at its current location since 1967 and provides specialist emulsifier products for the road development and maintenance sectors. The products manufactured by Chemoran are currently exported to over 50 countries and the business holds a wealth of technical knowledge in the development of innovative and sustainable road surfacing products.

The 'proposed development' in terms of an IE Licence application to the EPA is required to provide an independent IE Licence for the Chemoran facility and to allow the business to operate with a higher degree of separation from the neighbouring CBE (West) business. The two companies are owned by Colas Teoranta but have separate management and operating structures. A separate IE Licence for Chemoran will provide further independence from CBE (West) and, in turn, will provide CBE (West) with further independence from Chemoran.

The proposed rearrangement of the internal access way will provide a separate HGV access route within the site for Chemoran traffic so that these vehicles are not required to pass through the CBE (West) production area, as is currently the case. This will improve internal traffic safety and pedestrian safety at the facility.

1.4 SCOPING AND CONSULTATION

Scoping is a process of deciding what information should be contained in an EIAR and what methods should be used to gather and assess that information. The purpose of scoping for the EIAR is to provide a framework for the approach to be taken by the individual specialists in carrying out their evaluations; identifying environmental aspects for which potential significant environmental impacts may arise.

The project team engaged with the EPA in November 2020 by way of a pre-application meeting to introduce the project and set out the proposed approach to separate the Chemoran facility activities from the CBE (West) facility activities. This pre-application meeting was followed up with correspondence to the EPA setting out further details on the division of the site and the proposed approach to identifying the 'Proposed Development' in the preparation of an EIAR. The information set out in this correspondence and the subsequent response from the EPA has guided the preparation of the EIAR.

Records of consultation with the relevant bodies are summarised within Chapter 1 of the EIAR.

In respect of this project, where there is no new proposed development for which planning consent is required and the facility is currently in operation at the site, it was determined by the

project team that no further pre-application consultation, other than with the bodies as set out in Table 1-3 of Chapter 1, was required. The Chemoran facility will continue to operate as it currently does and, as such, there are no new impacts which could be generated from the facility on which to consult with stakeholders.

As part of the site's registration with the Health and Safety Authority (HSA) in respect of the control of major accident hazards, Chemoran (and CBE (West)) are required to maintain communication with relevant stakeholders and neighbours regarding the ongoing operation of the site. This is set out in the site's Safety Report.

2.0 DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 INTRODUCTION

2.1.1 *The Proposed Site*

The Chemoran facility is located in the Deerpark Industrial Estate, Oranmore, Co. Galway as shown in Figure 1-3 in Chapter 1 of the EIAR. The site is located within an industrial area west of the N67 National Road and c. 1km north of Oranmore town centre. Galway City is located c. 8km to the west of the site and is the main urban centre in proximity to the site. The site is located in the townland of Carrowmoneash.

To the north and west of the Deerpark Industrial Estate, the land use is mainly agricultural with one-off rural housing. The M6 Galway to Dublin Motorway runs west to east c. 1.6km north of the site and Galway Airport is located further north at a distance of c. 2.2km from the site. Galway Airport closed to commercial air traffic in 2011 but is still open for Galway Flying Club. The Galway Clinic Private Hospital is located c. 2.8km to the west.

There are a number of industrial facilities to the east of the site across the N67 including lands set out by the Industrial Development Agency (IDA) for a Western Region Science and Technology Park, which has yet to be developed. The Oranmore Firing Range, owned by the Department of Defence, is located further east at a distance of c. 950m from the site boundary.

The facility is accessed from the N67 road (recently updated to national road status, formerly the R381) which connects the M6 Galway-Dublin Motorway with Oranmore and south Galway.

Within the Deerpark Industrial Estate, the Chemoran facility surrounded to the west, north and east by existing industrial businesses. The facility is bordered to the east by CBE (West), to the west by Zimmer Biomet and to the north by Coen's Steel and TJ O'Mahony. Further east, the CBE (West) site is bordered by Hygeia Chemicals.

The Galway to Dublin rail line runs west to east and forms the southern boundary of the site. Beyond that is the Oranmore Business Park. The Maldron Hotel Oranmore Galway is located south-east of the site on the N67 roundabout at a distance of c. 160m from the facility.

The location of the Chemoran facility within the Deerpark Industrial Estate is shown in the Site Location Map in Figure 1-3 of the EIAR.

The lands on which the Chemoran facility is located are owned by Colas Bitumen Emulsions (West) Limited and Chemoran Limited and are outlined in the Site Plan in Figure 1-4 of the EIAR.

2.1.2 The Proposed Development

An Integrated Pollution Control (IPC) Licence (Reg. No. P0056-01) was issued to Coldchon (Galway) Ltd. in 1996. In 2013, the IPC Licence was amended to an IE Licence in accordance with the requirements of the *European Union (Industrial Emissions) Regulations 2013*, as amended.

Subsequently, the licensee's name was updated from Coldchon (Galway) Ltd. to Colas Bitumen Emulsions (West) Ltd.

The activity classes permitted on the site under the EPA issued IE Licence are as follows;

- *Class 5.9: The chemical manufacture of glues, bonding agents and adhesives, not included in paragraphs 5.12 to 5.17*
- *Class 5.12(k): The production of organic chemicals, such as surface-active agents and surfactants (production means the production on an industrial scale by chemical or biological processing)*

The permitted classes of activity are Class 5.9, which relates to the handling of bitumen emulsions, and Class 5.12(k), which relates to chemical production. In this regard, the Class 5.9 activities are conducted by CBE (West) and the Class 5.12(k) activities by Chemoran.

An IE Licence application is being made to the EPA to authorise the Chemoran facility activities separately from the CBE (West) activities. The IE Licence class of activity will be Class 5.12(k) and will be issued to Chemoran Ltd. as the Licensee.

A more detailed description of the current and proposed IE Licence arrangements at the site is presented in Chapter 2 of the Main EIAR.

As part of the proposal to obtain a separate IE Licence for the Chemoran facility, it is intended to rearrange traffic flow movements within the site boundary to improve safety for drivers and pedestrians, to improve the efficiency of traffic flows within the site and to reduce the overlap of traffic movements to separate operations areas of the site. In response to recommendations from the EPA and the HSA as part of EIA consultation, it is also proposed to install a new safety barrier to clearly delineate the Chemoran facility from the CBE (West) facility.

The proposed works are summarised as follows and are shown in Figure 2-2 of the EIAR:

- Provision of new and upgraded road markings to identify rearranged access ways;
- Provision of new pedestrian walkway markings;
- Provision of new signage, traffic lighting and safety barrier alongside new access way and pedestrian walkway;
- Rearrangement of parking spaces;
- Demolition of two sections of internal dividing walls; and
- Undergrounding of existing above ground utilities.

All of the above proposed works will be carried out within the site boundary and are Exempted Development under Section 5 of the *Planning and Development Act 2000*, as amended. A Declaration of Exempted Development has been received from GCC (Ref. No. ED21/62) and a copy is included in Appendix 3.1. The legislative context of the exempted development is discussed in Chapter 3 (Legislative, Planning and Industrial Emissions Context).

The rearrangement of traffic flows will provide a segregated route for light and heavy goods vehicles (HGVs) into and out of the Chemoran manufacturing and storage areas and will direct

the majority of this traffic out of the Colas production and storage areas. The overall length of the rearranged access way will be 115m.

The alignment of the proposed route is shown in Figure 2-2 of the main EIAR and will generally follow the existing site boundary with the two industrial sites to the north. This existing boundary comprises chainlink fencing and established trees which will be fully retained. A short section (c. 9m) of a dividing wall will be demolished to facilitate the new access way. Existing trees aligned with this dividing wall will also be removed. Water supply and electrical power lines which run above ground at this location will be relocated underground.

A short section (c. 16m) of wall forming a division between car and truck parking spaces as well as planter beds for landscaping will also be demolished as shown on Figure 2-2 of the main EIAR. This will facilitate a safer pedestrian access route in the area, allow for the introduction of a pedestrian crossing and allow for reconfiguration of parking spaces.

A new pedestrian walkway will be provided alongside the new access way, identified on the ground in green as per the existing pedestrian walkways. New pedestrian crossings will also be delineated. As the site is a registered Seveso establishment, the alignment and provision of walkways and crossings will be agreed with the HSA. A removable safety barrier will be installed between the new access way and the pedestrian walkway to clearly delineate the access way and to protect pedestrians.

New traffic control signage, stop/go lighting and a security barrier will also be installed, and road markings will be updated to inform site users of the rearranged access ways and pedestrian walkways.

The proposed works will require minimal pavement resurfacing at locations where the dividing walls are to be removed and the existing utilities are being undergrounded. Some localised improvement of existing surfacing may be carried out as part of the works and would be typical of ongoing upkeep and maintenance of the site.

2.2 CONSTRUCTION ACTIVITIES

The Chemoran facility is an existing operational industrial facility and there are no proposed changes in the operations at the facility. As such, there is no construction activity required to facilitate the operation of the Chemoran facility in accordance with a new IE Licence.

As set out in the previous section, it is intended to carry out some minor construction works to improve traffic flow at the site.

It is envisaged that these works will be carried out upon receipt of the IE Licence for the Chemoran facility. Allowing a period of 18 months for issuing of a new IE Licence for Chemoran, an indicative commencement date for construction of the above works of Q3 2023 has been determined.

The operational activities at the Chemoran facility will continue in accordance with the requirements of the current IE Licence (P0056-01) while an EPA review of the new IE Licence application is underway. Upon successful grant of an IE Licence to Chemoran Ltd., the operational activities will continue in accordance with the requirements of the new IE Licence. It is imperative to the operations of both Chemoran and CBE (West) (as well as other Colas organisations worldwide) that there is continuous uninterrupted production at Chemoran and that the transfer to a new IE Licence does not result in any loss in production capacity.

Similarly, the above construction works will be carried out at the site without causing any interruption to the ongoing operational activities at Chemoran and CBE (West). It is envisaged that the above construction works will have a duration of approximately one month.

The total number of construction staff on site will vary and is expected to be approximately 15 persons at peak.

Normal working hours during the construction period will be 8am to 6pm from Monday to Friday and 8am to 1pm on Saturdays. It is not anticipated that any construction works will be required outside of these hours.

2.2.1 Construction Methodology

The construction activities required to create the new access way will primarily require the demolition of two short sections of dividing walls and removal of existing vegetation. These works will likely be carried out using a small excavator and the waste materials removed off-site by an authorised waste contractor.

Some excavation will be required to underground existing utility lines that are located alongside the dividing wall north of the CBE (West) water tank as shown in Figure 2-2 of the Main EIAR. Any surfacing repairs and improvements required for the access way will utilise road surfacing materials available on-site. Signage, traffic control and road/pedestrian markings will be updated.

The proposed safety barriers to delineate the Chemoran facility from the CBE (West) facility will be installed along the facility boundary. It is currently envisaged that some or all of these barriers will be demountable to facilitate access between the two sites in the event of an emergency.

No other construction activity is required.

2.2.2 Construction Environmental Management

The construction activities outlined above will be carried out within the confines of an operational industrial facility. Contractors engaged to carry out the works will do so in accordance with the existing PTW system which will control and regulate the presence of construction workers on the site.

The works will be carried out within the Chemoran licensed facility (new IE Licence) and along the boundary with the CBE (West) licensed facility (P0056-01). All emission controls will apply to ensure there is no deterioration of the environment as a result of the construction works.

The appointed contractor(s) will be required to prepare a Construction Environmental Management Plan (CEMP) to identify the environmental controls and mitigation measures which will be taken during works and to set out a documented process to ensure implementation and monitoring of the control measures. The CEMP will be required to be submitted to Chemoran in advance of the construction works starting and will be reviewed and approved by the Chemoran Environmental Manager.

The contractor(s) will be required to carry out regular monitoring, inspections and audits of the control measures to ensure there is no harmful release to the stormwater drainage network, to the atmosphere or noise/vibration emissions.

2.2.3 Health and Safety

Chemoran and CBE (West) will implement a PTW system to ensure access for construction works is controlled.

Prior to commencement of the construction works, the client will appoint a Project Supervisor Design Process (PSDP) and Project Supervisor Construction Stage (PSCS), where required. The PSDP will notify the HSA of the commencement of the design works using an AF1 form and the PSCS will notify the HSA on commencement of construction works using an AF2 form. During construction, the PSCS will be responsible for managing and co-ordinating the health and safety of workers on the site.

The PSCS will develop a suitable Health and Safety Plan in advance of commencement which will take account of the ongoing operational activities at the Chemoran and CBE (West) facilities. Other responsibilities of the PSCS will include:

- Co-ordinate the implementation of the construction regulations by contractors;
- Organise co-operation between contractors and the provision of information;
- Co-ordinate the reporting of accidents to the Authority;
- Notify the Authority before construction commences where construction is likely to take more than 500 person days or 30 working days;
- Provide information to the site safety representative;
- Co-ordinate the checking of safe working procedures;
- Co-ordinate measures to restrict entry on to the site;
- Co-ordinate the provision and maintenance of welfare facilities;
- Co-ordinate arrangements to ensure that craft, general construction workers, and security workers have a Safety Awareness card, e.g., Safe Pass and a Construction Skills card where required;
- Co-ordinate the appointment of a site safety representative where there are more than 20 persons on site;
- Appoint a safety adviser where there are more than 100 on site;
- Provide all necessary safety file information to the PSDP;
- Monitor the compliance of contractors and others and take corrective action where necessary; and
- Notify the Authority and the client of non-compliance with any written directions issued.

On completion of the works, the PSCS will provide information to the PSDP to compile a safety file which will be provided to the client.

2.3 OPERATION AND MAINTENANCE

Chemoran specialises in the manufacture of amine emulsifiers and bitumen adhesive agents. The manufacturing process is the synthesis of bitumen emulsifiers and anti-stripping agents to internal specifications. Products are made by a condensation reaction involving fatty acids and amines and/or by blending with a range of commercial and in-house emulsifiers. The site consists of a production plant, raw materials, and finished products storage tanks.

The facility operates a thermal oil heater at 290°C to heat three reactors to produce emulsifiers and adhesive agents for use with bitumen. There are two 10m³ reactors, and one 3m³ reactor. The three reactors are located within the Chemoran production plant building at the southern end of the facility.

In addition to the three reactors, there are storage tanks for raw materials and for products. Pipework is in place for delivery of raw materials, products, nitrogen, hot oil, and cooling water.

The production plant building is located on the southern boundary of the facility and has an area of approx. 180m². The building contains three reactors used to manufacture the emulsifiers, adhesive agents and micro surfacing agents, as well as a control cabin, connected to the tanks via dedicated pipework. There is an enclosed boiler house (c. 150m²) located to the east of the main production area and offices located to the west.

The reactors are designed and constructed based on the materials contained within and on the temperatures required, with pipework designed and installed on the same basis. The chemicals used and the reaction products are alkaline (pH in the range of 12 - 14) with reactions taking place at temperatures between 180°C - 260°C and at a low pressure of 60 - 80 mBarG. The products of these reactions are then cooled to 140°C and pumped out to storage tanks in the tank farm. This operational process is monitored from the control cabin and the overall plant is controlled by a computer-controlled unit with emergency shutdowns and emergency stops, which was designed specifically for the plant.

2.3.1 Foul Drainage

There is no process effluent discharged from the Chemoran facility. Only domestic effluent is generated in the welfare facilities at the site office which are discharged into the public foul sewer system via the site foul drainage network.

Wastewater generated from the production process at Chemoran is transferred into IBCs and stored in a bunded area prior to collection and transfer off-site by an authorised waste contractor.

2.3.2 Storm Water Drainage

The Chemoran (and neighbouring CBE (West)) site area is covered in hardstanding and rainfall run-off is collected in drainage gulleys and discharged from the site through the stormwater drainage network to the nearby Carrowmoneash Stream. The existing stormwater drainage network is designed to capture rainwater run-off across the whole site, and it is proposed to maintain this site network in its current arrangement.

Rainwater run-off across the Chemoran site area as well as water accumulating in the bunds is collected and diverted to an underground holding tank in the north-west of the site. From here it is pumped via the existing stormwater drainage network onto the neighbouring CBE (West) site and is either diverted to the CBE (West) production water tank for reuse or discharged from site to the Carrowmoneash Stream.

Rainwater run-off collected in the stormwater drainage network, which is not reused in the CBE (West) production process, will discharge from the site via 2 no. existing oil/fuel interceptors.

It is proposed to install a new Class 1 by-pass interceptor on the Chemoran site upstream of SWM2 (monitoring point) to minimise any potential hydrocarbon release from Chemoran to the CBE (West) site.

2.3.3 Water Supply

Water supply to the Chemoran facility is via the public mains water supply. There is a dedicated mains water pipeline which supplies the Chemoran facility and is separate from the CBE (West) mains water connections.

2.3.4 Hours of Operations

The Chemoran facility operates typically between 8am and 5pm from Monday to Friday. The production plant at the site may operate between 4am and 8pm (Mon to Fri) during peak production. This may occur for up to 30 weeks per year depending on the operational requirements.

2.3.5 Wastes Generated On-Site

Wastewater generated from the Chemoran production process is temporarily stored in IBCs in the IBC bund area and is collected from site as required by an appropriately authorised waste contractor. The waste material is treated as hazardous waste is typically 150 – 200 tonnes per year.

Other solid waste generated from waste bags, spill control, maintenance etc. is typically 5 – 6 tonne per year.

2.3.6 Emissions

The existing emission controls in place, operational and agreed with the EPA in accordance with P0056-01 will be maintained. Additional monitoring will be provided on the stormwater drainage network to identify any potential contaminants arising on the Chemoran site prior to passing through the CBE (West) facility and discharging to the local stream.

Stormwater Drainage

Rainwater run-off from the Chemoran facility will pass through a holding tank from which water is pumped to the production water tank at the CBE (West) facility. This pump can be shut off temporarily in the event of an incident and the rainwater run-off retained on the Chemoran site in the underground holding tank.

A new monitoring point (SWM2) will be located upstream of the underground holding tank and downstream of a new interceptor to monitor and record discharge quality from the Chemoran facility prior to passing through into the CBE (West) facility. Continuous monitoring for pH and total organic carbon (TOC) is proposed at SWM2 as well as weekly visual inspections.

Emissions to Atmosphere

There are two atmospheric emission points (A1-1 and A1-2) associated with the two oil-fired boilers located adjacent to the production plant building. Emissions from the two boilers are released to atmosphere via two separate stacks protruding through the roof of the boiler house.

Proposed monitoring of the stack emissions is in accordance with the requirements of the *Medium Combustion Plant Directive (EU2015/2193)* for the following parameters:

- Nitrogen oxides (as NO₂)
- Sulphur dioxide (SO₂)

Waste gases generated from the production process are filtered through a drum of activated carbon prior to release. This point is identified as a minor emission point (A3-1) and is shown on the Site Plan.

2.4 DECOMMISSIONING

The Chemoran facility has been in operation at the site since 1967 and there is no defined lifetime for the facility. The Chemoran plant is one of very few, if any, similar plants in Europe and supplies to over 50 countries. Currently, all of Chemoran's product range is supplied to the various Colas Group companies worldwide for road construction and maintenance. As such, the likelihood of closure and decommissioning of the facility is extremely low. The commercial viability of the facility is kept under constant review.

As part of the current IE Licence for the facility (P0056-01), CBE (West) has submitted a Closure, Restoration and Aftercare Management Plan (CRAMP) to the EPA as required under the Licence conditions. This CRAMP sets out the closure tasks and programme to be followed in the unlikely event of a closure of the facility. The current version of the CRAMP is prepared in respect of the overall site (both Chemoran and CBE (West)) and will be revised specific to the Chemoran facility operations upon successful grant of a new IE Licence.

The following closure tasks are identified in the current version of the CRAMP:

- **Update inventories:**
Following the decision to close, the facility staff will complete a detailed inventory of all raw materials, product, wastes plant and equipment on-site at that time and prepare a plant decontamination and clean down schedule;
- **Materials management:**
A planned shutdown of operations would be carried out after the last batch of product has been processed. It would be preceded by a scaling down of activities, thereby reducing the quantities of materials, particularly fuel and wastes to be dealt with. Once the final batch has been manufactured, the vessels and pipelines in the production areas will be drained at a controlled rate. The transfer lines between the production areas and bulk storage areas will be isolated and purged back to the bulk storage tanks. All materials in drums and IBCs will be moved IBC bund and empty drums and IBCs will also be brought to the bund.
The production areas will be cleaned out. All the product, raw materials, consumable, office equipment and wastes will be removed from the site. It may be possible to return some of the liquid and solid raw materials and fuels to the suppliers. Those materials that cannot be returned will be handled as waste, the majority of which will be classified as hazardous. These will be sent off-site to appropriately licensed treatment/disposal facilities. Records of the materials and the end destinations will be kept for inclusion in a Closure Validation Report.
- **Bulk Storage Tanks:**
After the bulk storage tanks and associated pipework have been emptied, they will be cleaned out by a specialist cleaning contractor, who will also clean the bunds. The tanks and bunds will be left in situ.
- **Buildings:**
Following the decontamination of the production area the plant items will be removed and sent off-site. The office furniture and equipment will also be removed. It is not proposed to demolish any of the buildings.
- **Drains and Interceptors:**
The surface water drains will be flushed with clean water following which all of the interceptors will be cleaned and the contents removed from the site.

- Services:
The telecom, electricity and water supply services will be disconnected.
- Environmental Monitoring:
The environmental monitoring specified in the IE Licence will continue until the closure plan has been implemented.

The above measures will be taken in the event of closure and decommissioning of the Chemoran facility.

2.5 MAJOR ACCIDENTS AND NATURAL DISASTERS

An EIAR should consider the potential impacts of major accidents caused by the proposed development (or associated works), as well as the potential vulnerability of the proposed development (and associated works) to natural disasters. In this regard, the risk of a major accident occurring as a result of the proposed development is primarily associated with the storage and handling of dangerous substances at the facility. CBE (West) Ltd. is currently registered with the HSA as an Upper Tier Establishment for the purposes of the COMAH Regulations. This registration incorporates the storage of substances across both the Chemoran site and the CBE (West) site. Accordingly, the overall site is required to comply with rigid health and safety requirements as part of the establishment registration which includes control and monitoring measures in place for bulk storage and handling of dangerous substances. Each environmental factor assessed in the main EIAR discusses the potential effects relevant to that chapter.

The vulnerability of the Chemoran facility to extreme events, natural hazards and disasters is considered in terms of the following relevant events:

- Extreme precipitation;
- Extreme temperatures/droughts;
- Flooding; and
- Landslides.

These extreme events are discussed in Chapter 1 of the EIAR and further discussed as relevant in the specialist technical chapters.

3.0 LEGISLATIVE, PLANNING AND INDUSTRIAL EMISSIONS CONTEXT

EIA Legislative Context

The EIA Directive (Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment) is in force since 1985 and has been amended three times in 1997, 2003 and 2009. The primary objective of the of the EIA Directive is to ensure a high-level of protection of the environment and human health, through the establishment of minimum requirements for EIA, prior to development consent being awarded, of public and private developments that are likely to have significant effects on the environment. The 2014 EIA Directive is transposed into Irish legislation via the *European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018* (S.I. No. 296 of 2018), as amended. These Regulations came into force in September 2018.

Planning Context

Regional and local planning policies and objectives that are relevant to the proposed development are consulted and this chapter of the main EIAR demonstrates how the Chemoran facility is consistent with these policies and objectives. National policy objectives will also be considered and a summary of the planning history of the site provided. Whilst there is no significant infrastructure development works proposed at the Chemoran facility, it is important to note the significance of the facility in leading innovation and solutions in the manufacture of specialist road surfacing materials which are exported across the world. Products manufactured by Chemoran at this facility in Oranmore are used in the road construction and maintenance industry in Ireland and in over 50 countries. The successful ongoing operation of the Chemoran facility is a critical element of the Colas SA international group of companies.

The Chemoran facility, and the overall Deerpark Industrial Estate, are located within the functional area of Galway County Council and is therefore subject to the provisions of the Galway County Development Plan 2015 – 2021. The current Oranmore Local Area Plan (LAP) was adopted in September 2012 and was extended for a period of five years from May 2017. The LAP is a land use plan and overall strategy for the development of Oranmore over the period 2012-2018 (extended to 2022). This plan in relation to the Chemoran facility is discussed in detail in Chapter 3 of the main EIAR. Planning history of the site and surrounding area is also discussed. Furthermore, GCC issued a declaration in August 2021 confirming that the proposed works are development and are exempted development.

Industrial Emissions Context

An IPC Licence was issued to Coldchon (Galway) Ltd. in 1996 (Reg. No. P0056-01). This Licence was subsequently amended by three technical amendments. In 2013, the IPC Licence was amended to an Industrial Emissions Licence. Subsequently, the licensee's name was updated from Coldchon (Galway) Ltd. to Colas Bitumen Emulsions (West) Ltd. The permitted classes of activity are Class 5.9, which relates to the handling of bitumen emulsions, and Class 5.12(k), which relates to chemical production. In this regard, the Class 5.9 activities are conducted by CBE (West) and the Class 5.12(k) activities by Chemoran.

An IE Licence application is being made to the EPA to authorise the Chemoran facility activities separately from the CBE (West) activities. The IE Licence class of activity will be Class 5.12(k) and will be issued to Chemoran Ltd. as the Licensee. The proposed activities to be carried out at Chemoran under a new IE Licence will comprise a continuation of the current activities as licensed under P0056-01.

4.0 REASONABLE ALTERNATIVES

The proposed development comprises the existing operational industrial facility which has been in place at the site since 1967. The existing operations at the facility are not proposed to be changed, there will be minor construction works to facilitate a new internal access route. As such, there is minimal 'new' works proposed at the site in regard of which potential alternatives could have been considered. The discussion on reasonable alternatives is presented in terms of the decisions made to determine the location, layout, design and technology employed at the facility, where relevant.

The currently operational Chemoran site has been identified as the preferred location for the facility going forward. At the outset of this project, consideration was given to the relocation of the Chemoran facility to a new greenfield/brownfield location away from its current location. Many environmental, economic and engineering factors would need to be considered if a new

site location were to be developed. The existing operations at the current site in Deerpark Industrial Estate work effectively and efficiently with the neighbouring CBE (West) facility and the operations have been carried out successfully at the current site in full compliance with the current EPA Licence since it was issued in 1996. As such, there were no reasonable alternative locations for the proposed development.

The layout of the overall Chemoran facility operates efficiently as it currently is. Therefore, no alternatives to the general site layout have been considered. It is proposed to carry out some minor works within the site to facilitate a better access arrangement for HGV traffic into and out of the Chemoran. The identification of this preferred route location was achieved through consideration of four layout options and in conjunction with both Chemoran and CBE (West) staff who are most familiar with the site layouts, associated risks and improvement opportunities. Layout Option 4 emerged as the most suitable layout for an access road.

The existing operations have been carried out successfully at the current site since mid-1960's. There is no requirement to consider an alternative design of the existing production infrastructure and storage facilities at the site at this stage. It is likely that some minor alterations of tank contents/sizes/material type and/or associated pipework may occur in future to ensure that the Chemoran facility continues to deliver innovative products to the market. In respect of the new internal road alignment, consideration was given to the provision of a two-way access road which would allow HGVs into and out of Chemoran at the same time. The provision of suitable traffic management measures to facilitate a two-way access way were reviewed with Traffic Engineers at TOBIN. It was determined that a single lane access way would be sufficient. Delineation of the boundary between the two sites by using safety barriers, as opposed to a wall, fence or line of vegetation, is the preferred design so as to have a clear physical marker on the ground but to maintain free access between the two sites which is critical to the efficient operation of both facilities

Chemoran is a well-established facility that has been in operation at the site since 1967, currently exporting their products to over 50 countries worldwide. The Chemoran plant is one of very few, if any, similar plants in Europe. Currently, all of Chemoran's product range is supplied to the various Colas Group companies worldwide for road construction and maintenance. The current operations at Chemoran are successful and profitable and there are no short-term plans to amend the current processes or technologies. As such, no alternative processes or technologies to the current arrangement have been considered.

5.0 POPULATION AND HUMAN HEALTH

This Chapter details the findings of an assessment of the likely significant effects on population and human health arising from a new IE Licence application for the existing industrial activities carried out at the Chemoran facility in Oranmore, County Galway. The two environmental factors of population and human health are addressed under separate headings throughout this chapter. The assessment focuses on amenity and local communities, land use, social and economic aspects including population and employment, and human health.

Based largely on Central Statistics Office (CSO) data, this chapter presents analysis of socio-economic indicators which provides the narrative and evidence base of the current status of the area surrounding the facility. The facility is situated within the Oranmore ED, which is situated in the Galway County Council administrative area. The baseline environment section of this chapter in terms of the local population, discusses available information relating to community facilities, land use, socio-economic factors, population trends, employment, housing and receptors, and tourism and recreation. The site is located in the townland of Carrowmoneash, c. 1km north of Oranmore town centre. The baseline environment section of this chapter in terms

of human health, outlines nearby sensitive receptors and a community health profile. No sensitive receptors are situated within 300m of the facility. A group made up of the Health Service Executive (HSE), Lenus and the Irish Health Repository have published health profiles for all the Local Authorities areas in Ireland. These health profiles show that Oranmore ED and Ballintemple ED are marginally above average with an index score of 8.90 and 7.60.

The construction works associated with the Chemoran facility are of small scale and short duration (approximately one month) and are located within the existing facility, away from any sensitive receptors. These works will not have any likely significant effects on the population or human health of the local area. Potential effects during the construction phase are considered to be temporary and imperceptible in terms of the population, and no human health impacts are predicted. The potential effects during the operational phase will be equivalent to the current potential effects of the permitted site activities. As such, there will be no requirements to change the mitigation measures currently in place. Effects are considered to be positive and imperceptible. Furthermore, with the existing measures that are in place, there is not considered to be a likely significant effect on human health from the decommissioning activities on site. While the termination of jobs at the time of site closure is considered to be a negative and moderate effect on existing employment at the facility, decommissioning would also require additional workers to carry out the decommissioning works which would have a positive and imperceptible effect on local employment.

There will be no change in the operational activities or the nature of the emissions from the facility. Best practice construction methodology and measures to minimise impacts are required during the construction phase. All emission controls as set out in the existing EPA license will apply to ensure there is no deterioration of the environment as a result of the construction works. Mitigation measures in relation to the potential human health impacts of air and noise, particularly during construction are dealt with in detail in the relevant EIAR chapters. The existing EPA Licence ensures that the facility operates in accordance with the Best Available Techniques. No specific additional mitigation measures are required to ameliorate the impacts on local population and human beings during the construction, operation or decommissioning phases as the impacts are not significant. Any residual impacts are considered to be imperceptible and positive. Therefore, it is considered that the proposed development will not result in a significant negative impact on population and human health in the local and regional area.

6.0 BIODIVERSITY

The chapter provides an assessment of the impacts of the proposed development on the ecological environment, i.e., flora and fauna. The development site is comprised of Buildings and artificial surfaces of low local ecological value. The methodology to assess any potential impacts on biodiversity arising from the Chemoran facility included a desktop study, a habitat survey and a site evaluation.

As part of the review of the baseline environment, any designated conservation areas were identified and the potential for suitable habitats for protected flora and fauna was assessed. The Proposed Development is located within the hydrological catchment of the Carrowmoneash stream, approximately 294m to the west of the stream and on the outskirts of Oranmore village. Downstream, the waters of the Carrowmoneash stream enter Galway Bay with its European sites, the Galway Bay Complex SAC (Site Code 000268), which is located just over 0.67km to the south, and the Inner Galway Bay SPA (Site Code 004031), which is located approximately 0.68km to the south. There are four buildings and hard surfaces on site (BL3). These are not mapped or presented on a habitat map but are obvious on baseline aerial photography. The route of the proposed 'Chemoran Access Route' comprises a treeline of managed Leyland

Cypress (WL1). There were no invasive species recorded on site. There is no potential for badgers or setts within the proposed development area, nor are there any suitable habitats for otters. The site has limited value for bats and a bat survey was not necessary to determine an assessment of effects. All nesting birds are protected under the Wildlife Acts. Species recorded included regular urban species such as Blackbird and Magpie.

In terms of the potential effects of the Proposed Development, the site is of Low Local Ecological value. There is an indirect pathway to the Carrowmoneash Stream from this site. However, the proposed works are of such a small scale and the existing surface water treatment is such that any impacts can be ruled out. Overall site development will result in a neutral modification of habitats of light industrial nature. There is no real likelihood of any significant effects on European Sites in the wider catchment area. The facility is located at a distance of removal such that there will be no disturbance to qualifying interest species in any European sites. Overall site development will result in a neutral modification of habitats of light industrial nature. The potential effects on local ecology are neutral and imperceptible for the construction, operation and decommissioning phases.

As there are no significant potential effects on biodiversity arising from the Project, there are no additional remedial or mitigation measures proposed for the construction, operation or decommissioning phases of the Project. Furthermore, there are no predicted significant cumulative effects nor residual impacts from the proposed development. Overall site development will result in a neutral modification of habitats of light industrial nature. The potential effects on local ecology are neutral and imperceptible.

7.0 LAND, SOILS AND GEOLOGY

This chapter assesses the effects of the Chemoran facility on the land, soil and geological environment. Information on the existing soil and geological environment is presented as a baseline for the site. Any potential effects associated with the Chemoran site, and its associated infrastructure are discussed along with recommended mitigation measures for each potential effect. Any residual and cumulative effects are also assessed.

Chemoran operates a chemical manufacturing facility comprising a site area of approximately 0.85 ha. Since development began in the area, the land has been largely altered to urbanised, industrial areas, with the majority of the land characterised as Made Ground. The topographical elevations in the larger area are typically flat-lying (between 10-20 mAOD), with elevations across the site being c.10mAOD. The proposed site is underlain by Till derived from limestones, which is in turn underlain by bedrock of the Burren Formation, which comprises pale grey clean skeletal limestones that are Carboniferous in age. There are no geological heritage sites (GHAs) recorded within a 2km radius of the Chemoran facility.

Previous site investigations have identified the presence of contaminants in the soil and groundwater beneath the wider Chemoran and CBE (West) site. The contaminants are believed to originate from historical activities at the site and may also be related to off-site sources of contamination which are migrating across the site through the underlying groundwater. All issues associated with historical contamination sources on the site have been resolved over the past 17 years. A groundwater monitoring and remediation programme, agreed with the EPA, is ongoing in accordance with the existing IE Licence (P0056-01).

During construction, minor demolition works will include the removal of a treeline and a block wall that are currently located along the proposed access route. The excavation of soil will give rise to spoil that may generate run-off with high silt levels, and all excavated soils and subsoils will require testing for any potential contaminants prior to their removal from site. General

surface water run-off from the site can facilitate migration of hydrocarbon spillages to sensitive receptors and may also contain high levels of particulate matter associated with soil disturbance. The use of wet concrete on-site may give rise to high alkalinity waters and slurries that could reduce receiving water quality. The construction of the development has the potential (with no mitigation) to slightly negatively affect the soil and geology environment. The potential effects during the operational phase will be equivalent to the current potential effects of the permitted site activities. The facility has no defined lifetime, and the risk of closure is extremely low. In the unlikely event that the entire facility is closed, all of the operational areas will be decommissioned. With the existing measures that are in place, there is not considered to be a likely significant effect on soils and geology during the operational or decommissioning phases.

Mitigation measures in place during the construction phase will involve the management of any excavated materials and wet concrete on site, and preventative measures to address any accidental spillages of hydrocarbons. Mitigation measures applied during decommissioning activities will be similar to those applied during construction where relevant. The Chemoran facility is a currently operational facility, with the proposed works during the construction phase of the Project delivering minor alterations to the site infrastructure from its current state. As such, there are no additional mitigation measures required to protect the underlying soils and geology environment during the operational phase of the development. Any residual effects are considered to be negligible. Overall, in terms of the soil and geological environment, the proposed project is not expected to contribute to any significant, negative cumulative effects on other existing developments in the vicinity.

8.0 HYDROLOGY AND HYDROGEOLOGY

This chapter of the EIAR describes the existing hydrological, hydrogeological and water quality characteristics at the Chemoran facility. The potential effects on the water environment arising from the site activities and infrastructure at Chemoran are discussed along with recommended mitigation measures for each potential effect. Any residual and cumulative effects are also assessed.

An examination of the existing hydrological/hydrogeological regime was carried out through a combination of consultation with relevant authorities, a desktop review of the hydrological/hydrogeological resource and site-specific fieldwork. On a regional scale, the Chemoran site is located across the Galway Bay South East Hydrometric Area and Catchment and the Carrowmoneash [Oranmore]_SC_010 sub-catchment (29_6). The nearest water feature to the site is the Carrowmoneash Stream (IE_WE_29C050400) c.300m to the east, which eventually discharges to Oranmore Bay. The Carrowmoneash Stream itself has been classified as an 'At Risk' waterbody by the EPA/WFD. The site is located in an urban industrial environment and is predominantly covered in Made Ground. Drainage within the site is predominantly via a specifically designed drainage system. Wastewater generated from the production process at Chemoran is transferred into IBCs and stored in a bunded area prior to collection and transfer off-site by an authorised waste contractor. Water supply to the Chemoran facility is via the public mains water supply. Based on the online OPW flood maps, flood plains do not extend within 500 metres of the Chemoran site boundary, and the facility is not considered to be at risk of any future flooding. The Chemoran facility is underlain by an 'At risk' groundwater body. The underlying bedrock unit (Burren Formation of Carboniferous limestones) is classified as a '*Regionally Important Aquifer - Karstified (conduit) (RKc)*' and the groundwater vulnerability below the site is considered to be 'High'. There are groundwater monitoring and pumping wells located within the Chemoran facility boundary that are

associated with the ongoing monitoring and remediation programme. There is no groundwater supply well at the Chemoran facility nor are there any nearby Source Protection Zones.

In terms of the potential effects, the hydrological environment is considered to be of moderate to very high sensitivity for receptors draining to the Carrowmoneash Stream via hydrological links. The EPA has found the water quality in the receiving waters to be poor (Q3). Identified potential effects of the construction works for the new Chemoran facility access road include fuel and chemical spills, sedimentation of surface waters, and concrete spills. Pre-mitigation, the potential impact on the hydrological and hydrogeological environment during construction is considered to be slight negative and short to medium term. With the implementation of the construction phase mitigation measures, there is not considered to be a likely significant effect on surface waters and groundwater. The potential effects during the operational phase will be equivalent to the current potential effects of the permitted site activities and there is not considered to be a likely significant effect on surface waters and groundwater. As such, there will be no requirements to change the mitigation measures currently in place, which deal with surface water run-off, fuels and chemicals management and groundwater contamination. With the existing measures that are in place, there is not considered to be a likely significant effect on surface waters and groundwater arising from the decommissioning phase. Mitigation measures applied during decommissioning activities will be similar to those applied during construction where relevant. A CRAMP will be in place to be implemented during the decommissioning phase. Furthermore, there are no anticipated cumulative impacts nor residual effects to the surface water and groundwater environments. In terms of the hydrological and hydrogeological environment, the proposed project is not expected to contribute to any significant, negative effects on other existing developments in the vicinity.

9.0 NOISE AND VIBRATION

This chapter of the EIAR assesses the potential noise and vibration impacts associated with the Chemoran facility and includes a description of the receiving ambient noise climate in the vicinity of the subject site, an assessment of the potential noise and vibration impact associated with the facilities operation on its surrounding environment. The assessment of direct, indirect and cumulative noise and vibration impacts on the surrounding environment have been considered as part of the assessment. Mitigation measures are included, where relevant, to ensure the facility is operated in an environmentally sustainable manner in order to ensure its minimal impact on the receiving noise climate.

The facility is significantly screened from surrounding NSLs due to its location within a larger industrial area and the distance and orientation of NSLs in the vicinity. The closest NLS is located approximately 150m south at a hotel. The closest residential dwellings are located south-east at a distance of approximately 340m and residential estates south of the R446 at distances of greater than 270m. To the north and west of the facility, the closest NSLs are at distances greater than 600m. All NSLs are screened from the facility by a number of intervening buildings within the Deerpark Industrial Estate and surrounding environment. In terms of human response, the proposed development does not give rise to any significant levels of vibration off site and therefore the associated impact is not significant. Noise monitoring is undertaken at the CBE (West) facility every 5 years to comply with the facilities current IE licence (P0056-01). Noise monitoring is undertaken at four boundary locations around the site on a rotational basis during daytime periods. Noise survey data and results from the most recent survey in August 2021 is included in Chapter 9 of the main EIAR. The results of the boundary survey measurements note that the main noise sources associated with general day to day activities within the site include vehicle movements along the access road, on-site vehicle movements, workshop activities and the cooling system. Road traffic along the N67, passing rail and

activities from adjacent facilities within the Deerpark Industrial estate were the main external contributors to the noise environment at the boundary locations. Activities from the Colas facility (combined from Chemoran and CBE (West)) are not detectable at any of the NSLs.

Given the distance between the proposed minor site works proposed and off-site NSLs and the screening provided by intervening buildings, construction works will not be audible at the NSLs, and the potential impact is considered to be not significant and short term. The primary sources of outward noise in the operational context are deemed long-term and include operational plant/process noise and vehicular traffic. Allowing for a reduction in background noise levels of 10 dB between day and night-time periods at the NSLs, the contribution of facility operational noise to the prevailing background noise levels will also be negligible and imperceptible. The operational noise impact is determined to be long term and imperceptible. Decommissioning activities are not expected to result in any significant noise or vibration levels at the closest NSL to the facility.

There are no predicted impacts to noise or vibration during the construction or decommissioning phases and, therefore, no mitigation is required. The noise assessment has confirmed the contribution of operational activities within the Chemoran facility is negligible at the closest NSLs and are well within the relevant noise ELVs for day, evening and night-time periods. Therefore, no mitigation is proposed during the operational phase. The cumulative and residual noise impacts are also considered neutral, negligible and long-term. Overall, there are no significant noise or vibration impacts to associated with the Chemoran facility.

10.0 AIR QUALITY AND CLIMATE

This chapter assesses the potential impacts to air quality and climate associated with the Chemoran facility.

There are no significant construction works proposed as part of the development. The Chemoran facility is an existing facility which is currently operational. There are minor internal works proposed such as road realignments and establishment of designated walkways. However, these works do not have the potential to significantly impact air quality or climate and therefore, a construction phase assessment was not deemed necessary.

As part of the methodology to assess the effects of operational activities, air dispersion modelling using AERMOD was undertaken as well as a qualitative assessment of climatic effects relating to the nature and scale of greenhouse gas generating operational activities. The modelling of air emissions from the site was carried out to assess the concentrations of nitrogen dioxide (NO₂) and sulphur dioxide (SO₂) beyond the site boundary and the consequent impact on human health. In terms of air monitoring, Oranmore is categorised as Zone D (which represents rural Ireland but also includes all towns with a population of less than 15,000), however it is in close proximity to the Zone C area representing Galway city.

There is the potential for a number of emissions to the atmosphere during the operational phase of the development. In particular, boiler related air emissions may generate quantities of air pollutants such as NO₂ and SO₂. Emissions from the on-site boilers were included in a detailed air dispersion modelling assessment. The operational phase of the proposed development is predicted to be long-term, negative and slight with regards to air quality. The Galway Bay Complex SAC and pNHA (site code 000268) are located within 1 km to the east and south of the facility. Modelling of NO_x and SO₂ pollutant concentrations was carried out within sections of these sensitive sites, and the results were found to be in compliance with the air quality standards for the protection of vegetation. There are no significant impacts to ecology predicted as a result of air emissions from the facility and impacts will be long-term, negative and

imperceptible. Operational phase impacts to climate as a result of the Chemoran facility are indirect, long-term and neutral. Operational phase impacts to human health are considered long-term, negative and imperceptible. There are no significant impacts to air quality or climate associated with decommissioning activities.

There are no predicted impacts to air quality or climate during the construction or decommissioning phases and, therefore, no mitigation is required. The air dispersion modelling assessment has indicated that pollutant concentrations from the on-site boilers are in compliance with the ambient air quality standards. Therefore, no additional operational mitigation measures are proposed.

Cumulative air quality impacts associated with the operation of the Chemoran facility in conjunction with the neighbouring CBE (West) facility are predicted to be long-term, negative and slight. Residual impacts to air quality are predicted to be long-term, negative and slight; to climate as a result of energy usage from the proposed development are predicted to be indirect, long-term and neutral; and to human health are long-term, negative and imperceptible. Overall, there are no significant impacts to air quality or climate associated with the Chemoran facility.

11.0 TRAFFIC AND TRANSPORTATION

This chapter of the EIAR reports the assessment of the likely impacts and resulting effects of the Chemoran facility on traffic and transportation. Information on the existing traffic and transport environment is presented as a baseline for the site. Any potential effects are discussed along with recommended mitigation measures for each potential effect. Any residual and cumulative effects are also assessed.

The Chemoran site is located in Deerpark Industrial Estate, on the national road, the N67 between Claregalway and Oranmore road. The site is located north of Oranmore, Co. Galway. The site access is a priority T-junction on the west side of the N67, located approximately 400m north of the Carrowmoneash Roundabout and approximately 1.5km south of the N6 / M6 dumbbell roundabout at Exit 19 Oranmore. Access to the Chemoran facility is from the national road, the N67, via the CBE (West) main entrance, and along a designated access road. A secondary emergency access entrance is provided to the site from the north via T.J. O'Mahony's. The Chemoran operating hours are typically from 08:00 to 17:00hours Monday to Friday. The Chemoran facility currently employs 8 no. staff. The staff arrive to the site by car or small van. Approximately 1 no. visitor per week has been recorded at the site by van. A total of 9 no. trips to and from the Chemoran facility will occur per day. The site is serviced by delivery vehicles providing chemicals and materials, and for the export of products. These vehicles are HGVs and typically arrive and depart the site before 14:00hours. On average 7 no. HGV trips occur per week.

The construction phase traffic generations are envisaged to be a maximum of 18 movements per day over the 1-month construction period. The proposed construction phase will not require a TTA as the trip movements are low and have a very low HGV content. As such, the construction phase will have a not significant negative temporary effect on the road network in the vicinity of the Chemoran facility. The operational phase will not require a TTA as the trip movements are low. As the operations are existing and form the baseline of the assessment, the effect will be neutral with an imperceptible effect. The programme for the decommissioning phase will be of short duration, estimated at 6 months with a decommissioning phase peak traffic generation over a 4-week period. As per the construction phase a TTA is not required, and the decommissioning phase will have a moderate negative temporary effect on the road network.

A traffic management plan will be put in place during the construction and decommissioning phases to mitigate any potential effects of the minor construction works to the access road and the movement of traffic. During the operational phase, on completion of the construction phase, the internal layout will primarily segregate HGVs accessing Chemoran from HGVs accessing CBE (West). This will mitigate potential conflicts between HGV and car / vans and vulnerable road users (i.e. pedestrians).

12.0 CULTURAL HERITAGE

This chapter of the EIAR comprises a cultural heritage impact assessment of the potential impact of the proposed works on the cultural heritage resource. This chapter aims to assess the baseline archaeological, architectural, and cultural heritage to evaluate the potential or likely impacts that the proposed development will have on this environment and, where appropriate, to suggest mitigation measures to ameliorate potential impacts.

A buffer zone of 500m centred on the Study Area was used for an initial mapping exercise. This was carried out to gain a greater understanding of the archaeological and architectural landscape and to highlight concentrations of known archaeological sites and past settlement patterns to identify areas of potential archaeological sensitivity. Following a detailed desk study of the study area a field survey was undertaken in November 2021 to further assess the potential impacts that the proposed development would have.

For the purposes of the EIAR, the baseline environment was assessed in terms of archaeological, architectural and historical background, archaeological heritage, and architectural heritage. Direct negative impacts may occur where sites of archaeological, architectural, and cultural heritage significance are located within the footprint of the proposed development, which would potentially be impacted upon by ground disturbances.

There will be no direct impact on the known cultural heritage resource during the construction phase. The potential for impact on previously unknown or unrecorded archaeological and architectural sites, structures, monuments, or features is none to very low. There will be no effects on the cultural heritage resource during the operational or decommissioning phases. As such, no further mitigation measures are required. There will be no cumulative impacts nor residual impacts on the local cultural heritage resource.

13.0 MATERIAL ASSETS

This chapter of the EIAR assesses the effects of the Chemoran facility on the material assets in the study area, to describe baseline environment of the material assets in the study area, assess the likely impacts on these material assets and sets out mitigation measures to be put in place in order to reduce the likely impacts on the material assets.

Material Assets are resources that are valued and that are intrinsic to specific places. These may be economic assets of human or natural origin. The methodology used to produce this chapter included completing a desk study to collate and review background information, and a site walkover, undertaken in September 2021, relating to the material assets in the surrounding areas. The baseline environment was assessed in terms of both material assets of human origin and of natural origin. Material assets of human origin in the surrounding area include existing properties, road network, rail network, recreational facilities and amenities, various public utilities, pedestrian ways, aviation and military areas. Material assets of natural origin in the surrounding area include land resources, geological resources, natural amenities (watercourses) and raw materials.

Construction practices will ensure that any impacts regarding property accessibility will be minimised, and no access will be required to third party properties. Construction traffic will be temporary and infrequent due to the nature of the minor construction works. Raw materials required during the construction phase of the proposed development will be sourced from local suppliers, where possible. There are potential surface water quality impacts associated with the proposed construction works which could indirectly impact the Carrowmoneash Stream, these would be common to most construction sites in the absence of control measures or mitigation. There are no other anticipated negative effects arising from the construction phase on the material assets environment. There are not anticipated to be any significant effects on any of the material assets from the continued operation of the facility. As with the construction phase, there is potential for direct impacts during decommissioning on the natural watercourses in the event of any uncontrolled release into the stormwater drainage network at the site. There will be no direct or indirect impacts on the remaining material assets during decommissioning activities.

Proposed mitigation measures for the construction and decommissioning phases include the application of general construction best practice and protection measures for watercourses (as detailed in Chapter 8 of the Main EIAR). The potential effects during the operational phase will be equivalent to the current effects of the site activities. As such, there are no additional mitigation measures required to protect the material assets environment during the operational phase of the development.

There are no significant cumulative effects anticipated. It is considered that the residual impacts on material assets from the proposed development will be short term for the construction and decommissioning phases and long term for the operational phase. The effects will be negligible.

14.0 LANDSCAPE AND VISUAL

The Landscape and Visual Impact Assessment describes the visual context of the proposed development and assesses the likely impacts of the facility on the receiving environment, in terms of both landscape/townscape character and visual amenity. The production of this impact assessment involved an assessment of the significance of the landscape impact of the proposed development as a function of landscape sensitivity weighed against the magnitude of the landscape impact as well as an assessment of the significance of the visual impact of the proposed development as a function of visual receptor sensitivity weighed against the magnitude of the visual impact. For the purpose of this assessment, a 1km study area from the site location has been identified.

The Chemoran facility has a site area of 0.85 ha and is fully enclosed within a designated industrial estate. The site is located c. 1km north of Oranmore town centre. Galway City is located c. 8km to the west of the site and is the main urban centre in proximity to the site. The site is located in the townland of Carrowmoneash and is within the jurisdiction of GCC. There are limited views of the site from the N67 due to the existing commercial and industrial buildings adjacent to the road.

The construction activity will not be visible from the public road network and is very unlikely to be visible by rail passengers. Where the works are visible from rail, the effect would be momentary as the train passes the site. It is not considered likely that there would be any significant effects on the landscape and visual environment from the construction of the internal access way. There are no proposed changes to the main infrastructure at the site and therefore it is considered that there are no likely significant effects from the operational phase of the proposed development. Decommissioning activities will primarily involve the removal of materials off-site and decontamination of equipment. It is not proposed to demolish any of the

existing infrastructure on the site in the event of decommissioning. Therefore, it is considered that there is no potential for landscape/townscape or visual effects during the decommissioning phase.

As a result of the potential impacts assessment, no further mitigation measures are proposed. Furthermore, there will be no cumulative nor residual impacts on the baseline landscape/townscape and visual environment as a result of the proposed development.

Given the nature of the proposed construction works at the site and the setting of the facility within a designated industrial estate, the potential for significant effects on the landscape/townscape and visual environment is considered to be low. The Chemoran facility has been in operation at the site since 1967 and is a well-established facility within the Deerpark Industrial Estate. There are no works proposed at the site which would alter the existing environment. No mitigation is proposed in respect of landscape/townscape and visual impacts.

15.0 INTERACTIONS OF THE FOREGOING

The potential effects of the Chemoran facility and the measures proposed to mitigate these effects have been outlined in this EIAR. However, in any development with the potential for environmental effect there is also the potential for interaction between effects of the different environmental aspects. The result of these interactions may either exacerbate the magnitude of the effect or may in fact ameliorate it. As part of the requirements of an EIAR, the interaction of the effects on the surrounding environment needs to be addressed.

All environmental factors are interrelated to some extent (see Table 15-1 below). However, the most common interactions are between Population and Human Health and hydrology and hydrogeology, noise and vibration, air quality and climate, traffic and transportation, material assets, and landscape and visual. Having studied the interaction of potential impacts during the construction, operational and decommissioning phases it has been determined that no amplification effect is anticipated. Chemoran will have some positive impacts on an international, national, regional and local level, particularly in terms of being a specialist facility for the manufacture of chemical emulsifiers for use in road surfacing applications worldwide.

Table 15-1: Interaction between Environmental Topics (positive and negative)

Interaction Matrix	Population & Human Health	Biodiversity	Land, Soils & Geology	Hydrology & Hydrogeology	Noise & Vibration	Air Quality & Climate	Traffic & Transportation	Cultural Heritage	Material Assets	Landscape & Visual
Population & Human Health				v	v	v	v		v	v
Biodiversity			v	v						
Land, Soils & Geology				v		v			v	
Hydrology & Hydrogeology									v	
Noise & Vibration							v			
Air Quality & Climate							v			
Traffic & Transportation								v	v	
Cultural Heritage										
Material Assets										
Landscape & Visual										

	Corresponding Topic Heading
v	Interaction
	n/a
	No interaction

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