11 Landscape and Visual Assessment

11.1 Introduction

This chapter describes the likely significant effects of the proposed Ringaskiddy Resource Recovery Centre development on landscape and visual aspects of the receiving environment.

The proposed development includes the Ringaskiddy Resource Recovery Centre, the upgrade of the L2545 local road along the frontage of the site, coastal protection works at Gobby Beach, and connection to the national electricity grid.

Chapter 4 provides a full description of the proposed development whilst **Chapter 5** describes the Construction Strategy. This chapter is accompanied by a set of Photomontages of the proposed development which are included in the Figure Nos. with the EIAR as identified throughout the report below.

The following aspects are particularly relevant to the landscape and visual assessment:

- Design:
  - Form and massing of the proposed development;
  - Façade on all above ground structures; and
  - Cognisance of how design elements impact on views of the proposed development and any effects on the receiving environment, including landscape character.
- Construction:
  - Views of the proposed development during construction and any effects on the receiving environment, including landscape character; and
- Operation:
  - Views of the proposed development and any effects on the receiving environment, including landscape character.

The chapter initially sets out the methodology (**Section 11.2**), then examines the existing receiving environment (**Section 11.3**), identifies the characteristics of the proposed development (**Section 11.4**), proceeds to examine the likely significant landscape and visual aspects associated with both the construction and operational phases of the proposed development, and including cumulative developments (**Section 11.5**), details the measures proposed to mitigate the likely significant effects of the proposed development (**Section 11.6**), and finally considers the residual effects (**Section 11.7**).

11.2 Assessment Methodology

The assessment has been undertaken with regard to the relevant guidelines for landscape and visual assessment, including:

EPA Draft ‘Guidelines on the information to be contained in Environmental Impact Assessment Reports’ (2017).

- EPA '*Draft Advice Notes for preparing Environmental Impact Statements'* (2015).
- The Landscape Institute/ Institute of Environmental Management and Assessment (2013). *Guidelines for Landscape and Visual Impact Assessment* (3rd Edition).
- Guidelines for treatment of tourism in an Environmental Impact Statement (Fáilte Ireland, 2011).
- European Commission (2017) Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report.
- Government of Ireland (2018) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018).

The methodology used for the landscape assessment entailed:

- Desktop studies of the site in relation to its overall context locally, regionally and nationally.
- Visiting the site and its environs between September 2018 and November 2018 to assess the following:
    - Quality and type of views in the area;
    - The extent of the visual envelope, i.e. the potential area of visibility of the site in the surrounding landscape; and,
    - The character and quality of the surrounding landscape in relation to the position of the proposed development.

The overall design of the landscape and buildings were part of an iterative design process informed by the potential landscape and visual assessment conclusions. The guiding principles for the proposed design and mitigation measures are the avoidance and minimisation of any landscape and visual effects.

Zone of theoretical visual influence (ZTVI) mapping was prepared for the main process building and stack based on Ordnance Survey topographic information, as illustrated in **Figures 11.0a** and **11.0b**. A ZTVI map illustrates a study area extending up to 10km around the site and highlights the areas where the proposed building and stack may theoretically be visible from. The ZTVI map does not take into consideration vegetation cover, changing weather conditions or the mitigating effect of distance and therefore illustrates the worst-case scenario of visibility. The Designated Scenic Routes within the study area as outlined in the Cork County Development Plan 2014 have been illustrated on **Figure 11.0a** and **11.0b**. Other relevant designations are dealt with in **Section 11.3.4** below. The desktop assessment is further refined by a site assessment that establishes local visual obstructions from land cover and settlement.

The character and quality of the surrounding landscape were assessed in relation to residential areas and properties, industrial, tourism and agricultural development; special landscape features; cultural and historical elements; and landforms associated with the site.

Pertinent landscape planning designations, including National and County Development Plan designations or listings were identified. These designated landscapes were assessed for direct and indirect landscape effects.

Following a detailed review of the ZTVI mapping, consultation and agreement with the local authority, a number of viewshed reference points (VRP) in the surrounding landscape were identified (see **Figure 11.0**). Photomontages, from these viewshed reference points were prepared for the proposed development, to assist in demonstrating the levels of visual effects. The full list of viewshed reference points is listed in **Table 11.2** and illustrated on **Figure 11.0**. They have been chosen to reflect a range of distances, directions, sensitivity, timing and receptor types and are illustrated on **Figures 11.1** to **11.37**. For each representative view, the existing visual environment, proposed development and cumulative visual effects are illustrated where appropriate. The cumulative views illustrate the proposed development together with other significant planned, permitted or emerging developments within the lower harbour area including the permitted Novartis wind turbine, the emerging Ringaskiddy port redevelopment, and ongoing development of Haulbowline and Spike Islands. The planned M28 Cork to Ringaskiddy Motorway Scheme is also considered. The nature of the motorway scheme as in approaches Ringaskiddy is that it is in a cutting through the topography, aligned in an easterly manner and then turning to north easterly and finally to northerly as it joins the local road. As is will be in cutting, and its alignment turning, it will generally not be visible in views from the north – save perhaps for changes to the terrain to form the cutting that might locally alter the profile of the landform when viewed from the north and northeast. As such, it is not illustrated in the photomontage views, however, the commentary on each view in **Table 11.2** includes reference to the development where appropriate.

In this assessment the term ‘receptors’ means viewers within the general environment as well as residential properties. Although the ZTV extends to 10km, the residential assessment has focussed on the closest 5-6km around the site where significant effects are likely to occur.

The extent to which additional illumination will be visible in the night landscape is also taken into account.

The structure of this landscape and visual assessment includes the baseline description of the receiving environment, including the site and its landscape context and character. This is followed by a description of the main elements of the proposed development that could give rise to landscape and visual effects, the proposed mitigation of these landscape and visual effects, and any remaining residual effects. Finally, the cumulative landscape and visual effects arising from the proposed development in conjunction with other significant developments in Cork Harbour are assessed.

11.2.1 Landscape and Visual Effects

The impact assessment distinguishes between the proposed development’s effect on the features of the landscape, the view of the landscape, and the character of the landscape.

The development’s effect on the landscape’s features refers to potential changes in the particular identity of coherent landscape areas and includes changes to the fabric of the landscape.

The effect on the view refers to the change in appearance that particular receptors (e.g. residents, recreational visitors, and road users) might register. The effect on the character of the landscape refers to the public response to the combined effects of the new development. The magnitude of the effect on the perceived character of the landscape will be determined by the public's visual experience of the landscape, the number of people affected, and also on their judgements about the significance and importance of the change.

The nature of the development is such that both landscape and visual effects are predominantly direct in nature, however, commentary on indirect effects is provided where appropriate.

11.2.1.1 Landscape and Visual Effect Assessment Criteria

The classification of significance of effects as set out in **Table 11.1** has been derived from guidance from the EPA and the UK Landscape Institute[1] and from the professional experience of the author in carrying out landscape and visual assessments for over 25 years.

Table 11.1 Categorisation of likely significant effects (derived from the guidance)

		EXISTING ENVIRONMENT Significance / Sensitivity			
		High	**Medium**	**Low**	**Negligible**
DESCRIPTION OF IMPACTS Character/Magnitude/ Duration /Probability/ Consequences	**High**	Profound	Very Significant	Significant / Moderate	Moderate / Slight
	Medium	Very Significant / Significant	Significant / Moderate	Moderate	Slight / Not Significant
	Low	Significant / Moderate	Moderate / Slight	Slight / Not Significant	Not Significant / Imperceptible
	Negligible	Slight / Not Significant	Not Significant	Not Significant / Imperceptible	Imperceptible

The significance of effects, which in nature may be positive, neutral or negative/adverse, are described as follows:

- **Imperceptible:** An effect capable of measurement but without significant consequences.
- **Not significant:** An effect which causes noticeable changes in the character of the environment but without significant consequences.
- **Slight:** An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
- **Moderate:** An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
- **Significant:** An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.

[1] See **Section 11.2** above

- **Very Significant:** An effect which, by its character, magnitude, duration or intensity significantly alters the majority of a sensitive aspect of the environment.
- **Profound:** An effect which obliterates sensitive characteristics.

In terms of duration, effects are considered as follows:

- **Momentary**: lasting seconds to minutes.
- **Brief**: lasting up to one day.
- **Temporary**: lasting up to one year.
- **Short-term**: lasting one to seven years.
- **Medium-term**: lasting seven to fifteen years.
- **Long-term**: lasting fifteen to sixty years.
- **Permanent**: lasting over sixty years.

Further aspects of effects including their **magnitude** (*i.e.* extent, frequency, and context); **probability** (*i.e.* likely, indeterminable, 'worse-case'); and **type** (*i.e.* cumulative, interaction (synergistic), residual, indirect, *etc*.) are also considered in the assessment, where appropriate in accordance with those descriptions outlined in the EPA guidance[2].

There were no limitations or constraints in carrying out the assessment.

11.2.2 Tourism and Recreation

In 2011, Fáilte Ireland published Guidelines on the treatment of tourism in an Environmental Impact Statement, noting that there are two interactions between tourism and the environment (**Chapter 2**), i.e. impacts caused by tourism projects and impacts on tourism (e.g. the quality of a destination or a tourism activity). The Fáilte Ireland Guidelines note that the assessment of effects on tourism should be treated as a specialist sub-section of the topic 'Population and Human Health', with particular elements being considered, as appropriate within other sections, e.g. Landscape, Flora and Fauna and Cultural Heritage etc. The impacts of the proposed development on Tourism and Recreation is dealt with in greater detail in **Chapter 6** ***Population and Human Health***, **Section 6.5.7.3** of this EIAR.

Chapter 3 of the Fáilte Ireland Guidelines list the reasons why tourists visit and enjoy Ireland. Aspects of relevance to this '***Landscape***' section of the EIAR would include any potential effect on 'beautiful scenery'; 'nature, wildlife and flora' (considered with Flora and Fauna (Biodiversity)); and 'good range of attractions' (considered with Flora and Fauna and Cultural Heritage).

For elements of relevance to this section of the EIAR, the Fáilte Ireland Guidelines note that particular attention needs to be paid to effects on:

- views from existing tourism facilities, touring routes and walking trails;
- physical access to and visibility of habitats; and

[2] See **Section 11.2** above

- damage to sites and structures of cultural, historical, archaeological or architectural significance and to their contexts or settings.

11.3 Receiving Environment

11.3.1 Existing Environment

The proposed Ringaskiddy Resource Recovery Centre is located on the eastern edge of the Ringaskiddy Peninsula in Cork's Lower Harbour.

The harbour is a complex and diverse landscape comprising natural and built elements as well as historic and more contemporary interventions.

It is both a living and a working landscape and has evolved and responded to the needs of the community over time. Additions to the harbour have ranged in nature to include settlements, military installations, tourism, port related activity, heavy industry and energy production, as well as pharmaceutical plants and energy transmission facilities. Many of the additions are large in scale, and some of them, historic and more recent, are more prominent than others.

The harbour has been a working port and strategic defensive hub for centuries, and it has been one of Ireland's major employment hubs since the early 1900s. Continuing to evolve and develop, it has major and strategic significance in energy generation, shipping and logistics, education, recreation, tourism, petro-chemical refining, and pharmaceuticals/bio-pharma manufacturing.

Each addition over time has contributed to the evolving character of the harbour. Collectively, all such interventions inform the current landscape character.

The lower harbour has a number of towns along its shores. The closest settlements to the site include Ringaskiddy, which is approximately 0.5km to the west; Shanbally, which is 2km to the west; Cobh, 1.5km to the north; Monkstown, 2.5km to the northwest; Carrigaline, 4.5km to the west; and Crosshaven, 3km to the southeast. The closest main road is the N28 Ringaskiddy Road. This road currently runs east to west and stops approximately 0.5 km to the west of the site at the eastern edge of Ringaskiddy, where it changes status to become the L2545 Local Road leading to Haulbowline Island, home of the Irish Navy.

The topography in the local area is defined by ridgelines that typically run east-west to form a rolling landscape. The site is located on the east-west ridge that extends from the "Golden Rocks" headland at Ringaskiddy, running through Shanbally to Carrigaline. To the north, the primary visual ridgeline runs along the spine of Great Island. This breaks at Rushbrooke where the River Lee Estuary runs through a small channel (West Passage), and it continues again to the west to form the ridgeline through Monkstown and onto Raheenaring. To the south, another ridgeline runs from Camden westwards through Frenchfurze. These north and south ridgelines define the visible extents of the local area, as the Ringaskiddy peninsula is the lowest of the others. To the east the views dissipate with the distance over Cork Harbour and similarly to the west before reaching Carrigaline.

There are a number of important and visually significant buildings in Cork Harbour. The most visually significant and important structure is Cobh Cathedral which sits on elevated ground at Cobh and overlooks the entire lower harbour.

Its prominence makes it a significant landmark within the lower harbour area. It presents as a focal point from all around the harbour and is used for navigation purposes from the water. The lower harbour contains a number of important military fortifications such as Spike Island, Fort Davis, Fort Camden, Cobh Fort and Ringaskiddy Martello tower, which contribute to the rich heritage and character of the harbour.

The local landscape is heavily influenced by the existing industrial, commercial, energy production/transmission, and port related uses in the Ringaskiddy and Lough Beg area, as well as being part of a much larger and mixed-use harbour.

Large scale harbour-related activities and energy production and transmission lines form important elements of the wider landscape character. There are four large wind turbines at DePuy (Loughbeg), GlaxoSmithKline (Curraghbinny), and Janssen (Barnahely) that are strong visual elements and focal points in the harbour landscape/seascape. Another permitted, but unbuilt, wind turbine has been proposed for close to the Novartis pharmaceutical plant at Barnahely.

The Port of Cork are currently implementing a granted planning permission to redevelop Ringaskiddy Port that will facilitate the transfer of their cargo activities from Tivoli and Cork city quays to Ringaskiddy Port.

There are many large industrial man-made elements that are less apparent from the site itself, however visible they may be from neighbouring areas in the wider landscape. These include Aghada Power Station, with its prominent red and white striped stack; Whitegate Oil refinery; the tanks on Corkbeg Island; and the former dockyard at Rushbrooke. Smaller elements include the water towers at Monkstown, Cobh and Crosshaven; T.V. and mobile telephone masts; electricity pylons and overhead powerlines; and ships, containers, cranes, and other large machinery. Many of these structures are evident in the accompanying representative viewpoint location photographs.

The water in Cork Harbour itself is visible from many areas and dominates the character of the area. Immediately to the north of the site, the National Maritime College of Ireland (NMCI) and associated car park are visible, and the naval base at Haulbowline is beyond. Immediately east of the NMCI, the Beaufort Research Centre (part of UCC) is actively promoting Ireland as a world-renowned research and development location that will unlock Ireland's maritime and energy potential and is aiming to harness and integrate diverse research and industry expertise. The Beaufort Building and associated upgrading of adjacent roads has contributed to a strong sense of change in the area.

The Port of Cork deep sea ferry terminal and associated car import area at Ringaskiddy Port are also visible from many locations, along with numerous electricity lines and pylons leading to the substantial ESB Substation and gas network AGI to the west of the site. Ringaskiddy Port is currently undergoing significant expansion that will facilitate transfer of cargo activities from Tivoli and Cork city quays to Ringaskiddy Port. The development includes an amenity boat launch facility at Paddy’s Point adjacent Haulbowline Bridge and Beaufort building.

Similarly, the East Tip Island has been rehabilitated, and works are commencing for the establishment of a parkland landscape for amenity purposes on the former ISPAT/Irish Steel site. The final stage of the rehabilitation works involved importation of soil which was sourced from a borrow pit on the southern side of the "Golden Rocks" headland at Ringaskiddy, south of the Ringaskiddy Martello Tower and overlooking the DePuy facility.

Such developments are continually changing the landscape and visual environment of the Lower Harbour area and are consistent with the character of this landscape within a robust and constantly evolving landscape.

Other distinguishable natural features of the landscape include the blocks of woodland on the headlands, in particular at Currabinny, Marloag Point and Rostellan. Higher on the ridges, beyond the settlement and the industry, the green of rolling farmland is visible.

All elements of the landscape including natural, built, historic, recent, prominent and discreet, collectively contribute to the overall landscape character of the harbour.

11.3.2 The Proposed Development Site

The site covers an area of approximately 13.55 hectares and is situated on a north-facing hillside. The land rises from north to south, and also generally from east to west. The lowest elevation is approximately 2.05-3.0mOD along the northern boundary with the local road. The highest point is approximately 41.0mOD along the southern site boundary in the vicinity of the Martello Tower, which is in the adjoining field to the south.

The overall outer boundary of the site is roughly rectangular in shape with narrower sections at the eastern and western ends, and with the Hammond Lane Metal Recycling Company Ltd metal/scrap processing yard located centrally within the site with its own direct access from the local road to the north. Although this yard is located centrally within the site, it does not form part of the site. The yard contains several metal buildings, concrete walls, and some large pieces of machinery. There is often movement of the machinery visible within the yard.

The northern boundary of the site adjoins the L2545 local road, which is an extension of the N28 that leads from Ringaskiddy past the proposed development site and over the bridge to the crematorium on Rocky Island and Haulbowline Naval base. Running along the roadside, within the site, is a small earth mounding topped with a line of small, deciduous trees. The National Maritime College of Ireland (NMCI) and Beaufort Building are located opposite the site on the northern side of this road, and Gobby Beach is close to the northeast of the site.

The southern boundary of the site is marked by a mixed hawthorn/blackthorn hedgerow. Just beyond the southern boundary, the site is further visually defined by the high voltage electricity line that runs west overhead to connect with the ESB sub-station at Barnahely, near Shanbally and east (then north) to Haulbowline Island. Further to the southwest, the land continues to rise slightly to create the ridgeline on which a Martello Tower is located at the highest point (43mOD).

The land use to the south of the site is predominantly agricultural, consisting of pasture fields divided by hedgerow, and, as mentioned above, has been used as a borrow pit for soil for the remediation works at East Tip Island.

The western boundary is marked by a hedgerow. Further to the west is scrub gorse land on sloping ground. A little further away there is a single, large, white-painted residential property (Ring House) located approximately 50m from the boundary, set within a field and surrounded by trees. The proposed M28 upgrade will be positioned between the west boundary of the site and Ring House. The eastern boundary is marked by a rough hedgerow, glacial till cliffs and the west channel of Cork Harbour. The land cover varies across the site.

The steeper sloping areas to the east of the site, and the central and western section around the boundary of the Hammond Lane Recycling site are currently densely covered in gorse and bramble scrub with some pockets of small stunted trees. There is a line of trees along the northern boundary. The flatter areas at the south western section near the Martello tower and the north-western section along the road are rough grassland with hedgerow. There are pine trees in the surrounding local area that, combined together with the gorse, create a very dark green backdrop to the area, particularly when it's viewed from a distance.

11.3.3 Site Significance

Cork harbour is of crucial importance to Cork's economic, leisure, amenity, marine, and transport activities, as well as to the heritage of Cork and its environs.

The site falls within the administrative area of Cork County Council and therefore under the Cork County Development Plan (CCDP), 2014. It is also within the Ballincollig Carrigaline Municipal District Local Area Plan 2017 which amended and replaced the Carrigaline Electoral Area Local Area Plan (CEALAP, 2011, 2nd Ed, 2015) that was in place when the planning application was made to An Bord Pleanála in January 2016. **Chapter 2** of this EIAR sets out the planning policy context, from European down to local level, and **Section 2.4.3.2** sets out that rezoning since the application was made is contrary to the Planning and Development Act 2000, and to Objective ZU 3-7 of the Cork County Development Plan 2014.

The CCDP 2014, as amended by Ministerial Direction of 4th March 2015, supports in principle the provision of:

'*strategic large-scale waste treatment facilities including waste to energy recovery facilities will be considered in 'Industrial Areas' designated as Strategic Employment Areas such as Ringaskiddy'.*

Ringaskiddy lies within the landscape type 'City Harbour and Estuary', an area of High Value Landscape (HVL), very high sensitivity, and an area of national importance (Cork County Draft Landscape Strategy 2007).

Within the CCDP the landscape character area is defined as 'Cork City and Harbour'. The landscape of the city and harbour area comprises a mix of rural and intensely urban areas, combined with an expansive harbour.

The western side of the harbour supports major industrial development, while on higher ground telecommunication masts and water storage towers punctuate the skyline. The harbour includes large islands, which, along with much of the harbour shore, consist of fertile farmland that slopes gently to the sea.

There are some scenic routes and scenic landscape designations in close proximity to the site in the (CCDP 2014) that are discussed below.

11.3.4 Designated Landscape

There are large areas around the Cork harbour coast (and therefore also the site) that are located in High Value Landscape.

Paragraph 13.6.9 reads:

Within these High Value Landscapes considerable care will be needed to successfully locate large scale developments without them becoming unduly obtrusive. Therefore, the location, siting and design of large scale developments within these areas will need careful consideration and any such developments should generally be supported by an assessment including a visual impact assessment which would involve an evaluation of visibility and prominence of the proposed development in its immediate environs and in the wider landscape.

Policy GI 6-1: Landscape, reads:

a) Protect the visual and scenic amenities of County Cork's built and natural environment.

b) Landscape issues will be an important factor in all land use proposals, ensuring that a proactive view of development is undertaken while maintaining respect for the environment and heritage generally in line with the principle of sustainability.

c) Ensure that new development meets high standards of siting and design.

d) Protect skylines and ridgelines from development.

e) Discourage proposals necessitating the removal of extensive amounts of trees, hedgerows and historic walls or other distinctive boundary treatments.

11.3.5 Designated Scenic Routes

Certain roads around the county, including around the harbour area, have been designated as scenic routes in the Cork County Development Plan. The policy reads:

GI 7-2 Scenic Routes

Protect the character of those views and prospects obtainable from scenic routes and in particular stretches of scenic routes that have very special views and prospects identified in this plan. The scenic routes identified in this plan are shown on the scenic amenity maps in the CDP Map Browser and are listed in Volume 2 ***Chapter 5*** *Scenic Routes of this plan.*

GI 7-3 Development on Scenic Routes

a) Require those seeking to carry out development in the environs of a scenic route and/or an area with important views and prospects, to demonstrate that there will be no adverse obstruction or degradation of the views towards and from vulnerable landscape features. In such areas, the appropriateness of the design, site layout, and landscaping of the proposed development must be demonstrated along with mitigation measures to prevent significant alterations to the appearance or character of the area.

b) Encourage appropriate landscaping and screen planting of developments along scenic routes which provides guidance in relation to landscaping. See ***Chapter 12 Heritage Objective*** *HE 46.'*

There are four Scenic Routes which could potentially overlook the proposed development. Scenic Route S56 is outside the visual envelope area.

Specific details on the type of views that are to be protected for each Scenic Route have been identified within the CCDP and are included in italics below.

11.3.5.1 Scenic Route S51 in CCDP

R630 Regional Road & Local Road from Ballynacorra via East Ferry to Whitegate and Roche's Point - Views of the Estuary & Harbour, Roche's Point & the rural coastal environment.

This route runs along the eastern coast line of Cork Harbour. It is around 3.5km from the site at its closest point. Any view of the site from this route will also include a view of the intervening water in the harbour. There are several viewpoints chosen from along this route to be illustrated as photomontages (viewpoints 11.19, 11.20, 11.21 and 11.23).

11.3.5.2 Scenic Route S53 in CCDP

R624 Regional Road, between Cobh and Belvelly - Views of the Upper Harbour and coastal environment.

This route is around 2km to the north of the site at its closest point. It runs around the western coast of Great Island to the town of Cobh. Much of the designated route has no views of the Ringaskiddy site due to intervening topography and direction of views. However, at Cobh there is one montage close to this route on the High Road (viewpoint 11.18) which provides expansive views over Cork harbour, Haulbowline and Ringaskiddy.

11.3.5.3 Scenic Route S54 in CCDP

R610 Regional Road, Local Road & N28 National Primary Route between Passage West and Ringaskiddy- Views of the Harbour.

This road runs in close proximity to the northern boundary of the site and follows the coastline of Cork harbour to Passage West via Rafeen and Monkstown with views over the harbour and surrounding landscape. There are several viewpoints chosen from along this route to be illustrated as photomontages (viewpoints 11.1, 11.2, 11.5, 11.24, 11.25).

11.3.5.4 Scenic Routes S58 and S59 in CCDP

R612 Regional Road & Local Roads between Crosshaven and Myrtleville, Church Bay, Camden, Weavers Point and Fountainstown Views of the sea & coastal landscape.

There is a short section of this route from Crosshaven to Camden Fort about 3km to the south of the site which has views towards the site. The route runs along the southern bank of the Owenboy River. Most views are in the direction of travel to the east or west and will not be towards the site. Upon approach to Camden Fort, the road opens out at the bus turning circle and there will be views to the north. There is one photomontage to illustrate a view from along this route (viewpoint 11.32)

There are some additional policies in the CCDP that pertain to the views from routes including:

GI 7-4 Development on Approach roads to towns and villages

Ensure that the approach roads to towns and villages are protected from inappropriate development, which would detract from the setting and historic character of these settlements.

The proposed development will be located beyond Ringaskiddy village and the end of the N28, on a local road that terminates at the West Channel of Cork Harbour. In any approach views towards Ringaskiddy from the west, the development will be c. 1.0km or more to the east, and, if visible, will recede in perspective and not be prominent such that it might detract from the setting of the settlement.

11.3.6 Other Designations

Due to its location and natural configuration, Cork Harbour has been a strategic defensive port for centuries with a number of significant military fortifications. Intervisibility, as distinct from general visibility, is of particular relevance between military defence structures in performing an effective defence function.

Within the lower harbour area, there are five such military structures. These include the Carlisle (Fort Davis) and Camden Forts at the mouth of the harbour, Fort Mitchell (Westmoreland) on Spike Island, Haulbowline Island including the naval base and Martello tower, and the Ringaskiddy Martello tower, which adjoins the site.

These military structures are all elevated in order to fulfil their function. As such, they have commanding views over large areas of the harbour. Such views incorporate most of the more recent developments within the harbour area, including industrial, energy production and storage, energy distribution and port related activities.

The Ringaskiddy Martello Tower to the south of the site is a protected structure (RPS 00575) and recorded monument (RMP CO087-053). The details and significance of the structure is dealt with further in **Chapter 14 *Archaeology, Architecture, and Cultural Heritage*** of this EIAR. The policy in the CCDP deals only with protection of the structure itself, rather than its setting, views, or the character of the landscape around it.

There are a number of a photomontages from this elevated location (viewpoints 11.3 and 11.4). As noted previously, the land on the southern side of the Martello Tower was used as a borrow pit to source soil for the remediation works at East Tip Island.

The Haulbowline Martello Tower (RPS 00578; RMP CO087-059002) is located on high ground within the Irish Navy base approximately 1km to the north of the site and as such is inaccessible. However, a number of representative viewpoints have been prepared (viewpoints 11.9 and 11.10).

Fort Mitchell (Westmoreland Fort, RPS 01272, RMP CO087-065003) is approximately 1km to the east on Spike Island. With its central location with the harbour, it has commanding views in all directions. Viewpoints 11.35, 11.36 and 11.37 illustrate views towards the site and Ringaskiddy Martello Tower.

Fort Davis (Carlisle Fort, RMP CO087-058), is approximately 3.3km to the southeast of the site on the eastern side of Cork Harbour with elevated views north over the lower harbour including Ringaskiddy and Fort Mitchell on Spike Island (see viewpoint 11.21).

Fort Camden (RPS 01010, RMP CO099-024) is approximately 3km to the south of the site at Crosshaven and has elevated views over the lower harbour including Ringaskiddy and Spike Island with Haulbowline Island, Cobh and Monkstown in the visual backdrop (see viewpoint 11.32).

Beyond the lower harbour, on the north side of Great Island, there are three additional Martello towers at Monning (Marino Point), Belvelly and Rossleague. These performed a separate defence function on the northern side of Great Island and have intervisibility between each other. The elevated topography of Great Island is such that they do not have any visual connection with the defence structures of the lower harbour. Intervisibility between military structures is therefore only relevant to the five structures of the Lower Harbour.

In addition to the military structures discussed above, there are also other structures that are part of the architectural heritage of the wider harbour area. All such structures contribute to the rich architectural, cultural and landscape heritage of the harbour.

The most visually significant and important structure is Cobh Cathedral which sits on elevated ground at Cobh and overlooks the entire lower harbour. Its prominence makes it a significant landmark. Cobh Cathedral is the most significant landmark within the harbour. It presents as a focal point from all around the harbour and is used for navigation purposes from the water.

11.3.6.1 Recreation and Amenity Landscapes

Cork harbour is designated as an area of ‘National Tourism Significance’ by Fáilte Ireland in their publication Determination of Waters of National Tourism Significance and Associated Water Quality Status (2009). It is an important recreational resource for the region with water-based activities such as sailing, fishing etc. It is also an important entry point into the region via the ferries that use Ringaskiddy port. Cruise liners visiting Cobh are an important industry in the region with continuing investment in berthing facilities and increased numbers of visiting cruise ships at Cobh (see viewpoint 11.18). Representative views from the water include viewpoints 11.12 and 11.22.

Other recreation and amenity facilities located nearby, and which have views of the site, include:

- A pathway up to the Martello Tower from the Loughbeg road to the west (see viewpoints 11.3 and 11.4).
- Gobby Beach forms the shoreline on the eastern boundary of the site. (See viewpoints 11.6 and 11.7). There is a small public car park, at the north-eastern corner of the site that serves the beach. Historically, there was a pathway leading from Gobby Beach to Martello Tower, but it is no longer evident.
- The historical visitor locations such as Cobh Cathedral, Fort Mitchell on Spike Island and Fort Camden at Crosshaven. The latter two sites have been undergoing significant development as part of a wider tourism development initiative in the lower harbour (see viewpoints 11.17, 11.32, 11.35, 11.36 and 11.37).
- Monkstown marina and coastal walks including the Passage West to Monkstown Walk (see viewpoints 11.24 and 11.25), the Carrigaline/Crosshaven/Camden walk (see viewpoint 11.34), Cobh harbour front (see viewpoint 11.14 and 11.16), and coastal walks on the eastern side of the harbour at Rostellan, Aghada, Whitegate (see viewpoint 11.20), White Bay and Roche's Point (see viewpoint 11.23).
- Currabinny Woods 1.9km to the south of the site (see viewpoint 11.31).
- A significant remediation project at Haulbowline Island is at an advanced stage at the East Tip that will transform the site into a public recreation amenity (see viewpoint 11.11).
- The Port of Cork's redevelopment of Ringaskiddy include a boat launching, and amenity area at Paddy's Point close to the Haulbowline bridge crossing and UCC Beaufort building (see viewpoint 11.9).
- A number of golf holes on Monkstown Golf Course have elevated and expansive views across the lower harbour (see viewpoint 11.27).

11.3.7 Zone of Theoretical Visibility

A key element of any appraisal of a proposed development is an assessment of the visual impact. This is greatly aided by the production of a Zone of Theoretical Visibility Map (ZTV). This is based on the Ordnance Survey 1:50,000 Discovery Series mapping used in conjunction with ArcGIS Spatial Analyst software for a radius of 10km.

The result of this process is a map which indicates all locations where the proposed building and stack will be theoretically visible in the landscape. The assessment is based on topography only and excludes buildings and vegetation. Accordingly, screening influences associated with land use and land cover are excluded and there may be small exceptions locally across this plan however it is intended to illustrate the broad pattern of theoretical visibility across the area. The ZTV mapping illustrates the extent of the visibility of the highest elements of the building and stack. The ZTV map of this development are indicated on **Figures 11.0a** and **11.0b**, for the main process building and stack respectively.

The site is located on the north side of the Ringaskiddy ridge. The primary views of site include Ringaskiddy, Haulbowline, Cobh, Monkstown, Currabinny, Crosshaven and longer-range views (5km +) from Whitegate, Aghada, Carrigaline and surrounding hilltops.

The main views of the site are from the north, with more distant views from the west and east. This is due to the flat expanse of water across the harbour from these directions that often allows for clear, uninterrupted, long-range views. From the north, the closest views of the site are from the adjacent road (Scenic Route S54 – see viewpoints 11.1 and 11.2), the National Maritime College (see viewpoint 11.5) and the exit road from the Port of Cork. Also, at relatively close range, there are views from the water itself, in particular the passenger ferry as it approaches the Ferry Port, Rocky Island, and from the southern edge of Haulbowline Island (see viewpoints 11.9-11.12). Mid-range views are visible over the water from the settlement at Cobh on the southern side of Great Island (see viewpoints 11.13-11.18), and from the settlement at Monkstown (see viewpoints 11.24-11.27).

To the east and northeast there will be a close-range view from Gobby Beach (see viewpoints 11.6 and 11.7), and more distant views from the south-eastern coastline of Great Island down to Marloag Point. There are more distant views from the coast opposite Marloag Point at East Ferry, to the east of Great Island (see viewpoint 11.19). There will also be views from the water (see viewpoints 11.10, 11.12 and 11.22). The long range theoretical views continue south down much of the eastern edge of Cork Harbour (see viewpoints 11.20, 11.21 and 11.23). Spike Island and Haulbowline Island situated centrally within the harbour have views of the site from across the water (see viewpoints 11.8-11.11 and 11.35-11.37).

The ridge of land directly south of the site currently obstructs all views of the existing site from the southwest/south (see viewpoints 11.28-11.34). The location of the site can be identified using the Martello tower as a reference landmark. To the west, views are more limited by the intervening land, vegetation and industry.

In general, due to the topography of the land, the views of the proposed site area are predominantly from the north and, to a lesser extent, the east, west, and south.

11.3.8 Landscape Character

As the site is located near Ringaskiddy in Cork Harbour, any description of the landscape character should be informed by the strong identity of the harbour. The site lies within the ‘City Harbour and Estuary’ Landscape Character Type which is also defined as ’Cork City and Harbour (City Estuary Harbour and Island Complex)’ Landscape Character Type in the CCDP 2014 and Cork County Draft Landscape Strategy 2007.

More locally, the mixture of the harbour activity, water, industrial development, wind turbines, agricultural land, architectural heritage, and low-density housing define the overall character of the local area. Although the site is greenfield and scrubland, it is fundamentally industrial in character and heavily influenced both by the water and the industrial developments in the surrounding area (and also the scrap metal works located centrally within the site). The character is best described as an ‘Industrial Harbour’ landscape.

The development of the Beaufort Research Centre adjacent to the National Maritime College of Ireland and the ongoing rehabilitation of Haulbowline Island have begun to introduce elements of a mixed campus type landscape within the overarching industrial context.

11.4 Characteristics of the Proposed Development

11.4.1 Description

The proposed development consists of the construction a resource recovery centre, which will potentially give rise to landscape and visual effects.

A full description of the proposed development is given in **Chapter 4 *'Description of the Proposed Development'***.

The eastern part of the site contains the largest element and this building will create the most visual effects. The main visible components include:

- **Main process building** which at its highest point above ground level is proposed to be 50.7m, above Ordnance Datum (aOD) with a varying floor level of 5m and 10m aOD. The building is angled in a southwest/northeast alignment with the longer façade approximately 176m in length and up to a width of approximately 81m. A perimeter access road surrounds the building providing vehicular access to the main building as well as the other building associated with the development. The area for the building and access road will require significant earthworks and changes in level on the site requiring the removal of most of the existing scrub vegetation on the eastern part of the site. The building shape, massing and colour strategy were carefully considered to ensure that the building was as inconspicuous in the surrounding landscape as possible. The building will be coloured externally in a mixture of colours to blend with the dark shades of the ridge backdrop at the lower levels and the lighter sky shades at the higher levels. The varying use of colour also helps to break up the mass of the building utilising varying shades of natural green.
- **Stack**, which will be the tallest element of the development at 75m aOD. This circular shaped stack is attached to the main process building rising from the roof. This will be an off-white/grey colour. A short, thin steam emission plume may be visible from the stack. The degree of visibility will vary greatly depending on climatic factors, including temperature and wind speed both of which will affect density and dispersion. The plume may be visible in a morning, not be present during the day and then in a cooler evening it can become visible again.
- **The turbine hall and aero-condenser structure** will be smaller and will be located to the rear of the main process building. The turbine hall will be approximately 25m by 15m and circa 16m in height while the aero-condenser structure will be approximately 35m by 15m and circa 16m in height. Both structures will be located at a finished floor level of 11m aOD.

- **The fire water storage tank and pump house** will be located to the south of the main process building, both located at a finished floor level of 11m aOD. The storage tank will be 11m in height whilst the pumphouse will be 6m in height.
- **The administration building** will be a smaller scale building and will be located close to the main entrance in the northern part of the site, with a finished floor level of 5m aOD and parapet height of 13.2m aOD.
- **The main entrance, emergency access, carpark and weigh bridges** will be situated at the north-western part of the site. The site will be accessed and exited via two new points from the local road to the north, the car park and two weigh bridges.
- **The electrical substation building, and compound** will be located to the north of the process building at a finished floor level of 5m aOD. It will consist of a 5m building and hardstanding and electrical compound with pylons.
- **Site lighting** will include a mixture of 6m high pole mounted lights to light up entrances and roads with full cut off LED light head fixtures to reduce any light pollution into the surrounding area. There will be 3no. white obstacle lights at the top of the stack.

Other associated development works include;

- **the upgrade of the L2545 Local Road** along the frontage of the site, raising existing road levels by approximately 1.2m close to the entrance to the site and tapering to meet existing road levels east and west.
- **Coastal protection works** at Gobby Beach which includes the placement of shingle above the foreshore.
- **Connection to the national electricity grid** as set out in **Section 4.5.10** of the EIAR.
- **Raising and changing of existing site levels** including the Western Fields which will include the raising of levels in the area by up to 2.5m high over existing ground levels giving a level area of 4.55m aOD.

11.5 Likely Significant Effects

11.5.1 Do Nothing Scenario

In the event of the development not proceeding, the site will continue to remain as open green scrub land and agricultural use in the western fields in the shorter term with Hammond Lane Recycling site located adjacent to the site. The lands may none the less be directly impacted in the future by the proposed re-alignment of the M28 Cork to Ringaskiddy Motorway Scheme and by other built development that may subsequently be proposed on the lands as anticipated in the CCDP.

In the wider context, housing within Ringaskiddy is not expected to expand and the Ballincollig Carrigaline Municipal District Local Area Plan, 2017 objective is that housing should meet local needs only.

With the establishment of the UCC ERI Beaufort Building campus, rehabilitation of Haulbowline Island, and development of Ringaskiddy Port, the area is continuing to undergo considerable landscape and visual change that will continue in the short, medium and long term.

11.5.2 Landscape Effects

11.5.2.1 Construction Stage

In general landscape effects during construction will be temporary/short-term, negative and localised in nature. The construction period will be likely to last for 31 months. Effects during construction may arise from a number of activities, including site development works, emergence of new structures and from general construction activity and traffic. Noise and site lighting arising from such activities also tend to draw attention to the works and as such have the effect of increasing visual awareness. However, any such effects will be of a local slight and of temporary or short-term duration, primarily affecting localised views.

During the construction period there will be sections of the slope, particularly towards the eastern end of the site that will be excavated to construct the main process building and associated buildings, service yard and access road.

The scale of level changes will not be readily apparent within the greater landscape and any earth movement and excavation will serve to ensure that during the operational period the buildings will be set as low as possible within the landscape form. The overall shape and levels of the highest sections of the ridgeline will remain undeveloped and unchanged.

The land cover which consists of rough grassland, scrub and pockets of small stunted trees including the line of trees along the mid to eastern edge of the northern boundary, gorse and bramble planting will almost entirely be removed from the eastern section of the site (east of Hammond Lane Recycling site). This will include the line of willow trees and hedgerow along the northern boundary of the site adjacent to the local access road. This will open up views into the site from the local access road, entrance to National Maritime College of Ireland (NMCI) and Gobby Beach. The western field currently used for agriculture will be raised in level and used as a construction compound. The grassland and gorse are not considered to be particularly sensitive as it is a local abundant native species which is quickly and easily established. The few isolated trees are not significantly contributing visually to the overall amenity or character of the site and as described in the landscape mitigation section there will also be large areas of additional predominantly native tree and scrub planting which will far exceed the numbers of trees removed. During the phase of construction there will be a significant effect on the landscape elements on the site. This will be short term and negative in nature.

As construction proceeds there will be a requirement to provide for a construction compound in the western fields, stockpile mounds of subsoil and topsoil, laying of underground services and construction of an access road amongst others. The bare soil and rock will be exposed along with machinery movement and noise. The character will change moderately and temporarily as the Hammond Lane Recycling premises currently create some level of machinery moment, fencing and industrial feel to this site.

Construction operations and deliveries to site will be carefully managed to minimise inconvenience on the surrounding community, amenities and roads.

11.5.2.2 Operational Stage

Upon the completion of the proposed works, there will be a significant change in the appearance of the site, from the existing open land to the larger industrial elements of the resource recovery plant. Initial potential effects on the landscape character will be significant, negative on the adjacent local landscape reducing to moderate, negative effects as planting matures. Effects on the character of the greater Cork Harbour Area will be slight to moderate and neutral due to the existing mix of industrial elements within the area of the proposed development. After the establishment of the new vegetation along the northern, eastern and southern boundaries, the effects will be permanent and neutral.

In terms of lighting, there is some existing lighting along this peninsula arising from Ringaskiddy, Haulbowline and the wind turbines in the lower harbour, however there will be additional lighting arising from this development (see night-time viewpoints 11.17B from St. Coleman's Cathedral, Cobh; 11.25B from Monkstown; and 11.36B from Spike Island).

This will lead to an intensification of the existing night-time character rather than a complete change of character to this area although locally from the water to the east there will be additional lights visible. The majority of the lighting will be at low levels and will therefore be predominantly screened or mitigated by the mounding and planting. Following extensive consultation with relevant authorities, and documented in **Section 4.5.2** of this EIAR, there will be 3 no. white lights on top of the stack for aviation purposes. These will be visible in the surrounding area but will not divert attention from the brighter lighting in the other surrounding industrial areas.

11.5.2.3 Cumulative Effect on Landscape Character

The lower harbour area is currently and will continue to undergo process of change in its landscape character in the short, medium and long term with other planned, proposed and emerging developments in the area including;

- the Ringaskiddy Port redevelopment by Port of Cork;
- the permitted and as yet unbuilt 150m high Novartis wind turbine;
- the planned M28 Cork to Ringaskiddy Motorway Scheme (under judicial review);
- Cork lower Harbour Drainage Scheme, currently under construction, and due to be complete in 2019
- establishment of an amenity park Haulbowline Island (due to open in 2019),
- continued development of visitor facilities at Spike Island, and;
- continued development of other industrial, renewable energy and pharmaceutical projects in the lower harbour area.

A full schedule of other projects within the wider Lower Harbour area is provided in **Chapter 17, Section 17.6** of this EIAR, however, in terms of Landscape and Visual effects, and given the expanse and nature of the Lower Harbour, only those projects in relative proximity to the development site, or of a scale or height that would be notable within the landscape of the harbour are considered.

The cumulative effect of some of these developments on the landscape character may be negative in the short term, however, each development will be contained within its own localised development area and will all contribute positively in the medium to long term once operational as the area transitions from a slightly unkempt semi-industrial area to a more developed cluster of industry, energy and education campus style landscape. The proposed development, including the electrical grid connection, will be seen in many ways as an extension of this landscape. Overall the greater surrounding area is deemed capable of absorbing the development without changing the character of the City Harbour Landscape.

Cumulative effects on landscape character, direct or indirect, of the proposed development in combination with other developments will be not significant.

11.5.3 Visual Effects of the Development During Construction Stage

Visual effects, substantially direct in nature, during construction stage will be temporary to short term by nature and will gradually see the transition of the existing site from its open green scrub land and agricultural character in the western fields to a newly built industrial environment, and the local road is upgraded to its new elevated design level.

Visual effects during construction may arise from changes to the appearance and form of the site development area arising from site development works, emergence of new structures and from general construction activity and traffic.

Construction activity will give rise to temporary to short-term significant negative visual effects in the immediate environs of the site, both within the site and along the local road frontage of the site, as site and boundary planting is cleared and site hoarding erected, and as the building emerges and mitigation measures are put in place. In the wider harbour setting, such effects will be slight/moderate as the development area, where visible, will be seen in the context of the wider and more complex harbour landscape.

Indirect visual effects during construction may result from temporary or short-term changes in the intensity of use of public roads leading to the development site, but this will be consistent with such use for other developments in the area and will be not significant. Indirect effects may also arise from the perception that the land use is changing or continuing to evolve as a living and working harbour as it responds to contemporary needs, but in any event will be consistent with such ongoing development and with be not significant.

Cumulative visual effects during construction will be not significant as any potential significant effects arising from one development will be localised to the more immediate environs of that project.

11.5.4 Visual Effects of the Development During Operation Stage

Due to the scale of the proposed built development it will be visible from a wide number of locations with varying sensitives to changes in the visual environment. Periodically, depending on climatic/atmospheric factors, including temperature and wind speed, a short, thin steam plume may be visible from the stack.

The nature of the development is such that visual effects will predominantly be direct, and with indirect effects generally being limited to how the presence of the development might influence adjacent or proximate land uses and thereby give rise to additional development, or not.

The areas of Cork harbour and environs include areas of settlement, routes used for walking, cycling and driving, recreational and working areas, as outlined below. The assessment is supplemented with representative photomontage viewpoints illustrating the existing view, proposed view and cumulative view (where applicable/appropriate) with the proposed development and significant permitted or planned developments in the lower harbour area including the permitted and emerging Ringaskiddy port redevelopment and the Novartis wind turbine. There are also a number of representative views with the visible plume from the stack shown.

11.5.4.1 Settlements

Ringaskiddy

Ringaskiddy is the closest settlement. The eastern edge of the settlement is located close to the western boundary of the site. There is a good deal of vegetation lining the roads around Ringaskiddy however the top of the main process building, and stack will be visible from the N28 approach road, including sections of the main street where there will be clear direct views (see viewpoints 11.1 and 11.2). From the eastern edge of the settlement the views are less due to the intervening vegetation and in particular, a line of poplars along the south side of the local road. There are many other industrial scale buildings around the settlement, although from this westerly direction within the settlement this will appear as the largest. The houses in the settlement are generally orientated north on the slope towards the harbour. The redevelopment of Ringaskiddy Port will be partially visible behind the existing and associated screening within the village. Visibility is currently at its greatest as construction has commenced, and substantial portions of screening have been removed to facilitate new road network development.

Ring House is one property located adjacent to the western edge of the site. This house is set within a small field and screened by trees. It is also orientated north. The raising of levels in the Western Fields and construction activity will have a significant, negative and temporary effect on the property for the duration of the construction period. The main process building and stack, with occasional visual plume, will also be visible beyond Hammond Lane Metal Recycling and the existing tree screening. The cumulative visual effect of the M28 which is likely to be located between the property and proposed development will be significant.

To the eastern edge of the settlement there is the housing area of Martello Park. There are around 20 houses which are oriented to the north away from the development and will not be visually impacted by the proposed development although there may be slight oblique views from the houses at the closest edges. The more elevated parts along the eastern edge of Ringaskiddy may receive partial, glimpsed views through other houses and trees from rear upper story windows. This occurs particularly at Bloomfield, potentially from houses numbered 6-14 and also at St Carthage Place, although only the stack and the top of the main building will be visible due to the orientation of the houses and the intervening ridge. There will be more screening in summer when the trees are in full foliage and these dwellings are already located within a landscape that includes large scale electricity pylons and transmission lines, and other existing industrial buildings in their vicinity. The overall visual effect on the settlement will be moderate, negative and short term during construction and moderate, negative and permanent upon completion.

Cobh

Cobh is predominantly set on a south facing slope with views out over Cork harbour in the direction of the site. From certain areas from the lower ground along the quay, promenade and approach road, the views of the proposed development are blocked by Haulbowline Island.

However, there will be clear views from many residential properties on the higher ground and particularly from the area around White Point. There are several VRPs from this settlement including viewpoints 11.14-11.18. The closest views will be experienced from around 1.5km distance. The effects of the development will be mitigated slightly by the intervening distance resulting in the development only extending over a relatively small extent of the overall views. The building will appear behind the naval yard, Ringaskiddy Port (existing and under construction) and surrounding industry, NMCI and the Beaufort building. The main process building will be however of much larger scale than the NMCI or Beaufort buildings. The views will be clear and direct, and the development will become the most prominent element in this direction extending above the existing ridgeline. The stack, with occasional visual plume, will appear as one the taller elements within the surrounding area. It will be higher than the Martello Tower, but substantially lower than the existing large-scale wind turbines. The stack will be light coloured and similar in vertical form to the wind turbines and electricity pylons which are existing along the top of the ridge. The effect on views from the town overall will be slight, neutral and short term during construction and moderate, neutral and permanent upon completion with areas of significant effect around the White Point area.

Monkstown

This settlement is also on a slope facing in the direction of the site (see viewpoints 11.24-11.27). There are many views across Cork harbour towards Verolme Dockyard, Haulbowline and Ringaskiddy from the shoreline and hillsides at Monkstown. With the intervening distance to the site varying from 2.7km to 3km, the taller elements of the proposed development including the main process building and stack, with occasional visual plume, will be visible above the Ringaskiddy ridge.

The effect will be slight, neutral and short term during construction and moderate, neutral and permanent upon completion from this location. The redevelopment works of Ringaskiddy Port are already visible from the area and will ultimately restrict views of the proposed development from southern areas in Monkstown around Rafeen.

Whitegate

This settlement is to the east of the harbour and is located at approximately 5km from the site. The views from the settlement are oriented westward out into the harbour in the direction of the site. The view is in the context of Corkbeg Island and the large oil storage tanks which are located on it. Many views from the lower parts of the settlement are blocked by this island and the causeway to the island. At further distance, Spike Island is also in the view. There is a clear view of the site from the main promenade where the proposed development will be viewed through a gap between the main land peninsula and Corkbeg Island. Due to the angle of view only an oblique view of the narrower elevation of the process building and the stack, with occasional visual plume, will be seen. Viewpoint 11.20 depicts this view. There are very limited alternative views from this settlement due to the distance from the site and intervening islands. The effects will be slight, negative and short term during construction and slight, permanent and neutral from this settlement overall upon completion.

Crosshaven

Lying approximately 2.7km to the south of the site is the town of Crosshaven which has views across Loughbeg towards the Ringaskiddy ridgeline, Martello tower with the backdrop of Cobh (see viewpoints 11.32-11.34). The wooded hilltop of Curraghbinny prominently features in views from the town. On the eastern side of the town towards Camden Fort, there are more open views towards the site. The taller elements of the proposed development including the main process building and stack with occasional visual plume will be visible above the Ringaskiddy ridgeline with lower elements screened. The effects will be slight, negative and short term during construction and slight, permanent and neutral from this settlement overall upon completion.

11.5.4.2 Routes

Scenic Route S51 (Road from Ballynacorra to Roches Point)

Views from this route will be experienced from a distance of over 3km (although most views will be from over 5km). There are several sections of the road which may experience a view. There will be a long-distance view from the scenic area around East Ferry which will be clear and oblique (see viewpoint 11.19) and a stretch from Rostellan to Aghada power station which is direct, and partially screened for short sections. Views south of this point will view the stack with occasional visual plume and the top and shorter side or rear of the building. Clear views will occur from Whitegate and Carlisle fort when travelling west (see viewpoints 11.20 and 11.21). Between these points, views will mostly be screened by vegetation and landform. There will also be clear direct views from Roches Point when travelling north (see viewpoint 11.23).

Views overall are limited and at a distance from the site. Due predominantly to the distance and angle from which the development will be viewed, receptors on this route will experience slight to imperceptible, neutral and short-term effects during construction changing to slight, neutral permanent effect upon completion from the development proposals.

Scenic Route S53 (Road from Fota Island to Cobh)

The site is visible from only a short section of this route, from the lower section of Cobh near the Heritage centre to Rushbrooke (see viewpoints 11.13 and 11.18). Further to the north (and west) along this route, views will be screened by Great Island itself. Where the site is visible the views are oblique at a distance of approximately 2km across the harbour. The site will be slightly screened by the National Maritime College of Ireland. The effects on this route overall will be slight, neutral and short term during construction, changing to permanent upon completion.

Scenic Route S54 (R610 and N28 Roads between Passage West and Ringaskiddy)

This is a long route running down the western edge of the harbour from Passage West through Monkstown, Rafeen and into Ringaskiddy.

The southern end of it runs directly adjacent to the north of the site. There are three sections of this route from which the site is visible. The first is an approximately 4km length around the coast at Monkstown (see viewpoints 11.24 and 11.25), the second a 1.5km length on the approach into Ringaskiddy (see viewpoints 11.1 and 11.2) and the third will be directly adjacent to the site (see viewpoints 11.5-11.7). This is a very small section of the overall length of the scenic route. Road users on the section of road at Monkstown will experience oblique yet clear views in the direction of the site. Views will be generally experienced when travelling south and therefore in the context of the direct views towards the former Verolme dockyard, Haulbowline, Ringaskiddy Port and pharmaceutical developments across the harbour. Viewpoints 11.24 and 11.25 illustrate these views.

The second stretch of visibility will be experienced while travelling the same way along the route (now the N28, in an easterly direction towards the site). From around 2km to the west of the site approaching Ringaskiddy there will be clear direct views towards the site. The site will be the focal point of the view and will move in and out of view when travelling closer to the site. Viewpoints 11.1 and 11.2 illustrate these views. Nearing the site boundary, the views will be partially screened by mounding however the main process building and stack with occasional visual plume will be partially visible above this. As the new vegetation along this road matures the effects will be further mitigated. When travelling in the opposite direction there will be views while passing the site and thereafter very limited to no views.

Overall there will be slight to moderate, short term and negative effects during construction and moderate, permanent and negative effects on this route at operational stage due to the clear open and direct views on approach into Ringaskiddy.

For the short stretch adjacent to the site in both directions the visual effects will be significant, and negative, with short term effects during construction and permanent upon completion.

Scenic Route S58 and S59 (Road from Crosshaven to Camden Fort)

Receptors on a very short section of this overall route may experience views from the area around Camden Fort. Viewpoints 11.32 and 11.34 depict these views. Views will be experienced from around 3km distance. Views will be oblique, although where the route ends, is a natural stopping point where wider views are likely to be experienced. Most of the site will be hidden from view behind the landform of the Ringaskiddy ridgeline. Only the stack with occasional visual plume and the rear and top of the main process building will be visible. The effect on the view from the route will be slight, neutral and short-term effects during construction changing to slight, neutral and permanent effect from the development proposals upon completion.

N28

The only parts of this road from which the site is visible, have been designated therefore this route has been dealt with above, under the heading Scenic Route S54.

Local Road through Curraghbinny

Roadside vegetation screens the site from view from the Curraghbinny Road for most of its length. However, from some higher areas and field boundary breaks there will be some views. The intervening ridge will also screen most of the development from view from this road. Only the stack with occasional visual plume and the top of the building will be distinguished. The stack will however appear high above the ridge and higher than the Cobh Cathedral Spire beyond. Viewpoints 11.29 and 11.30 illustrate views along this route. Most views will be experienced in the context of the existing large industry in the area in particular the Pfizer plants at Loughbeg and GlaxoSmithKline. The overall effects will be slight, short term and neutral during construction and slight, permanent and neutral overall upon completion.

R613 Road through Barnahely

Views from this road are for most of the route screened by roadside vegetation. However, there will be a clear view of the roof and stack with occasional visual plume from certain clear areas such as Barnahely cemetery, see viewpoint 11.28. The intervening Ringaskiddy ridge will also screen most of the development from view from this road. The effects will be slight, neutral and short term during construction and slight, permanent and negative upon completion overall.

Cork to Cobh Railway

There is a suburban rail line from Cork to Cobh. There will be very limited views towards the site from the railway due to topography and vegetative screening. Effects will be imperceptible during construction and upon completion.

Views from routes over the water are dealt with in the 'Recreation and Tourism Areas' section below.

11.5.4.3 Other Designations – Architectural Heritage

Within Cork Harbour there are a number of monuments which significantly contribute to the unique character and setting of the harbour, including Cobh Cathedral on Great Island, Davis (Carlisle) and Meagher (Camden) Forts at the mouth of the harbour, Fort Mitchell on Spike Island, the naval base at Haulbowline and the Martello Towers at Ringaskiddy and Haulbowline.

Arising from their nature and original function, they are significant in scale and are located in prominent, elevated locations visible from both land and sea. The structures were built at varying times in the past but now collectively contribute to the rich cultural and landscape heritage of the harbour. Of these, the spire of Cobh Cathedral is the most prominent, due to its location, height and setting in the centre of the harbour. The other structures are less visually dominant but are still important features in the harbour landscape. Other military monuments such as the three Martello towers at Monning (Marino Point), Belvelly and Rossleague on the north side of Great Island are not visible and will not be significantly impacted by the proposed development due to the intervening topography.

Due to the height and scale of the proposed development, it has the potential to impact directly on the visual setting of architectural heritage as well as the landscape character. The stack and main process building are approximately 325m to the northeast of the Ringaskiddy Martello Tower (CO087-053), with the upper portion of the process building and stack clearly visible (see viewpoints 11.3 and 11.4). The alignment of the narrowest part of the building to the view considerably helps to mitigate visual effects with the structures forming a small part of the overall panorama over Cork harbour, with partial visual obstruction of views of the northern part of Spike Island. There will be no obstruction of views to Haulbowline Martello tower, Forts Mitchell, Davis (Carlisle) or Meagher (Camden). Depending on atmospheric conditions, a short, thin steam plume may be briefly/temporarily visible from the stack. Due to the sensitivity of the view, the effect is considered to be significant, negative and permanent.

The Ringaskiddy Martello tower is prominent from various vantage points with Cork Harbour, particularly from south and north of Spike Island and from the harbour channel at Monkstown, where the tower is visible on the ridgeline of the Ringaskiddy peninsula. The setting of the Martello tower has been altered as the harbour has evolved, and while it remains clearly visible from much of the harbour environment, it is occasionally obstructed, or partially obstructed, by some more recent developments. The presence of electricity pylons and wind turbines has also changes the setting of the Martello tower. The proposed development will give rise to a further degree of change of the setting from certain vantage points, however, there will be no visual obstruction of views from the Martello tower to the other significant monuments around the harbour. Direct lines of sight to all of the other monuments will remain. The main process building will partially obstruct the view to and from the Martello tower to the northeast towards Spike Island and beyond to Marloag Point.

Viewpoints 11.9, 11.10, 11.13, 11.16, 11.17, 11.18, 11.21, 11.24, 11.28, 11.30, 11.32, 11.35 and 11.36 illustrate the scale and effect of the proposed development on the visual setting of the Martello tower views from the surrounding landscape to the Martello tower (see **Table 11.2**).

Views from Cobh and Monkstown towards Haulbowline and Ringaskiddy will be affected by the proposed development. There will be visual intrusion arising from all the main process building and stack where they extend above the Ringaskiddy ridgeline, however there will be no visual obstruction of significant monuments. The same is true for views from Spike Island (Fort Mitchell), Carlisle and Camden Forts. Cobh Cathedral will remain a dominant visual landmark within the harbour.

11.5.4.4 Recreational and Tourism Areas

The development site and its wider context includes a range of areas and facilities that are focussed on recreational and tourism activity, and in which the landscape of the area plays an important role.

The Harbour

The main views will be experienced from the east of the site from the west channel between the Ringaskiddy peninsula and Spike Island (see Viewpoint 11.36). There will also be views from the north of the site from between Haulbowline Island and Ringaskiddy Peninsula (see viewpoints 11.9, 11.10 and 11.11). Further views will be experienced from the northwest of the site between Great Island and Ringaskiddy (see viewpoints 11.10 and 11.14).

However, the development will be partially screened from these directions by the naval yard, NMCI and Beaufort buildings. The main process building will extend above these, even from these low water level vantage points. Additionally, there will be views to the east and south of Spike Island as illustrated in viewpoints 11.12 and 11.22, and from Monkstown and Rafeen Creek including Monkstown Marina as illustrated in viewpoints 11.24 and 11.25. Any views from the water will be experienced in the context of the large amount of other industry and harbour related activities. The views from these closer areas overall will generally be slight, neutral and short term during construction and slight neutral and permanent upon completion. Particular closer areas will experience significant, negative effects during construction and significant, neutral effects upon completion.

Gobby Beach

This is a short stretch of pebble beach at the end of Ringaskiddy peninsula served by a small car park at the eastern end of the site. The beach is used as an amenity area for walking, fishing etc. Levels on the beach above the foreshore will be raised as part of the coastal protection works to protect the soft glacial till slope at the eastern end of the site (see Viewpoint 11.6). During construction, effects will be significant, negative and short term in nature. The main views from the Beach are easterly out over the water however the majority of receptors will have to pass the proposed development to reach the Beach. The effects from this small area will be significant, negative and permanent and upon completion (see viewpoint 11.6 and 11.7).

Monkstown Golf Course

Much of the existing golf course is screened by existing vegetation, however there are a number of holes on the southern side of the course which have elevated views over Cork harbour and towards the site, particularly within the 1st nine holes. Overall, effects on views are deemed to be slight, neutral and short term effect during construction and slight, neutral and permanent during operations (see viewpoint 11.27)

Currabinny Woods/ Forest Trail

These woods have parking, a looped footpath and picnic area. The majority of views are screened by the trees, however there are some views of the site from clearings and from the coastline. Views are generally directed northeast into the harbour however there are views in the direction of the site. The majority of the proposed development will be largely hidden beyond the Ringaskiddy ridgeline and only the stack with an occasionally visible plume and the top of the main process building will be visible against the sky (see viewpoint 11.31). Effects on views will be slight, neutral and permanent during construction and upon completion.

Local Amenity Footpaths/Cycle paths

Many of the routes around the harbour are on the water's edge and have been developed into footpath/cycle paths which receive clear views out into the harbour.

The receptors will be travelling at slower speed while walking or cycling than the motorists and often stop to take in oblique as well as directional views. The main points from where there may be a view of the development are described below.

The local access road and N28 which link Ringaskiddy village to Gobby Beach and Haulbowline Island is well used by locals, visitors and navy personnel for walking, running and cycling. The upgrading of the local access road and construction phase of the development will lead to significant, negative and temporary visual effects; however, this will reduce once the construction and landscape development phases are complete (see viewpoints 11.5 and 11.8).

The amenity walkway and area around the Martello Tower close to the south of the site has been assessed in **Table 11.2** Viewpoint Assessment below and illustrated in viewpoint 11.3 and 11.4. The creation of an amenity walkway and viewing area to the east and south of the development linking Gobby Beach to the path to the Martello Tower will be a significant and positive feature of the scheme improving public access.

Monkstown has a popular walkway along the water front as well as a network of walking routes through the town which lead higher up onto the slope above Monkstown and afford elevated views across the harbour. Views are again of similar direction and distance to those views described from Monkstown, the Scenic area, Monkstown Golf Course and the Scenic Route S54 as it passes through Monkstown (see viewpoint 11.24 and 11.25). The effect on views, is deemed to be slight, neutral and permanent during construction and upon completion.

Cobh has a Town Park promenade with children's play area, sculptures and bandstand as well as an amenity walkway, 'Five Foot Way Walkway', which passes from the Heritage centre to White Point. Views will be similar in distance and direction to those experienced from the settlement although from this low level many views from the Town Park will be obstructed by Haulbowline in the foreground (see viewpoint 11.16). There will be clear views from the walkway particularly the section of land around White Point (see viewpoint 11.14). The effect on views from this section of walkway are deemed to be slight, neutral and permanent overall during construction and upon completion.

There is also a cliff walk at Crosshaven which leads to a view at Camden Fort. A particular point along this walk has been illustrated in viewpoint 11.34.

Cork Harbour and the historical visitor locations such as Fort Mitchell on Spike Island and Fort Meagher (Camden) at Crosshaven have been undergoing significant development as part of a wider tourism development initiative in the lower harbour. The proposed development will be visible from parts of these destinations but will be seen in the context of the wider port area (see viewpoints 11.17, 11.32, 11.35, 11.36 and 11.37). Visual effects are deemed to be slight, neutral and permanent.

11.5.4.5 Working Receptors

Working receptors are people that may receive views of the proposed development while at their place of employment.

Although there may be views of the development from places of employment, workers would be expected to be focussed on their work and therefore would generally be less a less sensitive receptor than residential or recreational receptors. The National Maritime College of Ireland and Beaufort Research Building are situated directly north the S54 scenic route and the site. The college car park is south of the college and is therefore between the building and the proposed development. The main orientation for the college building is north out into the harbour. Existing views from the car park are of the gorse embankment with Hammond Lane Metal Recycling machinery movement and fencing clearly visible. The views of the development will include high facades of buildings closer to the road however these will be partially screened by additional mounding and screen planting along the boundary of the road.

From Hammond Lane Metal Recycling works the views will be significant/moderate, negative and temporary during construction and significant/moderate, negative and permanent upon completion of the works.

From the water, views may be experienced from navy personnel on Haulbowline and from anyone visiting the former prison on Spike Island. Fishing boats and other commercial shipping on the water will also get clear views of the site as will receptors at the crematorium on Rocky Island. Views from these areas will be partially screened by the NMCI and Beaufort buildings. Views from closer range (within 1km) will be significant, negative and short term during construction and significant, permanent and neutral in nature upon completion.

There are minimal views from the Passenger Ferry Terminal however when exiting by car, the exit road is oriented towards the site.

The views will be experienced in the context of the foreground port related parking, marshalling and storage areas. The Martello tower is clearly visible in the direction of travel on top of the ridgeline in the existing view. The largest part of the development will be further to the east and will not obstruct the view of the tower. The effect on the view will be significant, short term and negative during construction to significant, neutral and permanent as the vegetation establishes and the movement of the construction machinery is no longer visible.

11.5.4.6 Viewpoint Assessment

Various vantage points from the surrounding landscape and harbour were identified as suitable viewshed reference points (VRP) for illustrating the existing views and level of visual effect with photomontages. The photomontages are prepared using baseline photography taken between September 2018 and November 2018. These are listed in **Table 11.2** below. For the location of the VRPs, please refer to **Figure 11.0**.

For each VRP No. X, the existing view is shown in **Figure 11.X.1**, and the proposed development is included in **Figure 11. X.2**. Where appropriate, **Figure 11.X.3** shows the cumulative effect of the proposed development in combination with other planned or permitted development, including in particular, the Ringaskiddy Port redevelopment and the permitted Novartis wind turbine, which are shown in the view if visible. For other planned or permitted developments, **Table 11.2** includes commentary as appropriate on the cumulative effect of such development from different locations.

For VRP Nos. 1, 18, 25A, 31 and 36A, **Figure 11.X.3** illustrates the proposed development with a representation of the occasional steam plume. Note that where **Figure 11.X.3** shows a representation of the steam plume, **Figure 11.X.4** shows the cumulative effect, if appropriate.

The table includes the name, location, distance from the site and the significance of landscape and visual effect during construction and operational phases.

Table 11.2 Viewshed reference points and visual assessment (refer to Figure 11.0 for map location)

VRP Nr.	Figure Nr.	Name of View	Distance to site
1	11.1	View from Ringaskiddy Village (also Scenic Route S54)	1.1km
Description and nature of existing views			
View from the N28 in Ringaskiddy Village. View eastwards towards the site with intervening buildings and scrub woodland. Part of CCDP Scenic Route S54 close to entrance/exit of Ringaskiddy Port.			
Visual Effects			
Construction		Operational and cumulative	
Slight, temporary, negative effects during the construction of the main process building and stack which will be visible.		Moderate, permanent and negative with the top half of the main process building and stack with an occasional plume will be visible above the trees in the mid to background. The development will take up a small extent of the view. The building will be visible against the sky. Building colours have been chosen to reflect the shape and colours of the backdrop.	

	The obstacle lighting on top of the stack will be visible above the standard road lighting along the N28 road. The lower lighting will be screened by the intervening vegetation. A representation of the occasional steam plume is shown in **Figure 11.1.3**. Cumulative effects from this locality will be slight/moderate, and will may include portions elements of the Ringaskiddy Port redevelopment and the Novartis wind turbine will be visible.

VRP Nr.	Figure Nr.	Name of View	Distance to site
2	11.2	View from N28 approaching Ringaskiddy Village (also Scenic Route S54)	1.6km

Description and nature of existing views
View from the N28 approaching Ringaskiddy Village close to the R613 Barnahely road junction. Slightly elevated view eastwards towards the site with intervening buildings and scrub woodland. Part of CCDP Scenic Route S54 close to entrance/exit of Ringaskiddy Port.

Visual Effects	
Construction	Operational and cumulative
Slight, temporary, negative effects during the construction of the main process building and stack which will be visible.	The proposed development is directly at the end of the road in the direction of travel from this viewpoint and will become the main focus in the view leading to moderate, permanent and negative visual effect. Although this viewpoint is further away than VRP1, the building appears higher and is more visible due to the angle of view and slightly higher elevation. The main process building and the stack with occasional visual plume also break the skyline from this location. Attention to the building design, massing and façade colours, which reflect the sloping and colours of the residential roofs and the ridgeline beyond, successfully attempts to mitigate some of the visual effects of the building. Lighting effects will be similar to those experienced from VRP1. Cumulative effects (see **Figure 11.2.3**) will include the Ringaskiddy Port redevelopment, and in particular the new boundary treatment with the N28 and elements of the new internal road network and associated site development. The Novartis wind turbine may also be visible when looking in the opposite direction from this location.

VRP Nr.	Figure Nr.	Name of View	Distance to site
3	11.3	View form North of Ringaskiddy Martello Tower	300m

Description and nature of existing views
View immediately north of Ringaskiddy Martello Tower looking northeast. The proposed development site lies immediately north of the overhead powerlines. Elevated location with wide panoramic views over the lower harbour, Spike and Haulbowline Islands and Cobh/Great Island. The foreground is of rough grassland, groups of small trees and lines of hedgerows with pylons and wooden poles cutting across the view. The harbour is the main focus of the view with Cobh clearly visible beyond. The stack at Aghada Power station can be seen across the harbour.

Visual Effects	
Construction	Operational and cumulative
Significant, temporary, negative effects during the construction of the main process building and stack which will be visible.	The proposed stack with an occasional plume will be visible as a prominent additional vertical feature in the foreground rising above the ridgeline and seen against the sky resulting in significant, permanent and negative effect. There will be partial obstruction of views of the northern part of Spike Island with views to other historic fortifications unobstructed. The plume from this close distance will be apparent. Mitigation measures include the utilisation of sensitive façade colours to assist in visually blending the building with the surrounding visual backdrop. Low landscape mounds will be constructed on the higher slopes to the south west of the building to reduce the effect of the building and create screening. The top of the main process building is visible with some planting from higher on the slope. Less of the building will be visible over time as the planting on the slopes establish. The majority of the development will however be hidden from view over the ridge and further screened by trees and hedgerows. The light on the stack will be readily visible due to the proximity of the development. Cumulative effects will include visibility (out of the view) of the portions of the Ringaskiddy port redevelopment and Novartis wind turbine.

VRP Nr.	Figure Nr.	Name of View	Distance to site
4	11.4	View from Ringaskiddy Martello Tower (at entrance door)	300m
Description and nature of existing views			
View immediately outside Ringaskiddy Martello Tower door entrance looking northeast towards Spike Island. The proposed development site lies immediately north of the overhead powerlines. Elevated location with wide panoramic views over the lower harbour, Spike and Haulbowline Islands and Cobh/Great Island. The foreground is of rough grassland, groups of small trees and lines of hedgerows with pylons, telecom masts within the view. The harbour is the main focus of the view with Cobh clearly visible beyond. The stack at Aghada Power station can be seen across the harbour.			
Visual Effects			
Construction		Operational and cumulative	
Significant, temporary, negative effects during the construction of the main process building and stack which will be visible.		The main process building is situated at a distance from the tower and aligned to have its narrowest part face the tower. The proposed stack with occasional visual plume will be visible as a prominent additional vertical feature in the foreground rising above the ridgeline and seen against the sky resulting in significant, permanent and negative effect. There will be partial obstruction of views of the northern part of Spike Island with views to other historic fortifications unobstructed. The plume from this close distance will be apparent. Mitigation measures include the utilisation of sensitive façade colours to assist in visually blending the building with the surrounding visual backdrop. Low landscape mounds will be constructed on the higher slopes to the south west of the building to reduce the effect of the building and create screening. The top of the main process building is visible with some planting from higher on the slope.	

	Less of the building will be visible over time as the planting on the slopes establish. The majority of the development will however be hidden from view over the ridge and further screened by trees and hedgerows. The light on the stack will be readily visible due to the proximity of the development. Cumulative effects from this location will include visibility (out of the view) of the portions of the Ringaskiddy Port redevelopment.

VRP Nr.	Figure Nr.	Name of View	Distance to site
5	11.5	View from local access road close to NMCI entrance (also Scenic Route S54)	25m

Description and nature of existing views
View from the local access road to Haulbowline at the NMCI entrance. View southwards towards the site with intervening trees and scrub. The recently constructed Hammond Lane buildings and DePuy wind turbine are prominent elements in the visual environment.

Visual Effects	
Construction	Operational and cumulative
Significant, temporary, negative effects during the construction with the removal of existing trees, significant earthworks and construction of the resource recovery facility. The upgrade works to the local access road will also be readily visible.	The proposed development is directly opposite the NMCI entrance with most of the proposed buildings and structures visible from this location. Due to the proximity of the development it will become the prominent visual feature at this location, resulting in a significant, permanent and neutral visual effect. A comprehensive, 'campus' style landscape planting will provide screening to the lower levels of the development with the taller building elements visible above the proposed tree line. The proposed lighting scheme to access roads and obstacle lighting on the stack will be noticeable at night. There is no significant cumulative effect.

VRP Nr.	Figure Nr.	Name of View	Distance to site
6	11.6	View from Gobby Beach towards Golden Rock	30m

Description and nature of existing views
View south from Gobby Beach close to the existing car park and footpath. The glacial till slope/cliff along the eastern boundary of the site is prominent, as are the electricity pylons and wind turbine at DePuy. To minimise potential erosion of the glacial till slope along the eastern boundary, coastal protection works entailing the placement of additional beach material above the foreshore along Gobby Beach.

Visual Effects	
Construction	Operational and cumulative
Significant, temporary and negative during the beach nourishment works and construction of the resource recovery facility.	Once in place, the raising of levels on Gobby Beach will not be particularly noticeable nor detract from the views over Cork harbour. The eastern end of the process building will be prominent in the view leading to significant, permanent and neutral effect. The addition of the pedestrian amenity walkway and lookout along the eastern boundary of the site will provide additional viewpoints and destination for recreational users of Gobby Beach.

		There is no significant cumulative effect.	
VRP Nr.	Figure Nr.	Name of View	Distance to site
7	11.7	View from Gobby Beach towards site	30m
Description and nature of existing views			
View south from Gobby Beach close to the existing car park and footpath adjacent to VRP6 above, but with view focussed towards site.			
Visual Effects			
Construction		Operational and cumulative	
Significant, temporary and negative during the coastal protection works and construction of the resource recovery facility.		The eastern end of the process building will be prominent in views from this location leading to significant, permanent and neutral visual effect. The lower levels of the building, boundary fence and internal site road will be largely screened by planting to the perimeter of the site. The addition of the pedestrian amenity walkway and lookout along the eastern boundary of the site will provide additional viewpoints and destination for recreational users of Gobby Beach. There is no significant cumulative effect.	
VRP Nr.	Figure Nr.	Name of View	Distance to site
8	11.8	View from Haulbowline local access road	150m
Description and nature of existing views			
View south from the access road leading to/from Haulbowline Island, UCC's Beaufort Building, Rocky Island Crematorium and Paddy's Point.			
Visual Effects			
Construction		Operational and cumulative	
Significant, temporary, negative effects during the construction with the removal of existing trees, significant earthworks and construction of the resource recovery facility.		The eastern end of the process building will be prominent in views from this location leading to significant, permanent and neutral visual effects. The lower levels of the building, boundary fence and internal site road will be largely screened by planting to the perimeter of the site. There is no significant cumulative effect.	
VRP Nr.	Figure Nr.	Name of View	Distance to site
9	11.9	View from Haulbowline bridge close to Rocky Island	640m
Description and nature of existing views			
View south from the upgraded Haulbowline bridge crossing. UCC's Beaufort Building, NMCI, electricity pylons and lines and DePuy wind turbines are prominent within the harbour landscape. The Ringaskiddy ridgeline and Martello tower form an important visual ridge line in the middle ground of views with Curraghbinny and Crosshaven/Camden ridgelines in the background.			

Visual Effects	
Construction	Operational and cumulative
Moderate, temporary, negative effects during the construction with the removal of existing trees, significant earthworks and construction of the resource recovery facility.	The development is clearly visible from this location. The main process building will extend slightly up above the Ringaskiddy ridgeline. The stack with occasional visual plume extends higher above the ridge in a similar manner to the existing electricity pylons, wind turbines and other roadside lighting infrastructure. The development effects only a small proportion of the overall wide view and is similar in nature to many of the other industrial, port and energy infrastructural developments around the harbour which can also be viewed from this location (including Haulbowline which is close in the opposite direction) with a resulting moderate, permanent and negative effect. The lighting on the stack will be visible and the lower lighting will just be visible over the trees in the short to medium term. Cumulative effects (see **Figure 11.9.3**) will include the permitted and emerging Ringaskiddy Port redevelopment, including the amenity facility at Paddy's Point, and also the Novartis wind turbine to the west (out of view). The development of the M28 may give rise to alterations to the topography and vegetation to the right on the view.

VRP Nr.	Figure Nr.	Name of View	Distance to site
10	11.10	View from Haulbowline Island west pier	1km
Description and nature of existing views			
View south across Cork harbour from a location adjacent to the west pier in Haulbowline Island Navy yard. The Ringaskiddy ridgeline, Martello tower, NMCI and Beaufort buildings, DePuy wind turbine and electricity pylons are the prominent visual features across the water.			

Visual Effects	
Construction	Operational and cumulative
Slight, temporary, negative effects during the construction of the main process building and stack which will be visible.	The lower level parts of the proposed development will be seen against the backdrop of the Ringaskiddy ridgeline. With elevation colour materials matching the backdrop, the lower parts of the building will visually recede into the landscape. The taller parts of the main process building and stack with occasional visual plume will break the ridgeline and be seen against the skyline resulting in a moderate, permanent and negative visual effect. The lighter colour of these taller elements will assist in minimising visual effect. The development effects only a small proportion of the overall wide view and is similar in nature to many of the other developments around the harbour which can also be viewed from this location. The lighting on the stack will be visible and the lower lighting will just be visible over the trees in the short to medium term and potentially. Cumulative effects will include the permitted Ringaskiddy Port redevelopment, including the amenity facility at Paddy's Point, and also the Novartis wind turbine (out of view) to the west. The M28 may give rise to alterations to the topography and vegetation to the right on the view.

VRP Nr.	Figure Nr.	Name of View	Distance to site
11	11.11	View from Haulbowline Island east tip shoreline	1.1km
Description and nature of existing views			
View southwest across Cork harbour from the southern shore of Haulbowline Island's East Tip which is due to be rehabilitated and opened as a public park. Ringaskiddy ridge and Martello tower, Haulbowline bridge, Rocky Island, the lower harbour wind turbines and electricity pylons and lines are key visual features across the water, however they form part of a wider panoramic view over Cork harbour including Curraghbinny, Crosshaven/Camden, Fort Davis/Whitegate and Spike Island.			
Visual Effects			
Construction		Operational and cumulative	
Slight, temporary, negative effects during the construction of the main process building and stack which will be visible.		The lower level parts of the proposed development will be seen against the backdrop of the Ringaskiddy ridgeline. With elevation colour materials matching the backdrop, the lower parts of the building will visually recede into the landscape. The taller parts of the main process building and stack with occasional visual plume will break the ridgeline and be seen against the skyline resulting in a moderate, permanent and negative visual effect. The lighter colour of these taller elements will assist in minimising visual effect. The development effects only a small proportion of the overall wide view and is similar in nature to many of the other developments around the harbour which can also be viewed from this location. Portions of the permitted Ringaskiddy port redevelopment and Novartis wind turbine as well as the planned DePuy wind turbine at Loughbeg will be visible. The lighting on the stack will be visible and the lower lighting will just be visible over the trees in the short to medium term and potentially. Cumulative effects (see **Figure 11.11.3**) will include portions of the Ringaskiddy Port redevelopment, including the amenity facility at Paddy's Point, the Novartis wind turbine to the west, and establishment of the amenity facility on the remediated East Tip (behind the camera).	

VRP Nr.	Figure Nr.	Name of View	Distance to site
12	11.12	View from Cork Harbour at Spit Bank Lighthouse	2.6km
Description and nature of existing views			
View southwest from the Spit bank lighthouse located centrally in Cork harbour and close to the main shipping channel			
Visual Effects			
Construction		Operational and cumulative	
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible.		The lower level parts of the proposed development will be seen against the backdrop of the Ringaskiddy ridgeline. With elevation colour materials matching the backdrop, the lower parts of the building will visually recede into the landscape. The taller parts of the main process building and stack with occasional visual plume will break the ridgeline and be seen against the skyline resulting in a slight, permanent and negative visual effect. The lighter colour of these taller elements will assist in minimising visual effect.	

	The development effects only a small proportion of the overall wide view and is similar in nature to many of the other developments around the harbour which can also be viewed from this location. The lighting on the stack will be visible and will merge with the other lit features in the lower harbour landscape. Cumulative effects (see **Figure 11.12.3**) will include portions of the Ringaskiddy Port redevelopment, including the amenity facility at Paddy's Point, the Novartis wind turbine to the west, and establishment of the amenity facility on the remediated East Tip.

VRP Nr.	Figure Nr.	Name of View	Distance to site
13	11.13	View from Cobh on Whitepoint Drive	1.8km
Description and nature of existing views			
View south from residential area in Cobh town with view across Cork harbour towards Haulbowline Island, the Ringaskiddy ridge and Martello tower, with backdrop of Curraghbinny and Crosshaven/Camden ridgelines.			
Visual Effects			
Construction		Operational and cumulative	
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible.		The lower level parts of the proposed development will be seen against the backdrop of the Ringaskiddy ridgeline. With elevation colour materials matching the backdrop, the lower parts of the building will visually recede into the landscape. The taller parts of the main process building and stack with occasional visual plume will break the ridgeline and be seen against the skyline resulting in a moderate, permanent and negative visual effect. The lighter colour of these taller elements will assist in minimising visual effect. The development effects only a small proportion of the overall wide view and is similar in nature to many of the other developments around the harbour which can also be viewed from this location. The lighting on the stack will be visible and will merge with the other lit features in the lower harbour landscape. Cumulative effects will include portions of the permitted Ringaskiddy port redevelopment and the Novartis wind turbine (out of view). The M28 may give rise to alterations to the topography and vegetation to the right of the Martello Tower.	

VRP Nr.	Figure Nr.	Name of View	Distance to site
14	11.14	View from Cobh at White Point	1.5km
Description and nature of existing views			
View south across main channel of Cork harbour towards Haulbowline Island and Ringaskiddy water level view from amenity walk/viewing area at White's point. There are also numerous residential properties right down to the water's edge from this point. Views are directed out onto the water with the Ringaskiddy ridge and Haulbowline Island as the main features in the view			
Visual Effects			
Construction		Operational and cumulative	
Slight, temporary, neutral effects during the construction of the main process building and		The building will become one of the main focuses to the view from this location. The main building will extend slightly above the ridgeline and the stack with occasional visual plume will appear higher than the Martello tower.	

stack which will be visible.	The large scale of the building is apparent by the presence of the adjacent Maritime College building directly in front of the process building from this direction. The lower level parts of the proposed development will be seen against the backdrop of the Ringaskiddy ridgeline. With elevation colour materials matching the backdrop, the lower parts of the building will visually recede into the landscape. The taller parts of the main process building, and stack will break the ridgeline and be seen against the skyline resulting in a moderate, permanent and negative visual effect. The lighter colour of these taller elements will assist in minimising visual effect. The development effects only a small proportion of the overall wide view and is similar in nature to many of the other developments around the harbour which can also be viewed from this location. The lighting on the stack will be visible and will merge with the other lit features in the lower harbour landscape. Cumulative effects will include portions of the permitted Ringaskiddy port redevelopment and the Novartis wind turbine (out of view). The M28 may give rise to alterations to the topography and vegetation to the right of the Martello Tower.

VRP Nr.	Figure Nr.	Name of View	Distance to site
15	11.15	View from Cobh at Russell Heights	2.3km
Description and nature of existing views			
Elevated view from open space area in Cobh representative of views from similar residential areas. South facing views over harbour, Ringaskiddy, Currabinny and Crosshaven ridgelines.			
Visual Effects			
Construction		Operational and cumulative	
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible.		The lower level parts of the proposed development will be seen against the backdrop of the Ringaskiddy ridgeline. With elevation colour materials matching the backdrop, the lower parts of the building will visually recede into the landscape. The taller parts of the main process building and stack with occasional visual plume will break the ridgeline and be seen against the skyline resulting in a moderate, permanent and neutral visual effect. The lighter colour of these taller elements will assist in minimising visual effects. The development effects only a small proportion of the overall wide view and is similar in nature to many of the other developments around the harbour which can also be viewed from this location. The lighting on the stack will be visible and the lower lighting will just be visible over the trees in the short to medium term. Cumulative effects (see **Figure 11.15.3**) will include portions of the permitted Ringaskiddy port redevelopment and the Novartis wind turbine (out of view). The M28 may give rise to alterations to the topography and vegetation to the right of the Martello Tower.	

VRP Nr.	Figure Nr.	Name of View	Distance to site
16	11.16	View from Cobh at West Beach Pier	2.2km
Description and nature of existing views			
View southwest at the West Beach pier located in the centre of Cobh with open views of Cork harbour, Haulbowline and Ringaskiddy.			

Visual Effects	
Construction	Operational and cumulative
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible.	The lower level parts of the proposed development will be screened by intervening buildings on seen against the backdrop of the Ringaskiddy ridgeline. With elevation colour materials matching the backdrop, the lower parts of the building will visually recede into the landscape. The taller parts of the main process building and stack with occasional visual plume will break the ridgeline and be seen against the skyline resulting in a moderate, permanent and neutral visual effect. The lighter colour of these taller elements will assist in minimising visual effects. The development effects only a small proportion of the overall wide view and is similar in nature to many of the other developments around the harbour which can also be viewed from this location. The lighting on the stack will be visible and the lower lighting will just be visible over the trees in the short to medium term. Cumulative effects (see **Figure 11.16.3**) will include portions of the permitted Ringaskiddy Port redevelopment and the Novartis wind turbine.

VRP Nr.	Figure Nr.	Name of View	Distance to site
17	11.17A	View from Cobh at St Coleman's Cathedral	2.4km
Description and nature of existing views			
Elevated open views over Cobh town, Cork harbour, Haulbowline, Ringaskiddy and wider landscape. St Coleman's Cathedral is a prominent element of the wider landscape. It is a landmark and many tourists visit it. It has a large flat area suitable for viewing at the front. Views are elevated and directed south out into the harbour from the front although they are panoramic and encompass east and west. Prominent features in the view include the town of Cobh below in the foreground which is eye catching due to the brightly coloured houses. Haulbowline and Spike Island are also clearly visible in the view centrally within the harbour.			
Visual Effects			
Construction		Operational and cumulative	
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible.		The lower level parts of the proposed development will be screened by intervening buildings on seen against the backdrop of the Ringaskiddy ridgeline. With elevation colour materials matching the backdrop, the lower parts of the building will visually recede into the landscape. The taller parts of the main process building and stack with occasional visual plume will break the ridgeline and be seen against the skyline resulting in a moderate, permanent and neutral visual effect. The lighter colour of these taller elements will assist in minimising visual effects. The development occupies only a small proportion of the overall wide view and is similar in nature to many of the other developments around the harbour which can also be viewed from this location. Cumulative effects (see **Figure 11.17A.3**) will include portions of the permitted Ringaskiddy Port redevelopment and the Novartis wind turbine. The M28 may give rise to alterations to the topography and vegetation to the right of the Martello Tower.	

VRP Nr.	Figure Nr.	Name of View	Distance to site
17	11.17B	View from Cobh at St Coleman's Cathedral at night	2.4km
Description and nature of existing views			
Elevated open views over Cobh town, Cork harbour, Haulbowline, Ringaskiddy and wider landscape. At night, the street lighting of Cobh and pools of light from Haulbowline, Ringaskiddy and Crosshaven create an attractive vista across Cork harbour. The light from Cobh itself below is a prominent feature in the foreground and the colours of the buildings can still be distinguished making a colourful scene bathed in predominantly yellow and white light. The lights from Haulbowline and beyond across the water are a variety of colours from larger, brighter white and yellow lights to smaller red and orange ones.			
Visual Effects			
Construction		Operational and cumulative	
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible from crainage, moving vehicles, flood lights etc. Additional lighting during construction will be evident but viewed behind lighting from Haulbowline.		The lighting on the stack will be visible and the lower lighting will just be visible over the trees in the short to medium term. The obstacle lighting on the stack will be perceived as being of a similar height and impact to the existing obstacle lighting on the lower harbour wind turbines. Lighting from the permitted Ringaskiddy Port redevelopment and Novartis wind turbine will be visible. Cumulative effects (see **Figure 11.17B.3**) will include lighting associated with the permitted Ringaskiddy Port redevelopment and the Novartis wind turbine. The M28 may give rise to alterations to the topography and vegetation to the right of the Martello Tower and including associated lighting.	

VRP Nr.	Figure Nr.	Name of View	Distance to site
18	11.18	View from Cobh on High Road (also Scenic Route S53)	2.1km
Description and nature of existing views			
Elevated view over train station and deep water berth at Cobh. Expansive views over Cork harbour, Haulbowline, Ringaskiddy and surrounding areas.			
Visual Effects			
Construction		Operational and cumulative	
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible from crainage, moving vehicles, flood lights etc. Additional lighting during construction will be evident but viewed behind lighting from Haulbowline.		The lower level parts of the proposed development will be visible behind Haulbowline Island Navy yard, partially screened by The Beaufort building and seen against the backdrop of the Ringaskiddy ridgeline. With elevation colour materials matching the backdrop, the lower parts of the building will visually recede into the landscape. The taller parts of the main process building and stack with occasional visual plume will break the ridgeline and be seen against the skyline resulting in a moderate, permanent and neutral visual effect. The lighter colour of these taller elements will assist in minimising visual effects. The development effects only a small proportion of the overall wide view and is similar in nature to many of the other developments around the harbour which can also be viewed from this location. The lighting on the stack will be visible and the lower lighting will just be visible over the trees in the short to medium term. A representation of the occasional steam plume is shown in **Figure 11.18.3**.	

	Cumulative effects will include portions of the permitted Ringaskiddy Port redevelopment and the Novartis wind turbine.

VRP Nr.	Figure Nr.	Name of View	Distance to site
19	11.19	View from East Ferry local access road (also Scenic Route S51)	7.5km
Description and nature of existing views			
Coastal road with expansive, open views across the east side of Cork Harbour including Aghada, Whitegate, Great Island and Spike Island and Ringaskiddy in the distance.			
Visual Effects			
Construction		Operational and cumulative	
Due to distance construction effects will be largely imperceptible. Some visibility during the construction of the main process building and stack which will be visible from crainage, moving vehicles, flood lights etc.		The taller portions of the main building and stack with occasional visual plume will be seen above the Ringaskiddy ridgeline, leading to slight, permanent and neutral visual effects. The darker lower portions of the buildings will visually recede against the dark backdrop of the Ringaskiddy ridge. The lighting on the stack will be visible across the harbour but will be see as part of the existing lighting around Ringaskiddy. Cumulative effects (see **Figure 11.18.4**) will include portions of the permitted Ringaskiddy Port redevelopment and the Novartis wind turbine.	

VRP Nr.	Figure Nr.	Name of View	Distance to site
20	11.20	View from Whitegate village (also Scenic Route S51)	5km
Description and nature of existing views			
Coastal road with view over Cork harbour and through Whitegate refinery to Ringaskiddy.			
Visual Effects			
Construction		Operational and cumulative	
Due to intervening distance construction effects will be slight to imperceptible. Some visibility during the construction of the main process building and stack which will be visible from crainage, flood lights etc.		The taller portions of the main building and stack with occasional visual plume will be seen above the Ringaskiddy ridgeline, leading to slight, permanent and neutral visual effects. The darker lower portions of the buildings will visually recede against the dark backdrop of the Ringaskiddy ridge. The lighting on the stack will be visible across the harbour but will be see as part of the existing lighting around Ringaskiddy. Cumulative effects (see **Figure 11.20.3**) will include glimpse views of portions of the permitted Ringaskiddy Port redevelopment and the Novartis wind turbine.	

VRP Nr.	Figure Nr.	Name of View	Distance to site
21	11.21	View from Fort Davis (Carlisle Fort) (also Scenic Route S51)	3.4km
Description and nature of existing views			
Elevated expansive views across Cork harbour from Fort Davis to Currabinny, Loughbeg, Ringaskiddy, Spike and Great Island.			
Visual Effects			
Construction		Operational and cumulative	

Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible from crainage, moving vehicles, flood lights etc. Additional lighting during construction will be evident but viewed against lighting from Ringaskiddy and Monkstown.	The taller portions of the main building and stack with occasional visual plume will be seen above the Ringaskiddy ridgeline, leading to slight, permanent and neutral visual effects. The lower portions of the building will be screened by the Ringaskiddy ridge. The lighting on the stack will be visible across the harbour but will be see as part of the existing lighting around Ringaskiddy. Cumulative effects (see **Figure 11.21.3**) will include portions of the permitted Ringaskiddy Port redevelopment and the Novartis wind turbine.

VRP Nr.	Figure Nr.	Name of View	Distance to site
22	11.22	View from Cork Harbour between Carlisle and Camden Forts	3.3km
Description and nature of existing views			
Harbour based view looking northwest towards Currabinny, Loughbeg, Ringaskiddy, Spike and Great Island.			
Visual Effects			
Construction		Operational and cumulative	
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible.		The taller portions of the main building and stack with occasional visual plume will be seen above the Ringaskiddy ridgeline, leading to slight, permanent and neutral visual effects. The lower portions of the building will be screened by the Ringaskiddy ridge. The lighting on the stack will be visible across the harbour but will be see as part of the existing lighting around Ringaskiddy. Cumulative effects (see **Figure 11.22.3**) will include portions of the permitted Ringaskiddy Port redevelopment and the Novartis wind turbine.	

VRP Nr.	Figure Nr.	Name of View	Distance to site
23	11.23	View from Roche's Point (also Scenic Route S51)	5.5km
Description and nature of existing views			
Open coastal view northwards into Cork harbour. Forts Camden and Davis flank the views. Views into the harbour of Ringaskiddy ridgeline, Cobh town and Spike Island. DePuy pharmaceutical building visible at Ringaskiddy.			
Visual Effects			
Construction		Operational and cumulative	
Due to intervening distance and topography construction effects will be largely imperceptible. Some visibility during the construction of the main process building and stack which will be visible from crainage, flood lights etc.		The taller portions of the main building and stack with occasional visual plume will be seen above the Ringaskiddy ridgeline, leading to slight, permanent and neutral visual effects. The lower portions of the building will be screened by the Ringaskiddy ridge. The lighting on the stack will be visible across the harbour but will be see as part of the existing lighting around Ringaskiddy. Part of the planned DePuy wind turbine at Loughbeg will also be visible. There will be no significant cumulative effect.	

VRP Nr.	Figure Nr.	Name of View	Distance to site
24	11.24	View from R610 Road at Rafeen (also Scenic Route S54)	2.75km

Description and nature of existing views
R616 coastal road and walk with open views across Rafeen Creek in Cork harbour towards Cobh, Haulbowline and Ringaskiddy.

Visual Effects	
Construction	Operational and cumulative
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible from crainage, moving vehicles, flood lights etc. Additional lighting during construction will be evident but viewed within lighting from Haulbowline and Ringaskiddy.	The lower level parts of the proposed development will be seen against the backdrop of the Ringaskiddy ridgeline and Whitegate ridgeline in the distance. With elevation colour materials matching the backdrop, the lower parts of the building will visually recede into the landscape. The taller parts of the main process building and stack with occasional visual plume will break the ridgeline and be seen against the skyline resulting in a moderate, permanent and neutral visual effect. The lighter colour of these taller elements will assist in minimising visual effects. The development effects only a small proportion of the overall wide view and is similar in nature to many of the other developments around the harbour which can also be viewed from this location. The lighting on the stack will be visible and the lower lighting will just be visible over the trees in the short to medium term. Cumulative effects (see **Figure 11.24.3**) will include portions of the permitted Ringaskiddy port redevelopment and the Novartis wind turbine (out of view). The M28 may give rise to alterations to the topography and vegetation to the right of the Martello Tower, however, these would be substantially screened by the Ringaskiddy Port development.

VRP Nr.	Figure Nr.	Name of View	Distance to site
25	11.25A	View from R610 Road at Public Car in Monkstown (also Scenic Route S54)	2.7km

Description and nature of existing views
Open views across Cork harbour towards Haulbowline, Ringaskiddy and Barnahely ridgeline. NMCI, Beaufort, Navy yard, Martello towers, industrial buildings, warehousing, tanks and cranes visible.

Visual Effects	
Construction	Operational and cumulative
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible from crainage, moving vehicles, flood lights etc. Additional lighting during construction will be evident but viewed within lighting from Haulbowline and Ringaskiddy.	The lower level parts of the proposed development will be seen against the backdrop of the Ringaskiddy ridgeline. With elevation colour materials matching the backdrop, the lower parts of the building will visually recede into the landscape. The taller parts of the main process building and stack with occasional visual plume will break the ridgeline and be seen against the skyline resulting in a moderate, permanent and neutral visual effect. The lighter colour of these taller elements will assist in minimising visual effects. The development effects only a small proportion of the overall wide view and is similar in nature to many of the other developments around the harbour which can also be viewed from this location.

	The lighting on the stack will be visible and the lower lighting will just be visible over the trees in the short to medium term. A representation of the occasional steam plume is shown in **Figure 11.25A.3**. Cumulative effects (see **Figure 11.25A.4**) will include portions of the permitted Ringaskiddy Port redevelopment and the Novartis wind turbine (out of view). The M28 may give rise to alterations to the topography and vegetation to the right of the Martello Tower.

VRP Nr.	Figure Nr.	Name of View	Distance to site
25	11.25B	View from R610 Road at Public Car in Monkstown at night (also Scenic Route S54)	2.7km

Description and nature of existing views
Night view from same location as 11.25 above. Roadside and building lighting from Verolme, Cobh, Whitegate and Ringaskiddy areas as well as obstacle lighting from wind turbines form conspicuous part of night time vista.

Visual Effects	
Construction	Operational and cumulative
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible from crainage, moving vehicles, flood lights etc. Additional lighting during construction will be evident but viewed within lighting from Haulbowline and Ringaskiddy.	The lighting on the stack will be visible and the lower lighting will just be visible over the trees in the short to medium term but will be viewed within existing lighting from Ringaskiddy. Lighting from the permitted Ringaskiddy port redevelopment and Novartis wind turbine as well as the planned DePuy wind turbine at Loughbeg will be visible. Cumulative effects (see **Figure 11.25B.3**) will include lighting and silhouettes of parts of the permitted Ringaskiddy port redevelopment, and aviation lighting on the Novartis wind turbine (out of view). The M28 may give rise to alterations to the topography and vegetation to the right of the Martello Tower.

VRP Nr.	Figure Nr.	Name of View	Distance to site
26	11.26	View from Monkstown on Diamond Road	3km

Description and nature of existing views
Elevated view southeast from residential area in Monkstown over Cork harbour, Haulbowline and Ringaskiddy. Many of the pharmaceutical and port facilities are visible from this area.

Visual Effects	
Construction	Operational and cumulative
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible from crainage, moving vehicles, flood lights etc. Additional lighting during construction will be evident but viewed within lighting from Haulbowline and Ringaskiddy.	The lower level parts of the proposed development will be seen against the backdrop of the Ringaskiddy ridgeline and Whitegate and Camden ridgelines in the distance. With elevation colour materials matching the backdrop, the lower parts of the building will visually recede into the landscape. The taller parts of the main process building and stack with occasional visual plume will break the ridgeline, obstructing the view to the distant Roches Point and be seen against the skyline resulting in a slight, permanent and neutral visual effect. The lighter colour of these taller elements will assist in minimising visual effects. The development occupies only a small proportion of the overall wide view and is similar in nature to many of the other developments around the harbour which can also be viewed from this location.

	The lighting on the stack will be visible and the lower lighting will just be visible over the trees in the short to medium term. Cumulative effects (see **Figure 11.26.3**) will include the permitted Ringaskiddy Port redevelopment and the Novartis wind turbine (out of view). The M28 may give rise to alterations to the topography and vegetation to the right of the Martello Tower.

VRP Nr.	Figure Nr.	Name of View	Distance to site
27	11.27	View from Monkstown Golf Course	3.1km

Description and nature of existing views
Elevated open views across Cork harbour, Ringaskiddy and Barnahely with backdrop of Currabinny and Crosshaven ridgelines.

Visual Effects	
Construction	Operational and cumulative
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible from crainage, moving vehicles, flood lights etc. Additional lighting during construction will be evident but viewed within lighting from Ringaskiddy.	The lower level parts of the proposed development will be seen against the backdrop of the Ringaskiddy ridgeline, Cork harbour and Whitegate ridgeline in the distance. With elevation colour materials matching the backdrop, the lower parts of the building will visually recede into the landscape. The taller parts of the main process building and stack with occasional visual plume will break the ridgeline and be seen against the skyline resulting in a slight, permanent and neutral visual effect. The lighter colour of these taller elements will assist in minimising visual effects. The development occupies only a small proportion of the overall wide view and is similar in nature to many of the other developments around the harbour which can also be viewed from this location. The lighting on the stack will be visible and the lower lighting will just be visible over the trees in the short to medium term. Cumulative effects (see **Figure 11.27.3**) will include the permitted Ringaskiddy Port redevelopment and the Novartis wind turbine (out of view). The M28 may give rise to alterations to the topography and vegetation to the right of the Martello Tower.

VRP Nr.	Figure Nr.	Name of View	Distance to site
28	11.28	View from R613 road at Barnahely Cemetery	1.7km

Description and nature of existing views
View from R613 looking east over Barnahely cemetery. The view is characterised but the mixture of agricultural, commercial and pharmaceutical buildings with the backdrop of the Ringaskiddy, Cobh, Currabinny and Crosshaven ridgelines. The Ringaskiddy Martello tower, DePuy wind turbines, and overhead powerlines are prominent features.

Visual Effects	
Construction	Operational and cumulative
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible.	The taller portions of the main building and stack with occasional visual plume will be seen above the Ringaskiddy ridgeline and behind the Martello tower, leading to slight, permanent and negative visual effects. The lower portions of the building will be screened by the Ringaskiddy ridge. The lighting on the stack will be visible against the sky, similar to the wind turbine lighting. Cumulative effects will include the portions of the permitted Ringaskiddy port redevelopment and the Novartis wind turbine.

VRP Nr.	Figure Nr.	Name of View	Distance to site
29	11.29	View from Curraghbinny	2.3km
Description and nature of existing views			
Elevated view from the local road along the spine of Currabinny ridge. Rural character with views of Owenabue estuary to the south and more industrial in character to the north with views of GlaxoSmithKline, Hovione and DePuy facilities at Loughbeg and lower harbour wind turbines with Cobh in the backdrop.			
Visual Effects			
Construction		Operational and cumulative	
Slight, temporary, neutral effects during the construction of the main process building and c stack which will be visible.		The taller portions of the main building and stack with occasional visual plume will be seen above the Ringaskiddy ridgeline and against the backdrop of Cobh, leading to slight, permanent and neutral visual effects. The lower portions of the building will be screened by the Ringaskiddy ridge. The lighting on the stack will be visible against the sky, similar to the wind turbine lighting. Cumulative effects (see **Figure 11.29.3**) will include portions of the permitted Ringaskiddy port redevelopment and the Novartis wind turbine.	

VRP Nr.	Figure Nr.	Name of View	Distance to site
30	11.30	View from Curraghbinny road at Loughbeg	2.2km
Description and nature of existing views			
View northeast from Curraghbinny road over agricultural landscape and Loughbeg towards Ringaskiddy ridge and Martello Tower.			
Visual Effects			
Construction		Operational and cumulative	
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible.		The taller portions of the main building and stack with occasional visual plume will be seen above the Ringaskiddy ridgeline and seen against the skyline, leading to slight, permanent and neutral visual effects. The lower portions of the building will be screened by the Ringaskiddy ridge. The lighting on the stack will be visible against the sky, similar to the wind turbine lighting. Cumulative effects will include portions of the permitted Ringaskiddy port redevelopment and the Novartis wind turbine.	

VRP Nr.	Figure Nr.	Name of View	Distance to site
31	11.31	View from Curraghbinny Woods shoreline	1.9km
Description and nature of existing views			
Currabinny Woods. Coillte owned and managed woodland amenity. Steeply sloped with several trails and paths running in east west orientation across the contours. There are a number of vantage points within the woodland and from the shorelines where views to the north open out to allow views over Loughbeg, Ringaskiddy, Cobh, Spike Island and Cork harbour. Well used walking amenity.			
Visual Effects			
Construction		Operational and cumulative	

Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible.	The taller portions of the main building and stack with occasional visual plume will be seen above the Ringaskiddy ridgeline, leading to slight, permanent and neutral visual effects. The lower portions of the building will be screened by the Ringaskiddy ridge. The lighting on the stack will be visible against the sky, similar to the wind turbine lighting. A representation of the occasional steam plume is shown in **Figure 11.31.3**. Cumulative effects (see **Figure 11.31.4**) will include portions of the permitted Ringaskiddy port redevelopment and the Novartis wind turbine.

VRP Nr.	Figure Nr.	Name of View	Distance to site
32	11.32	View from Camden Fort (Fort Meagher) Car Park, Crosshaven (also Scenic Route S58	2.9km

Description and nature of existing views
Elevated, expansive view over Cork harbour, Loughbeg, Ringaskiddy, Cobh and Spike Island. Residential developments on northern side of ridgeline with expansive views across harbour towards Loughbeg, Ringaskiddy and Cobh.

Visual Effects	
Construction	Operational and cumulative
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible.	The taller portions of the main building and stack with occasional visual plume will be seen above the Ringaskiddy ridgeline and seen against the backdrop of Cobh and Monkstown, leading to slight, permanent and neutral visual effects. The lower portions of the building will be screened by the Ringaskiddy ridge. The lighting on the stack will be visible against the sky, similar to the wind turbine lighting. Cumulative effects (see **Figure 11.32.3**) will include portions of the permitted Ringaskiddy Port redevelopment and the Novartis wind turbine.

VRP Nr.	Figure Nr.	Name of View	Distance to site
33	11.33	View from Crosshaven (Ardcross Court)	3.3km

Description and nature of existing views
Elevated view from residential area in Crosshaven town with views towards Ringaskiddy with backdrop of Cobh.

Visual Effects	
Construction	Operational and cumulative
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible.	The taller portions of the main building and stack with occasional visual plume will be seen above the Ringaskiddy ridgeline and seen against the backdrop of Cobh, leading to slight, permanent and neutral visual effects. The lower portions of the building will be screened by the Ringaskiddy ridge. The lighting on the stack will be visible against the sky, similar to the wind turbine lighting. Cumulative effects will include portions of the permitted Ringaskiddy Port redevelopment and the Novartis wind turbine.

VRP Nr.	Figure Nr.	Name of View	Distance to site
34	11.34	View from Crosshaven on Point Road	2.7km
Description and nature of existing views			
Elevated view from residential area in Crosshaven town with views across Cork Harbour and Loughbeg towards Ringaskiddy with backdrop of Cobh.			
Visual Effects			
Construction		Operational	
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible.		The taller portions of the main building and stack with occasional visual plume will be seen above the Ringaskiddy ridgeline and seen against the backdrop of Cobh and Monkstown, leading to slight, permanent and neutral visual effects. The lower portions of the building will be screened by the Ringaskiddy ridge. The lighting on the stack will be visible against the sky, similar to the wind turbine lighting. Cumulative effects (see **Figure 11.34.3**) will include portions of the permitted Ringaskiddy Port redevelopment and the Novartis wind turbine.	

VRP Nr.	Figure Nr.	Name of View	Distance to site
35	11.35	View from Spike Island (Fort Mitchell 2nd Bastion)	1.2km
Description and nature of existing views			
Elevated, expansive view from walls of Fort Mitchell over Cork harbour, Loughbeg, Ringaskiddy and Haulbowline.			
Visual Effects			
Construction		Operational and cumulative	
Moderate, temporary, negative effects during the coastal protection works and building construction with the removal of existing trees, significant earthworks and construction of the resource recovery facility.		The eastern end of the process building will be visible in views from this location. The taller portions of the main building and stack with occasional visual plume will be seen against the skyline leading to moderate, permanent and neutral visual effect. The lower levels of the building, boundary fence and internal site road will be largely screened by planting. Cumulative effects (see **Figure 11.35.3**) will include portions of the permitted Ringaskiddy Port redevelopment and the Novartis wind turbine, and the amenity facility on the East Tip of Haulbowline Island.	

VRP Nr.	Figure Nr.	Name of View	Distance to site
36	11.36A	View from Spike Island at landing pier	1.1km
Description and nature of existing views			
View southwest from shoreline adjacent to Spike Island pier landing across harbour channel towards Ringaskiddy ridge. Wind turbines, Ringaskiddy Martello tower, electricity pylons and Beaufort building visible against skyline.			

Visual Effects	
Construction	Operational and cumulative
Moderate, temporary, negative effects during the coastal protection works and building construction with the removal of existing trees, significant earthworks and construction of the resource recovery facility.	The main process building will be visible in views from this location. The taller portions of the main building and stack with occasional visual plume will be seen against the skyline leading to moderate, permanent and neutral visual effect. The lower levels of the building, boundary fence and internal site road will be largely screened by planting. A representation of the occasional steam plume is shown in **Figure 11.36A.3**. Cumulative effects (see **Figure 11.36A.4**) will include portions of the permitted Ringaskiddy Port redevelopment and the Novartis wind turbine, and the amenity facility on the East Tip of Haulbowline Island. The M28 may give rise to alterations to the topography and vegetation to the right of the Martello Tower.

VRP Nr.	Figure Nr.	Name of View	Distance to site
36	11.36B	View from Spike Island at landing pier at night	1.1km
Description and nature of existing views			
Night view from same location as 11.36 above. Roadside and building lighting from Ringaskiddy and Loughbeg areas as well as obstacle lighting from wind turbines form conspicuous part of night time vista.			
Visual Effects			
Construction		Operational and cumulative	
Slight, temporary, neutral effects during the construction of the main process building and stack which will be visible from crainage, moving vehicles, flood lights etc.		The lighting on the stack will be visible extending the lighting from Ringaskiddy, Loughbeg and the wind turbines. The lower lighting will just be visible over the trees in the short to medium term. Cumulative effects (see **Figure 11.36B.3**) will include lighting from portions of the permitted Ringaskiddy port redevelopment and the Novartis wind turbine, and the amenity facility on the East Tip of Haulbowline Island. The M28 may give rise to alterations to the topography and vegetation to the right of the Martello Tower.	

VRP Nr.	Figure Nr.	Name of View	Distance to site
37	11.37	View from Spike Island (Fort Mitchell Square at Library)	1.6km
Description and nature of existing views			
View southwest from Library (Mitchell Hall) building located at eastern end of Fort Mitchell towards Ringaskiddy ridge and Martello tower. Owned by Cork County Council, Fort Mitchell is being developed as a tourism destination with Cork harbour.			
Visual Effects			
Construction		Operational and cumulative	
Imperceptible effects with intervening buildings and topography substantially blocking views of proposed development.		The taller portions of the main building and stack with occasional visual plume will be seen above the western block of buildings (Officers' Quarters) in Fort Mitchell and will be seen against the backdrop of the sky, leading to slight, permanent and neutral visual effects. The lower portions of the building will be screened by the intervening topography and buildings.	

	The lighting on the stack will be visible against the sky, similar to the wind turbine lighting. Cumulative effects (see **Figure 11.37.3**) will include portions of the permitted Ringaskiddy Port redevelopment and the Novartis wind turbine.

11.6 Mitigation and Monitoring Measures

Mitigation measures have been included in the design and will be implemented in the development of the proposed development. The primary objectives of the proposed mitigation measures include to:

- Reduce visual effects through careful and sensitive design of the built elements.
- Assist the visual integration of the development on the site into the surrounds and reduce landscape effects with an appropriate scale of planting.

11.6.1 Proposals for this application

The most visible building will be the main process building and stack. Therefore, the form, height, positioning and cladding of this building has been carefully chosen to reflect the shape of the existing natural ridgeline, and to sit within it. The narrowest part of the building has been aligned to face and minimise visual effect on views from Ringaskiddy Martello tower. The varying heights of the roof are at minimum heights to house the internal machinery. The cladding materials have been chosen to reflect the existing shades and tones apparent in the area. Darker sections are proposed towards the bottom of the building and lighter sections towards the top, with angled sections of different tones to reflect the angle to the ridge depending on whether the viewer is viewing from the north, south, east or west and what the predominant backdrop from that direction will be. Many shapes, heights and colour ranges were tested using a 3D model and photomontages. The dark green and grey colour palette worked best against the sky and sea and the darker greys, greens, browns and black colours against the landform. The breaking down of the facades and roofline also helped to reduce the overall appearance of scale of the building.

The other buildings including the administration, warehouse, electrical substation, aero-condenser, turbine and tanks will be of relatively small scale and will be placed behind the larger buildings or landscaped mounding where possible which will reduce their visual effect significantly. These buildings will be clad in a similar colour and material where they may be visible. Although closer to the road, due to the scale, these buildings will not be as visible as the larger main process building in longer range views.

The landscape proposals and mitigation measures are illustrated in **Figures 11.38-11.41**, along with the more detailed landscape masterplan drawings and sections (Drawing No. 6124_300-303). These proposals include ground remodelling to fit the larger process building into an excavated area of the slope to help reduce its height and visual mass. This involves retaining walls and reinforced grass slopes to the rear of the buildings around the service yards which will not be visible to the public.

The landscape proposals also include screen mounding along the eastern and northern boundaries of the whole site. These will have an immediate screening effect, while vegetation alone will take a few years to establish. The mounding shall predominantly be around 1 in 1.5 to 1 in 2 slopes although the height will vary in places and therefore will be of differing heights dependant on the shape and space available along the boundary at different sections of the site. They are intended not to be uniform in shape and height but to form more natural organic forms which relate to the existing contours of the site. They will in general, form bunds of 1-3m high and will effectively screen many close views.

The overall strategy for the landscape planting proposals throughout the site is to utilise and emulate the species that are already present on the site. Retaining as much vegetation as possible and also planting with the same native species as found in the local area will blend the site visually with the surrounding established vegetation particularly when viewed from a distance. The triangular field at the top of the embankment to the south west of the site will provide habitat enhancement, transitioning it from improved agricultural grassland to an area of more diverse natural meadow grassland, as set out in **Chapter 13, *Soils, Geology, Hydrogeology, Hydrology and Coastal Recession*** of this EIAR.

Along the northern boundary, the direction where most views of the site are from, the planting shall be dense mixed deciduous and evergreen planting on the earth mounds, using a range of age and sizes of tree, up to semi mature to provide some instant screening effect. The planting shall have a high percentage of the evergreen species for year-round screening in particular pine which is found throughout the area. The mounds will be planted with native woodland and over time as this establishes and grows in height the building will become even less visible. This planting will occur during the first planting season (November – March) after all of the construction works have been completed.

The landscape treatment along to the northern boundary of the site from Gobby Beach to Western Fields will create a more ‘campus’ style landscape reflecting the evolving change of the nearby NMCI, UCC ERI Beaufort, and Haulbowline campuses. At the entrances to the site larger semi mature species shall be planted for immediate effect. Closer to the buildings, the planting areas will predominantly be used for higher woodland planting rather than grasses or shrub planting to minimise visual effects. To the east of the site, along the coast there is currently an area of dry heathland, with scrub. A native grassland/scrub habitat will be maintained along the proposed public amenity walkway which will travel through the area. Between the footpath and site, a mixture of native scrub and taller oak and pine woodland will be planted to assist in screening close range views of the development from the walkway.

The site will require security, wire mesh type fencing which will be coloured matt black and will be set back from the public road and will be located within the planting on the internal slopes of the mounding where possible to reduce the visual effect and retain a vegetated boundary to the public footpath. To the south the site will be fenced, and the existing boundary hedgerows supplemented where these have been retained and replanted where there has been disruption due to the construction phase.

The lighting effects have been illustrated from particular viewpoints in the three night time photomontages (viewpoints 11.17, 11.25 and 11.36). Relatively low-level lighting has been proposed to reduce night time effects on the wider area while still illuminating the entrances and exits.

Reinforced grass slopes will be used where possible instead of concrete retaining walls for environmental, biodiversity and to a lesser degree visual reasons as these are generally required to the rear of the main process building, tanks and pump house where the visual effect will be screened. Similarly, reinforced grass areas will be provided in the 'shutdown yard'.

A new bitumen macadam footpath will be constructed to give access from Gobby Beach to the Martello Tower. It is proposed to run along the eastern edge of the site and will be fenced with a low timber fence along the eastern edge. A viewing area will be provided at the higher south east corner of the site providing expansive views over Cork harbour, Spike Island and Cobh. The footpath will then run along the elevated southern boundary of the site towards the Martello Tower. There will be low additional mounding and planting to the northern edge of the footpath to mitigate any views down into the service yard of the proposed development.

11.6.2 Monitoring

In order to ensure the designed mitigation measures are effective, the construction of the proposed development must follow the design and material and colour selection as set out above and as detailed in the EIAR and accompanying architectural drawings.

In relation to landscape mitigation, it is important that stringent specifications will be employed with regard to all the planting works, and that the landscape contract will include a 12 months maintenance period during which any plants which fail will be replaced.

11.7 Residual Effects

The landscape and visual effects of the proposed development will generally be greatest from the north, south and east particularly within a 0.5km radius to the north and east (including Rocky Island), within areas of Cobh at White Point, from the Martello Park Road as it passes adjacent to the site (including the residential property to the northwest of the site), the National Maritime College car park, Gobby Beach and Ringaskiddy Martello tower. Landscape and visual effects will be predominantly direct in nature.

The development has been sensitively designed in relation to the Martello Tower protected structure in order to retain its prominence when viewed from around the harbour. The main process building is situated at a distance from the tower and aligned to have its narrowest part face the tower. The development does not block views of the tower from most viewpoints around the harbour. The building has been set down as far as possible into the ridgeline and appears to be at a similar or lower height than the Martello tower from most viewpoints.

The stack does however extend above the height of the Martello tower although it is slender in form and set at a distance from it, and the vertical forms of the existing wind turbines and electricity pylons rise higher than the Martello tower and are located much closer to it.

As the building is large in scale, the primary purpose of the mitigation landscape planting will be to provide screening from the closer viewpoints. The building extends above this planting from all views. The landscape mitigation will also ensure that the direct landscape effects on the site, namely the planting that is to be removed during construction will be replaced and enhanced for biodiversity reasons.

Visual mitigation during the design stage also focussed on the careful design and colour selection of the main buildings. The design of the building, although large, uses colour and form to reduce its overall effects. Some of the more distant views are neutral in nature as the scale of the building is not so apparent and the development looks similar in character to the surrounding large-scale industries which are characteristic of the setting in wider and longer-range views.

Although many of the effects will be negative in nature at the operational stage this is due to the change in view from a predominantly green ridgeline, to an industrial building. However, this is in the context of an area that is already substantially modified and semi-industrial in nature.

Residual landscape and visual effects will range considerably by virtue of both the local and much broader setting of the development in its immediate context and in the wider context of the Lower Harbour. Residual effects are described in **Section 11.5** and in **Table 11.2**, and range generally from slight neutral effects at greater distances across the Lower Harbour to moderate negative effects in closer proximity to the development site. Residual effects also include a number of significant negative effects that are localised to the immediate environs of the Martello tower, and significant neutral effects along the local road fronting the site and areas at Gobby Beach.

The Lower Harbour area is currently and will continue to undergo process of change in its visual and landscape character in the short, medium and long term with the other planned and permitted developments in the area including the wind turbine at Novartis, M28 Cork to Ringaskiddy Motorway Scheme, redevelopment of the Ringaskiddy Port, further development of the UCC ERI Beaufort Building, National Maritime College and Haulbowline and Spike Islands and continued development of other industrial, renewable energy and pharmaceutical projects in the lower harbour area.

The cumulative effect of these developments on the landscape character will be negative in the short term but is deemed to the positive in the medium to long term once operational as the area transitions from a slightly unkempt, semi-industrial area, to a more developed cluster of industry, energy and education campus style landscape. The proposed development will be seen in many ways as an extension of this landscape. Overall the greater surrounding area is deemed capable of absorbing the development without changing the character of the City Harbour Landscape, and the proposed development, in combination with other planned or permitted developments, will not give rise to any significant direct or indirect cumulative landscape and visual effects.

11.8 References

The assessment has been undertaken with regard to the relevant guidelines for landscape and visual assessment, including:

EPA Draft '*Guidelines on the information to be contained in Environmental Impact Assessment Reports'* (2017).

EPA '*Draft Advice Notes for preparing Environmental Impact Statements'* (2015).

The Landscape Institute/ Institute of Environmental Management and Assessment (2013). *Guidelines for Landscape and Visual Impact Assessment* (3rd Edition).

Fáilte Ireland (2011) Guidelines for treatment of tourism in an Environmental Impact Statement.

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

Government of Ireland (2018) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018).