8 LANDSCAPE AND VISUAL

8.1 INTRODUCTION

8.1.1 Guidance used in the Landscape and Visual Impact Assessment

This Chapter describes the landscape and visual effects associated with the ongoing and future activities at the existing licensed Drehid WMF, Co. Kildare (IED Licence Reg. No. W0201-03) in accordance with the relevant EPA Guidelines and general national and international best practice guidelines on the preparation of Landscape and Visual Impact Assessments. The following Landscape and Visual Impact Assessment (LVIA) has been prepared as an update to the previous LVIA contained within the 2008 EIS regarding the existing site and takes into account the requirements of the new EIA Directive (Directive 2014/52/EU) which came into effect on the 16th of May 2017. The following sources and guidelines were used in the assessment:

- '*Guidelines on the Information to be contained in Environmental Impact Statements*', EPA, 2002;
- *'Advice Notes on Current Practice (in the preparation of Environmental Impact Statements)'*, EPA, 2003;
- Draft *'Guidelines on the Information to be contained in Environmental Impact Assessment Reports'*, EPA, August 2017;
- *Guidelines for Landscape and Visual Impact Assessment (GLVIA), Third Edition,* Landscape Institute and Institute of Environmental Management and Assessment (IEMA); 2013;
- *'Photography and Photomontage in Landscape and Visual Impact Assessment'*, Landscape Institute Advice Note 01/2011;
- Kildare County Development Plan 2017-2023;
- National Parks and Wildlife Service (NPWS), http://www.npws.ie;
- Irishtrails, http://www.irishtrails.ie; and
- Ordnance Survey Ireland, 1:50,000 Discovery Mapping.

8.1.2 Characteristics of the Existing Facility and Ongoing Future Activities

A detailed description of the existing licensed Drehid WMF and permitted activities is provided in Chapter 3 (Description of the Existing Environment, Ongoing and Future Activities). The location of the individual facility components are shown on Drawing No. 10369-2001 and Figure 3.1 of this Existing Facility EIAR. Ongoing permitted future activity at the site refers to the continuation of licensed phased landfill filling and capping and composting, along with the implementation of mitigation measures following cessation of landfill works at the site as per the restoration and aftercare measures contained within the 2008 EIS.

Main Access

The main access is via the existing access point on the R403 and the existing internal 4.8 km access road between the entrance and the existing Drehid WMF.

Landfill and building structures

The main components of the existing permitted development that result in landscape and visual effects include the non-hazardous MSW landfill, composting facility building and maintenance building.

Non-Hazardous MSW landfill

The footprint of the existing landfill is approximately 39 ha. The maximum final height, post settlement, of the landfill mounds will be 103.25m AOD. The pre-development ground level was 84-86 mAOD. Final landfill height will be reached following completion of all 15 phases of landfilling.

Composting Facility

The height of the existing building is approximately 11 m.

Maintenance Building

The height of the existing building is approximately 6 m.

Other structures

Other structures such as site infrastructure including roads, access tracks, weighing bridges, parking facilities, surface water attenuation areas and maintenance yards are very unlikely to be visible outside of the Bord na Móna land holding due to their low height and/or location at ground level.

Future Landscape Mitigation Measures

Previously permitted landscape mitigation measures include the introduction of a 5 m high planted earthen berm (referred to as 'environmental berm' herein) along the northern, eastern and western boundaries of the landfill mounds. The environmental berm will be planted with strips of native woodland species. To date, the unplanted environmental berm is partially completed along the northern and western boundaries of the landfill mounds. Further mitigation measures, to be implemented following cessation of landfilling works include the introduction of mixed native woodland strips across the capped and seeded landfill mounds following the completion of phased landfilling works.

Other visible aspects of the existing development include vehicles, staff and plant working on the mounds as they grow, and the mounds themselves increasing gradually in height and breadth. Completed sections of the phased landfill will be grassed resulting in a permanent low hill-like appearance.

8.2 METHODOLOGY

8.2.1 Landscape and Visual Impact Assessment Criteria

The draft EPA guidelines from May 2017 provide a general methodology and impact ratings for all types of specialist assessments. Best practice guidance, such as the "Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, 2013, Landscape Institute (UK) & IEMA" provide specific guidelines for

landscape and visual impact assessments. Therefore, a combination of the draft EPA guidelines, the Landscape Institute guidelines and professional experience has informed the methodology for the assessment herein. The Landscape Institute guidelines require the assessment to identify, predict and evaluate the significance of potential effects to landscape characteristics and established views. The assessment is based on an evaluation of the sensitivity to change and the magnitude of change for each landscape or visual receptor. For clarity, and in accordance with best practice, the assessment of potential effects on landscape character and visual amenity, although closely related, are undertaken separately.

The significance of an effect is determined by two distinct considerations:

1. The nature of the RECEPTOR likely to be affected, namely:
    - The **susceptibility** of the receptor to the type of change arising from the proposed developments; and
    - The **sensitivity** to change is related to the **value** attached to the receptor.
2. The nature or magnitude of the EFFECT likely to occur, namely:
    - The **size and scale** of the landscape and visual effect (for example, whether there is a complete or minor loss of a particular landscape element);
    - The **geographical extent** of the areas that will be affected;
    - The **duration** of the effect and its **reversibility**; and
    - The **quality** of the effect – whether it is neutral, beneficial or adverse.

8.2.2 Assessment Process

The assessment is undertaken based on the following key tasks and structure:

- Establishment of the Baseline;
- Appreciation of the permitted development; and
- Assessment of Effects.

8.2.3 Establishment of the Baseline

A baseline study has been undertaken through a combination of desk based research and site appraisal in order to establish the existing conditions of the landscape and visual resources of the study area. Desk based research has involved a review of mapping and aerial photography, relevant planning and policy documents, the relevant Landscape Character Assessments and other relevant documents and publications.

8.2.4 Appreciation of the Permitted Development

In order to be able to accurately assess the full extent of likely effects on landscape character and visual amenity it is essential to develop a thorough and detailed knowledge of the existing licenced development and restorative measures to be implemented at cessation of landfill works. This includes a comprehensive understanding of its existing characteristics and permitted future development over time.

The landscape and visual impact assessment has considered all elements of the existing licenced development along with the future permitted restorative measures at the site. Please refer to Chapter 3 for a detailed description of individual development parts.

8.2.5 Assessment of Effects

The landscape and visual impact assessment seeks to identify, predict and evaluate the significance of potential effects to landscape characteristics and established views. The assessments are based on an evaluation of the sensitivity to change and the magnitude of change for each landscape or visual receptor.

The assessment acknowledges that landscape and visual effects change over time as the existing landscape internal and external to the existing licenced development evolves and proposed planting and mitigation measures, develop. The assessment therefore reports on potential effects that will arise following cessation of landfill works at the site. The prominence of the development in the landscape or view will vary according to the existing screening effects of local topography, intervening existing vegetation and building structures and the implementation of proposed and permitted landscape mitigation measures.

8.2.6 Scope

8.2.6.1 Study Area

A study area radius of 5 km has been set from the centre of the existing licenced development for the assessment of landscape and visual effects. This study area aligns with that established as part of the 2008 EIA.

It is acknowledged that the facility may be visible from locations beyond 5 km from elevated locations, and as such it is important to note that the study area defines the area within which potential effects could be significant, rather than defining the extent of visibility.

8.2.6.2 Effects Scoped Out

The landfill structures will become permanent features in the landscape following the completion of landfill activities and the implementation of landscape mitigation measures. The assessment takes account of this in the determination of residual landscape and visual effects.

Effects arising from the process of decommissioning of the building structures are considered to be of a similar nature and duration to those arising from the construction process and therefore have not been considered separately in this chapter.

8.2.7 Landscape Effects

Landscape effects describe the impact on the fabric or structure of a landscape or landscape character.

The assessment of landscape effects firstly requires the identification of the components of the landscape. The landscape components are also described as landscape receptors and comprise the following:

- Individual landscape elements or features;
- Specific aesthetic or perceptual aspects; and
- Landscape character, or the distinct, recognisable and consistent pattern of elements (natural and man-made) in the landscape that makes one landscape different from another.

The assessment will identify the interaction between these components and the existing licenced development in its current state and until the cessation of landfilling works. The condition of the landscape and any evidence of current pressures causing change in the landscape will also be documented and described.

8.2.8 Landscape Sensitivity to Change

The evaluation of landscape sensitivity to change involves consideration of the nature of the landscape and its ability to accommodate change without compromising its key elements or characteristics. Sensitivity to change is defined through appraisal of landscape value, undertaken as part of the baseline study, and the susceptibility of the landscape to change.

8.2.8.1 Landscape value

Landscape value is frequently addressed by reference to international, national, regional and local designations, determined by statutory and planning agencies. However, absence of such a designation does not necessarily imply a lack of quality or value. Factors such as accessibility and local scarcity can render areas of nationally unremarkable quality, highly valuable as a local resource. The quality and condition is also considered in the determination of the value of a landscape. The evaluation of landscape value is undertaken with reference to the definitions stated in the table below.

Table 8.1: Landscape Value

LANDSCAPE VALUE	*CLASSIFICATION CRITERIA*
High	Nationally designated or iconic, unspoilt landscape with few, if any, degrading elements.
Medium	Regionally or locally designated landscape, or an undesignated landscape with locally important landmark features and some detracting elements.
Low	Undesignated landscape with few if any distinct features or with several degrading elements.

8.2.8.2 Landscape Susceptibility

Landscape susceptibility relates to the ability of a particular landscape to accommodate the existing licenced development. Landscape susceptibility is appraised through consideration of the baseline characteristics of the landscape, and in particular the scale or complexity of a given landscape.

The evaluation of landscape susceptibility is undertaken with reference to a three-point scale, as outlined in the table below:

Table 8.2: Landscape Susceptibility Criteria

LANDSCAPE SUSCEPTIBILITY	CLASSIFICATION CRITERIA
High	Small scale, intimate or complex landscape considered to be intolerant of even minor change
Medium	Medium scale, more open or less complex landscape considered tolerant to some degree of change
Low	Large scale, simple landscape considered tolerant of a large degree of change

8.2.8.3 Landscape Sensitivity

Landscape sensitivity to change is determined by employing professional judgment to combine and analyse the identified landscape value, quality and susceptibility and is defined with reference to the scale outlined in the table below:

Table 8.3: Landscape Sensitivity to Change Criteria

LANDSCAPE SENSITIVITY	CLASSIFICATION CRITERIA
High	• Landscape characteristics or features with little or no capacity to absorb change without fundamentally altering their present character • Landscape designated for its international or national landscape value or with highly valued features • Outstanding example in the area of well cared for landscape or set of features that combine to give a particularly distinctive sense of place • Few detracting or incongruous elements
Medium-high	• Landscape characteristics or features with a low capacity to absorb change without fundamentally altering their present character • Landscape designated for regional or county-wide landscape value where the characteristics or qualities that provided the basis for their designation are apparent or a landscape with highly valued features locally • Good example in the area of a well-cared for landscape or set of features that combine to give a clearly defined sense of place
Medium	• Landscape characteristics or features with moderate capacity to absorb change without fundamentally altering their present character • Landscape designated for its local landscape value or a regional designated landscape where the characteristics and qualities that led to the designation of the area are less apparent or are partially eroded or an undesignated landscape which may be valued locally – for example an important open space • An example of a landscape or a set of features which is relatively coherent, with a good but not exceptional sense of place - occasional buildings and spaces may lack quality and cohesion

LANDSCAPE SENSITIVITY	CLASSIFICATION CRITERIA
Medium-Low	• Landscape characteristics or features which are reasonably tolerant of change without determent to their present character • No designation present or of little local value • An example of an un-stimulating landscape or set of features; with some areas lacking a sense of place and identity
Low	• Landscape characteristics or features which are tolerant of change without determent to their present character • An area with a weak sense of place and/or poorly defined character /identity • No designation present or of low local value or in poor condition • An example of monotonous unattractive visually conflicting or degraded landscape or set of features

8.2.8.4 Magnitude of Landscape Change

Magnitude of change is an expression of the size or scale of change in the landscape, the geographical extent of the area influenced and the duration and reversibility of the resultant effect. The variables involved are described below:

- The extent of existing landscape elements that will be lost, the proportion of the total extent that this represents and the contribution of that element to the character of the landscape;
- The extent to which aesthetic or perceptual aspects of the landscape are altered either by removal of existing components of the landscape or by addition of new ones;
- Whether the effect changes the key characteristics of the landscape, which are integral to its distinctive character;
- The geographic area over which the landscape effects will be felt (within the development application boundary itself; the immediate setting of the site; at the scale of the landscape type or character area; on a larger scale influencing several landscape types or character areas); and
- The duration of the effects (short term, medium term or long term) and the reversibility of the effect (whether it is permanent, temporary or partially reversible).

Changes to landscape characteristics can be both direct and indirect. **Direct change** occurs where the development will result in a physical change to the landscape within or adjacent to the development site. **Indirect changes** are a consequence of the direct changes resulting from the development. They can often occur away from the development site (for example, off-site construction staff parking) and may be a result of a sequence of interrelationships or a complex pathway (for example, a new road or footpath construction may increase public access and associated problems e.g. littering). They may be separated by distance or in time from the source of the effects.

The magnitude of change affecting the baseline landscape resource is based on an interpretation of a combination of the criteria set out in the table below:

Table 8.4: Magnitude of Landscape Change Criteria (Landscape Effects)

MAGNITUDE	CLASSIFICATION CRITERIA
None	No change
Negligible	Little perceptible change
Low	• Minor change, affecting some characteristics and the experience of the landscape to an extent; and • Introduction of elements that is not uncharacteristic
Moderate	• Noticeable change, affecting some key characteristics and the experience of the landscape; and • Introduction of some uncharacteristic elements.
High	• Noticeable change, affecting many key characteristics and the experience of the landscape; and • Introduction of many incongruous developments
Very High	• Highly noticeable change, affecting most key characteristics and dominating the experience of the landscape; and • Introduction of highly incongruous development

8.2.9 Visual Effects

Visual effects are determined by the extent of visibility and the nature of the visibility (i.e. how a development is seen within the landscape); for example, whether it appears integrated and balanced within the visual composition of a view or whether it creates a focal point.

Negative visual effects may occur through the intrusion of new elements into established views, which are out of keeping with the existing structure, scale and composition of the view. Visual effects may also be beneficial, where an attractive focus is created in a previously unremarkable view or the influence of previously detracting features is reduced. The significance of effects will vary, depending on the nature and degree of change experienced and the perceived value and composition of the existing view.

8.2.9.1 Receptors

For there to be a visual impact there is the need for a viewer. Views experienced from locations such as settlements, recognised routes and popular vantage points used by the public have been included in the assessment. Receptors are the viewers at these locations. The degree to which receptors, i.e. people, will be affected by changes as a result of the proposed development depends on a number of factors, including:

- Receptor activities, such as taking part in leisure, recreational and sporting activities, travelling or working;
- Whether receptors are likely to be stationary or moving and how long they will be exposed to the change at any one time;
- The importance of the location, as reflected by designations, inclusion in guidebooks or other travel literature, or the facilities provided for visitors;

- The extent of the route or area over which the changes will be visible;
- Whether receptors will be exposed to the change daily, frequently, occasionally or rarely;
- The orientation of receptors in relation to the proposed development and whether views are open or intermittent;
- Proportion of the developments that will be visible (full, sections or none);
- Viewing direction, distance (i.e. short-, medium- and long-distance views) and elevation;
- Nature of the viewing experience (for example, static views, views from settlements and views from sequential points along routes);
- Accessibility of viewpoint (public or private, ease of access);
- Nature of changes (for example, changes in the existing skyline profile, creation of a new visual focus in the view, introduction of new man-made objects, changes in visual simplicity or complexity, alteration of visual scale, landform and change to the degree of visual enclosure);
- Nature of visual receptors (type, potential number and sensitivity of viewers who may be affected); and
- Impact of ancillary developments.

8.2.10 Visual Sensitivity to Change

Sensitivity to change is defined through appraisal of the viewing expectation, or value placed on the view as identified in the baseline study, and its susceptibility to change.

8.2.10.1 Value of the View

Value of the view is an appraisal of the value attached to views and is often informed by the appearance on Ordnance Survey of tourist maps and in guidebooks, literature or art. Value can also be indicated by the provision of parking or services and signage and interpretation. The nature and composition of the view is also an indicator. The value of the view is determined with reference to the definitions outlined in the table below.

Table 8.5: Value of the View

VALUE	*CLASSIFICATION CRITERIA*
High	Nationally recognised view of the landscape, with no detracting elements.
Medium	Regionally or locally recognised view, or unrecognised but pleasing and well composed view, with few detracting elements.
Low	Typical or poorly composed view often with numerous detracting elements.

8.2.10.2 Visual Susceptibility

The GLVIA guidelines identify that the susceptibility of visual receptors to changes in views and visual amenity is a function of:

- The occupation or activity of people experiencing the view at a particular location; and
- The extent to which their attention or interest may therefore be focused on the views and visual amenity they experience at particular locations.

For example, residents in their home, walkers whose interest is likely to be focused on the landscape or a particular view, or visitors at an attraction where views are an important part of the experience often indicate a higher level of susceptibility. Whereas receptors occupied in outdoor sport, where views are not important, or at their place of work, are often considered less susceptible to change. Visual susceptibility is determined with reference to the three-point scale and criteria outlined in the table below:

Table 8.6: Visual Susceptibility

SUSCEPTIBILITY	*CLASSIFICATION CRITERIA*
High	Receptors for which the view is of primary importance and are likely to notice even minor change
Medium	Receptors for which the view is important but not the primary focus and are tolerant of some change
Low	Receptors for which the view is incidental or unimportant and is tolerant of a high degree of change

8.2.10.3 Visual Sensitivity

Sensitivity to change considers the nature of the receptor; for example, a person occupying a residential dwelling is generally more sensitive to change than someone working in a factory unit. The importance of the view experienced by the receptor also contributes to an understanding of the susceptibility of the visual receptor to change as well as the value attached to the view.

A judgement is also made on the value attached to the views experienced. This takes account of:

- Recognition of the value attached to particular views, for example in relation to heritage assets, or through planning designations;
- Indicators of the value attached to views by visitors, for example through appearance in guidebooks or on tourist maps, provision of facilities for their enjoyment (sign boards, interpretive material) and references to them in literature or art; and
- Possible local value; it is important to note that the absence of view recognition does not preclude local value, as a view may be important as a resource in the local or immediate environment due to its relative rarity or local importance.

The visual sensitivity to change is based on interpretation of a combination of all or some of the criteria outlined in Table 8.7.

Table 8.7: Sensitivity to Change Criteria

VISUAL SENSITIVITY	CLASSIFICATION CRITERIA
High	• Users of outdoor recreational facilities, on recognised national cycling or walking routes or in nationally designated landscapes • Residential buildings
Medium-high	• Users of outdoor recreational facilities, in highly valued landscapes or locally designated • landscapes or on local recreational routes that are well publicised in guide books • Road and rail users in nationally designated landscapes or on recognised scenic routes, likely to be travelling to enjoy the view
Medium	• Users of outdoor recreational facilities including public open space in moderately valued Landscapes • Users of primary transport road network, orientated towards the proposed development, likely to be travelling for other purposes than just the view
Medium-Low	• People engaged in active outdoor sports or recreation and less likely to focus on the view • Primary transport road network and rail users likely to be travelling to work with oblique views of the project or users of minor road network
Low	• People engaged in work activities indoors, with limited opportunity for views of the proposed development

8.2.10.4 Magnitude of Visual Change

Visual effects are direct effects as the magnitude of change within an existing view will be determined by the extent of visibility of the development. The magnitude of the visual effect resulting from the development at any particular viewpoint or receptor is based on the size or scale of change in the view, the geographical extent of the area influenced and its duration and reversibility. The variables involved are described below:

- The scale of the change in the view with respect to the loss or addition of features in the view and changes in its composition, including the proportion of the view occupied by the development;
- The degree of contrast or integration of any new features or changes in the landscape form, scale, mass, line, height, skylining, back-grounding, visual clues, focal points, colour and texture;
- The nature of the view of the development, in relation to the amount of time over which it will be experienced and whether views will be full, partial or glimpses.
- The angle of view in relation to the main activity of the receptor, distance of the viewpoint from the development and the extent of the area over which the changes will be visible; and
- The duration of the effects (short term, medium term or long term) and the reversibility of the effect (whether it is permanent, temporary or partially reversible).

The magnitude of visual effect resulting from the development at any particular viewpoint or receptor is based on the interpretation of the above range of factors and is set out in Table 8.8 below.

Table 8.8: Magnitude of Visual Change Criteria (Visual effects)

MAGNITUDE	CLASSIFICATION CRITERIA
None	No change in the existing view
Negligible	The development will cause a barely discernible change in the existing view
Low	The development will cause very minor changes to the view over a wide area or minor changes over a limited area
Moderate	The development will cause modest changes to the existing view over a wide area or noticeable change over a limited area
High	The development will cause a considerable change in the existing view over a wide area or a significant change over a limited area
Very High	The development will cause significant changes in the existing view over a wide area or a change which will dominate over a limited area

The table below provides the definition of the duration of landscape and visual effects:

Table 8.9: Definition of Duration of Effects

DURATION	DESCRIPTION
Temporary	Effects lasting one year or less
Short Term	Effects lasting one to seven years
Medium Term	Effects lasting seven to fifteen years
Long Term	Effects lasting fifteen to sixty years
Permanent	Effects lasting over sixty years

The quality of both, landscape and visual effects, can be Beneficial (Positive), Adverse (Negative) or Neutral according to the definitions set out in the table below:

Table 8.10: Definition of Quality of Effects

QUALITY OF EFFECTS	DESCRIPTION
Neutral	This will neither enhance nor detract from the landscape character or view
Beneficial (Positive)	This will improve or enhance the landscape character or view
Adverse (Negative)	This will reduce the quality of the existing landscape character or view

The objective of the assessment process is to identify and evaluate the potentially significant effects arising from the development. The assessment will identify the residual effects likely to arise from the finalised design taking into account mitigation measures and change over time.

The significance of effects will be assessed by considering the sensitivity of the receptor and the predicted magnitude of effect in relation to the baseline conditions. In order to provide a level of consistency and transparency to the assessment, and to allow comparisons to be made between the various landscape and visual receptors subject to assessment, the assessment of significance is informed by pre-defined criteria as outlined in the table below. When assessing significance, individual effects may fall across several different categories of significance and professional judgement is therefore used to determine which category of significance best fits the overall effect to a landscape or visual receptor.

The significance of the effects can be adverse (negative) or beneficial (positive) according to the definitions set out in the table below:

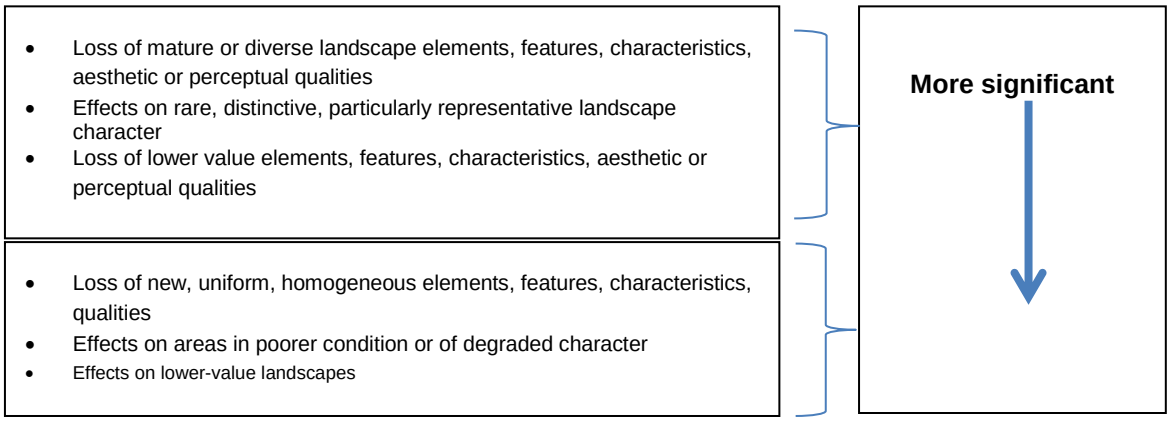
Table 8.11: Categories of Significance of Landscape and Visual Effects

SIGNIFICANCE CATEGORY	*DESCRIPTION OF EFFECT*
Major Beneficial Effect	The project will: • greatly enhance the character (including quality and value) of the landscape; • enable the restoration of characteristic features and elements lost as a result of changes from inappropriate management or development; • enable a sense of place to be created or greatly enhanced; and • cause a very noticeable improvement in the existing view; and open up a new view of local landscape dominating the future view.
Moderate Beneficial Effect	The project will: • enhance the character (including quality and value) of the landscape; • enable the restoration of characteristic features and elements partially lost or diminished as a result of changes from inappropriate management or development; • enable a sense of place to be restored; and • cause a noticeable improvement in the existing view.
Minor Beneficial Effect	The project will: • complement the character (including quality and value) of the landscape; • maintain or enhance characteristic features and elements; • enable some sense of place to be restored; and • cause a barely perceptible improvement in the existing view. This will typically occur where the viewer is at some distance from the development and the development newly appears in the view, but not as a point of principal focus. It will also occur where the development is closely located to the viewpoint but is seen at an acute angle and at the extremity of the overall view.
None	No change resulting from the development
Negligible Effect	The project will:

SIGNIFICANCE CATEGORY	DESCRIPTION OF EFFECT
(applies to both, adverse and beneficial)	• maintain the character (including quality and value) of the landscape; • blend in with characteristic features and elements; • enable a sense of place to be retained; and • not result in a discernible improvement or deterioration in the existing view.
Minor Adverse Effect	The project will: • not quite fit the character (including quality and value) of the landscape; • be at variance with characteristic features and elements; • detract from a sense of place; and • cause a barely perceptible deterioration in the existing view. This will typically occur where the viewer is at some distance from the development and the development newly appears in the view, but not as a point of principal focus. It will also occur where the development is closely located to the viewpoint but is seen at an acute angle and at the extremity of the overall view.
Moderate Adverse Effect	The project will: • conflict with the character (including quality and value) of the landscape; • have an adverse impact on characteristic features or elements; • diminish a sense of place; and • cause a noticeable deterioration in the existing view.
Major Adverse Effect	The project will: • be at complete variance with the character (including quality and value) of the landscape; • degrade or diminish the integrity of a range of characteristic features and elements; • damage a sense of place or cause a sense of place to be lost; • cause the integrity of characteristic features and elements to be lost; • cause a very noticeable deterioration in the existing view; and • obstruct an existing view of local landscape and the development will dominate the future view.

While the above table provides a useful way of categorising effects, significance can also be described in a more qualitative manner, in accordance with the sliding scale of significance as shown in Table 8.12.

Table 8.12: Scale of Significance



The significance of the effects is determined by the matrix shown in the table below:

Table 8.13: Significance of Effects Matrix [34]

SIGNIFICANCE OF EFFECTS (effects rated Moderate & above are considered significant (highlighted blue))		***SENSITIVITY***				
		High	**Medium-High**	**Medium**	**Medium-Low**	**Low**
MAGNITUDE OF CHANGE	**Very High**	Major	Major	Moderate-Major	Moderate	Moderate
	High	Major	Moderate-Major	Moderate-Major	Moderate	Minor-Moderate
	Moderate	Moderate-Major	Moderate	Moderate	Minor-Moderate	Minor
	Low	Moderate	Moderate	Minor-Moderate	Minor	Minor-Negligible
	Negligible	Minor	Minor-Negligible	Minor-Negligible	Negligible	Negligible

Effects will be assessed with regard to the continuation of landfilling activities on the existing licenced site, at cessation / decommissioning and following the implementation of previously permitted mitigation measures. Construction effects are considered to be temporary, short term effects which occur during the construction / decommissioning phases only. Residual effects are those long term effects which will occur as a result of the presence of the development in the landscape following the cessation of landfill works.

The quality of each effect is based on the ability of the landscape character or visual receptor to accommodate the development, and the impact of the development within the receiving context. Once this is done, the quality of the effect is then is assessed as being neutral, beneficial or adverse. A change

[34] *Note that the matrix is a guide - the determination of significance of effects also requires an element of professional judgement*

to the landscape or visual resource is not considered to be adverse simply because it constitutes an alteration to the existing situation.

8.2.11 Cumulative Effects

In addition to landscape and visual effects, it is also important to consider potential cumulative effects. Significant cumulative effects may occur where a number of similar developments combine to increase the prevalence of that type of development within a landscape or view to the extent that they become a defining characteristic.

The cumulative assessment evaluates the additional change resulting from a proposed development in relation to the theoretical baseline scenario and follows a similar methodology to that used for the landscape and visual assessments.

With regards to this Existing Facility EIAR, cumulative impacts associated with the proposed future development works at the site (planning application submitted in December 2017), the permitted but not built MBT facility and other built or consented developments in the vicinity of the site are not presented herein, as this has been previously assessed and included in the Proposed Development EIAR which was submitted to the planning authority and will accompany the IED Licence application for the facility.

8.2.12 Field Work

A site survey of the 5 km study area and beyond was carried out on 5th July 2018 reviewing previously selected viewpoint locations (viewpoints selected for 2008 EIA and 2017 EIAR) and the visibility of the existing licenced development. Photography showing the existing view and the superimposed development on photomontages and wireline drawings has been produced from key representative viewpoints, taking into account topography, existing buildings, screening vegetation and other localised factors. Photomontages 1 – 4 are included in Appendix 8.1.

8.2.13 Selection of Viewpoints

Viewpoint selection has been carried out according to the current best practice standards and the following industry guidelines:

- *Photography and Photomontage in Landscape and Visual Impact Assessment*, Landscape Institute Advice Note 01/2011.

It has been decided to use the four viewpoint locations contained within the Proposed Development EIAR (submitted to ABP in December 2017) for this assessment. The four viewpoints have been revisited and new photography has been taken in order to illustrate the future situation at the site following cessation and implementation of mitigation measures. Viewpoint 3 has been relocated slightly to focus better on the existing facility and associated infrastructure. It is not feasible to produce photomontages from every possible viewpoint in the 5 km study area and the selected viewpoint locations are representative of the nature of visibility at various distances, from landscape designations and in various contexts. As the

viewpoint photographs were taken in July 2018, deciduous trees show foliage and therefore do not illustrate the winter season scenario without foliage, i.e. worst case scenario. However, existing screening provided by foliage has been accounted for when determining the magnitude of change of landscape and visual effects.

Photomontages are one source of information and used as a tool to help to understand the nature of potential effects and to assist in the determination of the magnitude and significance of residual landscape and visual effects. The selection process of viewpoint locations is as follows:

- The location of viewpoints within the study area is informed by desktop and site surveys;
- Visual impact mapping of open and intermittent views during the site survey assesses the potential visibility of the proposed development from settlements, national, regional and key local roads including scenic routes, as well as from cycling and walking routes, relevant highpoints and other landscape designations etc.;
- Identification and selection of representative viewpoints showing typical open or intermittent views within a local area, which will be frequently experienced by a range of viewers; and
- Identification and selection of specific views from key viewpoints in the landscape such as routes or locations valued for their scenic amenity, main settlements etc. In this instance the study area during the site survey extended beyond the 5 km boundary to take account of the nearest elevated grounds at Carbury Hill.

8.2.14 Photomontages

Photomontages are photorealistic visualisations produced using specialist software. They illustrate the likely future appearance of development from a specific viewing point. They are useful tools for examining the impact of the development from a number of critical viewpoint positions along the public road network within the study area.

However, photomontages in themselves can never provide the full picture in terms of potential impacts, the can only inform the assessment process by which judgements are made. A visualisation can never show exactly what a future development will look like in reality due to factors such as; different lighting, weather and seasonal conditions which vary through time and the resolution of the image. As the photomontages are representative of viewing conditions encountered, some of them may show vegetation or topography screening some or all parts of the developments. Such conditions are normal and representative.

The images provided give a reasonable impression of the scale of the development and the distance to the development but can never be 100% accurate. It is recommended that decision-makers and any interested parties or members of the public should ideally visit the viewpoints on site, where visualisations can be compared to the ‘real life’ view, and the full impact of the development at cessation can be understood.

Viewpoints / Photomontages 1-4 show the permitted development including the following information:

- Existing View, showing the baseline image;
- Photomontage, showing the 2028 situation at cessation of currently permitted activities without landscape mitigation but with environmental berm;
- Photomontage, showing 2033 situation with landscape mitigation, i.e. planting, after 5 years; and
- Wireline drawing, indicating visible and non-visible structures/mounds.

Photomontage images have been produced with reference to best practice and the following industry guidelines:

- *Photography and Photomontage in Landscape and Visual Impact Assessment*, Landscape Institute Advice Note 01/2011, 2011;
- *Guidelines for Landscape and Visual Impact Assessment (GLVIA)*, *Third Edition*, Landscape Institute and Institute of Environmental Management and Assessment, IEMA, 2013; and
- *Visual Representation of Wind Farms, Version 2.2,* Scottish Natural Heritage, February 2017 (in relation to viewpoint selection, technical equipment, function and limitations of visualisations).

The photography, used to produce the baseline images and photomontages, was taken using a Canon EOS 5D Mark III camera with a 50 mm fixed lens, mounted on a tripod at a height of approximately 1.6 m above ground level.

8.2.15 Zone of Theoretical Visibility (ZTV)

Mapping the extent of the area from which a development is likely to be visible was originally known as a Visual Envelope Map (VEM), then as a Zone of Visual Influence (ZVI) and more recently as a Zone of Theoretical Visibility (ZTV). These changes in terminology reflect attempts to address frequent challenges occasioned by the mapping. Thus, as a theoretical methodology, ZTV prediction does not take into account the effects of seasons, lighting, weather conditions or visibility over distance. Moreover, a ZTV does not take into account the screening effects of vegetation or built structures and can omit topographical variations of up to 10 m. Therefore, in reality, ZTV mapping‘s principal use is to identify viewing points for further analysis.

Considering the mostly flat or gently undulating nature of the study area and the significant vegetation cover within the Bord na Móna site and throughout the study area, as well as existing built structures, the production of a ZTV would not be useful in the identification of viewpoints within the study area. The assessment relied therefore on comprehensive site surveys to establish the nature of visibility within the study area and to identify key viewpoint locations.

8.3 RECEIVING ENVIRONMENT / BASELINE DESCRIPTION

The location of the existing licenced facility is situated within a Bord na Móna land holding, in relatively flat low-lying cutaway bogland. The Bord na Móna land holding and the lands surrounding it are generally

averaging between 80-90 mOD. The maximum height of land within the area surveyed is 142 mOD (Carbury Hill, approximately 6.5-7 km to the west). The existing landfill, as it has been gradually capped and grassed, has created a new rising land form within the bog. The introduction of this land use has also included the construction of access roads, car parks, buildings, attenuation and storage areas within the cutaway bog. The Hill of Allen (219 mOD), a landmark within the wider landscape, is located approximately 10 km south of the facility and outside of the study area. The hill is subject to extensive quarrying.

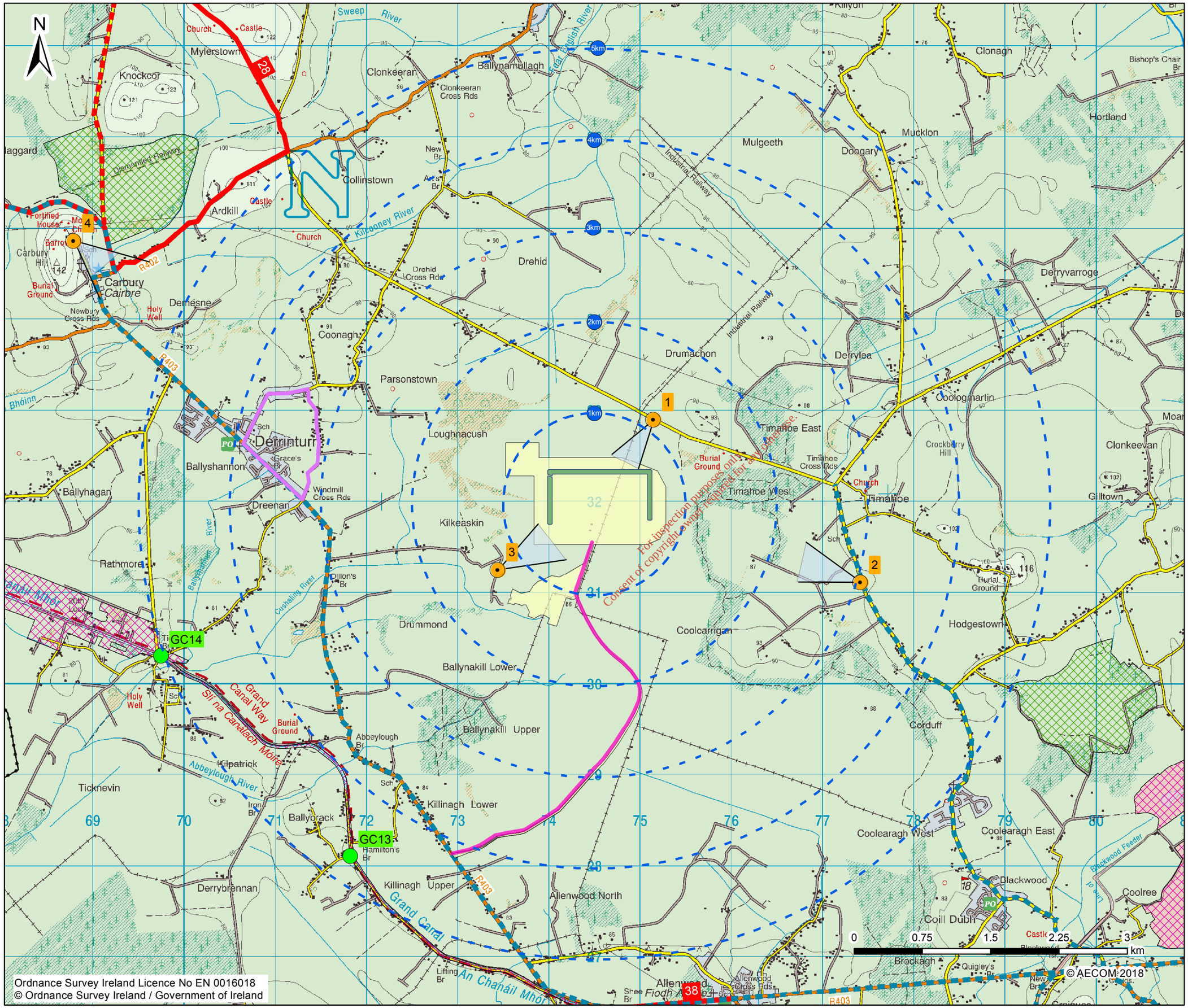
The cutaway bogland consists of areas of open peat, low vegetation, regenerating woodland and scrub vegetation of varying heights. A network of bog train tracks remains. The existing landfill is serviced by a 4.8 km long internal, private haul road, used only by HGVs and trucks bringing material to and from the site, by staff vehicles and by visitors to the facility. Regenerating vegetation is increasingly enclosing the views within the bog. There is significant existing screening vegetation located within the western sections of the Bord na Móna land holding and along sections of the eastern and southern boundary.

While the bog includes areas of tall vegetation, its primarily open nature contrasts with the surrounding landscape. The Bord na Móna land holding is surrounded on all sides by agricultural pastureland with a well-developed pattern of medium-sized and larger fields and an established hedgerow infrastructure.

There are a small number of occupied properties located within a 2 km radius of the existing landfill site. A larger number of properties are located within a 4 km offset, in particular to the west, south and east of the site.

Local road L5025 (Derrymahon Road) traverses the Bord na Móna land holding approximately 0.8 km north of the existing landfill. The R403 runs to the west and south of the lands, via Derrinturn and Allenwood. The R402 runs to the northwest, and the remainder of the study area is served by a local road network. There are residential and farm properties along all of the surrounding roads, with a higher density of settlement around Derrinturn and Allenwood.

The Grand Canal runs 3-4 km to the south and south-west of the facility site, via Allenwood and Robertstown.



Legend

- Viewpoint Locations
- Distance from Site Centre
- Existing Waste Management Facility
- Environmental Berm
- Existing Access Road
- North Kildare Tourist Route
- Scenic Viewpoints
- Derrinturn Slí na Sláinte
- Scenic Route
  (Kildare Co. Development Plan 2017-2023)

National Parks and Wildlife Service (NPWS)

- Natural Heritage Area (NHA)
- proposed Natural Heritage Area (pNHA)
- Special Area of Conservation (SAC)

Client: Bord na Móna — Naturally Driven

Project: Drehid Existing Facility EIAR Update

Drawing Title: Landscape Designations and Photomontage Locations

Drawing Number	Figure 8.1	Rev

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Drawing Status	Planning		
Drawn: J. Cook	Checked: J. Schulze	Project Director: E. Frampton	Date: 27.07.2018
Scale @ A3: As Shown		AECOM Project Number: 60501437	

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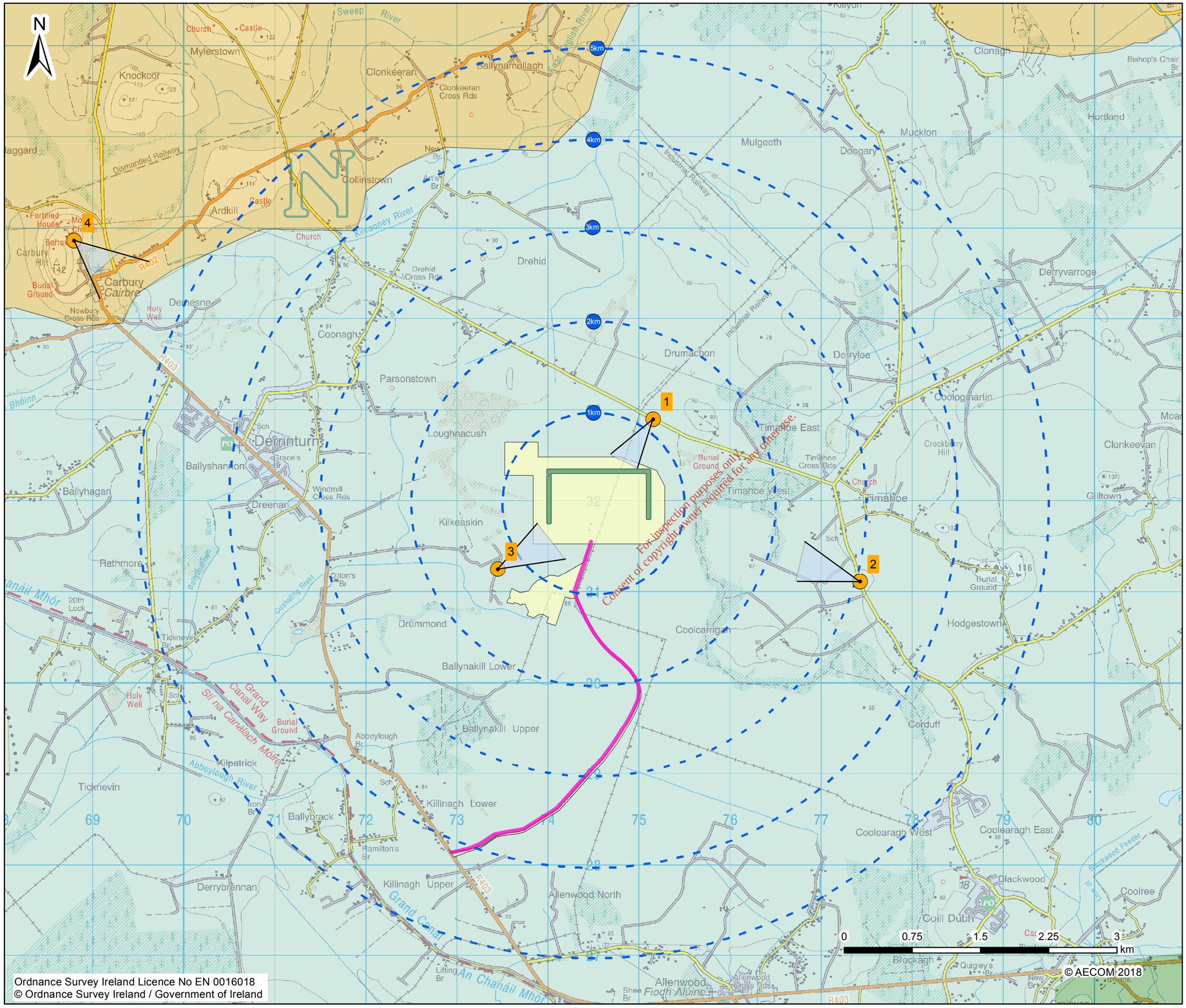

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Legend

- Viewpoint Locations
- Distance from Site Centre
- Existing Waste Management Facility
- Environmental Berm
- Existing Access Road

Landscape Character Areas

- Northern Lowlands
- North Western Lowlands
- Western Boglands

Client: Bord na Móna — Naturally Driven

Project: Drehid Existing Facility EIAR Update

Drawing Title: Landscape Character Areas

Drawing Number: Figure 8.2 | Rev:

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Drawn	Checked	Project Director	Date
J. Cook	J. Schulze	E. Frampton	27.07.2018

Scale @ A3: As Shown | AECOM Project Number: 60501437

8.3.1 Landscape Character Areas / Types

Principal Landscape Character Areas as described in the Kildare County Development Plan 2017-2023 (CDP)

The current CDP contains a Landscape Character Assessment which describes Principal Landscape Character Areas and strategies for the protection of specific landscape features.

The permitted development is located within Principal Landscape Character Area 'Western Boglands' as set out in the current CDP and shown in Figure 8.2. The CDP categorises the sensitivity of principal landscape character areas into 5 Classes. The 'Western Boglands' are listed as Class 3 with a 'High' sensitivity. Landscapes of High sensitivity are described in the Plan as "*areas with reduced capacity to accommodate uses without significant adverse effects on the appearance or character of the landscape having regard to prevalent sensitivity factors*".

Table 14.3 of the CDP identifies the "*likely compatibility"* between a range of land-uses and Principal Landscape Areas. In this table, the Western Boglands are described as being of Medium compatibility with Industrial projects.

Principal landscape sensitivity factors include *Peat Bogs* – and Table 14.4 states that Industrial development is "very unlikely to be compatible" with Peat Bogs.

However, it should be noted that the landfill and associated infrastructure has established a waste management character to the cutaway bog at Drehid and Policy LL 5 in the CDP states: *"To recognise that cutaway and cut-over boglands represent degraded landscapes and/or brownfield sites and thus are potentially robust to absorb a variety of appropriate developments."*

Policy LA 3 states that it is required to prepare *"… a Landscape/Visual Impact Assessment to accompany significant proposals that are likely to significantly affect:*

- *Landscape Sensitivity Factors*
- *A Class 4 or 5 Sensitivity Landscape (i.e. within 500 m of the boundary)*
- *A route or view identified in maps 14.2 and 14.3 (i.e. within 500 m of the boundary)"*

8.3.2 Scenic Routes

The following scenic routes, as indicated on Map 14.3 (of the Kildare CDP) and described in Appendix 4 in Kildare CDP, have been identified within the study area:

- Scenic Route No. 28 – Views from county roads (L5017 and L26) of Carbury Castle and Hill: Teelough road junction with the R402 regional road and upland area at Mylerstown.
- Scenic Route No. 38 – Views of Allenwood to Lullymore Local Road.

The North Kildare Touring Route, promoted by www.discoverireland.ie, is signposted along some of the roads in the study area. These designations are indicated in Figure 8.1.

8.3.3 Scenic Viewpoints

The following scenic viewpoints, as indicated on Map 14.3 (of the Kildare CDP) and described in Table 14.8 in Kildare CDP, have been identified within the study area and are indicated in Figure 8.1.

- GC12 Bond Bridge, Derrymullen
- GC13 Hamilton's Bridge, Killinagh Lower
- GC14 Ticknevin Bridge, Ticknevin

As well as these specific viewpoints, the Kildare CDP also mentions the sensitivity of views to and from waterways and to and from hills.

8.3.4 Demesne landscapes and gardens

Demesne landscapes within Ireland have been itemised and described in the National Inventory of Architectural Heritage (Gardens). Within the study area one known such demesne is located at the foot of Carbury Hill:

- Newberry Hall – described in the inventory has having *main features substantially present - some loss of integrity*

While not on the inventory of historic gardens, immediately adjacent to the Bord na Móna land holding to the east, Coolcarrigan House and Gardens is open to the public and used for weddings.

8.3.5 Environmental designations

The study area contains the following areas designated for their ecological value as indicated in Figure 8.1 (and Figure 5.1).

Special Areas of Conservation (cSAC)

- Ballynafagh Bog 000391
- Ballynafagh Lake 001387

Proposed Natural Heritage Areas (pNHAs)

- Ballynafagh Bog 001391
- Ballynafagh Lake 001387
- Grand Canal 002104

Natural Heritage Areas (NHAs)

- Carbury Bog 001388
- Hodgestown Bog 001393

While these areas are designated for ecological reasons, they are generally examples of intact landscapes and are therefore considered as potential sensitive receptors.

8.3.6 Slí na Sláinte walking routes

A looped Slí na Sláinte walk runs through Derrinturn approximately 4 km west of the facility site.

8.3.7 Walking Routes

The Grand Canal Way and the Barrow Way are located within the study area approximately 3 km southwest of the facility site.

8.3.8 Likely Future Receiving Environment / Do Nothing Scenario

All components of the baseline are constantly changing due to a combination of natural and human processes. When predicting likely direct and indirect effects it is important to remember that there are two available for comparison: the existing baseline environment and the future baseline environment without the implementation of the permitted mitigation measures.

In landscape terms, a 'Do Nothing Scenario' would see the continuation of the existing licenced activities at the existing Drehid WMF in accordance with the current planning permission for the facility, which includes works associated with filling and capping of the permitted MSW landfill and the potential future construction of the permitted but not yet built MBT facility. The surrounding lands within the Bord na Móna landholding will continue to develop as areas of regenerating cutaway bog, with the further maturing of existing and future vegetation likely to take place.

In visual terms, the content in available views of the development site will remain similar, although the size of the landfill mounds will increase and vegetation is likely to increase further and grow in height over time.

8.4 POTENTIAL EFFECTS

The following potential direct visual effects, direct and indirect landscape effects, as well the duration and nature of effects arising from the continuation of existing, ongoing and future activities, have been identified. Viewpoints / Photomontages 1 - 4 illustrate the existing situation alongside the future scenario following cessation of current permitted activities. This includes the full implementation of the environmental berm prior to the establishment of mitigation woodland planting across both the environmental berm and landfill mounds in 2028; and after 5 years in 2033 with the establishment of mitigation woodland planting. A description of each photomontage is included in Section 8.4.2 herein.

The existing permitted facility and licensed activities relating to this EIAR comprises existing built elements, evolving landfill mounds and the implementation of future permitted mitigation measures following cessation of current permitted activities. The combined landfill footprint measures approximately 39 ha and comprises two separate landfill mounds, subdivided into 15 No. phases for the purposes of construction, filling and capping. The maximum final height, post settlement, of the landfill mounds will be 103.25m AOD. Existing building heights range between approximately 6 m and 11 m above the surrounding ground level to the ridgeline. The landfill mounds will become the tallest features over time. Following cessation, the magnitude of visual change in existing views will be determined by the visibility

of the completed landfill mounds as well as by the effectiveness of existing intervening screening vegetation and permitted landscape mitigation measures. The distance of the landfill mounds and implemented mitigation works from the nearest settlement, landscape designation, walking route as well as the general road network from which views may be possible will also contribute to the magnitude of visual change experienced

Views of the existing landfill mounds are generally well screened by intervening roadside vegetation and vegetation located between the existing development and publicly accessible roads.

8.4.1 Landscape Effects

Direct or indirect landscape effects on the fabric of the landscape and its receptors are closely related to the nature and extent of visibility.

The existing landfill and ongoing future activities will see the site develop as per the planning and licenced permissions currently in place. Following completion of all 15 No. phases of landfilling activity, the landfill mounds will have reached their designed maximum height and will be grass seeded following capping. Implemented mitigation measures will introduce a grassed environmental berm along the eastern, northern and western edges of the landfill mounds, and native woodland planting strips will be established across both the grassed environmental berm and landfill mounds. Following decommissioning, site infrastructure, plant and materials will be removed from the site, as outlined in Section 3.2.8.

The existing facility site is located in the Landscape Character Area 'Western Boglands'. The sensitivity of this LCA has been described as 'High' in Kildare CDP. However, the existing development site is entirely located within cutaway bogland, which represents a degraded landscape as recognised by the Kildare CDP. The sensitivity of the development site itself as well as its susceptibility is therefore considered Low. Significant direct and permanent change has already occurred locally where the development is physically located. The magnitude of landscape change associated with the permitted ongoing and future activities at the landfill site is considered moderate. The highest direct landscape effects within the Bord na Móna landholding will arise from additional changes to landform. The significance of change is considered to be minor adverse.

Outside the Bord na Móna land holding, recognisable changes to the landscape character will be limited and localised due to the flat nature of the overall study area and significant intervening vegetation. The magnitude of landscape change is considered low. The significance of change is considered minor adverse as indirect landscape effects will be localised. They concentrate in areas outside the Bord na Móna land holding to the east, north, north-east and west. These effects are related to the partial visibility of landfill works. The areas experiencing such effects are mainly located within 2 km of the Bord na Móna landholding. There will be no significant change to the landscape character in low lying areas to the south-west, south and south-east beyond 2 km of the site.

Potentially sensitive landscape receptors have been described above and a summary of landscape effects of the proposed development on these receptors is provided in Table 8.14.

Table 8.14: Summary of Landscape Effects

RECEPTOR	SUSCEPTIBILITY	SENSITIVITY	MAGNITUDE OF LANDSCAPE CHANGE	DIRECT/ INDIRECT	SIGNIFICANCE
Site landscape character and character of immediate vicinity	Low	Low	Moderate	Direct	Minor Adverse
Existing vegetation within the Bord na Móna land holding	Low	Medium	Moderate	Direct	Moderate Adverse
General Landscape Character outside the Bord na Móna land holding (within 2 km radius on flat land)	Medium	Medium	Low	Indirect	Minor-Moderate Adverse
General Landscape Character outside the Bord na Móna land holding (beyond 4 km radius on flat land)	Medium	Medium	Negligible	Indirect	Minor-Negligible
Landscape Character as perceived from nearest elevated location (Carbury Hill at 6.7 km distance)	Medium	Medium-High	Low	Indirect	Minor-Moderate Adverse
SAC/pNHA Ballynafagh Bog Ballynafagh Lake	Medium	Medium-High	None	Indirect	None
pNHA Grand Canal	Medium	Medium-High	None	Indirect	None
NHA Carbury Bog Hodgestown Bog	Medium	Medium-High	None	Indirect	None
Setting of Newberry House Demesne as experienced from Carbury Hill	Medium	High	Low	Indirect	Minor-Moderate Adverse

8.4.2 Visual Effects

The existing permitted development and ongoing future activities are located in a mainly flat landscape and therefore even relatively low vegetation can provide screening for sensitive receptors. As this EIAR updates the previous Landscape and Visual Impact Assessment contained within the 2008 EIS, the increased growth of existing and regenerating vegetation over the last ten years within and around the site has been taken into account within this assessment, resulting in an overall lowering of the significance

of effects experienced. The highest visual effects tend to occur where there is no intervening vegetation between the viewer and the development, or where the viewer is at an elevated position. Where existing views are possible, they contain site activity and features including movement of large vehicles, surface material on the growing mounds, and heaped piles of stored landfill material. The situation following cessation will see the removal of this activity, with the greening of the site to include grass seeding and woodland planting on the two landfill mounds. The quality of effects are therefore considered Beneficial or Neutral as it is considered that following cessation of landfill works and the removal of building facilities, the site will be restored to a natural appearance, with a resulting visual improvement when compared with the existing situation.

Four photomontages from representative viewpoint locations have been prepared illustrating the nature of visibility of the landfill following cessation at various distances, contexts and elevations.

The photomontages illustrate the following:

- Situation at cessation in 2028 without landscape mitigation planting but with proposed environmental berm;
- Situation with landscape mitigation planting after 5 years at 2033

Viewpoint / Photomontage 1 is located on the L5025 (Derrymahon Road) and 792 m from the nearest part of the existing development. The view is orientated to the south, south-west. Many potential views along this road are screened by roadside hedgerows and intervening vegetation in the middle distance.

The susceptibility to change in this and similar views is considered medium as receptors will be users of the local road network with an oblique view of the development. The landscape is flat and views are often enclosed by roadside or other vegetation. Where views do open up they generally take in areas of cutaway bog or medium sized fields. The value of this view is considered Medium-Low. The sensitivity of this or similar views in the area is considered Medium-Low. While the view is not the primary focus of receptors, the cutaway bogland landscape forms part of a degraded landscape. The existing landfill mounds and machinery are partially visible from this viewpoint and seen through a gap in the existing vegetation.

Following cessation of landfill works in 2028 and prior to the establishment of vegetation cover, the existing partial view of the landfill will appear as a grassed mound in the distance. The capped and seeded landfill mound will appear as an integrated component of the existing landscape within this view. The magnitude of visual change is considered Low and the resulting significance of visual effects is Minor Beneficial.

In 2033, the established woodland planting on the landfill mounds will further integrate the landform into the surrounding landscape. The magnitude of visual change is considered Negligible and the resulting significance of effects is Negligible Beneficial.

Viewpoint / Photomontage 2 is located on the L5025 in the vicinity of the townland of Timahoe, and 2.5 km from the nearest part of the existing development. The view is orientated to the west, north-west.

The susceptibility to visual change is considered Medium as receptors will be users of the local road network with an oblique view of the development. This image represents an open view towards the site but intervening vegetation in the middle distance or roadside vegetation along this road to either side limits other views into the site. The value of this view is considered Medium. The sensitivity of this or similar views in the area is considered Medium - while the view is not the primary focus of receptors, the Western Boglands landscape is of High value as reflected in the county landscape character assessment. This road is also part of the North Kildare Touring Route leading to Coolcarrigan House and Gardens which are open to the public and used for weddings.

The existing landfill development is fully screened by intervening vegetation as illustrated in the photomontage and wireline images. There is therefore no visual change to this viewpoint associated with the ongoing and future works at the site

Viewpoint / Photomontage 3 is located on an access lane leading into the bog east from the R403 just south of Derrinturn and 830 m from the nearest part of the existing development. The view is orientated to the east, north-east.

The susceptibility to change is considered High considering that the key receptor is residential in this area. Upper parts of the landfill mound, large vehicles and piled landfill material are visible from this location. The value of this view is considered Medium. The sensitivity of this or similar views in the area is considered High, primarily due to this road being the access to the residence located at the end of the road and the intermittent nature of intervening vegetation. As the cutaway bog continues to regenerate, however, it is likely that the current partial views of the site will become fully screened.

Following cessation of operations in 2028, upper parts of the landfill mound remain visible however, the introduction of the grassed covering and disappearance of large vehicles and piled material, reduce the adverse visual effects experienced from this view. The landfill mound appears as a natural element within the landscape and does not detract from the view. The magnitude of change is considered Low and the resulting significance is Minor beneficial.

In 2033, the mitigation planting of native woodland has become established over the landfill mound which integrates with the existing tree planting on the distant horizon in this view. The magnitude of change is considered Negligible and the resulting significance is Minor-Negligible beneficial.

Viewpoint / Photomontage 4 is located close to the summit of Carbury Hill, and approximately 150 m from the end of a public road leading from the R403 to Carbury Hill. The photomontage location is located 5.9 km from the nearest part of the proposed landfill structure. The view is orientated to the southeast. The landfill mound and machinery at Drehid is visible in the far middle distance in the left side of the image. The majority of the landfill site is not visible from this location, with only limited sections of the

upper areas of the mounds barely discernible from this location due to the screening effects of intervening vegetation in the middle ground.

The susceptibility to change is considered High as receptors affected will be people who have deliberately walked to this vantage point to access the heritage features located on Carbury Hill, or simply to enjoy the view. The value of this view is considered Medium. The sensitivity of this or similar views in the area is considered Medium-High considering the elevated position and expansive panorama available. The view includes a broad sweep of flat agricultural and wooded landscapes including Newberry Hall and its demesne in the middle ground. The Wicklow Mountains are visible on the horizon.

At cessation of landfill works in 2028, the completed landfill mound will be visible as a limited area of grass within the existing landscape and mature tree vegetation. From this distance, the site will fully integrate into the surrounding landscape setting and the magnitude of visual change is considered Negligible. The significance of effects are considered Minor-Negligible and beneficial.

In 2033, the grassed mound will be less visible as the mitigation planting becomes established. The magnitude of change and significance of effects are Negligible and beneficial.

Views from Scenic Routes, Scenic Viewpoints and Natura 2000 sites

The existing facility will not be visible from any of the scenic viewpoints as recognised by the Kildare CDP. The existing facility is not visible from Scenic Route 38, any Natura 2000 sites, the Derrinturn Slí na Sláinte or the North Kildare Touring Route.

Upper parts of the landfill mounds and woodland tree planting may be partially visible from a short stretch of approximately 300 m along the R402 (Scenic Route 28) at Ardkill, where views open up on slightly higher ground. The visual change following cessation is therefore considered Low. The significance is considered Minor Beneficial.

Views from residences within the 5 km study area

While it has not been possible to access individual properties within the study area, information gathered from publicly accessible locations, such as roads and access tracks during site surveys and during studying aerial photography has informed the assessment of relevant residential properties within the study area as described herein.

The existing permitted and ongoing future activities at the development site will not be visible from the majority of residences within the 5 km study area radius. This is due to the flat or gently undulating nature of the study area and significant existing intervening vegetation, which will mostly prevent extensive cross-country views and often entirely screen potential views of the existing site.

The visual sensitivity of residential receptors, which may experience potential views of the future development following cessation on a daily basis, is High. The susceptibility to visual change is considered Medium-High as changes in views, even minor changes, will likely be noticed. The value of views from private residences is considered High.

The number of properties which may experience views of the upper parts of the grassed landfill mounds is limited to isolated properties located to the immediate west of the landfill site along the access track east of the R403 leading into the bog. Properties will experience similar views and visual effects as illustrated in Viewpoint / Photomontage 3 and described above.

Further, a small cluster of potentially affected residences is located to the north-east of the site along the L5025 (Derrymahon Road) east of the location of Viewpoint / Photomontage 1 in the townlands of Timahoe East and Timahoe West as well as east in the townland of Coolcarrigan. In addition, residential properties along the L1019 to the east of the site along may also experience views. While the majority of the landfill mounds will be fully screened by intervening vegetation, views of the upper most parts of the landfill mounds may be possible at some properties, particularly those located on minor roads with access from regional roads. The visual change at cessation of landfilling activities is considered to be Moderate and the significance of visual effects will be Moderate Beneficial.

It should be noted that the existing vegetation within and around the site will continue to mature over time and further or fully screen the landfill mounds from views within the surrounding area including relevant photomontage viewpoints.

A summary of visual effects of the proposed development is provided in the table below:

Table 8.15: Summary of Visual Effects

				Visual effects at cessation of landfilling works and prior to establishment of vegetation cover in 2028	
RECEPTOR	*SUSCEPTIBILITY*	*VALUE*	*SENSITIVITY*	*MAGNITUDE*	*SIGNIFICANCE*
Photomontage 1	Medium	Medium-Low	Medium-Low	Low	Minor beneficial
Photomontage 2	Medium	Medium	Medium	None	None
Photomontage 3	High	Medium	High	Low	Minor beneficial
Photomontage 4	High	Medium	High-Medium	Negligible	Minor-Negligible
Views from Slí na Sláinte	High	Medium	High	None	None
View from North Kildare Tourist route	High	High-Medium	High	None	None
View from Scenic Route 28	High	High-Medium	High	None	None
View from Scenic Route 38	High	High-Medium	High	None	None

				Visual effects at cessation of landfilling works and prior to establishment of vegetation cover in 2028	
RECEPTOR	***SUSCEPTIBILITY***	***VALUE***	***SENSITIVITY***	***MAGNITUDE***	***SIGNIFICANCE***
View from Natura 2000 sites	High	High	High	None	None

8.4.3 Effects at Construction

Considering that this EIAR relates to the existing Drehid WMF and the likely landscape and visual impacts arising at cessation of landfill works, there are no additional future construction stages involved other than those associated with continuation of licenced phased landfill activity. Temporary landscape and visual effects may arise during the decommissioning of the facility associated with the removal of site infrastructure and components. However, it is considered that these activities are similar in nature to the existing works carried out at the site, with no additional significant landscape and visual effects caused. Where works associated with the cessation and decommissioning of the existing landfill site have potential for visual impact, existing boundary and road side vegetation in the area will largely screen the potential site works which include site clearance, earthworks, tree planting, and the associated machines moving around the site.

Landscape and visual effects during this stage will be highest within the immediate vicinity of the development site within the Bord na Móna landholding and at the site entrance on the R403. The landscape and visual effects and their significance during this stage will be temporary, adverse and range from low/minor-negligible (in the wider study area) to high/very high (within 500 m radius from the existing landfill site).

8.4.3.1 Indirect Effects

The main indirect effects on the landscape character will result from the increase in construction traffic movement to and from the site and concentrate along the R403 and the site entrance, associated with the decommissioning of the site. These effects will be temporary.

8.5 MITIGATION MEASURES

Mitigation is a term used to describe the measures or actions that may be taken to minimise environmental effects. The purpose of mitigation is to avoid, reduce and where possible remedy or offset, any significant adverse direct and indirect effects on the environment arising from a development. This EIAR has examined the potential and likely effects associated with the ongoing permitted activities and cessation of landfilling works at Drehid WMF, and the resulting impact of mitigation measures as outlined within the previous LVIA from 2008, which this assessment updates. The Landfill Restoration Plan (Drawing No. 10369-2009) illustrates the proposed and permitted mitigation measures as submitted as part of the previous EIS. These changes include the amendment of the northern boundary alignment

along with extension of the berm footprint to include the eastern boundary of the landfill mounds. These permitted alterations have been considered within this LVIA. It should be noted that an updated Landfill Restoration Plan has been prepared as part of the proposed further development of the site and is included as Drawing No. 8108-2071 with the Proposed Development EIAR and is assessed accordingly in the Proposed Development EIAR. The prescribed mitigation measures as outlined within the previous LVIA and subsequent granted planning permission have been utilised to assess the potential landscape and visual impact. These mitigation measures are summarised as follows:

- Native woodland mix planting on the northern perimeter of the site;
- Native woodland planting on landfill capping, in order to integrate the landfill into the existing landscape, and facilitate the potential development of the site into an amenity area;
- The formation of two lakes following decommissioning of borrow pits;
- Provision of hedgerow planting along the public road directly to the north of the site in order to limit the currently open views;
- The construction of a 5 metre high environmental berm, to enclose the development from the north, east and west of the landfill, will be planted with bands of native woodland mix. Remaining areas of the landfill mounds and the environmental berm will naturally revegetate over time.

8.6 RESIDUAL IMPACTS

Effective implementation and establishment of the permitted mitigation measures will have a beneficial impact and help to 'soften' landscape and visual effects associated with the existing development, particularly for areas located within 2 km of the existing facility site and elevated areas within 5 km and beyond. Previously identified adverse landscape and visual effects will reduce, in tandem with the maturing of the existing and retained vegetation as well as the previously permitted mitigation planting within the Bord na Móna landholding. The staged greening and future planting of the landfill mounds will be beneficial and helps integrating the development into the surrounding environment.

8.6.1 Landscape Impacts (Effects)

Long term residual landscape effects will arise from the change in landform height and appearance of the landfill mounds and environmental berm along with the maturing and establishment of existing and future regenerating vegetation. Following cessation, the existing landfill mounds will have reached their maximum permitted height and in conjunction with previously permitted mitigation measures, will take on a natural appearance containing woodland planted grass mounds. The residual magnitude of landscape change within the Bord na Móna landholding is considered to be Low as the landfill will have a low and hill-like appearance following cessation of landfill works and implementation of landscape mitigation measures. The significance of residual landscape change is considered to be Minor beneficial.

Outside the Bord na Móna land holding residual and recognisable changes to the landscape character will be limited due to the flat nature of the overall study area and significant intervening vegetation, which will prevent the full recognition of changes to the landform appearance and character within the land

holding. Views, from which the changes in landform will be recognisable, will be localised and limited to a number of viewpoints mainly located to the south-west, west, north, north-east and east within 2 km from the site centre.

The residual magnitude of landscape change is considered to be Low as the landfill will either not be visible or integrate into the surrounding environs following cessation of landfill works and implementation of permitted landscape mitigation measures. The significance of residual landscape change is considered to be Minor-Negligible beneficial. There will be no significant change to the landscape character in low lying areas to the southwest, south and southeast beyond 2 km of the site.

A summary of residual landscape effects is included in the table below:

Table 8.16: Summary of Landscape Effects

RECEPTOR	*SUSCEPTIBILITY*	*SENSITIVITY*	*MAGNITUDE OF LANDSCAPE CHANGE*	*DIRECT/ INDIRECT*	*SIGNIFICANCE*
Site landscape character and character of immediate vicinity	Low	Low	Low	Direct	Minor Beneficial
Existing vegetation within the Bord na Móna land holding	Low	Medium	Low	Direct	Minor Beneficial
General Landscape Character outside the Bord na Móna land holding (within 2 km radius on flat land)	Medium	Medium	Negligible	Indirect	Minor Beneficial
General Landscape Character outside the Bord na Móna land holding (beyond 4 km radius on flat land)	Medium	Medium	Negligible	Indirect	Minor-Negligible Beneficial
Landscape Character as perceived from nearest elevated location (Carbury Hill at 6.7 km distance)	Medium	Medium-High	Negligible	Indirect	Minor-Negligible Neutral
SAC/pNHA Ballynafagh Bog Ballynafagh Lake	Medium	Medium-High	None	Indirect	None
pNHA Grand Canal	Medium	Medium-High	None	Indirect	None
NHA Carbury Bog Hodgestown Bog	Medium	Medium-High	None	Indirect	None

RECEPTOR	SUSCEPTIBILITY	SENSITIVITY	MAGNITUDE OF LANDSCAPE CHANGE	DIRECT/ INDIRECT	SIGNIFICANCE
Setting of Newberry House Demesne as experienced from Carbury Hill	Medium	High	Negligible	Indirect	Minor Beneficial

8.6.2 Visual Impacts (Effects)

The residual visual effects will include partial visibility of the completed landfill mounds from viewpoints along the L5025 (Derrymahon Road) to the north of the site and views from the end of the lane leading into the bog to the south-west of the site.

Localised visual effects will also be experienced from a small number of locations north-east in the townlands of Timahoe East and Timahoe West as well as east in the townland of Coolcarrigan. Following cessation of landfill works and implementation of permitted mitigation measures, the magnitude of visual effects is considered to be Low-Negligible and the significance of visual effects is considered to be Minor-Negligible and beneficial.

A summary of residual visual effects is included in the table below.

Table 8.17: Summary of Residual Visual Impacts (Effects)

				Residual visual effects at cessation of landfill works following establishment of mitigation in 2033	
RECEPTOR	SUSCEPTIBILITY	VALUE	SENSITIVITY	MAGNITUDE	SIGNIFICANCE
Photomontage 1	Medium	Medium-Low	Medium-Low	Negligible	Negligible Beneficial
Photomontage 2	Medium	Medium	Medium	None	None
Photomontage 3	High	Medium	High	Negligible	Minor-Negligible Beneficial
Photomontage 4	High	Medium	High-Medium	Negligible	Minor-Negligible Beneficial
Views from Slí na Sláinte	High	Medium	High	None	None
View from North Kildare Tourist route	High	High-Medium	High	None	None
View from Scenic Route 28	High	Medium-High	High	None	None

				Residual visual effects at cessation of landfill works following establishment of mitigation in 2033	
RECEPTOR	***SUSCEPTIBILITY***	***VALUE***	***SENSITIVITY***	***MAGNITUDE***	***SIGNIFICANCE***
View from Scenic Route 38	High	Medium-High	High	None	None
View from Natura 2000 sites	High	High	High	None	None

8.7 CONCLUSION

Landscape Effects

The existing landfill facility has already altered the landscape character. The highest landscape effects will arise within the Bord na Móna landholding from further changes to the landform in height and visual appearance in combination with the establishment and maturing of existing and future regenerating vegetation within the landholding. Following the cessation of landfill works and the implementation of previously permitted landscape mitigation measures, the landfill will have a low and hill-like appearance with a grassed surface and bands of woodland. The further change in landscape character is considered to be Minor beneficial when compared to the existing situation.

Outside the Bord na Móna land holding, remaining recognisable changes to the landscape character, following the cessation of works, will be limited due to the flat nature of the overall study area and significant intervening vegetation, which will prevent the full recognition of changes to the landform appearance and character within the land holding. Views, from which the changes in landform will be recognisable, will be localised and limited to a number of viewpoints mainly located to the south-west, west, north, north-east and east within 2 km from the site centre.

The landfill site will either not be visible or integrate into the surrounding environs following cessation of landfill works and implementation of landscape mitigation measures. The significance of residual landscape change is considered to be Minor-Negligible beneficial. There will be no significant change to the landscape character in low lying areas to the south-west, south and south-east beyond 2 km of the site.

Visual Effects

The existing landfill site is located in a mainly flat, basin-like landscape and therefore even relatively low vegetation can provide screening within the wider landscape. Similar to landscape effects, the existing facility has already an impact on the visual amenity in the study area where visible. The highest visual effects tend to occur where there is no intervening vegetation between the viewer and the site. While the

site components will be openly visible at close range within its immediate vicinity within the Bord na Móna landholding, all views of the landfill site following cessation of works and implementation of mitigation measures, outside of the Bord na Móna land holding will be partially or fully screened by topography or vegetation.

Open and extensive cross-country views are rarely possible due to the mainly flat nature of the majority of the study area. The most open views of the site relate to partial visibility of the completed landfill mounds from viewpoints along the L5025 (Derrymahon Road) to the north of the site and views from the end of the lane leading into the bog to the south-west of the site. Viewpoints / Photomontages 1-4 have been prepared to illustrate the nature of these views following cessation of landfill works in 2028 and following the establishment of mitigation planting in 2033. Localised effects will also be experienced from a small number of locations north-east in the townlands of Timahoe East and Timahoe West as well as east in the townland of Coolcarrigan.

The site will not be visible from any of the scenic viewpoints as recognised by Kildare CDP. The upper parts of the landfill mounds and ancillary building structures may be partially visible from a short stretch of approximately 300 m where views open up on slightly higher ground on the R402 at Ardkill. It is unlikely that the facility will be noticeable to the average traveller on this route as the view is oblique.

The residual visual effects will include partial visibility of the completed landfill mounds from viewpoints along the L5025 (Derrymahon Road) to the north of the site and views from the end of the lane leading into the bog to the south-west of the site.

Localised visual effects will also be experienced from a small number of locations north-east in the townlands of Timahoe East and Timahoe West as well as east in the townland of Coolcarrigan. Following cessation of landfill works and implementation of permitted mitigation measures, the significance of visual effects is considered to be Minor-Negligible and beneficial when compared to the existing situation.

9 LAND

9.1 SITE LOCATION

9.1.1 Guidance Used in the Land Impact Assessment

This Chapter describes the effects on Land of the existing infrastructure at the Drehid WMF in County Kildare in accordance with the relevant EPA Guidelines as set out in Chapter 1 (Introduction) as well as the following sources:

- Kildare County Development Plan 2017-2023; and
- Ordnance Survey Ireland: 1:50,000 Discovery Mapping.

The amended EIA Directive introduces Land as a prescribed environmental factor. Recital 9 gives context to this addition, showing that it relates to the issue of 'land take'. This change aligns the Directive with proceedings of the United Nations Conference on Sustainable Development (Rio de Janeiro, 2012) and with Commission strategy. As detailed in the draft EIA Guidelines (August 2017), Article 3(1) of the amended EIA Directive requires that EIAR shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on a number of factors including Land (listed separately). The draft guidelines (Figure 3.1) also provide the list of Environmental Factors to be considered and again Land is included as a separate bullet point. Land (with a focus on land use; land take) is therefore included as a separate Chapter in this EIAR.

9.1.2 Characteristics of the Existing Development

A detailed description of the existing facility is provided in Chapter 3 (Description of the Existing Environment, Ongoing and Future Activities). The layout of the existing facility infrastructure is shown on Drawing 10369-2001.

9.2 RECEIVING ENVIRONMENT/BASELINE DESCRIPTION

9.2.1 Site Location

The overall Bord na Móna landholding comprises 2,544 hectares (ha) and is outlined in blue on Figure 1.1. The overall landholding is located within the townlands of Drehid, Ballynamullagh, Kilmurry, Mulgeeth, Mucklon, Timahoe East, Timahoe West, Coolcarrigan, Corduff, Coolearagh West, Allenwood North, Killinagh Upper, Killinagh Lower, Ballynakill Upper, Ballynakill Lower, Drummond, Kilkeaskin, Loughnacush and Parsonstown at Carbury, County Kildare.

The existing permitted development area, to which this Existing Facility EIAR refers, is confined to an area of 179 hectares (ha). The development is situated in the townlands of Timahoe West, Coolcarrigan, Killinagh Upper, Killinagh Lower, Drummond, Kilkeaskin, Loughnacush, and Parsonstown, as outlined in red on the Regional Site Location Map in Figure 1.1.

The existing facility operates subject to an IED Licence (Reg. No. W0201-03) issued by the EPA and subject to appropriate planning approval as detailed in Chapter 2 (Planning and Policy). Access to the

existing facility is provided from the R403 regional road via a dedicated site entrance and a 4.8 km long access road. As noted in Chapter 1, an application for a new IED Licence is being made to the EPA for the existing facility as well as proposed development works which are detailed in the Proposed Development EIAR.

The existing Drehid WMF is situated approximately 3 km to the south-east of the village of Derrinturn and approximately 2 km west of Timahoe Crossroads.

9.2.2 Land Use

The existing facility is located centrally within the overall Bord na Móna landholding. There is a planning permission in place for an MBT Facility which lies c. 700 m to the south of the existing MSW landfill mounds. Land use adjacent to the site is primarily disused cutaway bogland which was used for production of sod peat for energy generation up to 1993. The land around the site boundary consists of the flat lying and gently undulating topography typical of cutaway peatland. Immediately adjacent to the existing facility site, there are areas of land where turbary, commercial forestry and agricultural usage are ongoing.

An aerial image of the existing landfill infrastructure within the Timahoe bog is shown in Figure 3.2.

9.2.3 Topography

A detailed topographical survey was carried out at the site in February 2016 by TOBIN Consulting Engineers. The output of this survey of the existing facility is presented as a topographic contour map in Drawing No. 10369-2000.

The existing facility is situated in relatively flat low-lying cutaway bogland with pre-development levels ranging from 84 m to 86 mOD. Whilst the topography throughout the overall landholding is also relatively flat at 80 to 90 mOD, screening of the site operations from the adjoining roads are provided by existing hedgerows and tree lines. The remote nature of the location of the facility footprint, lying approximately 0.8 km south of county road L5025, 2.7 km from county road L1910 and 3.3 km from regional road R403, provides considerable separation distances between the facility and adjacent roads.

These separation distances are enhanced by the growth of bog willow tree over several parts of the cutaway bogland and by dense hedge lines and commercial forestry to the east, south and west of the site.

9.2.4 Likely Future Receiving Environment/Do Nothing Scenario

In the context of this EIAR, the ‘Do Nothing Scenario’ represents the ongoing operation of the existing facility in accordance with the current IED Licence.

The succession and maturing of existing vegetation will continue in accordance to the existing landscape plan as set out in Chapter 8 (Landscape and Visual).

9.3 POTENTIAL EFFECTS ON LAND

9.3.1 Land Use

This section outlines the potential direct or indirect effects on the land (land use) at the existing facility site.

As described in detail in Chapter 3, the existing facility includes an MSW landfill, composting facility and associated infrastructure and has a site redline boundary area of 179 ha. The main infrastructure at the existing facility comprises the landfill footprint, which has an area of 39 ha. The landfill has been gradually developed since the commencement of construction in August 2006, with additional phases created for waste deposition as required and then progressively capped and grassed, creating a new rising land form within the bog. As of July 2018, 13 No. of the 15 No. landfill phases have been constructed and waste has been placed in Phases 1 – 12. Preliminary groundworks have commenced for construction of Phase 14 and peat stripping has been completed for Phase 15.

The activities at the existing facility continue the emerging trend within the Bord na Móna land holding of land changing in use from regenerating cutaway bog to large scale waste management with light industrial buildings. There are no agricultural, horticultural or commercial forestry activities taking place on the subject lands. The change in land use resulting from the existing facility is in accordance with relevant planning and environmental authorisation. While the overall land holding has a history of large-scale peat extraction, the pre-development site consisted of re-vegetating cutover bog with a mosaic of bare peat and revegetated areas with scrub, woodland, heath and grassland communities present. The development of the existing facility to date, therefore, has not resulted in the removal of productive land from potential agricultural or other beneficial uses.

As outlined above and described in detail in Chapter 3, the stripping of peat and preparation of the existing land for construction of additional landfill capacity is almost completed. The magnitude of change within the existing facility site is minimal as the vast majority of development of the site has already occurred to date. The existing facility will continue to operate in accordance with the current IED Licence and in full compliance with the emission limits set out in the Licence Schedules.

The entire site area is currently in use as an active waste facility and is not in use for any agricultural, horticultural, commercial forestry or beneficial amenity purposes. The significance of current and future activities on the land use is therefore considered to be not significant.

9.4 MITIGATION MEASURES

Mitigation is a term used to describe the measures or actions that may be taken to minimise environmental effects. The purpose of mitigation is to avoid, reduce and where possible remedy or offset, any significant adverse direct and indirect effects on the environment arising from the existing facility.

Given that the facility has already been constructed on the land in accordance with the relevant planning and environmental permissions, the potential for implementing mitigation measures going forward is

somewhat limited. However, the following mitigation measures have been and will continue to be implemented across the facility site:

9.4.1 Avoidance Measures

- The existing facility was designed to optimise the sizing of the landfill footprints;
- Minimising areas for earthworks thereby reducing land take requirements; and
- Restricting areas for construction works and keeping temporary storage to a minimum.

9.4.2 Reduction Measures

- Retention of all existing perimeter planting and re-generating vegetation, where possible, and sufficiently protecting areas close to construction works as described in BS 5837:2012; and
- Disturbance of existing vegetation kept to a minimum.

9.4.3 Remediation Measures

- The main long-term mitigation measure is the staged grassing of the mounds as each section is completed.

9.5 RESIDUAL IMPACTS

Effective implementation and establishment of the above mitigation measures will have a beneficial impact and help to reduce effects associated with the ongoing operation of the existing facility.

As the required land take for the facility has already taken place, it is considered that there are no residual impacts from the existing facility. The continued maturing of the existing and retained vegetation as well as future capping and planting as set out in Chapter 8 (Landscape and Visual) will minimise the imposition of the waste facility on the surrounding environment.

9.6 CONCLUSION

The development of the existing facility at the site has resulted in a significant change of use to that portion of land within the overall Bord na Móna landholding. The impact of development of the facility has been mitigated to date by retention of planting, where possible, and capping of the developing landfill infrastructure.

Further impacts on the land will be minimal as the site development and landfill phase construction is almost complete. The overall impact of the development on land use is considered to be a long-term, moderate adverse impact.