
Chapter 15

Landscape and Visual Amenity

Table of Contents

15. LANDSCAPE AND VISUAL AMENITY	15/2
15.1 Introduction	15/2
15.2 Legislation, Policy and Guidance	15/2
15.2.1 Legislation	15/2
15.2.2 Policy	15/2
15.2.3 Guidance	15/3
15.3 Methodology	15/3
15.3.1 Study Area.....	15/3
15.3.2 Survey Methodology.....	15/3
15.3.3 Assessment Methodology	15/4
15.3.4 Consultation undertaken	15/10
15.3.5 Difficulties encountered/ Limitations.....	15/10
15.4 Receiving Environment.....	15/11
15.4.1 Overview of Site of Proposed Development	15/11
15.4.2 Landscape, Townscape and Visual Planning Policy.....	15/12
15.4.3 Landscape / Townscape and Visual Character.....	15/18
15.5 Description of Potential Impacts	15/22
15.5.1 Potential Construction Impacts.....	15/22
15.5.2 Potential Operational Impacts	15/36
15.6 Mitigation Measures	15/49
15.6.1 Introduction.....	15/49
15.6.2 Construction Phase	15/49
15.6.3 Operational Phase.....	15/53
15.7 Residual Effects.....	15/59
15.7.1 Photomontages	15/60
15.8 Cumulative Effects.....	15/60
15.8.1 Introduction.....	15/60
15.9 References	15/61

15. LANDSCAPE AND VISUAL AMENITY

15.1 Introduction

This chapter assesses the likely effects from construction and operational phases of the DART+ West project referred hereafter as the 'proposed development' on the landscape and visual amenity. This chapter has been prepared having regard to other chapters of the EIAR and in particular, in conjunction with the following chapters:

- Chapter 4 Description of the Proposed Development.
- Chapter 5 Construction Strategy.
- Chapter 7 Population.
- Chapter 8 Biodiversity.
- Chapter 16 Material Assets and Land: Agricultural properties.
- Chapter 17 Material Assets and Land: Non-Agricultural properties.
- Chapter 20 Archaeology and Cultural Heritage.
- Chapter 21 Architectural Heritage.

This chapter sets out the relevant legislation, policy and guidance (Section 15.2), the methodology used for the landscape and visual assessment (Section 15.3), a description of the receiving environment (Section 15.4) and the potential impacts of the proposed development (Section 15.5). Section 15.6 sets out mitigation measures devised to avoid, reduce and/or mitigate impacts identified, with details of any residual impacts described in Section 15.7. A list of reference material used in the compilation of this chapter is contained in Section 15.9.

15.2 Legislation, Policy and Guidance

15.2.1 Legislation

This assessment of the likely construction and operational stages of the proposed development on the landscape and visual amenity has been undertaken in accordance *inter alia* with EU Directive 2011/92/EU as amended by Directive 2014/52/EU on the assessment of the effects of certain public and private projects on the environment ("the EIA Directive"), the Transport (Railway Infrastructure) Act 2001 (as amended and substituted), the European Union (Railway Orders) (Environmental Impact Assessment) (Amendment) Regulations 2021 (S.I. No. 743/2021) which give further effect to transposition of the EIA Directive by amending the Transport (Railway Infrastructure) Act 2001 and the European Landscape Convention 2000. Where appropriate, regard has been had to the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001 (as amended).

15.2.2 Policy

The following policy documents were reviewed:

- Dublin City Council (DCC) Dublin City Development Plan 2016-2022 (DCC 2016a).
- Dublin City Council (DCC) Draft Dublin City Development Plan 2022-2028 (DCC 2022)
- Fingal County Council (FCC) Fingal Development Plan 2017-2023 (FCC 2017).
- Fingal County Council (FCC) Draft Fingal Development Plan 2023-2029 (FCC 2022).
- Kildare County Council (KCC) Kildare County Development Plan 2017-2023 (KCC 2017).
- Kildare County Council (KCC) Draft Kildare County Development Plan 2023-2029 (KCC 2022).
- Meath County Development Plan (2021-2027).
- Project Ireland 2040 - National Development Plan 2018-2027 (DHLGH 2018).
- Project Ireland 2040 - The National Planning Framework (DHLGH 2020).

- Eastern and Midlands Regional Spatial and Economic Strategy 2019-2031 (EMRA 2019).

15.2.3 Guidance

This chapter has been undertaken in accordance with the following guidance documents:

- Environmental Protection Agency (EPA) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (hereafter 'EPA Guidelines') (EPA 2022).
- Landscape Institute and the Institute of Environmental Management and Assessment (IEMA) Guidelines for Landscape and Visual Impact Assessment (hereafter 'GLVIA') 3rd edition (Landscape Institute and IEMA 2013).
- Landscape Institute Technical Information Note 05/2017 (Revised 2018) on Townscape Character Assessment (hereafter 'TCA') (Landscape Institute 2018).
- Department of Housing, Planning and Local Government (DHPLG) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (hereafter 'GEIA') (DHPLG 2018).
- Landscape Institute Technical Guidance Note 06/2019 on Visual Representation of Development Proposals (hereafter 'VRDP') (Landscape Institute 2019).

While the EPA Guidelines provide a general methodology, impact ratings and assessment structure applicable across all environmental assessments, the GLVIA provides specific guidance for landscape and visual impact assessments. The TCA is a resource for the application of landscape character assessment to townscapes. Therefore, in this chapter, a combination of the approaches outlined in the EPA Guidelines and in the GLVIA, supported by the TCA and the professional experience and expertise of the assessor, is utilised in the landscape and visual assessment.

15.3 Methodology

15.3.1 Study Area

The primary study area is a boundary-to-boundary rail corridor located along the proposed development, which incorporates the immediately adjoining landscapes and properties, including open spaces, parks, gardens, and other land use areas, together with amenity, landscape / townscape and visual planning considerations. This study area also extends where required to incorporate wider viewpoints to the proposed development (e.g. views along the Royal Canal corridor).

15.3.2 Survey Methodology

Survey of the receiving environment involves both desk and field studies. Data collection and collation is based on initial desk studies, supported by site walkovers and augmented by further specific localised reviews along the corridor of the proposed development. The survey also involves the selection and preparation of verified Photomontages of the proposed development, which are presented in Volume 3B Photomontages in this EIAR.

Desk studies, which allow for identification of designated and potential significant / sensitive landscape and visual areas, involved a review of:

- Dublin City Development Plan 2016-2022 (DCC 2016a).
- Draft Dublin City Development Plan 2022-2028 (DCC 2022).
- Fingal Development Plan 2017-2023 (FCC 2017).
- Draft Fingal Development Plan 2023-2029 (FCC 2022).
- Kildare Development Plan 2017-2023 (KCC 2017).
- Draft Kildare Development Plan 2023-2029 (KCC 2022).

- Meath Development Plan 2021-2027 (MCC 2021).
- Dublin City Tree Strategy 2016-2020 (DCC 2016b).
- Dublin City Parks Strategy 2019-2022 (DCC 2019).
- Historical and current mapping and aerial photography (e.g. Ordnance Survey Ireland (OSI), Google Earth, EPA Maps, Google Maps) of the existing environment.
- Mapping / drawings of the proposed development.
- Other reports and documents relating to the baseline environment, including other chapters of this EIAR and in particular Chapter 4 Description of the Proposed Development; Chapter 5 Construction Strategy; Chapter 8 Biodiversity; Chapter 20 Archaeology and Cultural Heritage and Chapter 21 Architectural Heritage in Volume 2 of this EIAR.
- Review of other online baseline information, including Canals of Dublin; National Inventory of Architectural Heritage (NIAH).

Site-based studies, which allow for verification of desk study findings and for analysis of current conditions in the baseline environment, involved:

- Further field surveys to verify conditions at specific areas along the route of the proposed development.
- Selection of locations for verified Photomontages of the proposed development.

The information collected during the desk study and field surveys has been collated and presented in Section 15.4 of this chapter.

15.3.3 Assessment Methodology

Landscape and visual considerations in current guidance require that effects on landscape be assessed separately from the effects on views / visual amenity, although it is accepted that the two subjects are naturally connected.

15.3.3.1 Landscape (Townscape)

The landscape for the purposes of the EIA Directive is an overarching term relating to both rural and urban areas. However, the term 'townscape' is generally used where it relates to urban or built-up landscapes, such as those relevant to the eastern extents of the proposed development.

Assessment of potential landscape / townscape effects involves:

- Classifying the sensitivity of the baseline environment of the landscape / townscape resource; and
- Describing and classifying the magnitude of change in the landscape / townscape resulting from the proposed development.

These factors are combined to provide a classification of significance of impacts of the proposed development.

15.3.3.1.1 Methodology for Assessment of Landscape / Townscape Sensitivity

The sensitivity of the landscape / townscape is a function of its existing land use, patterns and scale, enclosure, visual characteristics and value. The nature and scale of the proposed development is taken into account, as are trends of change and the relevant policy framework. Five categories are used to classify sensitivity, as set out in Table 15-1.

Table 15-1 Landscape / Townscape Sensitivity

Sensitivity	Description
Very High	Areas where the landscape / townscape exhibits very strong, positive character with valued elements, features and characteristics that combine to give an experience of unity, richness and harmony. The landscape / townscape character is such that its capacity to accommodate change is very low. These

Sensitivity	Description
	attributes are recognised in policy or designation as being of national or international value and the principal management objective for the area is conservation of existing character.
High	Areas where the landscape / townscape exhibits strong, positive character with valued elements, features and characteristics. The landscape / townscape character is such that it has limited or low capacity to accommodate change. These attributes are recognised in policy or designations as being of regional or county value and the principal management objective for the area is protection of existing character.
Medium	Areas where the landscape / townscape has certain valued elements, features or characteristics but where the character is mixed or not particularly strong, or has evidence of alteration, degradation or erosion of elements and characteristics. The landscape / townscape character is such that there is some capacity for change. These areas may or may not be recognised in policy at local level and the principal management objective may be to consolidate landscape / townscape character or facilitate appropriate change.
Low	Areas where the landscape / townscape has few valued elements, features or characteristics and the character is weak. The character is such that it has capacity for change and where development will have a neutral change or will have a positive change. Such landscapes / townscapes are generally unrecognised in policy and the principal management objective may be to facilitate change through development, repair, restoration or enhancement.
Negligible	Areas where the landscape / townscape exhibits negative character, with no valued elements, features or characteristics. The character is such that its capacity to accommodate change is high and where development will have a positive change. Such landscapes / townscapes include derelict industrial lands, as well as sites or areas that are designated for a particular type of development. The principal management objective for the area is to facilitate change in the landscape / townscape through development, repair or restoration.

15.3.3.1.2 Methodology for Assessment of Magnitude of Change in the Landscape / Townscape

Magnitude of change is a factor of the scale, extent and degree of change imposed on the landscape / townscape by the proposed development, with reference to its key elements, features and characteristics and the affected surrounding character areas (collectively termed 'landscape' or 'townscape receptors'). Five categories are used to classify magnitude of change, as set out in Table 15-2.

Table 15-2 Magnitude of Landscape / Townscape Change

Sensitivity	Description
Very High	Change that is large in extent, resulting in the loss of or major alteration to key elements, features or characteristics of the landscape / townscape, and / or introduction of large elements considered totally uncharacteristic in the context. Such development results in fundamental change in the character of landscape / townscape.
High	Change that is moderate to large in extent, resulting in major alteration to key elements, features or characteristics of the landscape / townscape, and / or introduction of large elements considered uncharacteristic in the context. Such development results in change to the character of landscape / townscape.
Medium	Change that is moderate in extent, resulting in partial loss or alteration to key elements, features or characteristics of the landscape / townscape, and / or introduction of elements that may be prominent but not necessarily uncharacteristic in the context. Such development results in modest change to the character of landscape / townscape.
Low	Change that is modest or limited in scale, resulting in minor alteration to key elements, features or characteristics of the landscape / townscape, and / or introduction of elements that are characteristic in the context. Such development results in minor change to the character of landscape / townscape.
Negligible	Change that is limited in scale, resulting in no alteration to key elements features or characteristics of the landscape / townscape, and / or introduction of elements that are characteristic of the context. Such development results in no change to landscape / townscape character.

15.3.3.1.3 Methodology for Assessment of Significance of Effects

To classify the significance of impacts, the magnitude of change is measured against the sensitivity of the landscape / townscape based on Figure 3.4 in the EPA Guidelines (EPA 2022), as adapted and presented in

Figure 15-1. Determining the significance of impacts that are rational and justifiable is also based on the professional judgement, expertise and experience of the author / assessor.

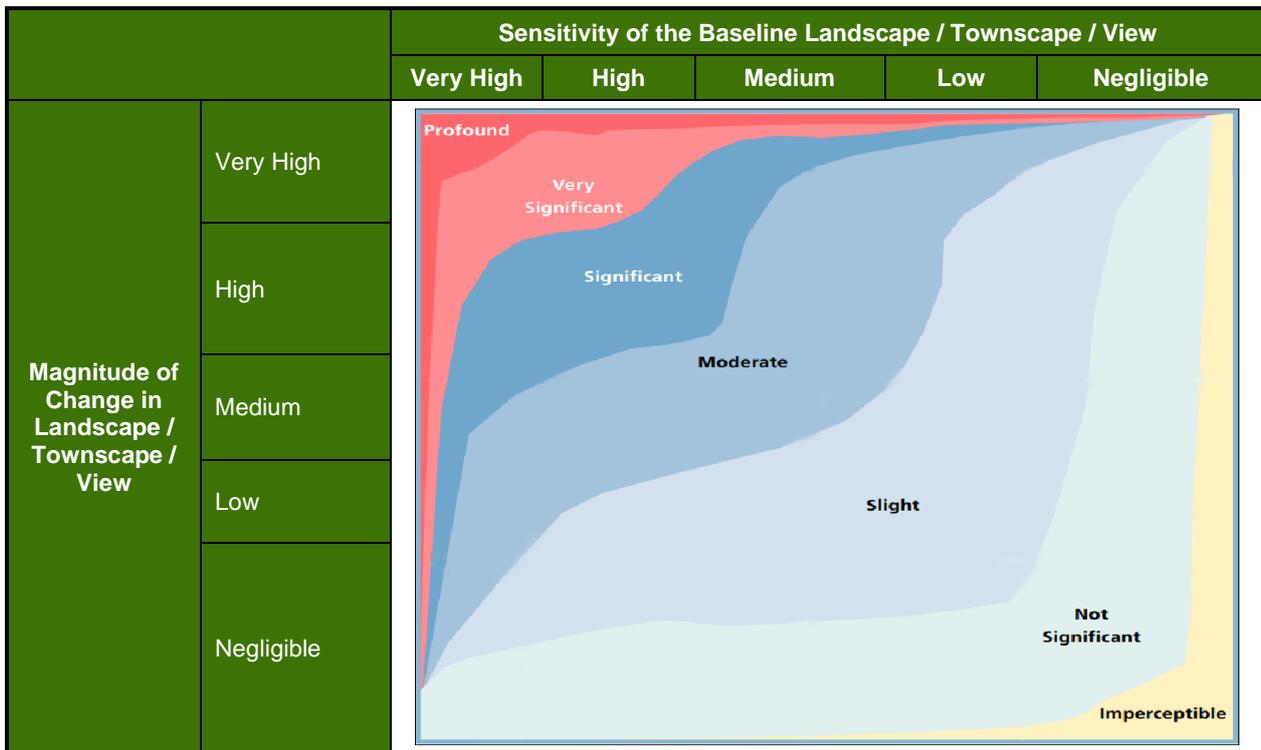


Figure 15-1 Classification of Significance of Landscape / Townscape and Visual Effects

15.3.3.1.4 Quality, Duration of Landscape / Townscape and Visual Effects

Consideration of the following are as described in Table 3.4 of the EPA Guidelines (EPA 2022).

- Quality (i.e. positive, neutral, negative).
- Duration (i.e. temporary (lasting up to 1 year); short-term (lasting 1 to 7 years); medium-term (lasting 7 to 15 years); long-term (lasting 15 to 60 years); or permanent (lasting over 60 years)).

An impact assessed as being significant may also be either positive, neutral or negative. For example, the introduction of a new structure may represent a significant change in the environment. However, the quality of change may be positive: in that it enhances the receiving environment; may be negative: in that it detracts from the receiving environment; or it may be neutral; in that despite the significant change, any negative and positive aspects are balanced or cancelled. This potential for significant neutral impacts to arise is particularly noted over time, where a development or structure is increasingly accepted as part of the receiving landscape / townscape / view despite the significance of change in the receiving environment.

15.3.3.2 Views and Visual Amenity

Visual impact assessment is concerned with changes that arise in the composition of available views and the overall effect on the visual amenity of an area. This includes effects on protected and designated views as well as on the typical range of views available from within the public realm or private areas and properties.

15.3.3.2.1 Methodology for Assessment of Visual Effects

Assessment of visual effects involves identifying key / representative viewpoints in the baseline environment of the proposed development, and for each one of these:

- Classifying the viewpoint sensitivity.
- Classifying the magnitude of change in the view.

These factors are combined to provide a classification of significance of the impacts of the proposed development on each viewpoint.

15.3.3.2.2 Methodology for Assessment of Sensitivity of the Viewpoint / Visual Receptor.

Viewpoint sensitivity is a function of two main factors:

1. Susceptibility of the visual receptor to change. The duration and frequency of exposure informs the susceptibility; a greater length of time or more frequent experience of views results in a receptor being more susceptible to changes in views. Visual receptors most susceptible to change include residents, people engaged in outdoor recreation focused on the landscape (e.g. park / walk users), or where the quality of the activity is dependent on the appreciation of views over the landscape. Visual receptors less susceptible to change include road or rail users, views from rail and other transport routes (unless on recognised scenic routes), people engaged in outdoor recreation where the surrounding landscape does not influence the experience, and people in their place of work or shopping.
2. Value attached to the view. This depends to a large extent on the subjective opinion of the visual receptor but also on factors such as policy and designations which indicate a shared social value (e.g. scenic routes, protected views), or the view or setting being associated with a heritage asset, visitor attraction, place of congregation, or having some other cultural status.

Five categories are used to classify a viewpoint's sensitivity, as set out in Table 15-3.

Table 15-3 Categories of Viewpoint Sensitivity

Sensitivity	Description
Very High	Views or viewpoints (views towards or from a landscape / townscape feature or area) that are recognised in policy or otherwise designated as being of national value. Designed views which may be from or be directed towards a recognised heritage asset or other important designated feature, where a key management objective for the view is its protection from change. Visual receptors using national trails or nationally recognised public rights of way. Views recognised in art or literature may also be of very high value. The principal management objective for the view is its protection from change.
High	Viewpoints or views that are recognised in policy or otherwise designated as being of value, or viewpoints that are highly valued by people that experience them regularly (e.g. views from houses or outdoor recreation amenities focused on the landscape / townscape). The composition, character and quality of the view may be such that it is likely to have high value for people experiencing it and is consequently vulnerable to changes which may lower this value. The principal management objective for the view is its protection from change that reduces visual amenity.
Medium	Views that may not have features or characteristics that are of particular value, but have no major detracting elements, and which thus provide some visual amenity. These views may have capacity for appropriate change and the principal management objective is to facilitate change to the composition that does not detract from visual amenity, or which enhances it. Visual receptors may include people with a moderate susceptibility to change engaged in outdoor sports which do not rely on an appreciation of the surrounding landscape / townscape, or road users on minor routes passing through areas of valued landscape / townscape character.
Low	Views that have no features of appreciable value, and / or where the composition and character are such that there is little appreciable value in the view. Visual receptors include people involved in activities with no particular focus on the landscape. For such views the principal management objective is to facilitate change that does not detract from visual amenity or enhances it.
Negligible	Views that have no features of appreciable value or the composition and character may be unsightly (e.g. in derelict landscapes). For such views the principal management objective is to facilitate change that repairs, restores or enhances visual amenity.

15.3.3.2.3 Methodology for Assessment of Magnitude of Change in the View / Viewpoint.

Classification of the magnitude of change takes into account the size or scale of the intrusion of the proposed development into the view (relative to the other elements and features in the composition (i.e. its relative visual dominance); the degree to which it contrasts or integrates with the other elements and the general character of the view; and the way in which the change will be experienced (e.g. in full view, partial or peripheral view,

or in glimpses). It also takes into account the geographical extent of the change, as well as the duration and reversibility of the visual effects. Five categories are used to classify magnitude of visual change to a view, as set out Table 15-4.

Table 15-4 Categories of Magnitude of Visual Change

Magnitude	Description
Very High	Complete or full intrusion of the development in the view, or partial intrusion that obstructs valued features or characteristics, or introduction of elements that are completely out of character in the context, to the extent that the development becomes dominant in the composition and defines the character of the view and the visual amenity.
High	Extensive intrusion of the development in the view, or partial intrusion that obstructs valued features, or introduction of elements that may be considered uncharacteristic in the context, to the extent that the development becomes co-dominant with other elements in the composition and affects the character of the view and the visual amenity.
Medium	Partial intrusion of the development in the view, or introduction of elements that may be prominent but not necessarily uncharacteristic in the context, resulting in change to the composition but not necessarily the character of the view or the visual amenity.
Low	Minor intrusion of the development into the view, or introduction of elements that are not uncharacteristic in the context, resulting in minor alteration to the composition and character of the view but no change to visual amenity.
Negligible	Barely discernible intrusion of the development into the view, or introduction of elements that are characteristic in the context, resulting in slight change to the composition of the view and no change in visual amenity.

15.3.3.2.4 Methodology for Assessment of Significance of Visual Effects

As with landscape / townscape effects, classification of the significance of visual effects, involves measurement between the magnitude of change to the view and the sensitivity of the view / viewpoint, as set out in Figure 15-1.

15.3.3.3 Quality of Landscape / Townscape and Visual Effects

In addition to predicting the significance of the impacts, EIA methodology (EPA 2022) requires that the quality of the impacts be classified as positive, neutral or negative. For some degree for landscape / townscape effects, but particularly for visual effects, this will involve an element of subjectivity. This is because landscape / townscape and visual amenity are perceived by people and are therefore subject to variations in the attitude and values, including aesthetic preferences of the receptor. One person's attitude to the proposed development may differ from another person's and thus their response to the effects on the landscape / townscape or a view may vary.

Additionally, in certain situations objectives or policies may exist (*i.e.* land use zoning objectives in development plans) promoting a particular nature or type of development in an area. In other words, existing policy is envisaging and prescribing a degree of change in the landscape / townscape and visual environment. Therefore, in these situations, if the proposed development achieves the objective of the policy the resulting effect might be considered neutral or positive, even if the existing landscape / townscape character or views are significantly altered. The classification of quality of landscape / townscape and visual effects seeks to take these variables into account and provides for a rational and robust assessment.

15.3.3.4 Presentation of Construction Effects

As required by the EIA Directive, the assessment should outline the temporary, short-term, medium-term and long-term, effects arising from the proposed development. Construction effects are described based on a cautionary principal; where effects are expected to be temporary (under 1 year in duration) but have reasonable potential to extend beyond this duration, due to unplanned schedule slippage, effects are described as Temporary / Short-Term. Also, it should be noted, in some cases, where a townscape section is described as experiencing a Temporary / Short-Term effect, this can result from sequential construction along the length

of the section, and localised streetscape / visual receptors within that section may only experience temporary effects.

15.3.3.5 Presentation of Predicted Operational Effects

To illustrate the effects resulting from established mitigation measures, predicted operational phase effects are presented for the beginning of the Long-Term (at 15 years post-construction phase) in Table 15-9. Predicted residual operational phase effects which are 'significant' or higher, at 15 years post-construction phase, are also outlined in Table 15-9.

15.3.3.6 Photomontage Methodology

The methodology for the preparation of Photomontages has regard to the VRDP (Landscape Institute 2019), and is further informed by experience in photomontage production. The Photomontages are prepared as accurate verified photo-realistic views (equivalent to Type 4 as set out in VRDP) (Landscape Institute 2019). The method follows five main steps:

- Photography.
- Survey.
- 3D Modelling and Camera Matching.
- Rendering and Finishing of Photomontages.
- Presentation.

15.3.3.6.1 Photography

Location and Conditions

Baseline photographs are clear and representative of the relevant context at each location. Wherever possible, photographs are taken with all key elements of the view clearly visible and unobscured by foreground obstructions, such as vehicular or pedestrian traffic, street furniture, trees, signage, etc. Photographs are up to date insofar as possible, and are taken in good clear weather conditions, without precipitation, excessive darkness or shade, or sun glare etc. The camera and lens metadata is recorded for each photograph.

Camera and Camera Set-Up

Baseline photographs are taken using a digital single-reflex lens (SLR) camera with a full frame sensor. At each viewpoint the camera is positioned on a tripod with the lens 1.65 m above ground level (the level of the average adult's eyes), directed at the site and levelled in the horizontal and vertical axes.

Lenses

Prime lenses (fixed focal length with no zoom function) are used as this ensures that the image parameters for every photograph are the same and that all photographs taken with the same lens are comparable. A 24 mm prime lens is used for all views. This lens captures a horizontal field of view of 73° (degrees). This relatively wide field of view is preferred as it shows more of the landscape / townscape context.

15.3.3.6.2 Survey

The coordinates of each viewpoint / camera position, including the elevation are measured accurately relative to the topographic survey of the corridor of the proposed development. For each viewpoint, the coordinates of a range of static objects or 'reference points' in the view (e.g. lamp posts, corners of buildings, etc.) are also measured in a similar manner. The coordinates of the camera and 'reference points' are used later in the process to ensure that the direction of view of the camera in the 3D digital model matches that of the view of the photograph.

15.3.3.6.3 3D Model and Camera Matching

Creation of 3D Model

Drawings (roads, structures, hard and soft landscape areas, etc.) are used to generate a 3D digital model of the proposed development with sufficient detail for the viewpoint(s). The 3D digital model is then exported to specialist software to allow for application of materials and textures to the model.

3D Camera Positions

The coordinates of the camera and 'reference points' for each view are inserted into the 3D digital model, with information on the focal length of the lens and horizontal angle of coverage attributed to each camera / view, and the direction of each view is calculated and aligned so as to match the geometry of the original baseline photograph. Additionally, the date and time are set to match that of the baseline photograph so as to ensure the sunlight and shadow projections in the generated renderings match those of the baseline photographs.

15.3.3.6.4 Rendering of 3D Model and finishing Photomontages

For each view a high resolution render of the proposed development is generated. This process allows for the creation of a realistic image of the 3D digital model, as seen from each camera / view position, with sunlight and shadow applied to the model. The render of the proposed development is then inserted (or 'montaged') into the baseline photograph and the composite image edited to take away elements to be removed from the existing baseline to create the photomontage of the proposed development. Some degree of photo-modelling / photo-manipulation is required in instances where foreground / middle-ground elements are removed (e.g. trees, plantings, etc.) thereby revealing backgrounds which are not captured in the baseline photograph. The intent is to provide a best-fit presentation which assists in illustrating the principal effects of the proposed development at a stage approximately 10 to 15 years post completion of construction.

15.3.3.6.5 Presentation and viewing

Individual photomontages are presented, in 'as existing' and 'as proposed' versions, on A3 pages in landscape format in Volume 3B of this EIAR. For each photomontage, the viewpoint number and location description, are provided. Given that some views may be based on a wider angle of coverage than a 50 mm prime lens, in these instances a further image is provided showing an A3 enlargement (centred on the proposed development (where possible)) that equates to the coverage of a 50mm prime lens view.

15.3.4 Consultation undertaken

Consultation, and the consideration of feedback from the public and statutory consultees is a key part of the EIA process and integral to informing the design development and this environmental assessment.

The key consultation phases and the feedback received that has informed this chapter include:

- Non-statutory EIA Scoping Report.
- Options Selection process and the associated two public consultation periods (PC1, PC2 and localised Ashtown PC) and associated feedback received through submissions and public information events.

The non-statutory consultation and feedback received during the consultation phases is addressed in greater detail in Appendix A3.1 Public Consultation No.1 Consultation Findings Report and Appendix A3.2 Public Consultation No.2 Consultation Findings Report in Volume 4 of this EIAR. Close collaboration with the project team and other EIA specialists has also helped inform the assessment.

15.3.5 Difficulties encountered/ Limitations

Land access was not granted to carry out certain surveying on a small number of land holdings.

15.4 Receiving Environment

This section includes a description of the baseline environment as it relates to landscape / townscape and visual aspects.

15.4.1 Overview of Site of Proposed Development

The proposed development pertains to approximately 40 km of existing railway corridor extending from the Connolly Station and the Northern Docklands in the city centre, through the north inner city centre suburbs of East Wall and North Strand; the outer city centre suburbs of Phibsborough, Glasnevin, and Cabra; and the city suburb areas of Ashtown, Castleknock, Coolmine, Clonsilla and Hansfield, to the rural hinterland at the M3 Parkway at Pace in County Meath, passing the town of Dunboyne; and the rural hinterland between Clonsilla and Kilcock in County Kildare, passing the towns of Leixlip and Maynooth. The existing railway corridor closely parallels the Royal Canal and associated towpath / greenway (under construction) from Sheriff Street Upper through to the end of the proposed development corridor west of Maynooth.

In overview the proposed development relates to three sections of existing railway:

- From Spencer Dock Station in the City centre to West of Maynooth on the Midland Great Western Railway (MGWR) a distance of approximately 31 km.
- From west of Clonsilla Station to north of M3 Parkway Station on the Parkway Railway, a distance of approximately 7.5 km.
- From Connolly Station to Glasnevin Junction on the Great Southern and Western Railway (GSR), a distance of approximately 3.5 km.

The eastern c.7 km length of the proposed development from Connolly Station / Docklands Station to Ashtown is within the functional area of Dublin City Council. The central c.10.5 km length from Ashtown to the Dublin Kildare County Boundary at Allenswood / Confey (MGWR) and to the Dublin Meath County Boundary at Hansfield / Hilltown (GSR) is within the functional area of Fingal County Council.

The western c.13.5 km length from the Dublin Kildare County Boundary at Allenswood / Confey (MGWR) to east of Kilcock is within the functional area of Kildare County Council. The western c.5.5 km length from the Dublin Meath County Boundary at Hansfield / Hilltown (GSR) to M3 Parkway is within the functional area of Meath County Council.

For ease of description and assessment purposes the proposed development is also sub-divided into six zones:

- Zone A: Loop Line Bridge to Phibsborough/ Glasnevin (on GSR line) and East Wall Junction (on Northern line).
- Zone B: Spencer Dock Station to Glasnevin Junction.
- Zone C: Glasnevin junction/ Phibsborough to Clonsilla Station/Junction.
- Zone D: Clonsilla Station/Junction to M3 Parkway Station.
- Zone E: Clonsilla Station/Junction to Maynooth Station.
- Zone F: Maynooth Station to Depot.

A detailed description of the proposed development is provided in Chapter 4 Description of the Proposed Development.

An overview of the landscape planning context is presented in the following sections, together with a zone by zone description of the receiving environment.

15.4.2 Landscape, Townscape and Visual Planning Policy

15.4.2.1 Dublin City Development Plan 2016 - 2022

The Dublin City Development Plan 2016 – 2022 (Dublin CDP) (DCC 2016a) is the higher county level planning framework applicable to Zones A, B and part of Zone C (west of Ashtown Station).

There are no Key Views and Prospects, as indicated on Figure 4 in the Dublin City Development Plan 2016 – 2022, pertaining to the area of the proposed development.

Chapter 8 'Movement and Transport' includes Policy MT4, which directly relates to the nature of the proposed development:

"To promote and facilitate the provision of Metro, all heavy elements of the DART Expansion Programme including DART Underground (rail interconnector), the electrification of existing lines, the expansion of Luas, and improvements to the bus network in order to achieve strategic transport objectives."

Chapter 10 'Green Infrastructure', Open Space and Recreation sets out policies in relation to the provision, importance, protection and enhancement of green infrastructure, landscape, parks and open spaces, rivers, canals and the coastline, biodiversity, trees and sport, recreation and play within the city. The strategic green network as indicated on Figure 14 of the Development Plan highlights public open spaces along the proposed development. A blue / green corridor is indicated along entirety of the Royal Canal within the City. The railway parallels the Royal Canal from Ossory Road to Ashtown and crosses the Royal Canal Greenway and Royal Canal at Ossory Road.

Amenities, open spaces and sports facilities adjoin the railway at the Royal Canal, Ballybough Community Centre (North Strand), Nally / Hill 16 & Davin Stands of Croke Park, Charleville Lawn Tennis Club and St. Vincent's School grounds, TU Sports Grounds Bannow Road, open space at Ratoath Estate, Ashington Park, Rathbourne Crescent Park and Martin Savage Park, and St. Oliver Plunkett / Eoghan Ruadh GAA Grounds. Prospect Cemetery adjoins Zone A and Zone B of the proposed development and a memorial feature backs onto the railway lands at Zone A.

Dublin City Council has also prepared separate overarching strategies for the protection, management and improvement of Trees and Parks within the city.

Chapter 11 'Built Heritage and Culture' sets out policies relating to preservation, protection and improvement of built heritage, protected structures (Record of Protected Structures (RPS)), Architectural Conservation Areas (ACA) and Conservation Areas, trees in ACAs, zones of archaeological interest and industrial heritage, monuments and Dublin's cultural assets. There are a number of sites, buildings and features of historic and heritage interest located along the proposed development, including a Conservation Area along the full extent of the Royal Canal within the city area.

The railway passes through a Residential Conservation Area in North Strand, passes south of a Residential Conservation Area along Clonliffe Road, and through a Residential Conservation Area the east of Prospect Road between Lindsay Road to the north and David Road / Wigan Road / Claude Road to the south.

Protected structures along the railway include Connolly Station, properties along Preston Street and Seville Place northwest of the railway, the railway bridges over North Strand Road, Ballybough Road and Jones's Road, and Prospect Lodge. It is noted that policies in relation to archaeological and architectural heritage as they relate to the proposed development are discussed in detail in Chapter 20 Archaeology and Cultural Heritage and Chapter 21 Architectural Heritage in Volume 2 of this EIAR.

Strategic Development and Regeneration Zones are present close or adjacent to the railway at SRDA 6 Docklands, SDRA 14 Croke Villas and Environs, and SDRA 3 Pelletstown.

The principal land use zonings to either side of Zone A of the proposed development within the Dublin City area are:

- 'Objective Z1: To protect, provide and improve residential amenities'.
- 'Objective Z2: To protect and / or improve the amenities of residential conservation area'.
- 'Objective Z3: To provide for and improve neighbourhood facilities'.
- 'Objective Z4: To protect for and mixed use facilities'.
- 'Objective Z6: To provide for the creation and protection of enterprise and facilitate opportunities for employment creation'.
- 'Objective Z9: To preserve, provide and improve recreational amenity and open space and open space network'.
- 'Objective Z15: To protect and provide for institutional and community uses'.

While there are changes to references and context, no significant changes are proposed to landscape and visual aspects along the proposed development in the Draft Dublin City Development Plan 2022 – 2028 (DCC 2022).

15.4.2.2 Fingal Development Plan 2017 - 2023

The Fingal Development Plan 2017 - 2023 (Fingal DP) (FCC 2017) is the higher county level planning framework applicable to part of Zone C (west of Ashtown Station), part of Zone D (to Meath county boundary) and part of Zone E (to Kildare county boundary).

Chapter 3 'Placemaking' sets out objectives in relation to Open Space (section 3.5) and includes Objective PM64, which seeks to protect, preserve and ensure the effective management of trees and groups of trees.

Chapter 7 'Movement and Infrastructure' includes Objectives MT01 to MT03, which support National and Regional transport policies as they apply to Fingal, including delivery of the proposed new Metro North; the implementation of sustainable transport solutions; the NTA's Transport Strategy for the Greater Dublin Area 2016-2035 (NTA 2016); and Smarter Travel – A Sustainable Travel Future (NTA 2009).

Chapter 8 'Green Infrastructure' addresses, biodiversity, parks, open space and recreation, surface water, heritage, and landscape. Special Amenity Areas, High Amenity Areas, Highly Sensitive Areas, County Geological Sites and Public Beaches are specifically noted under landscape, and specific objectives for Green Infrastructure are set out under Objectives GI01 to GI36. Objective GI08 seeks to integrate the provision of green infrastructure with infrastructure provision and replacement, including walking and cycling routes, as appropriate, while protecting biodiversity and other landscape resources. Objectives GI20 and GI21 requires all new development to contribute to the protection and enhancement of existing green infrastructure and the delivery of new green infrastructure, as appropriate, under the 5 key topics (Biodiversity; Parks, Open Space and Recreation; Sustainable Water Management; Archaeological and Architectural Heritage; and Landscape).

Policies in relation to heritage as they relate to the proposed development are discussed in greater detail in Chapter 20 Archaeology and Cultural Heritage and Chapter 21 Architectural Heritage.

Chapter 9 'Natural Heritage' sets out objectives in relation to Biodiversity, Geology, Landscape and The Coast. Policies in relation to biodiversity and geology as they relate to the proposed development are discussed in greater detail in Chapter 8 Biodiversity and Chapter 9 Land and Soils. No County Geological Site listed in Table GH01 of Chapter 9 of the Development Plan is in proximity to the proposed development. The proposed development is not located within a coastal landscape.

Objective NH27 under 'Ecological Corridors and Stepping Stones Including Trees and Hedgerows', sets out protection for existing woodlands, trees and hedgerows which are of amenity or biodiversity value and / or contribute to landscape character and ensure that proper provision is made for their protection and management.

Amongst others, Section 9.4 Landscape addresses Landscape Character Assessment; Views and Prospects; Special Amenity Areas; and High Amenity Zoning. The corridor of the proposed development is located in the high sensitivity River Valleys and Canal Character Type, however, the proposed development follows the existing railway corridor through this area. Objective NH40 seeks to protect views and prospects that contribute to the character of the landscape, particularly those identified in the Development Plan (refer Sheet 13 Blanchardstown South), from inappropriate development. The River Tolka valley to the north of the proposed development between Ashtown and the M50 corridor is indicated as a High Amenity Area.

Chapter 10 'Cultural Heritage' sets out policies and objectives in relation to Archaeology and Architectural Heritage, including protected structures, architectural conservation areas, industrial heritage and designed landscapes. Policies in relation to heritage as they relate to the proposed development are described in detail in Chapter 20 Archaeology and Cultural Heritage and Chapter 21 Architectural Heritage in Volume 2 of this EIAR.

Chapter 12 'Development Management Standards' sets out the development standards and criteria to ensure development occurs in an orderly and efficient manner.

Sheet 13 'Blanchardstown South', of the Development Plan, identifies High Amenity Landscape along the River Tolka Valley and in agricultural areas west of Castleknock including the Royal Canal from Ashtown to the M50 / N3 junction. There are tree preservation objectives for existing trees within the Tolka Valley, adjoining St. Bridget's Sports Facilities and within the former Phoenix Park Racecourse adjoining N3 Ashtown Road Junction, and scattered throughout the locality of Luttrellstown Demesne west of Castleknock. Sheet 13 highlights the Royal Canal (RPS No. 944a), seven bridges, three locks and a lock keeper's cottage along this section of the Royal Canal as a Protected Structures. Refer also to Chapter 21 Architectural Heritage. Sheet 13 also identifies Strategic Development Zones which are present adjacent to the railway at Kellystown and Barnhill.

Sheet 14 'Green Infrastructure 1', of the Development Plan, identifies proposals for cycle routes along the Royal Canal and across the Tolka Valley at Blanchardstown. Sheet 14 also indicates a short section of preserved views along River Road immediately northeast of the N3 / M50 Motorway junction, and at Westmanstown Road / L3005 south of the Royal Canal at Westmanstown. Sheet 15 Green Infrastructure 2, of the Development Plan, highlights Nature Development Areas with the Tolka River Valley and in agricultural areas west of Castleknock.

The principal land use zonings to either side of the proposed development within the Fingal County area are:

- 'Objective MC (Major Town Centre): Protect, provide for and / or improve major town centre facilities' (at Blanchardstown Shopping Centre).
- 'Objective TC (Town and District Centre): Protect and enhance the special physical and social character of town and district centres and provide and / or improve urban facilities' (along R806 Main Street Blanchardstown Village).
- 'Objective RS (Residential): Provide for residential development and protect and improve residential amenity'.
- 'Objective HA (High Amenity): Protect and enhance high amenity areas' (e.g. Tolka River Valley, and Royal Canal).
- 'Objective RA (Residential Area): Provide for new residential communities subject to the provision of the necessary social and physical infrastructure' (e.g. former Phoenix Park Racecourse).
- 'Objective HT (High Technology): Provide for office, research and development and high technology / high technology manufacturing type employment in a high quality built and landscaped environment' (e.g. north of N3 Navan Road between M50 and Ashtown).
- 'Objective OS (Open Space): Preserve and provide for open space and recreational amenities' e.g. Royal Canal from M50 / N3 junction to Leixlip.

While there are changes to references and context, no significant changes are proposed to landscape and visual aspects along the proposed development in the Draft Fingal Development Plan 2023 – 2029 (FCC 2022).

15.4.2.3 Kildare County Development Plan 2017 - 2023

The Kildare County Development Plan 2017 – 2023 (Kildare CDP) (KCC 2017) is the higher county level planning framework applicable to part of Zone E (west from Dublin County boundary to east of Kilcock) and Zone F.

Chapter 5 'Economic Development, Enterprise and Tourism sets policies relating to promoting growth of tourism, community building and quality of life. Policy EO 52 aims to promote the development of towpaths along the Grand Canal, the Royal Canal (including from Maynooth to the Dublin County Boundary as part of the Dublin to Galway Greenway project), in co-operation with Waterways Ireland and neighbouring Local Authorities. Policy ECD 48 aims to facilitate Waterways Ireland in the restoration of the Grand Canal and Royal Canal.

Chapter 12 'Architectural and Archaeological Heritage' of the Development Plan sets out policies and objectives in relation to Archaeology and Architectural Heritage, including protected structures, architectural conservation areas, industrial heritage and designed landscapes. Policies in relation to heritage as they relate to the proposed development are described in detail in Chapter 20 Archaeology and Cultural Heritage and Chapter 21 Architectural Heritage in Volume 2 of this EIAR. Area Map 12.12 in the Development Plan indicates the extents of Carlton Demesne which is situated nearby to the north of the MGWR line and shares a southern boundary with Royal Canal.

Chapter 13 'Natural Heritage & Green Infrastructure' in the Development Plan addresses, biodiversity, green infrastructure, trees and woodlands, inland waterways, parks, open space and recreation, heritage and landscape. This section includes policies relating to Natural Heritage Areas (NHA); Royal Canal is listed as a Natural Heritage Area (NHA) in Table 13.2. ACAs are shown on Map 12 of the CDP and Map 12.4 shows Maynooth ACA which is present to the north of the Royal Canal.

Sub-Sections 13.10.3, 13.10.4 and 13.10.5 of the CDP – Policies GI26 to GI33 – refer to Urban Green Infrastructure, Green Infrastructure within Public Open Spaces and Parks, and Green Infrastructure and Sustainable Urban Drainage Systems. Policies GI11, GI15 and GI16 aim to encourage the protection of hedgerows and planting of woodlands, trees and hedgerows. Objective GI26 seeks to ensure that the Green Infrastructure Strategy and Network is used to inform the development management process and relevant projects contribute towards the protection, management and enhancement of existing green infrastructure, in terms of design, layout and landscaping. Integrate the provision of green infrastructure with infrastructure provision and replacement, including walking and cycling routes, as appropriate, while protecting biodiversity and other landscape resources. Objective GI28 seeks to restrict development that would fragment or prejudice the Green Infrastructure Network. GI30 requires the provision of multifunctional open space provision within all new developments; this includes provision for ecology and sustainable water management.

Chapter 14 'Landscape, Recreation & Amenity' includes policies on landscape, recreation and amenity. Section 14.4 includes a Landscape Character Assessment that divides the county into 15 Landscape Character Areas (LCAs) which are shown in Map 14.1 of the CDP. The study area is located within the Northern Lowlands, an area of low sensitivity (Tables 14.1 & 14.2 of the CDP). However, Section 14.8.2 of the CDP sets out policies relating to Lowland areas including Policy LL3 which recognises that lowland landscape character areas include areas of significant landscape and ecological value, which are worthy of protection.

Section 14.5 of the CDP refers to High Amenity Areas and Sub-Section 14.5.4 states that the Royal Canal is designated as an Area of High Amenity, and that canal corridors are potentially vulnerable linear landscape features, as they are often highly distinctive in the context of the general landscape.

Section 14.9 of the CDP sets out Policies in relation to Scenic Routes and Protected Views. Sub-Section 14.9.1 sets out Policies SR1 and SR2 in relation to Scenic Routes and Sub-Section 14.9.2 sets out Policies WV1 to WV3 in relation to Water Course and Canal Corridor Views. Scenic Routes in the county are listed in Table 14.5 and Maps 14.2 and 14.3 of the CDP. Scenic Route No. 30 runs near to the canal / railway corridor between Leixlip and Maynooth – but this is located within Carleton Demesne and is associated with internal views within the demesne, with external views being screened by the estate walls. Section 14.6.1 describes the sensitive nature of canal banks to disruption by development. Map 14.3 identifies a number of protected views to and from the Royal Canal, and Table 14.10 sets out the protected views to and from all bridges on the Royal Canal. Section 14.8 of the CDP sets out Policies in relation to the General Landscape – including Policies LA1 to LA7, which state that development should ensure that landscape features such as historic features and buildings, hedgerows, shelter belts and stone walls, are retained, protected and enhanced where appropriate. Sub-Section 14.8.5 sets out Policies in relation to Water Corridors (Rivers and Canals (Areas of High Amenity) – including Policies WC1 to WC9.

Section 14.11 of the CDP addresses Recreation and Amenities and notes the long-distance walking / cycling route along the Royal Canal. Table 14.22 of the CDP also notes that linear green spaces such as the canal corridor which are accessible to the public, form part of the 'green corridor' and 'strategic areas of open space within the county.

The principal land use zonings to either side of the proposed development within the Kildare County area are:

- R1 - New/proposed residential: To provide for new residential development.
- R2 – Existing Residential: To protect and enhance the amenity of established residential communities and promote sustainable intensification.
- G3 – Conservation, amenity or buffer space, corridor/belt, landscape: To preserve, provide for and improve recreational amenity, open space and green infrastructure networks.
- P1 – Agriculture: To retain and protect agricultural uses.
- C3 – Office, business/technology park and related: To provide for and facilitate the provision of high job-generating uses.
- C6 - Mixed/general commercial/industrial/enterprise uses: To provide for industry, manufacturing, distribution and warehousing.

While there are changes to references and context, no significant changes are proposed to landscape and visual aspects along the proposed development in the Draft Kildare County Development Plan 2023 – 2029 (KCC 2022).

15.4.2.4 Meath County Development Plan 2021 - 2027

The Meath County Development Plan 2021 - 2027 (Meath CDP) (MCC 2021) is the higher county level planning framework applicable to part of Zone D (west from Dublin County boundary to M3 Parkway).

Chapter 8 'Cultural and Natural Heritage' of the Development Plan sets out the policies and objectives in relation to Archaeological and Architectural Heritage, Natural Heritage, Biodiversity, Inland Waterways, Public Rights of Way, Landscape and Green Infrastructure.

Sections 8.6 and 8.7 set out policies relating to preservation, protection and improvement of built heritage, protected structures (Record of Protected Structures (RPS)), Architectural Conservation Areas (ACA) and Conservation Areas, trees in ACAs, zones of archaeological interest and industrial heritage, monuments, designed landscape and cultural assets. Policies in relation to heritage as they relate to the proposed development are described in detail in Chapter 20 Archaeology and Cultural Heritage and Chapter 21 Architectural Heritage in Volume 2 of this EIAR. There is an ACA in the centre of Dunboyne which is separated from the proposed development site by the outer suburban areas of the town. No protected structures have been identified along the route of the proposed development.

Section 8.8 'Natural Heritage' addresses, biodiversity, green infrastructure, trees and woodlands, inland waterways, parks, open space and recreation, heritage and landscape. This section includes policies relating to Natural Heritage Areas (NHA); Royal Canal is listed as a Proposed Natural Heritage Area (pNHA) in Table 8.5 of the CDP. Policy HER POL 32 and HER OBJ 34 relate to the protection of NHAs. Various small scale open spaces associated with residential developments adjoin the railway in Dunboyne.

Sub-Section 8.9.7 lays out policies and objectives relating to woodland, hedgerows and trees, and includes policies HER POL 37 – HER POL 42 and objectives HER OBJ 36 – HER OBJ 38. Map 9.3 of the CDP shows the location of Tree Preservation Orders. There are no TPOs shown in proximity to the proposed development.

Policies for protection and management of Inland Waterways are included in section 8.13 of the Development Plan. This includes the Royal Canal, but this is not within proximity to the proposed development where it passes through County Meath.

Section 8.16 lists policies and objectives relating to Public Rights of Ways, however, there are no public rights of way near to the proposed development, as shown on Map 8.5 of the CDP.

Section 8.17 'Landscape' includes policies relating to landscape, and Sub-Section 8.17.3 details the Landscape Character Assessment which divided the county into 4 generic Landscape Character Types (LCTs) and 20 Landscape Character Areas (LCAs). The Meath section of the proposed development is contained within the Lowland Landscape LCT. The proposed development passes through South East Lowlands and the Ward Lowlands LCAs, which are Very High Value and Low Value respectively, as shown on Maps 01-03 of the Landscape Character Assessment. Policies and objectives HER POL 52, HER POL 53, and HER OBJ 49 – HER OBJ 51 relate to the protection and enhancement of landscape quality and character, including protection of trees, hedgerows and historic / distinctive boundaries. Sub-Section 8.17.8 relates to Landscape Conservation Areas of which none are currently adopted in the CDP.

Section 8.18 relates to Views and Prospects including objectives HER OBJ 56 & 57. These are listed in Appendix 10 and shown within Maps 8.4 & 8.4.1 of the CDP. There are no protected views in proximity to the proposed development.

Section 8.19 'Green Infrastructure' contains policies and objectives relating to green infrastructure namely biodiversity and natural heritage, landscape, recreation and amenity, water resources and built heritage and culture.

The principal land use zonings to either side of the proposed development within the Meath County area are:

- RA – Rural Area: To protect and promote in a balanced way, the development of agriculture, forestry and rural-related enterprise, biodiversity, the rural landscape, and the built and cultural heritage.
- R2 – Existing Residential: To protect and enhance the amenity of developed residential communities.
- R3 – Residential, mixed residential and other uses: To provide for new residential communities with ancillary mixed uses to include community facilities, neighbourhood facilities and employment uses utilising higher densities in accordance with an approved framework plan.
- G5 – Mixed/general 'green'/recreation/conservation, other: To provide for and improve open spaces for active and passive recreational amenities.
- O1 – Strategic Reserve, White Land: To provide for strategic employment uses predominantly for high end office development, to be developed on a phased basis, within the plan period.
- M5 – Other Mix of Uses: To facilitate the phased development of a major town centre as designated in the Retail strategy for the Greater Dublin Area 2008-2016 in accordance with the provisions of a future framework plan.

15.4.3 Landscape / Townscape and Visual Character

The landscape / townscape and visual character of each zone of the proposed development is described in Table 15-5 with reference to different landscape / townscape character areas, landscape, townscape and visual characteristics, features, designations, and sensitivities. The key features are identified on the Landscape / Townscape and Visual Baseline on Drawing no. MAY-MDC-LAN-ROUT-DR-U-15000-D to 15040-D in Volume 3A of this EIAR.

Table 15-5 Analysis of Baseline Landscape / Townscape and Visual Environment of the Proposed Development

Zones	Baseline Description	Baseline Sensitivity
Zone A: Loop Line Bridge to Phibsborough/ Glasnevin (on GSWR line) and East Wall Junction (on Northern line)	<p>Landscape / Townscape Character: This zone passes through a gradient of varying townscape characters; from the River Liffey and inner-city commercial and mixed-use residential areas surrounding Connolly Station; through areas of relatively dense inner-city residential areas in North Strand; to outer city centre suburbs in Phibsborough, Drumcondra and Cabra.</p> <p>The area around Connolly Station is predominantly historic commercial and residential with recent prominent medium-rise development in the Custom House Harbour/ Quay areas. The inner-city residential areas are composed of a mix of 19th century terraces with modern infill including higher density blocks. 19th century terraces are also the dominant typology in the Drumcondra / Phibsborough suburbs. The suburbs of Cabra are largely 20th century with some large institutional uses.</p> <p>Site Fabric:</p> <p>The fabric of the site is contained mainly within the existing operational Loop Line and GSWR line. Between the River Liffey and Connolly Station the line is elevated on the Loop Line Bridge viaduct, a largely wrought iron structure which passes over the river and several streets. From Connolly Station to Ballybough Road the line is elevated above the level of the surrounding areas on an arched brick viaduct. Beyond this, the line continues west supported by a variety of embankments, retaining walls and viaducts. At Glasnevin the line level matches the surrounding ground level at Glasnevin, before entering a cutting for the remainder of the route to join Zone C. The railway crosses the Royal Canal and associated towpath / greenway at Ossory Road.</p> <p>Key Landscape / Townscape Features:</p> <p>Areas of recent medium-rise regeneration around Custom Quay; prominent elements of historic railway infrastructure, and a key historic railway station and areas of historic inner-city at Connolly Station; Traditional residential areas and suburbs dominated by terraces. A large cemetery (Glasnevin Cemetery), McKee Barracks and An Garda Síochána Headquarters in the west of the zone. A very large urban open space at Phoenix Park at the southwest end of the route.</p> <p>Amenity / Other Designations: Residential Conservation Areas in North Strand, Clonliffe Road, Drumcondra and Phibsborough. ACAs at De Courcy Square / Prospect Square / St. Teresa's at Prospect Avenue (Prospect Square / De Courcy Square and Environs ACA) and a second at the junction of Phibsborough Road and North Circular Road (Phibsborough Centre ACA). There is a Conservation Area along the full length of the Royal Canal including section of the railway west of Prospect Road. Major open space designations at Croke Park, Glasnevin / Prospect Cemetery, along Royal Canal, and at Phoenix Park. The Royal Canal is identified as a proposed Natural Heritage Area (pNHA).</p> <p>Tree Preservation Order (TPO): None.</p> <p>Tree / Woodland Preservation Objectives: None.</p> <p>Protected Views: None.</p> <p>Protected Structures: A number of bridges on the railway line, and the Royal Canal are Protected Structures, as are the 19th century portions of Connolly Station. (Refer to Chapter 21 Architectural Heritage in Volume 2 of this EIAR for full details).</p>	Medium / High

Zones	Baseline Description	Baseline Sensitivity
	<p>Other: The railway line crosses several key streets / arterial routes into the city centre.</p>	
<p>Zone B: Spencer Dock Station to Glasnevin Junction</p>	<p>Landscape / Townscape Character: This zone passes through a gradient of varying urban townscape characters; from the medium-rise, modern mixed-use residential areas at Spencer Dock; through mixed-use areas in North Dock; to historic city suburbs surrounding the Royal Canal.</p> <p>The area around Spencer Dock has been heavily regenerated in recent years with large blocks of medium-rise buildings dominating the townscape. The inner-city residential areas are composed of a mix of 19th century terraces with some modern infill including higher density blocks. A major institutional use exists in the form of Mountjoy Prison, south of the Royal Canal, and a major amenity / sport use exists at Croke Park stadium.</p> <p>Site Fabric: The fabric of the site is contained mostly within the existing operational MGWR line. The area proposed for the new station building and line extension at Spencer Dock is currently undeveloped, and accommodating railway and construction uses. The eastern section of the line runs from the western end of North Wall Freight Depot, where it is elevated above surrounding ground level on a walled embankment, in a large arc through to meet the Northern Line at East Wall. The western section of the line follows at grade sections and sections of cutting from north of Dockland Station, along the northern side of the Royal Canal to join Zone C. The line is generally bounded by retaining walls or steep embankments. The line passes under Croke Park Stadium at Drumcondra. These sections would connect through land that has a previous railway usage and is used as a vehicular access track for railway operation.</p> <p>Key Landscape / Townscape Features: Areas of recent medium-rise regeneration around Spencer Dock; historic railway infrastructure following the line of the Royal Canal and associated towpath / greenway from Sheriff Street Upper; Traditional residential areas and suburbs dominated by terraces. A large cemetery (Glasnevin / Prospect Cemetery) is present at the western end. Croke Park is a prominent feature in the townscape.</p> <p>Amenity / Other Designations: Residential Conservation Areas in North Strand, Drumcondra and Phibsborough. ACAs at De Courcy Square / Prospect Square / St. Teresa's at Prospect Avenue (Prospect Square / De Courcy Square and Environs ACA), Mountjoy Square (Mountjoy Square ACA) and another at the junction of Phibsborough Road and North Circular Road (Phibsborough Centre ACA). There is a Conservation Area along the full length of the Royal Canal including section of the railway west of Prospect Road. Major open space designations at Croke Park, Glasnevin / Prospect Cemetery and along Royal Canal. The Royal Canal is identified as a proposed Natural Heritage Area (pNHA).</p> <p>Tree Preservation Order (TPO): None.</p> <p>Tree / Woodland Preservation Objectives: None.</p> <p>Protected Views: None.</p> <p>Protected Structures: A number of bridges on the Royal Canal are Protected Structures. (Refer to Chapter 21 Architectural Heritage in Volume 2 of this EIAR for full details).</p> <p>Other: The railway line crosses several key streets / arterial routes into the city centre.</p>	<p>Medium / High</p>
<p>Zone C: Glasnevin junction/ Phibsborough to Clonsilla Station/Junction</p>	<p>Landscape / Townscape Character: This zone passes through Dublin and Fingal local authority areas. The zone runs from the inner-city suburbs and modern industrial areas of Cabra, through relatively undeveloped areas of the Tolka Valley, through to the outer-city suburbs of Clonsilla and beyond to rural areas to the south of Clonsilla and to the west of Castleknock.</p> <p>Site Fabric: The fabric of the site is contained largely within the existing operational MGWR line. At the eastern edge of the zone the railway line passes the southern portion of Glasnevin / Prospect Cemetery in a minor cutting, then crosses the GSWR and the Royal Canal in short succession, before continuing close to the southern bank of the Royal Canal until the connection to Zones D and E. The railway line is generally at-grade with the surrounding areas, and intersecting roads cross by a range of bridges and</p>	<p>High</p>

Zones	Baseline Description	Baseline Sensitivity
	<p>level-crossings. A large motorway intersection at Junction 6 of the M50 and N3 lies above the route with several large bridge crossings.</p> <p>Key Landscape / Townscape Features: Historic railway infrastructure following the line of the Royal Canal and associated towpath / greenway through this section; the M50 motorway and junction; large scale 20th century suburban residential areas; and areas of modern industry and regeneration. Phoenix Park, a major urban open space, is located 450m to the south.</p> <p>Amenity / Other Designations:</p> <p><u>Dublin CDP:</u> There is a Conservation Area along the full length of the Royal Canal including section of the railway west of Prospect Road. Major open space designations at Glasnevin / Prospect Cemetery, Tolka Valley, Phoenix Park and along Royal Canal. Designated open space along the Royal Canal. The Royal Canal is identified as a proposed Natural Heritage Area (pNHA).</p> <p><u>Fingal CDP:</u> Sections of Indicative Cycle / Pedestrian Route along the canal towpath. High Amenity areas in Tolka Valley and rural areas to the west of Castleknock, including the Royal Canal to the M50 junction. Designated open space along the Royal Canal from M50 junction to Clonsilla.</p> <p>Tree Preservation Order (TPO): None.</p> <p>Tree / Woodland Preservation Objectives: None (Dublin CDP); Tree preservation objectives are present in Tolka Valley and rural areas to the west of Castleknock (Fingal).</p> <p>Protected Views: None (Dublin CDP); A short section of preserved views along River Road immediately northeast of the N3 / M50 Motorway junction (Fingal CDP).</p> <p>Protected Structures: A number of bridges on the Royal Canal are Protected Structures (Dublin CDP & Fingal CDP). (Refer to Chapter 21 (Architectural Heritage in Volume 2 of this EIAR for full details).</p> <p>Other: Emerging Strategic Development and Regeneration Area at Ashtown–Pelletstown (Dublin CDP), and redeveloped masterplan area Phoenix Park Racecourse (Fingal CDP).</p>	
<p>Zone D: Clonsilla Station/Junction to M3 Parkway Station</p>	<p>Landscape / Townscape Character: This zone passes through Fingal and Meath local authority areas. The zone runs from the outer-city suburbs of Clonsilla and the rural areas to the south of Clonsilla and to the west of Castleknock, which are separated by the railway line, through lowland rural areas past the eastern edge of Dunboyne and through to meet the M3 motorway at M3 Parkway. The railway forms a defined outer boundary to the Dublin Conurbation at Clonsilla / Hansfield, and a defined eastern boundary to Dunboyne.</p> <p>Site Fabric: The fabric of the site is contained largely within the existing operational Western Commuter Line from Docklands to M3 Parkway. The line is largely at-grade with a minor elevated section to allow a bridge over the Royal Canal east of Hansfield Station. Road crossing across of the line are provided by bridges with no level crossings. This zone terminates at the junction of the M3 and R157 and part of the line passes under the junction via two vegetated bridges / tunnels.</p> <p>Key Landscape / Townscape Features: Modern railway infrastructure following a historic railway route. The western edge of the Dublin conurbation and Dunboyne form the main built-up areas. The Royal Canal at the southern end of the zone; the M3 motorway, M3 Parkway Park and Ride, and R157 junction.</p> <p>Amenity / Other Designations:</p> <p><u>Fingal CDP:</u> Sections of Indicative Cycle / Pedestrian Route along the Royal Canal towpath. High Amenity areas in rural areas to the west of Castleknock. Designated open space along the Royal Canal. The Royal Canal is identified as a proposed Natural Heritage Area (pNHA).</p> <p><u>Meath CDP:</u></p> <p>There is an ACA in the centre of Dunboyne. Various small scale designated open spaces adjoin the railway in Dunboyne.</p> <p>Tree Preservation Order (TPO): None.</p>	<p>Medium</p>

Zones	Baseline Description	Baseline Sensitivity
	<p>Tree / Woodland Preservation Objectives: Tree preservation objectives are present in Tolka Valley and rural areas to the west of Castleknock (Fingal); None (Meath).</p> <p>Protected Views: None.</p> <p>Protected Structures: Dunboyne Bridge (Meath RPS No. 90085) and Dunboyne Station Water Tower (Meath RPS No. 90,084). (Refer to Chapter 21 Architectural Heritage in Volume 2 of this EIAR for full details).</p> <p>Other: Emerging new suburb at Hansfield, adjacent to the railway line.</p>	
<p>Zone E: Clonsilla Station/Junction to Maynooth Station</p>	<p>Landscape / Townscape Character: This zone passes through Fingal and Kildare local authority areas. The zone runs from the outer-city suburbs of Clonsilla and the rural areas to the south of Clonsilla and to the west of Castleknock, through lowland rural areas past the northern edge of Leixlip and through Maynooth Station in the centre of Maynooth. The railway forms a defined northern boundary to Leixlip.</p> <p>Site Fabric: The fabric of the site is contained largely within the existing operational MGWR line. The line is largely at-grade with surrounding areas and the alignment parallels the Royal Canal. Due to the proximity to the canal, road crossing across the line is provided by bridges which span both the line and the canal, with only a single level crossing. The line generally runs close to the bank of the canal and is unscreened.</p> <p>Key Landscape / Townscape Features: Modern railway infrastructure following a historic canal and associated towpath / greenway / railway route. The western edge of the Dublin conurbation, Leixlip and Maynooth form the main built-up areas which are separated by rural landscapes which are largely agricultural with amenity uses in the form of golf courses within historic demesnes.</p> <p>Amenity / Other Designations:</p> <p><u>Fingal CDP:</u> Sections of Indicative Cycle / Pedestrian Route along the Royal Canal towpath. High Amenity areas in rural areas to the west of Castleknock. Designated open space along the Royal Canal. The Royal Canal is identified as a proposed Natural Heritage Area (pNHA).</p> <p><u>Kildare CDP:</u></p> <p>Carton Demesne is a protected area with internal protected views and woodland. Royal Canal is an Area of High Amenity, a proposed Natural Heritage Area (pNHA) and Inland Waterway. Maynooth ACA is located to the north of the Royal Canal. The railway crosses the Rye Water Valley / Carton Special Area of Conservation (SAC) at Leixlip and passes south of the SAC at Carton Demesne.</p> <p>Tree Preservation Order (TPO): None.</p> <p>Tree / Woodland Preservation Objectives: Tree preservation objectives are present for Carton Demesne.</p> <p>Protected Views: Internal views to Carton Demesne. Protected views to and from all bridges on the Royal Canal.</p> <p>Protected Structures: Packenham Bridge (Fingal RPS No. 0711) and Collins Bridge (Fingal RPS No. 0713), Deey Bridge and lock (Kildare RPS no. B06-14). (Refer to Chapter 21 Architectural Heritage in Volume 2 of this EIAR for full details).</p> <p>Other: None.</p>	<p>Medium</p>
<p>Zone F: Maynooth Station to Depot</p>	<p>Landscape / Townscape Character: This zone passes through Kildare local authority area. The zone runs from the centre of Maynooth through rural areas further to the west terminating halfway to Kilcock. The landscape is rural and lowland in character with predominantly arable uses which has led to an expansion of field sizes, however, some notable hedgerows with mature trees are still present.</p> <p>Site Fabric: The fabric of the site is contained largely within the existing operational MGWR line. The line is largely at-grade with surrounding areas and the alignment parallels the Royal Canal. Due to the proximity to the canal, road crossing across the line is provided by bridges which span both the line and the canal. The line generally runs close to the bank of the canal</p>	<p>Medium</p>

Zones	Baseline Description	Baseline Sensitivity
	<p>and screening from the canal / towpath is generally limited to some scrubby vegetation.</p> <p>Key Landscape / Townscape Features: Modern railway infrastructure following a historic canal / railway route. Maynooth forms the only substantial built-up area which is separated from other settlements by areas of rural landscape.</p> <p>Amenity / Other Designations: Royal Canal is an Area of High Amenity, a proposed Natural Heritage Area (pNHA) and Inland Waterway. Maynooth ACA is located to the north of the Royal Canal.</p> <p>Tree Preservation Order (TPO): None.</p> <p>Tree / Woodland Preservation Objectives: None.</p> <p>Protected Views: Protected views to and from all bridges on the Royal Canal.</p> <p>Protected Structures: None. (Refer to Chapter 21 Architectural Heritage in Volume 2 of this EIAR for full details).</p> <p>Other: Notable hedgerows with mature trees.</p>	

15.5 Description of Potential Impacts

15.5.1 Potential Construction Impacts

Potential construction effects are likely to result from the following impacts:

- Removal of existing landscape features, trees, hedgerows.
- Removal of sections of existing property, open space and other boundaries with railway corridor.
- General landscape disturbance including disturbance adjacent to existing property boundaries.
- General construction activity, provision of site compounds, generation of construction traffic.
- Construction of new pedestrian, cycle, road bridges and new, realigned or regraded access routes.
- Regrading and engineering works to railway lines including along sections of the Royal Canal and in open spaces along the proposed development.
- Construction of new railway lines (Permanent Way) and new Station Building at Spencer Dock.
- Construction of overhead line equipment (OHLE) to existing and proposed lines.
- Construction of substations and associated boundaries and access routes.
- Changes to existing railway stations and structures.
- Construction of new signalling (signal head, location cases, platforms, signal gantries).
- Provision of noise barriers at specific locations.
- Construction works to existing bridges including alterations to historic canal bridges.

The proposed development passes through a mixture of urban, suburban and rural landscapes where residential development and landscape amenities commonly adjoin the railway corridor. The majority of the works will occur within or adjoining the existing railway corridor. However, major development outside of the railway corridor includes the proposed Spencer Dock Station; proposed connecting line spur from North Strand through undeveloped land; proposed substations, pedestrian / cycle bridges and access routes; changes to the road network; the proposed rail depot / CCE Compound, and the additional track alignment between Maynooth Station and the proposed depot. Full details of the construction phase are included in Chapter 5 Construction Strategy in Volume 2 of this EIAR.

The proposed development will include for replacement of the existing signalling system with modern technology which will serve the more frequent train service. The proposed signalling system will incorporate similar components to those already in use on the DART line, such as signal masts, signals, gantries and location cases. Locations have been identified where structures (platforms, bridge platforms, gantries,

cantilevers) could be required, for example to support areas with greater signal density (i.e., City Centre areas) or due to a lack of space, e.g., vicinity of Crescent Park (Ch. 52+900 – 53+451), west of Leixlip Station (Ch. 75+200 – 75+540), and east of Louisa Bridge Station (Ch. 76+020 – 76+280). These are generally small structures, located on or immediately adjacent to the railway corridor. Where these structures adjoin residential or other property or protected structures, potential for *slight to moderate negative short-term* visual impact arises.

The provision of the proposed development will give rise to substantial changes and impacts on the local landscape and on views from properties sited in the vicinity of the more substantial offline aspects of the proposed development.

15.5.1.1 Impacts on Landscape / Townscape Character

15.5.1.1.1 Zone A: Loop Line Bridge to Phibsborough / Glasnevin (on GSWR line) and East Wall Junction (on Northern line)

The baseline townscape of Zone A is of 'medium' / 'high' sensitivity. The construction works will give rise to moderate changes within the corridor of the railway which passes through a gradient of varying townscape characters; from the north docklands and inner-city commercial and mixed-use residential areas surrounding Connolly Station; through relatively dense inner-city residential areas in North Strand; to outer city centre suburbs in Phibsborough, Drumcondra and Cabra. There will be moderate construction works to Connolly Station with the introduction of a new access point and renovation of the internal vault structure, which is detailed further in Section 15.5.1.2.4. The construction phase involves demolition, excavation and construction works to sections of track, bridges, boundaries, roads, areas of private property, utilities, and drainage features, and there will be construction of OHLE to the sections of track within this zone. Works will also involve construction of Glasnevin substation outside of the railway corridor with acquisition of open space lands, removal of trees and construction activity.

The construction works will not alter the overall townscape character along this section of the proposed development, but the works will include land acquisition, localised removal of trees and vegetation, direct impacts on open space, and introduction of OHLE throughout, all of which have potential for localised impacts on streetscape character. The magnitude of change on the overall townscape character will be 'low' and the likely effects in the construction phase will be *slight / moderate, negative, temporary / short-term*.

15.5.1.1.2 Zone B: Spencer Dock Station to Glasnevin Junction

A new station will be constructed at Spencer Dock with the station's platforms aligned to the 2014 North Lotts and Grand Canal Dock Planning Scheme objectives. Lowering of the rail level will occur so the tracks can pass under Sheriff Street Upper overbridge and under the main station's entrance with sufficient structural and OHLE clearance. A section of track connecting to the Docklands Station will be realigned to join to the new Spencer Dock Station, and the existing Docklands Station will be separated from the rail network.

Next to the new Spencer Dock Station, an access ramp will be erected in the proposed permanent compound in the Docklands, which will grant access to that compound. This section will also include constructing one substation and auxiliary electrical, signalling and telecommunication buildings in the vicinity of Spencer Dock and Connolly. Spencer Dock substation will be located north of the existing Docklands Station and car park, close to the railway junction. It will be necessary to accommodate the road access to the substation from Abercorn Road. The proposed location is within the existing CIÉ property boundary with current railway associated uses and there will be no change to the character of this area.

There will be construction impacts associated with the alteration of Sheriff Street Upper overbridge to accommodate the new track layout to Spencer Dock Station. These alterations include removal of part of the existing deck, rebuilding, and construction of new piers (refer to Chapter 4 Description of the Proposed Development and Chapter 5 Construction Strategy in Volume 2 of this EIA) which will lead to diversions of traffic flow, temporary loss of part of the bridge structure, and introduction of visual clutter, disturbance and activity associated with the construction works, all of which will impact the surrounding streetscapes. There

will be construction works to OBO36 Ossory Road Bridge, a modern bridge, which must be altered due to the track lowering works.

There will be track lowering works to various section of line within Zone B which are likely to result in indirect disturbance of the landscape amenity of surrounding areas where these works will be heard and / or seen during the construction phase. Parapet heightening works will result in a change in the streetscape for adjoining areas, although these changes will generally be minor in the urban context of existing bridge infrastructure. It is also proposed to raise the parapets at the location of catenary masts for sections of longitudinal walls along the rail line, *i.e.* between OBD222 and OBD227, near OBO11, and at footbridges: North Strand Road (OBD226A), Drumcondra Station (OBO14A) and Claude Road (OBO12A), and this will, in some cases, restrict visibility over the rail corridor from these bridges with localised impacts on streetscape character.

There will be works associated with track lowering, parapet heightening, changes to boundaries, drainage improvement and structural interventions in this zone. Where masonry walls are to be raised is intended to increase the parapet height using similar masonry construction with matching aesthetic features. Existing capping stones will be removed and set aside for replacement over heightened walls. Where changes to bridge parapets use contemporary or novel materials, or where they restrict views there will be a minor impact on streetscape character. There will be a substantial impact on streetscape character along Whitworth Road, where properties openly front the railway corridor, resulting from the construction / provision of OHLE catenary and the use of angled posts on the public side of the masonry parapet boundary wall.

Five noise barriers are to be provided in this zone:

- A 3m (above street level) noise barrier will be provided along the south (railway) side of Ossory Road between UBLL6 and the junction with North Strand Road (Ch.40+840 to Ch.41+015). Construction of the barrier will be visible from properties 1 to 14 and 16 to 23 Ossory and the side of property 152 North Strand Road.
- A 3m (above street level) noise barrier will be provided along the south (railway) end of No. 15 end of terrace residential property at Ardilaun Square immediately east of Croke Park (Ch.41+465 to Ch.41+515). Construction of the barrier will not adversely affect views or visibility in this location.
- Two sections of 3m high noise barrier will be provided along the south (railway) side of Croke Park Hotel and the rear of residential properties at Drumcondra Park (Ch.41+820 to Ch.41+930 & Ch.41+960 to Ch.42+090). A c.2m high wall is already located along the majority of this boundary. Construction of the barrier will require some localised removal of vegetation and will be visible from properties (Nos 1 to 41 non-even numbers only) in Drumcondra Park.
- A 3m high noise barrier will be provided between railway and the Royal Canal from the corner of Portland Square North west to bridge at Drumcondra Road Lower (Ch.41+900 to Ch.42+185). Construction of the will impact on views north of the canal along this section.

The baseline townscape of Zone B is of 'medium' / 'high' sensitivity. The construction works will give rise to moderate changes within the corridor of the railway which passes through a gradient of varying urban townscape characters. There will be substantial works and changes outside of the railway corridor to facilitate the construction of the Spencer Dock Station. The construction phase involves demolition, excavation and construction works to sections of track, bridges, boundaries, roads, areas of private property, utilities, and drainage features. There will be construction of OHLE to the full length of tracks within this zone as well as realignment and construction of new sections of track. There will be localised construction of substations and access routes, removal of trees, hedgerows and other vegetation along the railway corridor. The construction works will not alter the existing townscape character along this section of the proposed development, but they will include land acquisition and impacts on properties, impacts on protected structures, open space and mature trees, which will alter the townscape fabric and the streetscape character on a local level in some areas, most notably within the vicinity of the proposed Spencer Dock Station and associated tracks and along Whitworth Road. The magnitude of change will be 'medium' and the likely effects in the construction phase will be *moderate, negative, temporary / short-term*.

15.5.1.1.3 Zone C: Glasnevin junction / Phibsborough to Clonsilla Station/Junction

West of Glasnevin Junction, is OBG5 Broome bridge Bridge, which is included in the record of protected structures for Dublin City (RPS no. 909), needs to be reconstructed to acquire the necessary OHLE clearance requirements. Impacts are described in Section 15.5.1.2.4.

The existing Ashtown level crossing will be closed and replaced with a substantial new pedestrian / cycle bridge. Road replacement infrastructure consisting of an underpass of the railway and canal is proposed to the west of the existing crossing and west of the 10th canal lock to provide access for vehicular road users and cyclists. A new pedestrian and cycle overbridge will be constructed to provide access across the railway, and the existing cable stayed pedestrian bridge over the railway will be removed. In addition, a substation is proposed within the Martin Savage Park residential estate with loss of trees and amenity space. The works will result in substantial disruption and change to the landscape fabric of the area. There will be temporary and permanent acquisition from properties, impacts on boundaries, heritage landscape features, road alignments, trees, hedgerows and other plantings. There will be substantial changes to Mill Road with a lowering of the vertical alignment, construction of a new road to the west of Ashtown Stables and the mill buildings, with excavation of an underpass – beneath the railway and canal, construction of large retaining walls and loss of mature trees and hedgerows to the boundaries. There will be considerable impacts on the western portion of garden of the existing residential property north of 10th lock, where the excavation cuts through directly impacting the property boundary, existing garden vegetation and garden structures. The construction of the road north of the railway / canal will also impact on the entrance gate, lodge, boundary wall, mature trees and grounds of Ashton House, a protected structure, which are discussed in Section 15.1.1.12.4. There will be an impact on the streetscape of Ashtown Road with the closure of the level crossing and construction of fencing along the boundaries of the railway. The amenity of the Royal Canal will be impacted through construction of the underpass and bridge, which will require short-term drainage of the canal and works within the canal corridor. The sensitivity of the streetscape / townscape in this local area of Ashtown is 'high'. The magnitude of change will be 'very high' and the likely effects in the construction phase will be *very significant, negative, short-term*.

The proposed development has identified the need for a new permanent maintenance compound to the west of the Navan Road Parkway train station. This will be situated within an existing area of hardstanding and scrubland. There will be some minor loss of scrub but the area already has a similar use as a storage area and there will be no loss of valued landscape elements.

There will be substantial works to Coolmine Station with the replacement of the existing pedestrian footbridge, the construction of a new shared pedestrian and cycle bridge over the railway and canal to provide a connection between Carpenterstown Road and Coolmine Road. The existing level-crossing will be closed with junction improvements on the surrounding road network which will result in loss of verges and planted areas. There will be the introduction of a large bridge structure within a suburban area. There will be loss of areas of mature trees. The sensitivity of the streetscape / townscape character in the vicinity of Coolmine Station is 'medium' / 'high'. The magnitude of change will be high and the likely effects in the construction phase will be *significant, negative, temporary / short-term*.

The construction of a new cycle and pedestrian bridge at Porterstown Level Crossing will involve substantial works and the introduction of a large, engineered structure into a rural / urban fringe landscape. The works will result in localised disturbance of the landscape character and introduction of visual clutter and activity which will impact on the amenity of sensitive landscape receptors such as the Royal Canal (see Section 15.5.1.2.5) and protected structures (See Section 15.5.1.2.4). There will also be loss of trees and landscape areas as part of the changes to junctions on Diswellstown Road. The sensitivity of the streetscape / townscape character in the vicinity of Porterstown is 'medium' / 'high'. The magnitude of change will be high and the likely effects in the construction phase will be *significant, negative, temporary / short-term*.

The works at Clonsilla Station involve the construction of a new cycle and pedestrian bridge over Clonsilla Level Crossing to facilitate access over the railway and canal. Localised reconfiguration of the carriageway in the vicinity of the level crossing is proposed to facilitate the proposed overbridge and provide adequate turning

facilities for vehicles. There will be loss of mature trees and hedgerows. There will also be works to an existing siding to the east of the station, which will be extended further to the east. The works will result in disturbance of the local landscape character and introduction of visual clutter and activity which will impact on the amenity of sensitive landscape receptors such as the Royal Canal (see Section 15.1.1.12.5) and protected structures (See Section 15.1.1.12.4), as well as resulting in loss of mature trees. The sensitivity of the streetscape / townscape character in the vicinity of Clonsilla Station is 'medium / high'. The magnitude of change will be 'high' and the likely effects in the construction phase will be *significant, negative, temporary / short-term*.

The proposed development in this zone follows the route of the Royal Canal and works will have an impact on the amenity of a substantial section of the canal corridor. The works will result in impacts on the amenity of the canal as a waterway, walking and general amenity, due to the introduction of new structures, construction activity and visual clutter, and there will direct impacts on features within the canal corridor such as mature trees, as well as changes to the context of the canal.

The baseline townscape of Zone C is of 'high' sensitivity. The construction works will give rise to moderate changes within the corridor of the railway which passes through inner-city residential suburbs and modern industrial areas of Cabra, through relatively undeveloped areas of the Tolka Valley, through to the outer-city suburbs of Clonsilla and beyond to rural areas to the south of Clonsilla and to the west of Castleknock. There will also be localised construction of structures, substations and access routes, removal of trees, hedgerows and other vegetation outside of the railway corridor. The construction phase involves demolition, excavation and construction works to sections of track, bridges, boundaries, roads, areas of private property, utilities, and drainage features, and there will be construction of OHLE to the full length of tracks within this zone. The construction works will not alter the overall townscape character along this section of the proposed development, but they will include land acquisition and impacts on properties, and impacts on protected structures, open spaces, road layout, and mature trees which will alter the local townscape fabric and the streetscape character in some areas, the effects are as described above. The magnitude of change to the overall townscape character will be 'medium' / 'high' and the likely effects in the construction phase will be *moderate / significant, negative, temporary / short-term*.

15.5.1.1.4 Zone D: Clonsilla Station/Junction to M3 Parkway Station

Zone D will include the construction of a substation in vicinity of Hansfield station. It will be necessary to create a pedestrian and vehicular access route from the substation to Barberstown Lane North. The works will convert an area of agricultural land into a built-up area with impacts on views from nearby residential properties, although these will be seen in the context of ongoing development at the emerging urban area of Hansfield SDZ to the north of the railway, which are much more visually prominent. There will be some removal of trees and vegetation along the railway in this zone, largely for the construction of double track sidings to the north of M3 Parkway, but there will also be loss of a small number of trees for the works to Barnhill Bridge.

The baseline landscape / townscape of Zone D is of 'medium' sensitivity. The construction works will give rise to moderate changes within the corridor of the railway which passes outer-city suburbs of Clonsilla and the rural areas to the south of Clonsilla and west of Castleknock, which are separated by the railway line, through lowland rural areas past the eastern edge of Dunboyne and through to meet the M3 motorway at M3 Parkway. The works will occur largely within the railway corridor or in built-up areas at stations but there will also be construction of a substation and access route outside of the railway corridor. The construction phase involves demolition, excavation and construction works to sections of track, bridges, boundaries, areas of private property, utilities, and drainage features, and there will be construction of OHLE to the full length of tracks within this zone. The construction works will not alter the overall landscape / townscape character along this section of the proposed development, but they will include land acquisition and indirect impacts on a protected structure. The magnitude of change to the overall townscape / landscape character will be 'low' / 'medium' and the likely effects in the construction phase will be *slight / moderate, negative, temporary / short-term*.

15.5.1.1.5 Zone E: Clonsilla Station/Junction to Maynooth Station

There will be substantial works at Barberstown level crossing, with the construction of a new overbridge and associated changes to the road network. The Dublin to Maynooth railway line crosses Milestown Road, which is a local road linking the R121 Kellystown Road and R149 Barnhill Road, via a level crossing. The crossing is immediately adjacent to the Royal Canal, which is spanned by Pakenham Bridge, a protected structure (RPS no. 0711). All lands in the vicinity of the Barberstown level crossing are currently rural in character with areas to the south of the crossing zoned as local amenity area and lands to the north zoned for residential development / open space within the Fingal Development Plan 2017 - 2023. The works will introduce construction activity, visual clutter and new prominent earthwork and a substantial bridge structure into the rural landscape. There will be changes to the existing road network with loss of mature trees hedgerows and other vegetation including at the tie-in to the R121. The sensitivity of the landscape character in the vicinity of Barberstown level crossing is 'medium' / 'high' due to its rural nature and presence of a designated amenity area. The magnitude of change will be 'high' and the likely effects in the construction phase will be *significant, negative, temporary / short-term*.

The baseline landscape / townscape of Zone E is of 'medium' sensitivity. The construction works will give rise to moderate changes within the corridor of the railway, which passes through outer-city suburbs of Clonsilla and the rural areas to the south of Clonsilla, and to the west of Castleknock through lowland rural areas past the northern edge of Leixlip and through the centre of Maynooth. The works will occur largely within the railway corridor or in built-up areas at stations but there will also be construction of two substations at Leixlip Confey and Blakestown, which are outside of the railway corridor, and the construction of a substantial bridge structure at Barberstown as described above. There will be works to modify the historic Cope Bridge (OBG14) including the provision of two new pedestrian / cycle bridges of which will have visual impact on the canal and adjacent amenity areas. The construction phase involves demolition, excavation and construction works to sections of track, bridges, boundaries, areas of private property, utilities, and drainage features, and there will be construction of OHLE to the full length of tracks within this zone. The construction works will not alter the overall landscape / townscape character along this section of the proposed development, but they will include land acquisition and indirect impacts on a protected structure.

A 3.5m noise barrier is to be provided along the southern boundary fence of the railway from the R408 Meadowbrook Road bridge (OBG21) to west of the Newtown Hall residential developments (Ch.90+180 to Ch.91+440). Construction of the barrier will require localised removal of vegetation and will be visible from properties bounding the railway.

The magnitude of change to the overall townscape / landscape character will be 'medium' and the likely effects in the construction phase will be *moderate, negative, temporary / short-term*.

15.5.1.1.6 Zone F: Maynooth Station to Depot

The proposed development requires the construction of a new permanent maintenance depot and maintenance compound connected to the Maynooth railway line between Kilcock and Maynooth. The depot will be used as a stabling location for the trains and for maintenance. There will also be construction of a network of access roads, connecting the R148 to the new depot on the south side of the railway, which will cross the Royal Canal via a large bridge, as well as construction of a section of the railway to pass around Jackson's Bridge (OGB23). Works will also involve regrading and lowering of significant areas of agricultural lands to the southwest, south and southeast of the depot and compound for flood attenuation / storage purposes. The construction of the compound and associated works, including the lowering of the lands will also result in removal of field boundaries and hedgerows through this area.

The baseline landscape is of 'medium' sensitivity – but 'high' sensitivity along the canal corridor. The construction works will give rise to moderate changes within the corridor of the railway which passes the centre of Maynooth through rural areas further to the west terminating halfway to Kilcock. However, there will be substantial works outside of the railway corridor with the construction of the additional section of track and construction of a large built-up area within a rural landscape for the maintenance depot and compound, access

roads and bridges. There will be significant excavation of land to the south of the depot for provision of compensatory storage areas. The construction phase involves demolition, excavation and construction works to sections of track, bridges, boundaries, areas of private property, utilities, and drainage features, and there will be construction of OHLE to the full length of tracks within this zone. There will be substantial loss of established hedgerows including large mature trees, and a subsequent impact on the field patterns. There will be an impact on the canal corridor as detailed in Section 15.5.1.2.5. The construction works will alter the overall landscape character along this section of the proposed development, with a notable change from a typical rural character to an area highly influenced by large scale infrastructural development. The magnitude of change to the overall landscape character will be 'very high' and the likely effects in the construction phase will be *very significant, negative, temporary / short-term*. It should be noted that the effects will be primarily experienced along the corridor of the Royal Canal and to the south side of the existing railway / Royal Canal corridor in the vicinity of the proposed depot works. However, the visually flat and enclosed nature of the agricultural landscape with mature field boundaries helps contain the spatial extents of the effects thus limiting effects in the wider landscape.

15.5.1.2 Impacts on Landscape / Townscape Fabric and Visual Impacts

15.5.1.2.1 Architectural Conservation Areas (ACAs)

There will be no impacts on Architectural Conservation Areas. The sensitivity is 'high'. The magnitude of change will be 'negligible' and the likely effects in the construction phase on ACAs will be *imperceptible, neutral*.

15.5.1.2.2 Conservation Areas

The Royal Canal is designated as a Conservation Area in the Dublin CDP. Construction works will involve alterations to bridges adjacent to the canal, construction of new structures and removal of trees along the edge of the canal. The works will be most substantial at Ashtown with construction of a new underpass of the railway and canal and the provision of a new pedestrian / cycle bridge crossing the railway directly along the canal. The works will require short-term drainage of the canal and loss of stands of semi-mature trees. A small number of trees will be removed along the southern edge of the canal between Broombridge and Ashtown. The Conservation Area will also be impacted by the construction works to tracks where these run nearby or parallel to the canal resulting in a visual impact from the construction of OHLE along the full length of the tracks, localised provision of security fencing and removal of trees along the adjacent railway. The sensitivity is 'high' and the magnitude of change is 'high'. The likely townscape / streetscape and visual effects of the construction phase on Royal Canal will be *significant, negative, short-term*.

15.5.1.2.3 Residential Conservation Areas

There will be some localised impacts on Residential Conservation Areas in North Strand, Clonliffe Road, Drumcondra and Phibsborough primarily from changes to boundaries, bridges and introduction of OHLE. The sensitivity is 'high'. The magnitude of change will be 'low' and the likely effects in the construction phase on Residential Conservation Areas will be *slight, negative, temporary / short-term*.

15.5.1.2.4 Protected Structures

There will be works at Connolly Station (RPS No. 130) due to the requirement to provide increased passenger capacity at the station. It will require developing a new access point at Preston Street through the currently disused vaults to connect with platforms 5, 6 and 7 to manage increased passenger numbers safely. For the historic vaults, the changes are limited and include cleaning and refurbishing damaged parts and providing low impact interventions for safe access and to allow the historic fabric to be appreciated with a good lighting level leading to the platforms.

There will be construction of a new access to the station at Preston Street. At the end of the street, there is an arch that will be converted into the new station entrance. From that arch, passengers will enter into a vault leading directly to the vaults area's central corridor. For the façade of the new station's entrance, it is proposed

to remove the free-standing wall and door on the vault facing Preston Street, leaving it open, to provide access. A new louvre façade system will be placed over the access arch and there will be works to Preston Street to upgrade paving. The presence of construction works will have an impact on the protected structure but the works will be largely contained within the structure, with minimal impact on the adjoining streetscape. The sensitivity is 'high'. The magnitude of change will be 'low' and the likely effects in the construction phase will be *slight / moderate, negative, short-term*.

There will be track lowering and parapet heightening at Binns' Bridge (OBD223) which is a double-arch stone bridge, erected in 1864 and carrying the road over the railway line, and a protected structure (RPS No. 908). The works will impact directly on the fabric of the protected structure with the increase in parapet height using similar masonry construction. There will be an impact on the context with the track lowering works. The sensitivity is 'high'. The magnitude of change will be 'medium' / 'high' and the likely effects in the construction phase will be *moderate / significant, negative, temporary*.

Newcomen Bridge is a protected structure (RPS No. 911) which crosses the Royal Canal. This is adjoined to OBD226 (not a protected structure) which is 20th century road-over-rail bridge, and adjacent to OBD226A (not a protected structure) which is a pedestrian overbridge to the east, that crosses over the MGWR line parallel to OBD226. UBD233 is a lifting bridge over Royal Canal, located c.20m from the Newcomen Bridge, and is also not a protected structure. Parapet heightening is proposed for OBD226 and OBD226A as part of the project, as well as local track lowering to the adjacent section of track. The works will not directly affect the protected structure of Newcomen Bridge and the changes to the adjacent bridge parapets will be relatively minor. The setting of the protected structure has already been partly degraded by the presence of substantial existing rail and bridge infrastructure the sensitivity is 'medium' / 'high'. The magnitude of change will be 'low' and the likely effects in the construction phase will be *slight / moderate, negative, temporary*.

There will be works for track lowering and minor parapet raising at the OBD225 bridge adjacent to a bridge over the Royal Canal, Clarke's Bridge, a granite-built protected structure (RPS No. 910) built c.1790. The presence of construction works will have an impact on the setting of the protected structure but the works will be largely contained within the railway cutting. The sensitivity is 'high'. The magnitude of change will be 'low' and the likely effects in the construction phase on this protected structure will be *slight / moderate, negative, temporary*.

There will be works for bridge deck reconstruction and the lifting of the soffit of the arch at the OBG5 bridge, which is adjacent to Broombridge Road bridge, a protected structure (RPS No. 909). The presence of construction works, which entails a new bridge with modern contrast to the retained canal bridge will have a direct impact on the setting of the protected structure. There will also be a change to the western parapet to bring it in alignment with the raised parapet of OBG5. However, the works will be largely contained within the railway corridor, and the context is already somewhat degraded with the presence of an adjacent modern pedestrian ramp. The sensitivity is 'high'. The magnitude of change will be 'medium' / 'high' and the likely effects in the construction phase on this protected structure will be *moderate / significant, negative, temporary / short-term*.

There will be impacts on the entrance, gate lodge, boundary wall and plantings associated with Ashton House, an early 19th century house and estate, a protected structure (RPS No. 690). There will be changes to the alignment of the existing entrance and boundary wall adjacent to the gate lodge involving setback and substantial excavation and road construction works in the vicinity. The gates will be temporarily removed and relocated to a new set back position to allow for realignment / regrading of the entrance road and adjoining road. A portion of the estate will be used for a temporary construction compound. There will be no changes to the house or outbuildings. The sensitivity is 'high'. The magnitude of change will be 'very high' and the likely effects in the construction phase will be *very significant, negative, short-term*.

There will be impacts on the setting of Ashtown Mill (RPS No. 691), Royal Canal 10th Lock (RPS No. 944b)). There will be no direct impacts to the structures from the works but there will be substantial works to the context including demolition of buildings and structures, excavation, changes to road alignments, construction of retaining walls, removal of trees and impacts on the canal. There will be minor works to Longford Bridge (RPS

No. 693) involving removal of road markings and resurfacing. The canal will be drained as part of the construction of the new underpass and for wider construction works in the area. The sensitivity is 'high'. The magnitude of change will be 'high' and the likely effects in the construction phase will be *significant, negative, temporary / short-term*.

There will be works to OBG11 the railway bridge (which is not included in the RPS or NIAH), which is adjacent to a 19th-century canal bridge, Granard Bridge (RPS no. 696). There will be direct impacts on OBG11 with the removal of the existing structure and replacement of a raised precast arch with increased parapets over the railway and extending south thereof. Works to Granard Bridge are limited to a slight raising of the road surface. The sensitivity is 'high'. The magnitude of change will be 'high' and the likely effects in the construction phase will be *significant, negative, short-term*.

The works at Porterstown level crossing will result in impacts on the setting of the former Clonsilla School (RPS No. 700), a mid-19th century three-storey former school building, Kennan Bridge (RPS No. 698), a late-18th century single-arched stone road bridge over Royal Canal, and Lock Keeper's Cottage (RPS No. 699). There will be no direct changes to these structures but the works will result in disturbance and disruption to their setting. The sensitivity is 'high' and the magnitude of change is 'high'. The likely effects of the construction phase on these protected structures will be *significant, negative, short-term*.

The works at Clonsilla level crossing will result in impacts on Callaghan Bridge (RPS No. 706), a late 18th century single-arched stone road bridge over Royal Canal, Clonsilla Signal Box & Overbridge (OBG12; RPS No. 707), a mid-19th century signal box and cast-iron pedestrian overbridge at Clonsilla Train Station. There will be no direct changes to Clonsilla Signal Box but the works will cause substantial disruption of its setting. There will be minor works to the structure of the overbridge with the addition of a low-level polycarbonate panel and to Callaghan Bridge with removal of road markings. The sensitivity is 'high' and the magnitude of change is 'high'. The likely effects of the construction phase on these protected structures will be *significant, negative, short-term*.

Barnhill Bridge (OBCN286) is a protected structure (RPS no. 712) and is registered at the National Inventory of Architectural Heritage (NIAH), register No. 11352001. A track lowering of approx. 357 mm beneath the bridge and for approx. 325 m of track is proposed to obtain an enhanced OHLE clearance. The sensitivity is 'high' and the magnitude of change is 'medium'. The likely effects of the construction phase on this protected structure will be *moderate, negative, temporary / short-term*.

Blakestown substation will be located at the south of the railway, near the existing Blakestown level crossing. Deey Bridge and lock (RPS no. B06-14) will be located to the north of the proposed substation. There will be no direct changes to this structure but the works will have moderate impact on the semi-rural context. The sensitivity is 'high' and the magnitude of change is 'low' / 'medium'. The likely townscape / landscape and visual effects of the construction phase on these protected structures will be *slight / moderate, negative, temporary / short-term*.

15.5.1.2.5 Amenity Designations

The works will have a direct impact on a number of public open spaces for construction of substations, and associated services and access routes.

Works will result in land acquisition from open space, and loss of mature conifers and other planting at St. Vincent's School grounds in Glasnevin, for the construction of Glasnevin substation. There will be minimal impact on the playing pitch areas of the open space, however, there will be localised loss of a landscape features, in the form of a row of mature trees, which provides shelter, screening and boundary definition to the open space and adjacent residential area. The sensitivity is 'high' and the magnitude of change is 'medium' / 'high'. The likely townscape / streetscape and visual effects of the construction phase on open space at St Vincent's School grounds will be *moderate / significant, negative, short-term*.

Works will result in land acquisition from open space, and loss of trees and other planting at Martin Savage Park. There will be the construction of a substation compound with security fencing and a vehicular access through the existing grassland which will reduce the continuity of the open space. The works will disrupt normal operation of the parts of the open space. The sensitivity is 'high' and the magnitude of change is 'medium' / 'high'. The likely townscape / streetscape and visual effects of the construction phase on Martin Savage Park will be *moderate / significant, negative, short-term*.

There will be temporary loss of open space at the public open space adjacent to Ashleigh Green to allow a temporary access route. There will be loss of trees and vegetation along the northern boundary of the space. The sensitivity is 'high' and the magnitude of change is 'medium'. The likely townscape / streetscape and visual effects of the construction phase on public open space at Ashleigh Green will be *moderate, negative, short-term*.

Works will result in acquisition of open space at Laurel Lodge for the construction of Castleknock substation and vehicular access to the substation. There will be setting back of a masonry boundary wall and loss of a row of mature trees, in varying conditions, to the eastern boundary of the open space, to allow widening of Castleknock Road. There will be changes to the footpath layout in the open space and the provision of temporary footpaths. The sensitivity is 'high' and the magnitude of change is 'high'. The likely townscape / streetscape and visual effects of the construction phase on open space at Laurel Lodge will be *significant, negative, short-term*.

Works will result in land acquisition from open space, and loss of mature trees and other planting at Sycamore Green. There will be the construction of a substation compound with security fencing and a vehicular access through the existing grassland which will reduce the continuity of the open space. The works will disrupt normal operation of the parts of the space. The sensitivity is 'high' and the magnitude of change is 'medium' / 'high'. The likely townscape / streetscape and visual effects of the construction phase on Martin Savage Park will be *moderate / significant, negative, short-term*.

No works are proposed within the open space at St. Catherine's Park, Leixlip. Some land acquisition is required in lands to the east of park, which will result in loss of the boundary hedgerow, which provides screening. The sensitivity of St. Catherine's Park is 'high' and the magnitude of change is 'negligible' / 'low'. The likely townscape / streetscape and visual effects of the construction phase on open space at St. Catherine's Park will be *imperceptible / slight, neutral / negative, temporary / short-term*.

Works will result in temporary acquisition of open space at Glendale, Leixlip, for the construction of Leixlip Confey substation and the new pedestrian / cycle bridges to the east and west of Cope Bridge. The works within the open space will be substantial and will be visually dominant. There will be loss of a substantial proportion of the existing tree planting at the northern boundary of the open space. The construction of the new pedestrian / cycle bridges will also impact the boundary wall and western end of the sports pitch at Confey GAA Club – necessitating a relocation of the goal posts. The sensitivity is 'high' and the magnitude of change is 'very high'. The likely townscape / streetscape and visual effects of the construction phase on open space at Glendale will be *very significant, negative, short-term*.

There will be substantial impacts on the amenity of the Royal Canal. The full length of the canal within the study area is designated as either open space or high amenity area by the respective Development Plans. There will be impacts from construction works at Ashtown, Coolmine, Porterstown, Barberstown and Kilcock / Maynooth for changes to level crossings, construction of bridges / underpasses and large-scale development at the adjacent proposed depot / CCE compound. Sections of the canal will undergo temporary or short term draining and land acquisition to enable construction of the proposed structures. The canal will also be impacted through the introduction of visible construction activity to areas nearby or parallel to the canal. There will also be a visual impact from the introduction of OHLE along the full length of the tracks, localised provision of fencing and continued effects from trees lost during the construction phase. Due to the parallel route occupied by sections of the railway, impacts will occur along extensive lengths of the canal. The sensitivity is 'high' and the magnitude of change is 'high'. The likely townscape / streetscape and visual effects of the construction phase on Royal Canal will be *significant, negative, short-term*.

Works will result in indirect impacts on St. Mochta's Football Club for construction of the new bridge at Porterstown. There will be loss of hardstanding / parking areas. The sensitivity is 'medium' and the magnitude of change is 'medium'. The likely townscape / streetscape and visual effects of the construction phase on the amenity of St. Mochta's football club is *moderate, negative, short-term*.

Lands to the north of Barberstown level crossing are designated as open space and lands to the south of the crossing are zoned as high amenity areas. There will be substantial works at Barberstown level crossing, and the works will introduce construction activity, visual clutter and a new prominent earthwork and an engineered structure into the rural landscape. There will be changes to the existing road network with loss of mature trees, hedgerows and other vegetation. The sensitivity is 'high'. The magnitude of change will be 'very high' and the likely effects in the construction phase on the open space / high amenity areas at Barberstown will be *very significant, negative, short-term*.

15.5.1.2.6 Tree Preservation Orders / Tree Preservation Objectives

While trees identified for preservation adjoin the works at Luttrellstown close to Barberstown, they will not be impacted by the construction of the new bridge and adjustments to the road network. The sensitivity is 'high' and the magnitude of change is 'negligible'. The likely landscape / townscape and visual effects of the construction phase these Tree Preservation Objectives will be *imperceptible, neutral, short-term*.

15.5.1.2.7 Preserved Views / Scenic Views

The works will impact on protected views to and from bridges along the Royal Canal, which are identified for protection in the Kildare CDP. There will be impacts from substantial construction works at Kilcock / Maynooth depot, CCE compound, new double track access to the depot and construction of associated bridges as well as more minor works for substations, fencing and OHLE. The sensitivity is 'high' and the magnitude of change is 'high'. The likely townscape / landscape and visual effects of the construction phase on these protected views will be *significant, negative, short-term*.

15.5.1.2.8 Properties

There will be impacts on residential properties through land acquisition for the works. The following residential properties will be directly impacted during the construction phase:

- Ashton Mews.
- Ashton Gate House Royal Canal Cottage, Ashtown Road.
- Ashton House.
- Barberstown House, Clonsilla.

These residential properties will experience land take to facilitate construction works with loss of private amenity areas, introduction of construction activity and impacts on boundaries and plantings. The sensitivity is 'high' and the magnitude of change is 'high'. The likely townscape / streetscape and visual effects of the construction phase on residential properties with land acquisition will be *significant, negative, short-term*.

There will be impacts on several non-residential properties throughout the scheme with land acquisition during the construction phase. Impacts will be most notable at Ashtown where part of industrial units on Mill Lane will be acquired and demolished, and also land will be acquired from Ashton House with impacts on grounds. Land will be acquired in rural areas at Barberstown for the construction of a new link road, and between Maynooth and Kilcock where land will be acquired for the proposed depot, CCE compound, new double track and road layout around Jackson's Bridge (OGB23). There will be temporary land acquisition for construction compounds as listed in Chapter 5 Construction Strategy in Volume 2 of this EIAR, with some associated loss of vegetation and trees. The sensitivity is 'high' and the magnitude of change is 'high'. The likely townscape / streetscape and visual effects of the construction phase on non-residential properties with land acquisition will be *significant, negative, short-term*.

Generally, for much of the length of the proposed development the works are contained within the corridor of the railway and there will be limited impacts on properties outside of the immediate area. There is potential for indirect visual effects on those properties located adjacent the works which are not included within land acquisition.

In urban areas, where views of the works are experienced, they will mostly be seen in the context of an existing railway in a constantly changing urban setting where works for new developments are common. Where new track will be constructed to Spencer Dock the works will be experienced in the context of a rapidly developing area composed largely of recent development, with frequent, ongoing construction works. The sensitivity is 'medium' / 'high' and the magnitude of change is 'low'. The likely visual effects of the construction phase on urban properties with no land acquisition that are along, fronting and viewing the proposed development will be *slight, negative, temporary / short-term*.

In suburban areas, the more substantial visual effects will arise from works within open spaces or roads outside of the railway corridor. Suburban areas undergo lesser rates of development than urban areas, and therefore the sensitivity to change is higher. There will be visual impacts on property receptors from the presence of the works most notably in areas around the proposed Glasnevin substation, Ashtown station, the proposed Castleknock substation (Laurel Park), Coolmine Station, Porterstown level crossing and Clonsilla Station. The sensitivity is 'high' and the magnitude of change is 'medium' / 'high'. The likely visual effects of the construction phase on suburban properties with no land acquisition, that are along, fronting and viewing the proposed development, will be *moderate / significant, negative, temporary / short-term*.

In rural areas, although the rate of change in the landscape is less, the density of property receptors is reduced and visual impacts have potential to be mitigated by existing landscape features, such as hedgerows, and by distance. Effects will still arise from works within agricultural areas outside of the railway corridor. There will be visual impacts on property receptors from the presence of the works, most notably in areas around the proposed link road at Barberstown, at Leixlip Confey (Glendale and Confey GAA Club), at the proposed depot and associated double track, road access and link road to R148. The sensitivity is 'high' and the magnitude of change is 'medium' / 'high'. The likely visual effects of the construction phase on rural properties with no land acquisition, that are along, fronting and viewing the proposed development, will be *moderate / significant, negative, temporary / short-term*.

15.5.1.2.9 Trees, hedgerows and plantings

The proposed development will require removal of existing trees, hedgerows and plantings at a number of locations along the proposed development, most notably at Glasnevin, Ashtown, Coolmine, Porterstown, Barberstown and Kilcock / Maynooth for changes to level crossings, construction of bridges / underpasses and large-scale development at the proposed depot / CCE compound. There will also be impacts on trees and plantings from temporary or permanent proposals along Royal Canal and in open spaces as detailed in Section 15.5.1.2.5. The works will result in localised loss of mature trees and hedgerows. Trees will also be removed to accommodate temporary site compounds. The sensitivity is 'high' and the magnitude of change is locally 'high'. The likely landscape / townscape and visual effects of the construction phase on trees, hedgerows and plantings will be *significant, negative, temporary / short-term*.

15.5.1.3 Summary of Construction Phase Impacts

The summary of the landscape and visual impact assessment for the construction phase of the proposed development is set out in Table 15-6.

Table 15-6 Summary of Potential Construction Phase Impacts

Receptor		Baseline Landscape / Townscape Sensitivity	Magnitude of Change	Significance & Quality of Landscape / Townscape / Streetscape Effects / Visual Effects
Landscape, Townscape and Streetscape Character				
Zone A: Loop Line Bridge to Phibsborough/ Glasnevin (on GSWR line) and East Wall Junction (on Northern line)		Medium / High	Low	Slight / Moderate, Negative, Temporary / Short-term
Zone B: Spencer Dock Station to Glasnevin Junction		Medium / High	Medium	Moderate, Negative, Temporary / Short-term
Zone C: Glasnevin junction/ Phibsborough to Clonsilla Station/Junction		High	Medium / High	Moderate / Significant, Negative, Temporary / Short-term
<ul style="list-style-type: none"> Zone C Subsection 1: Ashtown 		High	Very High	Very Significant, Negative, Short-Term
<ul style="list-style-type: none"> Zone C Subsection 2: Coolmine Station 		Medium / High	High	Significant, Negative, Temporary / Short-term
<ul style="list-style-type: none"> Zone C Subsection 3: Porterstown Level Crossing 		Medium / High	High	Significant, Negative, Temporary / Short-term
<ul style="list-style-type: none"> Zone C Subsection 4: Clonsilla Station 		Medium / High	High	Significant, Negative, Temporary / Short-term
Zone D: Clonsilla Station/Junction to M3 Parkway Station		Medium	Low / Medium	Slight / Moderate, Negative, Temporary / Short-term
Zone E: Clonsilla Station/Junction to Maynooth Station		Medium	Medium	Moderate, Negative, Temporary / Short-term
<ul style="list-style-type: none"> Zone E Subsection 1: Barberstown Level Crossing 		Medium / High	High	Significant, Negative, Temporary / Short-Term
Zone F: Maynooth Station to Depot		Medium	Very High	Very Significant, Negative, Temporary / Short-Term
Landscape, Townscape and Streetscape Characteristics and Visual Impacts				
Architectural Conservation Areas (ACAs)		High	Negligible	Imperceptible, Negative
Conservation Areas	Royal Canal Conservation Area	High	High	Significant, Negative, Short-Term
Residential Conservation Areas	Residential Conservation Areas in North Strand, Clonliffe Road, Drumcondra and Phibsborough	High	Low	Slight, Negative, Temporary / Short-term
Protected structures	Connolly Station (RPS No. 130)	High	Low	Slight / Moderate, Negative, Temporary
	Binns' Bridge (RPS No. 908)	High	Medium / High	Moderate / Significant, Negative, Temporary
	Newcomen Bridge (RPS No. 911)	Medium / High	Low	Slight / Moderate, Negative, Temporary
	Clarke's Bridge (RPS No. 910)	High	Low	Slight / Moderate, Negative, Temporary

Receptor		Baseline Landscape / Townscape Sensitivity	Magnitude of Change	Significance & Quality of Landscape / Townscape / Streetscape Effects / Visual Effects
	Broombridge Road bridge (RPS No. 909)	High	Medium / High	Moderate / Significant, Negative, Temporary / Short-term
	Ashton House (RPS No. 690)	High	Very High	Very Significant, Negative, Short-Term
	Ashtown Mill (RPS No. 691), Royal Canal 10 th Lock (RPS No. 944b) and Longford Bridge (RPS No. 693).	High	High	Significant, Negative, Temporary / Short-Term
	Granard Bridge, OBG11 (RPS No. 696)	High	High	Significant, Negative, Short-term
	Former Clonsilla School (RPS No. 700), Kennan Bridge (RPS No. 698) and Lock Keeper's Cottage (RPS No. 699).	High	High	Significant, Negative, Short-Term
	Callaghan Bridge (RPS No. 706), Clonsilla Signal Box & Overbridge (OBG12; RPS No. 707).	High	High	Significant, Negative, Short-Term.
	Barnhill Bridge, OBCN286 (RPS no. 712)	High	Medium	Moderate, Negative, Temporary / Short-Term
	Deey Bridge and Lock (RPS no. B06-14)	High	Low / Medium	Slight / Moderate, Negative, Temporary / Short-Term
Amenity Designations	St Vincent's School grounds	High	Medium / High	Moderate / Significant, Negative, Short-Term
	Martin Savage Park	High	Medium / High	Moderate / Significant, Negative, Short-Term
	Ashleigh Green	High	Medium	Moderate, Negative, Short-Term
	Laurel Lodge	High	High	Significant, Negative, Short-Term
	Sycamore Green	High	Medium / High	Moderate / Significant, Negative, Short-Term
	St. Catherine's Park	High	Negligible / Low	Imperceptible / Slight, Neutral / Negative, Temporary / Short-Term
	Glendale Open Space	High	Very High	Very Significant, Negative, Short-Term
	Confey GAA Club	High	Very High	Very Significant, Negative, Short-Term
	Royal Canal	High	High	Significant, Negative, Short-Term
	St Mochta's Football Club	Medium	Medium	Moderate, Negative, Short-Term
Open space / high amenity area at Barberstown	High	Very High	Very Significant, Negative, Short-Term	

Receptor		Baseline Landscape / Townscape Sensitivity	Magnitude of Change	Significance & Quality of Landscape / Townscape / Streetscape Effects / Visual Effects
Tree Preservation Orders / tree Protection Objectives	Tree Preservation Objectives at Barberstown	High	Negligible	Imperceptible, Neutral, Short-Term
Preserved Views / Scenic Views etc.	Protected views to and from bridges along the Royal Canal	High	High	Significant, Negative, Short-Term
Properties	Residential properties with temporary / permanent land acquisition	High	High	Significant, Negative, Short-Term
	Non-residential properties with temporary / permanent land acquisition	High	High	Significant, Negative, Short-Term
	Urban properties along, fronting and viewing the proposed development not included in land acquisition.	Medium / High	Low	Slight, Negative, Temporary / Short-Term
	Suburban properties along, fronting and viewing the proposed development not included in land acquisition.	High	Medium / High	Moderate / Significant, Negative, Temporary / Short-Term
	Rural properties along, fronting and viewing the proposed development not included in land acquisition.	High	Medium / High	Moderate / Significant, Negative, Temporary / Short-Term
Trees and Vegetation	Individual trees, groups of trees and hedgerows along the corridor of the proposed development.	High	High	Significant, Negative Temporary / Short-term

15.5.2 Potential Operational Impacts

Potential operational effects are likely to result from the following impacts:

- Residual effects on landscape and visual character and on designated landscape and visual aspects, including loss of trees and hedgerows.
- Visual intrusion on properties and amenities, including the Royal Canal, from new elevated structures, OHLE, signalling, bridges, embankments, retaining walls, fences, noise barriers, gantries.
- Visual intrusion on properties and amenities, including the Royal Canal, from noise barriers.
- Effects from new elevated road lighting and illumination from traffic lights.
- Effects arising on sites of biodiversity and cultural heritage significance.

15.5.2.1.1 Zone A - Loop Line Bridge to Phibsborough/ Glasnevin (on GSWR line) and East Wall Junction (on Northern line)

The baseline townscape of Zone A is of 'medium' / 'high' sensitivity. There will be changes within the corridor of the railway which passes through a gradient of varying townscape characters; from the River Liffey and inner-city commercial and mixed-use residential areas surrounding Connolly Station; through areas of relatively dense inner-city residential areas in North Strand; to outer city centre suburbs in Phibsborough, Drumcondra and Cabra. The provision of Glasnevin substation outside of the railway corridor will result in a permanent loss of open space as well as continuing effects from loss of trees, hedgerows and other vegetation during the construction phase. There will be a positive change at Connolly Station with the provision of a new enhanced access point connecting to the renovated vaults, and an improved urban realm at Preston Street, which is detailed further in Section 15.5.2.2.4. The proposals will not alter the overall townscape character along this section of the proposed development, but there will be localised effects resulting from land

acquisition, impacts on open space, continuing impacts from trees removed during construction, and provision of OHLE which will perceptibly impact on streetscape character at a local level. The magnitude of change to the overall townscape character will be 'low' and the likely effects in the operational phase will be *slight, negative short-term and neutral, long-term with locally slight, positive, short and long-term effects at Connolly Station and Preston Street with the improved facilities, increased permeability and improved access and public realm to a key transport hub.*

15.5.2.1.2 Zone B: Spencer Dock Station to Glasnevin Junction

In Zone B, a new station at Spencer Dock will be provided with the station's platforms aligned to the 2014 North Lotts and Grand Canal Dock Planning Scheme objectives. A section of track connecting to the Docklands Station will be provided to join to the new Spencer Dock Station and the existing Docklands Station will be disconnected from the rail network. The new Spencer Dock Station provides good integration with the surrounding rapidly developing urban townscape, by aligning to the 2014 North Lotts and Grand Canal Dock Planning Scheme guidelines. The station will allow interchange with other means of transport including a more direct connection to Spencer Dock Luas Station than is currently present from Docklands Station, and there will also be direct access to buses, to cycle parking, and to a drop-off for cars and taxis. There will be two access points one to Mayor Street Upper and a secondary entrance at Sheriff Street Upper which allow access by users of a variety of modes of transport. The architectural design of the station building is aesthetically pleasing and it will integrate well with the surrounding developments of the local area. An associated public space adjoining the station will be provided. Although not part of the scope of the proposed development, the design of the station will still allow potential over-station development in future. The likely localised townscape / streetscape and visual effects of this change will be *positive*.

Due to the presence of existing railway uses, provision of an access ramp, substation and auxiliary electrical, signalling and telecommunication buildings situated within the existing CIÉ property boundary adjacent to the Spencer Dock Station, will not impact on the townscape character.

The Sheriff Street Upper overbridge will be restored in a similar form to the existing bridge. There will be provision of heightened parapets at catenary mast locations for several longitudinal walls along the line, between OBD222 and OBD227 and near OBO11, and at several footbridges: North Strand Road (OBD226A), Drumcondra Station (OBO14A) and Claude Road (OBO12A), and this will in some cases reduce views out from these bridges and have local minor impacts on streetscape character. Where masonry walls are to be raised this will be of similar masonry with matching aesthetic features and reused capping stones.

Five noise barriers are to be provided in this zone:

- A 3 m (above street level) noise barrier will be provided along the south (railway) side of Ossory Road between UBLL6 and the junction with North Strand Road (Ch.40+840 to 41+015). While the barrier will mitigate noise impacts and provide for visual screening of the railway corridor, it will also enclose visibility along this section of Ossory Road and curtail visibility from properties 1 to 14 and 16 to 23 Ossory and the side of property 152 North Strand Road.
- A 3 m (above street level) noise barrier will be provided along the south (railway) end of No. 15 end of terrace residential property at Ardilaun Square immediately east of Croke Park (Ch.41+465 to 41+515). The barrier will mitigate noise impacts and not adversely affect views or visibility in this location.
- Two sections of 3 m high noise barrier will be provided along the south (railway) side of Croke Park Hotel and the rear of residential properties at Drumcondra Park (Ch.41+820 to 41+930 & 41+960 to 42+090). A c.2 m high wall is already located along the majority of this boundary, however, provision of the barrier will slightly reduce existing visibility from the properties (Nos 1 to 41 non-even numbers only) in Drumcondra Park.
- A 3 m high noise barrier will be provided between railway and the Royal Canal from the corner of Portland Square North west to bridge at Drumcondra Road Lower (Ch.41+900 to 42+185). The barrier will mitigate noise impacts for properties at Portland Lock Apartments and Portland Place and will curtail views north of the canal along this section.

The baseline townscape of Zone B is of 'medium' / 'high' sensitivity. The proposals will generally comprise minor interventions associated with the existing railway corridor. There will be notable changes outside of the railway corridor with the provision of Spencer Dock Station. The station will result in the transformation from a vacant plot of land to a building which reinforces the streetscape character of the area, as well as improving connectivity between adjoining streetscapes and sustainable transport modes. There will be provision of OHLE to the full length of tracks within this zone, which will adversely impact the amenity of sections of the canal where it runs adjacent. Noise barriers are to be provided along sections of the railway and while these will reduce visibility of the railway corridor they will also curtailed / enclosed views. There will be provision of substations and access routes, but with limited removal of trees. The operational phase will not alter the existing townscape character along this section of the proposed development but there will be positive contribution to streetscape character within the locality of the proposed Spencer Dock Station. The magnitude of change will be 'medium' and the likely effects in the operational phase will be *moderate, negative short-term and slight neutral, long-term* and locally *significant positive short-term and moderate, positive, long-term* at Spencer Dock.

15.5.2.1.3 Zone C: Glasnevin junction/ Phibsborough to Clonsilla Station/Junction

West of Glasnevin Junction, is OBG5 Broombridge Bridge, which is included in the record of protected structures for Dublin City (RPS no. 909), will be reinstated in a similar form to the existing but some historic fabric will be lost.

In the Ashtown area, there will be permanent loss of private property, and continued effects from the loss of trees which occurred during construction of the new pedestrian / cycle bridge, road layout / underpass and substation. There will be an impact on Martin Savage Park due to provision of a substation and an impact on the amenity of the Royal Canal with the provision of the bridge and underpass. There will be impacts on historic boundaries, on the setting of heritage landscape features such as the Royal Canal 10th lock and Longford Bridge. There will be substantial changes to Mill Road with the change to the vertical alignment, changes to boundaries and introduction of large retaining walls. There will also be impacts on the entrance gate, boundary and setting of the lodge at Ashton House, a protected structure, which are discussed in Section 15.5.2.2.4. There will be an impact on the streetscape of Ashtown Road with the closure of the level crossing and introduction of fencing along the boundaries of the railway. There will be a positive impact on accessibility with the new bridge and underpass will provide full-time access to vehicular and non-vehicular road users to cross the railway. The sensitivity of the streetscape / townscape in this local area of Ashtown is 'high'. The magnitude of change will be 'high' and the likely effects in the operational phase will be *moderate / significant, negative short-term and moderate negative, long-term*.

There will be provision of a new permanent OHLE compound beside Navan Road Parkway station. This will be situated within an existing area of hardstanding and scrubland. The area already has a similar use as a storage area and there will be no change to valued landscape elements, and visibility is limited to a section of the R148 and the curtilage of the Navan Road Parkway station.

There will be impacts on open spaces at Laurel Lodge and Sycamore Green with loss of open space for the provision of substations. There will be a continued effects from the loss of trees during the construction phase, and the structures will represent new incongruous, engineered elements in these areas of public amenity.

There will be substantial changes to streetscape in the vicinity of Coolmine Station with the provision of a new shared pedestrian and cycle bridge over the railway and canal, which will form a new prominent feature in a suburban residential area. There will be remaining effects in the operational phase from loss of trees, verges and planted areas removed during construction, most notable stands of trees along the Royal Canal and at Coolmine Station Car Park. The sensitivity of the streetscape / townscape character in the vicinity of Coolmine Station is 'medium'. The magnitude of change will be 'medium' / 'high' and the likely effects in the operational phase will be *moderate / significant negative short-term and moderate, negative, long-term*.

The provision of a new cycle and pedestrian bridge at Porterstown level crossing will involve the introduction of a large, engineered structure into a rural / urban fringe landscape. The works will result in disturbance of

the local landscape character and introduction of visual clutter which will impact on the amenity of sensitive landscape receptors such as the Royal Canal (see Section 15.5.2.2.5) and protected structures (See 15.5.1.2.4). There will also be continued effects from the loss of trees and landscape areas as part of the changes to Diswellstown Road Junction, Porterstown Road Junction, Clonsilla Road Junction and Castleknock Road Junction. The sensitivity of the streetscape / townscape character in the vicinity of Porterstown level crossing is 'medium' / 'high'. The magnitude of change will be 'high' and the likely effects in the operational phase will be *significant, negative, short-term and moderate, negative, long-term*.

The proposals at Clonsilla Station involve the provision of a new cycle / foot bridge over Clonsilla level crossing to facilitate access over the railway and canal. The proposals will result in the provision of a new prominent structure in a rural fringe location. There will be loss of quality in the local landscape character and continued effects from the loss of mature trees removed during the construction phase, which will impact on the amenity of sensitive landscape receptors such as the Royal Canal (see Section 15.5.2.2.5) and protected structures (See 15.5.2.2.4). The sensitivity of the streetscape / townscape character in the vicinity of Clonsilla Station is 'medium' / 'high'. The magnitude of change will be 'high' and the likely effects in the operational phase will be *significant, negative, short-term and moderate, negative, long-term*.

The proposed development in this zone follows the route of the Royal Canal and proposals will have an impact on the amenity of a substantial section of the canal corridor. The operational phase will result in impacts on the amenity of the canal due to the provision of new bridge structures, localised sections of fencing and visual clutter from the OHLE. There will direct impacts on features within the canal corridor such continued effects from the loss of mature trees removed during construction, as well as changes to the context of the canal.

The baseline townscape of Zone C is of 'high' sensitivity. The operational phase will give rise to moderate changes within the corridor of the railway which passes through inner-city suburbs and modern industrial areas of Cabra, through relatively undeveloped areas of the Tolka Valley, through to the outer-city suburbs of Clonsilla and to the south of Clonsilla and beyond to rural areas further to the west of Castleknock. There will be provision of OHLE to the full length of tracks within this zone. There will be the provision of several prominent new structures, substations and access routes impacting on streetscapes and areas of open space. The operational phase will not alter the overall townscape character along this section of the proposed development, but it will include permanent land acquisition, and impacts on properties, on the setting of protected structures, on open spaces, on road layout. There will be continued effects from loss of trees, hedgerows and other vegetation removed during construction, including on rural roads and along the Royal Canal. There will be significant changes to the townscape fabric and the streetscape character on a local level in some areas, as described above. The magnitude of change to the overall townscape character will be 'medium' / 'high' and the likely effects in the operational phase will be *moderate / significant, negative, Short-term and moderate, negative, long-term*.

15.5.2.1.4 Zone D: Clonsilla Station/Junction to M3 Parkway Station

Zone D will include the provision of a substation in vicinity of Hansfield station. The station will be modified with the aim of improving the connection between platforms by means of a new pedestrian bridge. There will be provision of a pedestrian and vehicular access route from the substation to Barberstown Lane North. There will be a change from a relatively minor area of agricultural land into a built-up area. There will be impacts on views from nearby residential properties, although these will be seen in the context of ongoing development at the emerging urban area of Hansfield SDZ to the north of the railway, which are much more visually prominent.

The baseline townscape of Zone D is of 'medium' sensitivity. The operational phase will involve moderate changes within the corridor of the railway which passes outer-city suburbs of Clonsilla and the rural areas to the south of Clonsilla and west of Castleknock, which are separated by the railway line, through lowland rural areas past the eastern edge of Dunboyne and through to meet the M3 motorway at M3 Parkway. The proposals will occur largely within the railway corridor or in built-up areas at stations but there will also be provision of a substation and access route outside of the railway corridor at Hansfield. There will be minor changes to sections of track, bridges and boundaries, and there will be introduction of OHLE to the full length

of tracks within this zone. There will be continued effects from moderate loss of trees removed during the construction phase at the new sidings at M3 Parkway and for the provision of substations. The operational phase will not alter the overall townscape / landscape character along this section of the proposed development, but it will include land acquisition of agricultural land. The magnitude of change to the overall townscape / landscape character will be 'low' / 'medium' and the likely effects in the operational phase will be *slight / moderate, negative, short-term and slight, negative, long-term*.

15.5.2.1.5 Zone E: Clonsilla Station/Junction to Maynooth Station

There will be substantial changes at Barberstown Level Crossing, which is immediately adjacent to the Royal Canal and Pakenham Bridge, a protected structure (RPS no. 0711). All lands in the vicinity of the Barberstown level crossing are currently rural in character with areas to the south of the crossing zoned as local amenity area and lands to the north zoned for residential development / open space within the Fingal Development Plan 2017 - 2023. The operational phase will comprise the introduction of a new prominent earthwork and an engineered bridge structure into the rural landscape. There will be changes to the existing road network with remaining effects from loss of trees, hedgerows and other vegetation removed during construction, including trees from an area with a tree preservation objective immediately east of the R121. The sensitivity of the landscape character in the vicinity of Barberstown Level Crossing is 'medium' / 'high' due to its rural nature and presence of a designated amenity area. The magnitude of change will be 'high' and the likely effects in the operational phase will be *significant, negative, short-term and moderate, negative, long-term*.

The baseline townscape of Zone E is of 'medium' sensitivity. The operational phase will give rise to moderate changes within the corridor of the railway, which passes through outer-city suburbs of Clonsilla and the rural areas to the south of Clonsilla, and to the west of Castleknock through lowland rural areas past the northern edge of Leixlip and through the centre of Maynooth. The changes will occur largely within the railway corridor or in built-up areas at stations but there will also be provision of a substation outside of the railway corridor, and the provision of a substantial bridge structure at Barberstown as described above. There will be changes to the historic Cope Rail Bridge (OGB14) with replacement of the existing stone arch with precast concrete elements, and the introduction of two new cycle / pedestrian bridges, which will have a visual impact on the canal and other surrounding receptors, including Glendale and Confey GAA Club. The operational phase involves changes to sections of track, bridges, boundaries, areas of private property, utilities, and drainage features, and there will be provision of OHLE to the full length of tracks within this zone. The operational phase will not alter the overall townscape character along this section of the proposed development, but it will include land acquisition and indirect impacts on a protected structure. The magnitude of change to the overall townscape / landscape character will be 'medium' and the likely effects in the operational phase will be *moderate, negative, short-term and slight, negative, long-term*.

15.5.2.1.6 Zone F: Maynooth Station to Depot

The project requires the provision of a new permanent maintenance depot and CCE compound connected to the Maynooth railway line between Kilcock and Maynooth. The depot will be used as a stabling location for the trains and for maintenance. There will also be provision of a network of access roads, connecting the R148 to the new depot on the south side of the railway, which will cross the Royal Canal via a large bridge, as well as the realignment of a section of the railway to pass around Jackson's Bridge (OBG23).

A 3.5 noise barrier is to be provided along the southern boundary fence of the railway from the R408 Meadowbrook Road bridge (OBG21) to west of the Newtown Hall residential developments (Ch.90+180 to 91+444). Provision of the barrier will reduce existing visibility from the properties bounding the railway.

The baseline townscape of Zone F is of 'medium' sensitivity. The operational phase will give rise to moderate changes within the corridor of the railway which passes the centre of Maynooth and through rural areas further to the west before terminating halfway to Kilcock. There will be very substantial changes outside of the railway corridor with track realignment and the change of a section of rural landscape to a large built-up area for the maintenance depot, CCE compound, access roads and bridges. There will be visually prominent provision of

lighting and introduction of movement and activity of rolling stock and other machinery. There will be provision of substantial attenuation ponds with notable changes to topography. There will be provision of OHLE to the full length of tracks within this zone. There will be continued effects in the operational phase from the substantial and permanent change to the field pattern. There will be an impact on the canal corridor as detailed in Section 15.5.1.2.5. The operational phase will alter the overall landscape character along the section of the landscape between the western edge of Maynooth and the proposed depot, with a notable change from a largely undeveloped rural character to an area highly influenced by large scale infrastructural development. The magnitude of change to the landscape character of Zone F will be 'very high' and the likely effects in the operational phase will be *significant, negative, short-term and long-term*. It should be noted that the effects will be primarily experienced along the Royal Canal and to the south side of the existing railway / Royal Canal corridor in the vicinity of the proposed depot. The low lying and well enclosed nature of the landscape helps contain the spatial extents of the effects.

15.5.2.2 Impacts on Landscape / Townscape Fabric and Visual Impacts

15.5.2.2.1 Architectural Conservation Areas (ACAs)

There will be no impacts on Architectural Conservation Areas. The sensitivity is 'high'. The magnitude of change will be 'negligible' and the likely effects in the operational phase on ACAs will be *imperceptible, neutral*.

15.5.2.2.2 Conservation Areas

The Royal Canal is designated as a Conservation Area in the Dublin CDP. There will be provision of a new visually prominent bridge at Ashtown which will overhang the canal. There will also be a visual impact from the provision of OHLE along the full length of the tracks, and localised provision of security fencing. There will be continued effects from trees lost during the construction phase most notably at Ashtown. The sensitivity is 'high' and the magnitude of change is 'medium'. The likely townscape / streetscape and visual effects of the operational phase on Royal Canal will be *moderate, negative short-term and slight, negative, long-term*.

15.5.2.2.3 Residential Conservation Areas

There will be some localised impacts on Residential Conservation Areas in North Strand, Clonliffe Road, Drumcondra and Phibsborough primarily from changes to boundaries, bridges and provision of OHLE. The sensitivity is 'high'. The magnitude of change will be 'low' and the likely effects in the operational phase on Residential Conservation Areas will be *slight, negative, short-term and slight, neutral, long-term*.

15.5.2.2.4 Protected Structures

There will be provision of a new access to the station at Preston Street. A new illuminated louvre façade system will be introduced over the access arch, becoming a visual landmark from Amiens Street. There will be provision of an improved streetscape on Preston Street with new high-quality paving and tree planting. The operational phase will result in positive effects on the protected structure through improved access to the streetscape, usability and renovation of a disused area. There will also be a positive impact on the setting of the protected structure with the improved streetscape on Preston Street. The sensitivity is 'high'. The magnitude of change will be 'low' and the likely effects in the operational phase will be *slight / moderate, positive, short-term and slight, positive, long-term*.

There will be minor changes at Binns' Bridge (OBD223, RPS No. 908). There will be a change in the fabric of the protected structure from the increase in parapet height. The sensitivity is 'high'. The magnitude of change will be 'low' and the likely effects in the operational phase on these protected structures will be *slight, negative short-term, and slight, neutral, long-term*.

There will very minor changes to the setting of Newcomen Bridge (RPS No. 911), Clarke's Bridge (RPS No. 910) due to changes to adjacent bridges. The sensitivity is 'medium' / 'high'. The magnitude of change will be 'negligible' and the likely effects in the operational phase will be *not significant, negative, short-term and not significant, neutral, long-term*.

There will be a minor change to the parapet of Broombridge Road bridge (RPS No. 909). The sensitivity is 'high'. The magnitude of change will be 'low' and the likely effects in the operational phase on this protected structure will be *slight, negative, short-term and slight, neutral, long-term*.

There will be permanent changes to the entrance, boundary and setting of the lodge associated with Ashton House, an early 19th century house which is a protected structure (RPS No.690). There will be changes to the alignment of the boundary wall, to the context and setting of the gate lodge, to the location of a setback entrance and to the vertical alignment of the access road and adjacent street. The sensitivity is 'high'. The magnitude of change will be 'high' and the likely effects in the operational phase will be *significant, negative, short-term, and moderate, negative, long-term*.

There will be impacts on the setting of Ashtown Mill (RPS No. 691), and Royal Canal 10th Lock (RPS No.944b). There will be no direct impacts from the proposals but the context will be altered through the introduction of prominent engineered structures, new road, underpass of the railway and canal and loss of trees during construction. The changes will also impact on the setting of Longford Bridge and there will also be minor changes to the surfacing of the bridge. The sensitivity is 'high'. The magnitude of change will be 'high' and the likely effects in the operational phase will be *significant, negative, short-term and moderate, negative, long-term*.

Granard Bridge (RPS no. 0696) will be changed with a slight raising of the road surface. The sensitivity is 'high'. The magnitude of change will be 'negligible' and the likely effects in the operational phase will be *not significant, neutral, short-term and long-term*.

The changes at Porterstown level crossing will result in impacts on the setting of Former Clonsilla School (RPS No. 700), Kennan Bridge (RPS No. 698), and Lock Keeper's Cottage (RPS No. 699). There will be no direct changes to these structures but the proposals will cause substantial disruption of their setting through the provision of a large utilitarian pedestrian / cycle bridge which will be visually dominant in the locality. The sensitivity is 'high' and the magnitude of change is 'high'. The likely townscape / streetscape and visual effects of the operational phase on these protected structures will be *significant, negative, short-term and moderate, negative, long-term*.

The changes at Clonsilla level crossing will result in impacts on the Callaghan Bridge (RPS No. 706), a late 18th century single-arched stone road bridge over Royal Canal, Clonsilla Signal Box & Overbridge (OBG12; RPS No. 707), a mid-19th century signal box and cast-iron pedestrian overbridge at Clonsilla Train Station. There will be no direct changes to Clonsilla Signal Box but the changes will cause disruption of its setting with introduction of a large bridge structure in the vicinity. There will be changes to the structure of the overbridge with the addition of a low-level polycarbonate panel and to Callaghan Bridge with removal of road markings. The sensitivity is 'high' and the magnitude of change is 'medium' / 'high'. The likely townscape / streetscape and visual effects of the operational phase on these protected structures will be *moderate / significant, negative, short-term and moderate, negative, long-term*.

Barnhill Bridge (OBCN286) is a protected structure (RPS no. 712) and is registered at the National Inventory of Architectural Heritage (NIAH), register No. 11352001. There will be minor changes to the bridge with the underlying track lowered by approx. 357 mm. The sensitivity is 'high' and the magnitude of change is 'negligible'. The likely townscape / streetscape and visual effects of the operational phase on these protected structures will be *slight, negative, short-term and imperceptible, neutral, long-term*.

Blakestown substation will be located to the south of the railway, near the existing level crossing. Deey Bridge and lock, a protected structure (RPS no. B06-14) is located to the north of the substation. There will be no direct changes to this structure but the changes will have an impact on the semi-rural context. The sensitivity is 'high' and the magnitude of change is 'low'. The likely townscape / streetscape and visual effects of the operational phase on these protected structures will be *slight / moderate, negative, short-term and slight, negative, long-term*.

15.5.2.2.5 Amenity Designations

The changes will have a direct impact on a number of public open spaces for siting of substations, and associated services and access routes.

The proposed development will result in permanent land acquisition from open space, and continuing effects from loss of mature conifers and other planting at St. Vincent's School grounds in Glasnevin, for the provision of Glasnevin substation. There will be minimal impacts on the pitch areas of the open space, however, there will be continuing effects from loss of a substantial landscape feature, in the form of a row of mature trees, which provides shelter, screening and safety to the open space and adjacent residential area. The substation will be a new, prominent and visually detracting feature in the open space. Sports netting will be provided to the western edge of the pitches. The sensitivity is 'high' and the magnitude of change is 'medium'. The likely townscape / streetscape and visual effects of the operational phase on open space at St. Vincent's School grounds will be *moderate, negative, short-term* and *slight / moderate, negative, long-term*.

There will be permanent land acquisition from open space, and continuing effects from loss of trees and other planting at Martin Savage Park. There will be the provision of a substation compound with security fencing and a vehicular access through the existing grassland which will reduce the continuity of the open space. The structures and fencing will form new incongruous visual detractors in the space. The sensitivity is 'high' and the magnitude of change is 'high'. The likely townscape / streetscape and visual effects of the operational phase on Martin Savage Park will be *significant, negative, short-term* and *moderate, negative, long-term*.

Changes will result in permanent acquisition of open space at Laurel Lodge for the provision of Castleknock substation and pedestrian and vehicular access to the substation. The substation perimeter will be fenced but the entrance road will be kept open. There will be changes to the footpath layout in the open space. The substation will be a new, prominent and visually detracting feature in the open space. The sensitivity is 'high' and the magnitude of change is 'high'. The likely townscape / streetscape and visual effects of the operational phase on open space at Laurel Lodge will be *significant, negative, short-term* and *moderate, negative, long-term*.

There will be permanent land acquisition from open space, and continuing effects from loss of trees and other planting at Sycamore Green. There will be the provision of a substation compound with security fencing and a vehicular access through the existing grassland which will impact on the amenity of the open space. The structures and fencing will form new incongruous visual detractors in the space. The sensitivity is 'high' and the magnitude of change is 'high'. The likely townscape / streetscape and visual effects of the operational phase on Sycamore Green will be *significant, negative, short-term* and *moderate, negative, long-term*.

There will be no effects on at St. Catherine's Park, Leixlip, during the operational phase. The sensitivity is 'high' and the magnitude of change is 'negligible'. The likely townscape / streetscape and visual effects of the operational phase on open space at St. Catherine's Park will be *imperceptible, neutral, long-term*.

Changes will result in permanent acquisition of open space at Glendale and Confey GAA Club, Leixlip, for the provision of Leixlip Confey substation and the new pedestrian / cycle bridges to the east and west of OBG14 Cope Bridge. The provision of the substation, access and fencing will introduce new visually detracting features into the open space. There will be continuing effects from the loss of tree planting removed during the construction phase. The new pedestrian / cycle bridge will also result in loss of existing ground at Confey GAA Club and necessitate adjustments to the existing pitch. The sensitivity is 'high' and the magnitude of change is 'high'. The likely townscape / streetscape and visual effects of the operational phase on open space at Glendale will be *significant, negative, short-term* and *moderate, negative, long-term*.

The amenity of the Royal Canal (a designated open space / high amenity area) will be impacted by substantial changes at Ashtown, Coolmine, Porterstown, Barberstown and Kilcock / Maynooth from introduction of bridges / underpasses and large-scale development at the proposed depot / CCE compound. Night-time lighting at the depot / CCE Compound will increase the visual presence and sense of change in the area. There will also be a visual impact from the provision of OHLE along the full length of the tracks, localised provision of fencing

and continued effects from trees lost during the construction phase. The sensitivity is 'high' and the magnitude of change is 'high'. The likely townscape / streetscape and visual effects of the operational phase on Royal Canal will be *significant, negative, short-term* and *moderate, negative, long-term*.

There will be permanent land take from St. Mochta's football club for provision of the new bridge at Porterstown. There will be loss of hardstanding / parking areas. The sensitivity is 'medium' and the magnitude of change is 'medium'. The likely townscape / streetscape and visual effects of the operational phase on the amenity of St. Mochta's football club *moderate, negative, short-term* and *slight, negative, long-term*.

There will be substantial changes to lands to the north of Barberstown level crossing which are designated as open space and lands to the south which are zoned as high amenity in the Fingal Development Plan 2017 - 2023. There will be introduction a new prominent raised earthwork and an engineered structure with visible traffic activity into the rural landscape. There will be changes to the existing road network with loss of mature trees, hedgerows and other vegetation. The sensitivity 'high'. The magnitude of change will be 'high' and the likely effects in the operational phase will be *significant, negative, short-term* and *moderate / significant, negative long-term*.

15.5.2.2.6 Tree Preservation Orders / Tree Preservation Objectives

There will be no impacts on Tree Preservation Objectives. The sensitivity is 'high' and the magnitude of change is 'negligible'. The likely landscape / townscape and visual effects of the operational phase on these Tree Preservation Objectives will be *imperceptible, neutral, long-term*.

15.5.2.2.7 Preserved Views / Scenic Views

The changes will impact on protected views to and from bridges along the Royal Canal, as protected in the Kildare CDP. Substantial changes will be visible through the introduction of the proposed depot west of Maynooth, CCE compound, section of double track, road access, depot access bridges, cycle and pedestrian bridges (Cope Bridge), substations and localised fencing and OHLE. The sensitivity is 'high' and the magnitude of change is 'medium' / 'high'. The likely townscape / streetscape and visual effects of the operational phase on these protected views will be *moderate / significant, negative, short-term* and *moderate, negative, long-term*.

15.5.2.2.8 Properties

There will be impacts on a single residential property through permanent land acquisition; Royal Canal Cottage, Ashtown Road will have a portion of its curtilage acquisitioned for provision of an underpass between Mill Road and Ashtown Road, and for a pedestrian access ramp along Ashtown Road. The primary changes will be an irreversible reduction of private amenity area and setback of existing boundary walls. The sensitivity is 'high' and the magnitude of change is 'very high'. The likely townscape / streetscape and visual effects of the operational phase on this residential property with land acquisition will be *very significant, negative, short-term* and *significant, negative, long-term*.

There will be impacts on non-residential properties throughout the proposed development, most notably at Ashtown, where land at industrial units will be acquired, and land will be acquired from Ashton House. In rural areas between Maynooth and Kilcock substantial areas of agricultural land will be acquired for the proposed depot, CEE compound, the realigned track around Jackson's Bridge (OGB23) and flood attenuation areas. There will be a permanent effect on field and development patterns, an irreversible loss of private open space, and there will be continued effects from trees and other vegetation lost during the construction phase. The sensitivity is 'high' and the magnitude of change is 'very high'. The likely townscape / streetscape and visual effects of the operational phase on properties with permanent land acquisition will be *very significant, negative, short-term* and *significant, negative, long-term*.

Generally, for much of the length of the proposed development the works are contained within the corridor of the railway and there will be limited impacts on properties outside of the immediate area. There is potential

for indirect landscape and visual effects on those properties located adjacent the works which are not included within land acquisition.

In urban areas, where views of the proposals are experienced, they will mostly be seen in the context of an existing railway in a constantly changing urban setting where works for new developments are common. Where new track will be provided to Spencer Dock the proposals will be experienced in the context of a rapidly developing area of composed largely of recent development. The sensitivity is 'medium' / 'high' and the magnitude of change is 'negligible' / 'low'. The likely visual effects of the operational phase on urban properties with no land acquisition, that are along, fronting and viewing the proposed development will be *slight, negative, short-term* and *imperceptible, neutral, long-Term*.

In suburban areas, the more substantial visual effects will arise from changes within open spaces or roads outside of the railway corridor. Suburban areas generally undergo lesser rates of development than urban areas, and therefore the sensitivity to change is higher. There will be visual impacts on property receptors from the presence of the proposals most notably in areas adjoining proposed noise barriers as well as around the proposed Glasnevin substation, the proposed Castleknock substation (Laurel Park), Ashtown station, Coolmine Station, Porterstown level crossing, Clonsilla Station, Leixlip Confey substation at Glendale Estate. The sensitivity is 'high' and the magnitude of change is 'medium'. The likely visual effects of the operational phase on suburban properties with no land acquisition, that are along, fronting and viewing the proposed development, will be *moderate, negative, short-term* and *slight, negative, long-term*.

In rural areas, the rate of change in the landscape is generally less, however, the density of property receptors is lesser than for urban areas and suburban areas. Due to the low-lying nature of the rural areas, visual impacts have greater potential to be mitigated by existing landscape features, such as trees, hedgerows, and by distance. Effects will still arise from proposals within agricultural areas outside of the railway corridor. There will be significant visual impacts for property receptors most notably in areas around the proposed link road at Barberstown, and at the proposed depot and associated new section of double track, road access and link road to R148. The change in the existing landscape and visual environment will be most notable in the area of the proposed depot / CCE compound and associated works, and therefore significant visual impacts will arise for properties – and open sections of the Royal Canal corridor – adjoining this area. These impacts will be heightened by the introduction of night-time lighting. The sensitivity is 'high' and the magnitude of change is 'medium' / 'high'. The likely visual effects of the operational phase on rural properties with no land acquisition, that are along, fronting and viewing the proposed development, will be *moderate / significant, negative, short-term* and *moderate, negative, long-term*.

15.5.2.2.9 Trees, hedgerows and plantings

The proposed development will require substantial removal of existing trees, hedgerows and plantings at a number of locations along the proposed development, most notably at Ashtown, Coolmine, Porterstown, Barberstown and Kilcock / Maynooth for changes to level crossings, provision of bridges / underpasses and the large-scale development at the proposed depot / CCE compound and rail / road access routes. There will also be impacts on trees and plantings from permanent proposals in open spaces as detailed in Section 15.5.1.2.5. The sensitivity is 'high' and the magnitude of change is 'medium'. The likely landscape / townscape and visual effects of the operational phase on trees, hedgerows and plantings will be *moderate, negative, short-term* and *moderate / slight, negative, long-term*.

Table 15-7 Summary of Potential Operational Phase Impacts

Receptor	Baseline Landscape / Townscape Sensitivity	Magnitude of Change	Significance & Quality of Landscape / Townscape / Streetscape Effects / Visual Effects
Landscape, Townscape and Streetscape Character			
Zone A: Loop Line Bridge to Phibsborough/ Glasnevin (on GSWR line) and East Wall Junction (on Northern line)	Medium / High	Low	Slight, Negative, Short-term, Neutral, Long-Term
<ul style="list-style-type: none"> Zone A Subsection 1: Connolly Station and Preston Street 	Medium	Low	Slight, Positive, Short-term and Long-Term
Zone B: Spencer Dock Station to Glasnevin Junction	Medium / High	Medium	Moderate, Negative, Short-term, Slight, Neutral, Long-Term
<ul style="list-style-type: none"> Zone B Subsection 1: Spencer Dock 	Medium / High	Medium	Significant, Positive, Short-term, Moderate, Positive, Long-Term
Zone C: Glasnevin junction/ Phibsborough to Clonsilla Station/Junction	High	Medium / High	Moderate / Significant Negative, Short-term Moderate, Negative, Long-Term
<ul style="list-style-type: none"> Zone C Subsection 1: Ashtown 	High	Very High	Moderate / Significant, Negative, Short-term, Moderate, Negative, Long-Term
<ul style="list-style-type: none"> Zone C Subsection 2: Coolmine Station 	Medium	Medium / High	Moderate / Significant, Negative, Short-term, Moderate, Negative, Long-Term
<ul style="list-style-type: none"> Zone C Subsection 3: Porterstown Level Crossing 	Medium / High	High	Significant, Negative, Short-term, Moderate, Negative, Long-Term
<ul style="list-style-type: none"> Zone C Subsection 4: Clonsilla Station 	Medium / High	High	Significant, Negative, Short-term, Moderate, Negative, Long-Term
Zone D: Clonsilla Station/Junction to M3 Parkway Station	Medium	Low / Medium	Slight, Moderate, Negative, Short-term Slight, Negative, Long-Term
Zone E: Clonsilla Station/Junction to Maynooth Station	Medium	Medium	Moderate, Negative, Short-term, Slight, Negative, Long-Term
<ul style="list-style-type: none"> Zone E Subsection 1: Barberstown Level Crossing 	High	High	Significant, Negative, Short-term, Moderate, Negative, Long-Term
Zone F: Maynooth Station to Depot	Medium	Very High	Significant, Negative, Short-term and Long-Term
Landscape, Townscape and Streetscape Characteristics and Visual Impacts			
Architectural Conservation Areas (ACAs)	High	Negligible	Imperceptible, Neutral

Receptor		Baseline Landscape / Townscape Sensitivity	Magnitude of Change	Significance & Quality of Landscape / Townscape / Streetscape Effects / Visual Effects
Conservation Areas	Royal Canal Conservation Area	High	Medium	Moderate, Negative, Short-term, Slight, Negative, Long-Term
Residential Conservation Areas	Residential Conservation Areas in North Strand, Clonliffe Road, Drumcondra and Phibsborough	High	Low	Slight, Negative, Short-term, Slight, Neutral, Long-Term
Protected structures	Connolly Station (RPS No. 130)	High	Low	Slight, / Moderate, Positive, Short-term, Slight, Positive, Long-Term
	Binns' Bridge (RPS No. 908)	High	Low	Slight, Negative, Short-term, Slight, Neutral, Long-Term
	Newcomen Bridge (RPS No. 911)	Medium / High	Negligible	Not Significant, Negative Short-term, Not Significant, Neutral, Long-Term
	Clarke's Bridge (RPS No. 910)	High	Negligible	Not Significant, Negative, Short-term, Not Significant, Neutral, Long-Term
	Broombridge Road bridge (RPS No. 909)	High	Low	Slight, Negative, Short-term, Slight, Neutral, Long-Term
	Ashton House (RPS No. 690)	High	High	Significant, Negative, Short-term, Moderate, Negative, Long-Term
	Ashtown Mill (RPS No. 691), Royal Canal 10 th Lock (RPS No. 944b) and Longford Bridge (RPS No. 693).	High	High	Significant, Negative, Short-term, Moderate, Negative, Long-Term
	Granard Bridge, OBG11 (RPS No. 696)	High	Negligible	Not Significant, Negative, Short-term, Not Significant, Neutral, Long-Term
	Former Clonsilla School (RPS No. 700), Kennan Bridge (RPS No. 698) and Lock Keeper's Cottage (RPS No. 699).	High	High	Significant, Negative, Short-term, Moderate, Negative, Long-Term
	Callaghan Bridge (RPS No. 706), Clonsilla Signal Box & Overbridge (OBG12; RPS No. 707).	High	Medium / High	Moderate / Significant, Negative, Short-term, Moderate, Negative, Long-Term
	Barnhill Bridge, OBCN286 (RPS no. 712)	High	Negligible	Slight, Negative, Short-term, Imperceptible, Neutral, Long-Term

Receptor		Baseline Landscape / Townscape Sensitivity	Magnitude of Change	Significance & Quality of Landscape / Townscape / Streetscape Effects / Visual Effects
	Deey Bridge and Lock (RPS no. B06-14)	High	Low	Slight / Moderate, Negative, Short-term, Slight, Negative, Long-Term
Amenity Designations	St Vincent's School grounds	High	Medium	Moderate, Negative, Short-term, Slight / Moderate, Negative, Long-Term
	Martin Savage Park	High	Medium / High	Significant, Negative, Short-term, Moderate, Negative, Long-Term
	Laurel Lodge	High	High	Significant, Negative, Short-term, Moderate, Negative, Long-Term
	Sycamore Green	High	High	Significant, Negative, Short-term, Moderate, Negative, Long-Term
	St. Catherine's Park	High	Negligible	Imperceptible, Neutral, Long-Term
	Glendale	High	High	Significant, Negative, Short-term, Moderate, Negative, Long-Term
	Confey GAA Club	High	High	Moderate, Negative, Short-term, Slight / Moderate, Negative, Long-Term
	Royal Canal	High	High	Significant, Negative, Short-term, Moderate, Negative, Long-Term
	St Mochta's Football Club	Medium	Medium	Moderate, Negative, Short-term, Slight, Negative, Long-Term
	Open space / high amenity area at Barberstown	High	High	Significant, Negative, Short-term, Moderate / Significant, Negative, Long-Term
Tree Preservation Orders / tree Protection Objectives	Tree Preservation Objectives at Barberstown	High	Negligible	Imperceptible, Neutral, Long-Term
Preserved Views / Scenic Views etc.	Protected views to and from bridges along the Royal Canal	High	Medium / High	Moderate / Significant, Negative, Long-Term
Properties	Residential property with permanent land acquisition	High	Very high	Very Significant, Negative, Short-term, Significant, Negative, Long-Term

Receptor		Baseline Landscape / Townscape Sensitivity	Magnitude of Change	Significance & Quality of Landscape / Townscape / Streetscape Effects / Visual Effects
	Non-residential properties with permanent land acquisition	High	Very High	Very Significant, Negative, Short-term, Significant, Negative, Long-Term
	Urban properties along, fronting and viewing the proposed development, not included in land acquisition.	Medium / High	Negligible / Low	Slight, Negative, Short-term, Imperceptible, Neutral, Long-Term
	Suburban properties along, fronting and viewing the proposed development, not included in land acquisition.	High	Medium	Moderate, Negative, Short-term, Slight, Negative, Long-Term
	Rural properties along, fronting and viewing the proposed development, not included in land acquisition.	High	Medium / High	Moderate / Significant, Negative, Short-term, Moderate, Negative, Long-Term
Trees and Vegetation	Individual trees, groups of trees and hedgerows along the corridor of the proposed development.	High	Medium	Moderate, Negative, Short-term, Slight / Moderate, Negative, Long-Term

15.6 Mitigation Measures

15.6.1 Introduction

This section describes mitigation and monitoring measures which are proposed to ameliorate, remediate or reduce significant landscape (townscape) and visual impacts from the construction and operational phases wherever possible.

15.6.2 Construction Phase

A series of mitigation and management measures are proposed to avoid, reduce or remediate, wherever practicable significant negative landscape (townscape) and visual effects of the construction phase of the proposed development. These measures are to be applied across the proposed development wherever necessary to avoid disturbance of landscape features or characteristics to be retained. Generally, the effect rating post-mitigation will be the same as pre-mitigation, however the measures proposed should still be applied as necessary to manage the potential effects of construction activities. A summary of predicted construction phase effects following the implementation of mitigation and monitoring measures is listed in Table 15-8.

1. Prior to commencement of the works an Arboricultural Impact Assessment will be produced for the area of the proposed development, as well as for any adjoining areas where trees are likely to be impacted by the works, in accordance with British Standard Institution (BSI) British Standard (BS) 5837:2012 'Trees in relation to in relation to design, demolition and construction - Recommendations' (BSI 2012).
2. All trees and vegetation to be retained within and adjoining the works area will be protected in accordance with the British Standard Institution (BSI) British Standard (BS) 5837:2012 'Trees in relation to in relation to design, demolition and construction - Recommendations' (BSI 2012). Works required within the root protection area (RPA) of trees to be retained will follow a project-specific

arboricultural methodology for such works, which will be prepared by a professional qualified arborist.

3. Wherever possible, trees and vegetation will be retained within the proposed development. Trees and vegetation identified for removal will be removed in accordance with 'BS 3998:2010 Tree Work – Recommendations' (BSI 2010) and best arboricultural practices as detailed and monitored by a professional qualified arborist. Details of trees and vegetation to be removed will be included in the Arboricultural Impact Assessment Report (and associated Tree Protection Plans) as set out above.
4. The Arboricultural Assessment to be prepared as part of mitigation for the proposed development will be fully updated at the end of the construction phase and made available, with any recommendations for on-going monitoring of retained trees during the operational phase; Where properties are subject to permanent and / or temporary acquisition (as noted in Sections 15.5.1.2.8 and 15.5.2.2.8), an inventory of existing boundary details and accesses, planting, paving, and other features that may be disturbed or removed will be prepared prior to commencement of construction works.
5. Where properties are subject to permanent and / or temporary acquisition (as noted in Sections 15.1.1.10.8 and 15.1.1.12.8), appropriate measures will be put in place to provide for protection of features, trees and vegetation to be retained, and for continued access during construction, for adequate security and screening of construction works. All temporary acquisition areas will be decommissioned and reinstated at the end of the construction phase.

In addition to the above measures, construction works will be managed by the implementation of a Construction Environmental Management Plan (CEMP) - refer to Appendix A5.1 in Volume 4 of the EIAR). This provides the environmental management framework to be adhered to during construction of the proposed development.

It is acknowledged that in some cases mitigation of effects on townscape and visual characteristics is neither possible nor practicable – for example, it is not practicable to provide landscape mitigation for the loss of land from properties, or to provide mitigation for the loss of mature trees in the short / medium-term, and therefore, these effects are residual. While not considered to be a landscape-specific mitigation measure, all land acquisition will be the subject of compensation. This is detailed further in Chapter 16 and Chapter 17 in Volume 2 of this EIAR.

15.6.2.1 Summary of Predicted Construction Effects

A summary of the predicted construction phase landscape and visual impacts following implementation of mitigation measures and monitoring is set out in Table 15-8.

Table 15-8 Summary of Potential Construction Phase Impacts Following the Implementation of Mitigation and Monitoring Measures

Receptor	Baseline Landscape / Townscape Sensitivity	Magnitude of Change	Significance & Quality of Landscape / Townscape / Streetscape Effects / Visual Effects
Landscape, Townscape and Streetscape Character			
Zone A: Loop Line Bridge to Phibsborough/ Glasnevin (on GSWR line) and East Wall Junction (on Northern line)	Medium	Low	Slight, Negative, Temporary / Short-term
Zone B: Spencer Dock Station to Glasnevin Junction	Medium / High	Medium	Moderate, Negative, Temporary / Short-term
Zone C: Glasnevin junction/ Phibsborough to Clonsilla Station/Junction	High	Medium	Moderate, Negative, Temporary / Short-term
• Zone C Subsection 1: Ashtown	High	Very High	Significant, Negative, Short-Term

Receptor		Baseline Landscape / Townscape Sensitivity	Magnitude of Change	Significance & Quality of Landscape / Townscape / Streetscape Effects / Visual Effects
• Zone C Subsection 2: Coolmine Station		Medium	High	Significant, Negative, Temporary / Short-term
• Zone C Subsection 3: Porterstown Level Crossing		Medium / High	High	Significant, Negative, Temporary / Short-term
• Zone C Subsection 4: Clonsilla Station		Medium / High	High	Significant, Negative, Temporary / Short-term
Zone D: Clonsilla Station/Junction to M3 Parkway Station		Medium	Low / Medium	Slight, Negative, Temporary / Short-term
Zone E: Clonsilla Station/Junction to Maynooth Station		Medium	Medium	Moderate, Negative, Short-term
• Zone E Subsection 1: Barberstown Level Crossing		High	High	Significant, Negative, Short-Term
Zone F: Maynooth Station to Depot		Medium	Very High	Very Significant, Negative, Temporary / Short-Term
Landscape, Townscape and Streetscape Characteristics and Visual Impacts				
Architectural Conservation Areas (ACAs)		High	Negligible	Imperceptible, Negative
Conservation Areas	Royal Canal Conservation Area	High	High	Significant, Negative, Short-Term
Residential Conservation Areas	Residential Conservation Areas in North Strand, Clonliffe Road, Drumcondra and Phibsborough	High	Low	Slight, Negative, Temporary / Short-term
Protected structures	Connolly Station (RPS No. 130)	High	Low	Slight, Negative, Temporary
	Binns' Bridge (RPS No. 908)	High	Medium / High	Moderate / Significant, Negative, Temporary
	Newcomen Bridge (RPS No. 911)	Medium / High	Low	Slight, Negative, Temporary
	Clarke's Bridge (RPS No. 910)	High	Low	Slight, Negative, Temporary
	Broombridge Road bridge (RPS No. 909)	High	Medium / High	Moderate / Significant Negative, Temporary / Short-term
	Ashton House (RPS No. 690)	High	Very High	Significant, Negative, Short-Term
	Ashtown Mill (RPS No. 691), Royal Canal 10 th Lock (RPS No. 944b) and Longford Bridge (RPS No. 693).	High	Medium / High	Moderate / Significant, Negative, Temporary / Short-Term
	Granard Bridge, OBG11 (RPS No. 696)	High	High	Significant, Negative, Short-term
Former Clonsilla School (RPS No. 700), Kennan Bridge (RPS No. 698) and Lock Keeper's Cottage (RPS No. 699).		High	High	Significant, Negative, Short-Term

Receptor		Baseline Landscape / Townscape Sensitivity	Magnitude of Change	Significance & Quality of Landscape / Townscape / Streetscape Effects / Visual Effects
	Callaghan Bridge (RPS No. 706), Clonsilla Signal Box & Overbridge (OBG12; RPS No. 707).	High	High	Significant, Negative, Short-Term
	Barnhill Bridge, OBCN286 (RPS no. 712)	High	Medium	Moderate, Negative, Temporary / Short-Term
	Deey Bridge and Lock (RPS no. B06-14)	High	Low / Medium	Slight / Moderate, Negative, Temporary / Short-Term
Amenity Designations	St Vincent's School grounds	High	Medium / High	Moderate / Significant, Negative, Short-Term
	Martin Savage Park	High	Medium / High	Moderate, Negative, Short-Term
	Ashleigh Green	High	Medium	Moderate / Significant, Negative, Short-Term
	Laurel Lodge	High	High	Significant, Negative, Short-Term
	Sycamore Green	High	Medium / High	Moderate Negative, Short-Term
	St. Catherine's Park	High	Negligible / Low	Imperceptible / Slight, Neutral / Negative, Temporary /
	Glendale and Confey GAA Club	High	Very High	Significant, Negative, Short-Term
	Royal Canal	High	High	Significant, Negative, Short-Term
	St Mochta's Football Club	Medium	Medium	Moderate, Negative, Short-Term
	Open space / high amenity area at Barberstown	High	Very High	Very Significant, Negative, Short-Term
Tree Preservation Orders / tree Protection Objectives	Tree Preservation Objectives at Barberstown	High	Negligible	Imperceptible, Neutral, Short-Term
Preserved Views / Scenic Views etc.	Protected views to and from bridges along the Royal Canal	High	High	Significant, Negative, Short-Term
Properties	Residential properties with temporary / permanent land acquisition	High	High	Significant, Negative, Short-Term
	Non-residential properties with temporary / permanent land acquisition	High	High	Significant, Negative, Short-Term
	Urban properties along, fronting and viewing the proposed development not included in land acquisition.	Medium / High	Low	Slight, Negative, Temporary / Short-Term
	Suburban properties along, fronting and viewing the	High	Medium / High	Moderate / Significant, Negative,

Receptor		Baseline Landscape / Townscape Sensitivity	Magnitude of Change	Significance & Quality of Landscape / Townscape / Streetscape Effects / Visual Effects
	proposed development not included in land acquisition.			Temporary / Short-Term
	Rural properties along, fronting and viewing the proposed development not included in land acquisition.	High	Medium / High	Moderate / Significant, Negative, Temporary / Short-Term
Trees and Vegetation	Individual trees, groups of trees and hedgerows along the corridor of the proposed development.	High	High	Significant, Negative, Temporary / Short-term

15.6.3 Operational Phase

Mitigation measures are proposed to avoid, reduce or remediate, wherever possible significant negative landscape and visual effects of the operation phase of the proposed development. A detailed description of the proposed development is provided in Chapter 4 Description of the Proposed Development in Volume 2 of this EIAR.

General Mitigation Measures

In addition to the management of all operation phases works in accordance with best methodologies and practice, that following general measures are proposed for the mitigation of landscape / townscape and visual impacts:

1. Where existing trees, hedges, and/or plantings are removed, new planting will be provided in replacement of those removed. In general, unless not feasible or practicable, new plant species will match those removed. Replacement plant sizes will be those that are readily available and therefore, are unlikely to match the maturity of plants removed (especially in the case of trees or larger plants). However, being of the same or similar species, maturity similar to that of the existing can be achieved in time.
2. The proposed development will provide for the planting of new trees and shrubs both for mitigation of tree removal and for overall enhancement of the environment. Where proposals intrude on public space there shall be ample provision of bands of screening trees and other vegetation. Species selected shall be appropriate to the characteristics of the specific location.
3. Proposals for the treatment of the public realm within the streetscape effected by the proposed development will have regard to the existing character of the street or location, to emerging policies, objectives and proposals for the public realm and to opportunities for enhancement of the public realm and the streetscape. Proposals will have regard to historic details and features, to the quality of existing and proposed materials, to the reduction of clutter, ease of legibility, and management and maintenance requirements.
4. Landscape proposals will have regard to the mitigation measures of Chapter 8 Biodiversity in relation to opportunities for enhancement of biodiversity and of Chapter 10 Water in relation to opportunities for incorporation of Sustainable Urban Drainage Systems (SuDS).
5. Maintenance and monitoring of reinstatement works in public areas will ensure that any defective materials or workmanship will be made good within a period of 12 months from completion of all construction works in any given area. Thereafter, responsibility for maintenance and monitoring of the area will revert to the landowner (e.g. local authority).
6. All aspects of the proposed development within public areas will revert to on-going management and maintenance in according with normal operational practices by the landowner / tenant. This will include hard and soft landscape works and townscape measures, new and reinstated tree and other planting, new and reinstated surfacing and paving, etc.;

7. Unless otherwise requested by the property owner, maintenance and monitoring of reinstatement and hard and soft landscape works and reinstated and new boundaries in private areas (i.e. temporary acquisition areas) will ensure that any defective materials or workmanship will be made good within a period of 12 months following completion of the works in property. Thereafter, responsibility for maintenance and monitoring of private areas will revert to the landowner.

Specific Mitigation Measures

In addition to the above general landscape mitigation measures, the following specific landscape mitigation measures will be implemented.

1. At Connolly Station there will be enhancements to the urban realm at Preston Street with the introduction of new granite pavement and kerbs, replacing the current asphalt and sidewalks and the provision of street furniture (benches and bins), street lighting and street trees.
2. At the proposed Glasnevin substation there will be the reinstatement of boundary tree / shrub planting to the boundary with Clareville Court, and establishment of native tree, shrub and hedgerow planting to the boundaries with the open space of St. Vincent's School grounds to provide screening and further discourage access.
3. At Ashtown, where practicable, there will be the establishment, of new tree, shrub and hedgerow planting to replace trees lost during construction, and to screen and integrate the substation and bridge structures into the landscape. There will provision of an enhanced public realm in the proposed pedestrian and cycle accessible areas around the station, including new high-quality paving to Longford Bridge over the Royal Canal.
4. At Ashton House, the existing entrance gates, railings, piers and boundary wall will be reinstated at a setback location. New tree planting will be provided where existing planting is removed or disturbed on the boundary.
5. Temporary land acquisition areas at Ashleigh Green will be reinstated and replacement trees will be provided to the northern boundary to replace those removed during construction.
6. At the proposed Castleknock substation (Laurel Lodge) there will be establishment of new tree, shrub and hedgerow planting to the boundaries with the open space to integrate the structures into the landscape and compensate for trees removed during construction. Provision of tree groups within the adjacent open space will help to further screen the proposals and add to the landscape amenity.
7. At the proposed Coolmine substation (Sycamore Green) there will be establishment of new tree, shrub and hedgerow planting to the boundaries with the open space to integrate the structures into the landscape and compensate for trees removed during construction. Provision of tree groups within the adjacent open space will help to further screen the proposals and add to the landscape amenity.
8. At Coolmine Station there will be the provision of a high-quality urban realm with block paving to shared pedestrian / cycle access, new seating, street furniture, street tree planting, raised planters, ornamental planting, native trees / shrub planting, and species-rich grassland. Water management will be integrated into the landscape with planted bioswales taking runoff from the car park and road.
9. At Porterstown, the new bridge structure will be better integrated into the landscape through provision of screening native trees / and shrubs where feasible.
10. At Clonsilla there will be the provision of high-quality urban realm to the junction of Hansfield Road and Clonsilla Road, with block paving to shared pedestrian / cycle access and pedestrian crossings, new seating, street furniture, street tree planting, raised planters, ornamental planting, native trees / shrub planting. There will be native tree / shrub planting to the area surrounding the southern ramp of the proposed bridge to aid in integrating the structure into the landscape, and to aid in compensating for trees removed during construction.
11. At the proposed Hansfield substation there will be native hedgerow planting to the boundaries with the surrounding agricultural area to aid in integrating the structure into the landscape.
12. At the proposed Dunboyne substation there will be native tree and shrub planting to the boundaries with the surrounding areas to aid in integrating the structure into the landscape.

13. At the M3 Parkway substation there will be hedgerow planting to the boundaries with the surrounding areas to aid in integrating the structure into the landscape.
14. At the proposed link road at Barberstown there will be substantial native tree and shrub planting to the proposed embankments and other roadside areas, to provide screening of road, aid integration into the surrounding landscape, reconnect severed hedgerows and replace hedgerows removed during construction. Bands of planting to have a minimum width of 3m and to join adjacent field boundaries.
15. There will be establishment of new hedgerow and tree planting to the northern boundary with the railway in lands east of St. Catherine's Park to replace the vegetation removed during the works.
16. At Leixlip Confey substation there will be establishment of new tree, shrub and hedgerow planting to the boundaries with the surrounding open space to aid in integrating the structures into the landscape, and compensate for trees removed during construction. A green roof will be provided to the substation building to reduce visual impacts on overlooking receptors on Cope Bridge.
17. At Confey GAA Club the existing pitch will be adjusted, safety net reinstated and the permanent boundary established at the new boundary line.
18. At the proposed Blakestown substation there will be native hedgerow planting to the boundaries with the surrounding agricultural area to aid in integrating the structure into the landscape.
19. There will be establishment of new native tree, shrub and hedgerow planting to the boundaries of the proposed double track connecting to the depot to aid in screening of the tracks, aid in integration into the surrounding landscape, reconnect severed hedgerows and replace hedgerows removed during construction.
20. There will be establishment of new native tree, shrub and hedgerow planting to the boundaries of the proposed depot / CCE Compound to aid in screening of the operational areas, buildings and fencing, as well as aiding integration into the surrounding landscape, reconnect severed hedgerows and compensate for loss of hedgerows during construction. A 4m band of tree / shrub planting is proposed as standard to all the boundaries, with the exception of overhead powerline wayleaves and access points. Wider bands of planting will be provided to the northern boundary of the depot where possible to provide maximum screening from the adjacent canal. Tree planting, including fastigiate trees with a narrow habit, are proposed within the compound area to further screen the proposals.
21. There will be hedgerows proposed to the perimeters of the attenuation ponds, adjacent to the depot, to aid in integration into the surrounding landscape, reconnect severed hedgerows and replace hedgerows removed during construction.

15.6.3.1 Summary of Predicted Operational Effects

Following the establishment of mitigation measures, most notably from the growth of replacement / screening vegetation but also due to gradual acceptance of the proposed changes by receptors, the proposed development will become increasingly integrated within its landscape (townscape) setting. This will result in the gradual mitigation of potential negative operational phase effects over time. A summary of the predicted operation phase landscape and visual impacts following implementation of mitigation measures and monitoring is set out in Table 15-9.

Table 15-9 Summary of Predicted Operational Phase Impacts Following the Implementation of Mitigation and Monitoring Measures

Receptor	Baseline Landscape / Townscape Sensitivity	Magnitude of Change	Significance & Quality of Landscape / Townscape / Streetscape Effects / Visual Effects	
			Pre-mitigation	Post-Mitigation (at 15 years post-construction)
Landscape, Townscape and Streetscape Character				
Zone A: Loop Line Bridge to Phibsborough/ Glasnevin (on GSWR line) and East Wall Junction (on Northern line)	Medium / High	Low	Slight, Negative, Long-Term	Slight, Neutral, Long-Term
<ul style="list-style-type: none"> Zone A Subsection 1: Connolly Station and Preston Street 	Medium	Low	Slight, Positive, Short-term	Slight / Moderate, Positive, Long-Term
Zone B: Spencer Dock Station to Glasnevin Junction	Medium / High	Medium	Moderate, Negative, Short-term	Slight, Neutral, Long-Term
<ul style="list-style-type: none"> Zone B Subsection: Spencer Dock 	Medium / High	Medium	Significant, Positive, Short-term	Significant, Positive, Long-Term
Zone C: Glasnevin junction/ Phibsborough to Clonsilla Station/Junction	High	Medium / High	Moderate / Significant Negative, Short-term	Slight, Negative, Long-Term
<ul style="list-style-type: none"> Zone C Subsection 1: Ashtown 	High	Very High	Moderate / Significant, Negative, Short-term	Moderate, Neutral, Long-Term
<ul style="list-style-type: none"> Zone C Subsection 2: Coolmine Station 	Medium	Medium / High	Moderate / Significant, Negative, Short-term	Moderate, Neutral, Long-Term
<ul style="list-style-type: none"> Zone C Subsection 3: Porterstown Level Crossing 	Medium / High	High	Significant, Negative, Short-term	Slight, Negative, Long-Term
<ul style="list-style-type: none"> Zone C Subsection 4: Clonsilla Station 	Medium / High	High	Significant Negative Short-term	Moderate, Neutral, Long-Term
Zone D: Clonsilla Station/Junction to M3 Parkway Station	Medium	Low / Medium	Slight / Moderate Negative, Short-term	Slight, Neutral, Long-Term
Zone E: Clonsilla Station/Junction to Maynooth Station	Medium	Medium	Moderate, Negative, Short-term	Slight, Negative, Long-Term
<ul style="list-style-type: none"> Zone E Subsection 1: Barberstown Level Crossing 	High	High	Significant, Negative, Short-term	Slight, Negative, Long-Term

Receptor		Baseline Landscape / Townscape Sensitivity	Magnitude of Change	Significance & Quality of Landscape / Townscape / Streetscape Effects / Visual Effects	
				Pre-mitigation	Post-Mitigation (at 15 years post-construction)
Zone F: Maynooth Station to Depot		Medium	Very High	Significant, Negative, Short-term	Slight / Moderate Negative, Long-Term
Landscape, Townscape and Streetscape Characteristics and Visual Impacts					
Architectural Conservation Areas (ACAs)		High	Negligible	Negligible, Neutral	Imperceptible, Neutral
Conservation Areas	Royal Canal Conservation Area	High	Medium	Moderate, Negative, Short-term	Slight, Neutral, Long-Term
Residential Conservation Areas	Residential Conservation Areas in North Strand, Clonliffe Road, Drumcondra and Phibsborough	High	Low	Slight, Negative, Short-term	Slight, Neutral, Long -Term
Protected structures	Connolly Station (RPS No. 130)	High	Low	Slight, Positive, Short-term	Moderate, Positive, Long-Term
	Binns' Bridge (RPS No. 908)	High	Low	Slight Negative Short-term	Slight Neutral Long -Term
	Newcomen Bridge (RPS No. 911)	Medium / High	Negligible	Not Significant, Negative Short-term	Not Significant, Neutral, Long-Term
	Clarke's Bridge (RPS No. 910)	High	Negligible	Not Significant Negative Short-term	Not Significant Neutral Long-Term
	Broombridge Road bridge (RPS No. 909)	High	Low	Slight, Negative, Long-Term	Slight, Neutral, Long-Term
	Ashton House (RPS No. 690)	High	Medium / High	Significant, Negative, Short-term	Slight, Negative, Long-Term
	Ashtown Mill (RPS No. 691), Royal Canal 10 th Lock (RPS No. 944b) and Longford Bridge (RPS No. 693).	High	Medium	Moderate, Negative, Short-term	Slight, Negative, Long-Term
	Granard Bridge, OBG11 (RPS No. 696)	High	Negligible	Not Significant, Negative, Short-term	Not Significant, Neutral, Long-Term
	Former Clonsilla School (RPS No. 700), Kennan Bridge (RPS No. 698) and	High	High	Significant, Negative, Short-term	Slight / Moderate, Negative,

Receptor	Baseline Landscape / Townscape Sensitivity	Magnitude of Change	Significance & Quality of Landscape / Townscape / Streetscape Effects / Visual Effects		
			Pre-mitigation	Post-Mitigation (at 15 years post-construction)	
	Lock Keeper's Cottage (RPS No. 699).				Long-Term
	Callaghan Bridge (RPS No. 706), Clonsilla Signal Box & Overbridge (OBG12; RPS No. 707).	High	Medium / High	Moderate, Negative, Short-term	Slight, Negative, Long-Term
	Barnhill Bridge, OBCN286 (RPS no. 712)	High	Negligible	Slight, Negative, Short-term	Imperceptible, Neutral, Long-Term
	Deey Bridge and Lock (RPS no. B06-14)	High	Low	Slight / Moderate, Negative, Short-term	Slight, Neutral, Long-Term
Amenity Designations	St Vincent's School grounds	High	Medium	Moderate, Negative, Short-term	Slight, Negative, Long-Term
	Martin Savage Park	High	Medium / High	Moderate, Negative, Short-term	Slight, Negative, Long-Term
	Laurel Lodge	High	High	Moderate, Negative, Short-term	Slight, Negative, Long-Term
	Sycamore Green	High	High	Significant, Negative, Short-term	Slight, Negative, Long-Term
	St. Catherine's Park	High	Medium / High	Negligible	Imperceptible, Neutral, Long-Term
	Glendale	High	High	Significant, Negative, Short-term-Term	Slight, Negative, Long-Term
	Confey GAA Club	High	Medium / High	Moderate, Negative, Short-term-Term	Slight / Moderate, Negative, Long-Term
	Royal Canal	High	High	Significant, Negative, Short-term	Slight, Negative, Long-Term
	St Mochta's Football Club	Medium	Medium	Moderate, Negative, Short-term	Slight, Neutral, Long-Term
	Open space / high amenity area at Barberstown	High	High	Significant, Negative,	Slight, Negative,

Receptor	Baseline Landscape / Townscape Sensitivity	Magnitude of Change	Significance & Quality of Landscape / Townscape / Streetscape Effects / Visual Effects		
			Pre-mitigation	Post-Mitigation (at 15 years post-construction)	
				Short-term	Long-Term
Tree Preservation Orders / tree Protection Objectives	Tree Preservation Objectives at Barberstown	High	Negligible	Negligible, Neutral, Short-term	Imperceptible, Neutral, Long-Term
Preserved Views / Scenic Views etc.	Protected views to and from bridges along the Royal Canal	High	Medium / High	Moderate, Negative, Short-term	Slight, Negative, Long-Term
Properties	Residential property with permanent land acquisition	High	Very high	Significant, Negative, Short-term	Moderate, Negative, Long-Term
	Non-residential properties with permanent land acquisition	High	Very High	Significant, Negative, Short-term	Slight / Moderate, Negative, Long-Term
	Urban properties along, fronting and viewing the proposed development not included in land acquisition.	Medium / High	Negligible / Low	Slight, Negative, Short-term	Imperceptible, Neutral, Long-Term
	Suburban properties along, fronting and viewing the proposed development not included in land acquisition.	High	Medium	Moderate Negative, Short-term	Slight Neutral, Long-Term
	Rural properties along, fronting and viewing the proposed development not included in land acquisition.	High	Medium / High	Moderate, Negative, Short-term	Slight, Negative, Long-Term
Trees and Vegetation	Individual trees, groups of trees and hedgerows along the corridor of the proposed development.	High	Medium	Significant, Negative, Short-term	Slight, Negative, Long-Term

15.7 Residual Effects

Following implementation and establishment of mitigation measures the landscape, townscape, streetscape and / or visual receptors assessed as having post-mitigation residual negative impacts of moderate or greater significance are set out in Table 15-10.

Table 15-10 Summary of Significant Residual Operational Phase Impacts (With mitigation at 15 years post-construction)

Receptor	Baseline Landscape / Townscape Sensitivity	Magnitude of Change	Significance & Quality of Landscape / Townscape / Streetscape Effects / Visual Effects	
Landscape, Townscape and Streetscape Character				
• Zone B Subsection: Spencer Dock	Medium / High	Medium	Significant, Positive, Long-Term	
• Zone C Subsection 3: Ashtown	High	Very High	Moderate, Neutral, Long-Term	
• Zone C Subsection 3: Coolmine Station	Medium / High	Medium / High	Moderate, Neutral, Long-Term	
• Zone C Subsection 4: Clonsilla Station	Medium / High	High	Moderate, Neutral, Long-Term	
• Zone E Subsection 1: Barberstown Level Crossing	High	High	Moderate, Negative, Long-Term	
• Zone F Maynooth Station to Maynooth Depot	Medium	Very High	Slight / Moderate, Negative, Long-term	
Landscape, Townscape and Streetscape Characteristics and Visual Impacts				
Protected Structures	Connolly Station	High	Low	Moderate, Positive, Long-Term
Protected Structures	Former Clonsilla School (RPS No. 700), Kennan Bridge (RPS No. 698) and Lock Keeper's Cottage (RPS No. 699).	High	High	Slight / Moderate, Negative, Long-term
Properties	Residential property with permanent land acquisition	High	Very high	Moderate, Negative, Long-Term
	Non-residential properties with permanent land acquisition	High	Very High	Slight / Moderate, Negative, Long-Term

15.7.1 Photomontages

Photomontages have been prepared from key or illustrative viewpoints across the full extent of the proposed development. These views assist in providing an indication of the changes and potential effects resulting from the proposed development during the operational phase after the implementation of the scheme. The proposed views are shown with proposed planting / mitigation at approximately 10 to 15 years post-completion of the construction phase. The Photomontages have been prepared in accordance with the methodology set out in Section 15.3.3.6 and are included in Volume 3B of this EIAR.

15.8 Cumulative Effects

15.8.1 Introduction

The 'Tier 1' cumulative intra-project effects on townscape and landscape areas resulting from the proposed development are described in the following Section 15.8.1.1. To illustrate the worst-case cumulative impact effects are considered without the implementation of landscape mitigation measures. Intra-project effects on individual or grouped receptor types are described within the potential and predicted effects sections, Section 15.5 and Section 15.7.

Cumulative effects for Tier 2 to 4 (inter-project effects) are described in Chapter 26 Cumulative Effects in Volume 2 of this EIAR.

15.8.1.1 Tier 1 Effects

Cumulative effects arising for the landscape / townscape and visual resource vary depending on the characteristics of the receiving environment. The proposed development will pass through three distinct landscapes / townscapes with associated visual qualities and sensitivities: Urban areas; suburban areas; and rural areas.

In urban areas the proposed development will be experienced in the context of a constantly changing urban townscape where new developments frequently take place. Within this urban townscape area, the changes will occur largely within the existing railway corridor and impacts on the surrounding areas will be limited by a combination of the spatially contained nature of the railway, such as where it passes through cuttings, and the generally highly visually restrictive character of the surrounding built form. Impacts will generally be localised and cumulative impacts will be limited. There will be no significant intra-project cumulative effects on the urban townscape and the visual receptors within the area. During the operational phase, and the establishment of mitigation measures, the effects will become neutralised as the changes are integrated into the townscape. The sensitivity is 'medium' / 'high' and the magnitude of change is 'low'. The likely construction phase cumulative effects on the urban townscape area will be *slight, negative, short-term*. The likely operational phase cumulative effects on the urban townscape area will be *slight, neutral, long-term*.

In suburban areas, there is a lower rate of change from new developments and the sensitivity to change is higher. In comparison with urban areas, there will be more substantial changes to open spaces or roads outside of the railway corridor. There will be impacts on receptors from the presence of the works most notably in areas around the proposed Glasnevin substation, Ashtown station, the proposed Castleknock substation (Laurel Park), Coolmine Station, Porterstown level crossing and Clonsilla Station. Due to the moderately enclosed nature of the suburban environment the effects will be localised but not as constrained as for urban areas and cumulative effects are more likely to arise. The sensitivity is 'high' and the magnitude of change is 'medium'. The likely construction phase cumulative effects on suburban townscape areas will be *moderate, negative, short-term*. The likely operational phase cumulative effects on suburban townscape areas will be *moderate, negative, long-term*.

In rural areas, there is generally a very low rate of change from new developments, however, potential receptors are less densely spaced and the landscape is low lying with frequent screening features in the forms of hedgerows and trees. There will be impacts on receptors from the proposals, most notably in areas around the proposed link road at Barberstown, and at the proposed depot and associated double track, road access and link road to R148. The sensitivity is 'high' and the magnitude of change is 'medium' / 'high'. The likely construction phase cumulative effects on rural landscape areas will be *moderate, negative, short-term*. The likely operational phase cumulative effects on suburban townscape areas will be *moderate, negative, long-term*.

15.9 References

Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment.

British Standards Institution (BSI) (2010). BS 3998:2010 'Tree Work – Recommendations'.

British Standards Institution (BSI) (2012) BS 5837:2012 'Trees in relation to in relation to design, demolition and construction. Recommendations'.

Department of Housing, Local Government and Heritage [DHLGH] (2018a) Project Ireland 2040 - National Development Plan 2018-2027

Department of Housing, Local Government and Heritage [DHLGH] (2019) Project Ireland 2040 - The National Planning Framework.

Department of Housing, Planning and Local Government [DHPLG] (2018b) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment ('GEIA') (DHPLG 2018).

Dublin City Council DCC (2016a) Dublin City Development Plan 2016 - 2022

Dublin City Council DCC (2016b) Dublin City Tree Strategy 2016 - 2020

Dublin City Council DCC (2019) Dublin City Parks Strategy 2019 - 2022

Dublin City Council DCC (2022) Draft Dublin City Development Plan 2022-2028

EMRA (2019) Eastern and Midlands Regional Spatial and Economic Strategy 2019 - 2031

Environmental Protection Agency [EPA] (2022) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports ('EPA Guidelines').

EPA (2020/21). EPA Maps [Online] Available from gis.epa.ie/EPAMaps

European Landscape Convention 2000

European Union (Railway Orders) (Environmental Impact Assessment) (Amendment) Regulations 2021 (S.I. No. 743/2021)

Fingal County Council (2017) Fingal Development Plan 2017 - 2023

Fingal County Council (2022) Draft Fingal Development Plan 2023 - 2029.

Google (2020/21). Google Maps [Online] Available from www.google.com/maps

KCC (2017) Kildare Development Plan 2017 - 2023

Kildare County Council (2017) County Kildare Development Plan 2017 - 2023.

Kildare County Council (2022) Draft County Kildare Development Plan 2023 - 2029.

Landscape Institute (2018) Technical Information Note 05/2017 (Revised 2018) on Townscape Character Assessment ('TCA').

Landscape Institute (2019) Technical Guidance Note 06/2019 on Visual Representation of Development Proposals (hereafter referred to as the VRDP).

Landscape Institute and the Institute of Environmental Management and Assessment [IEMA] (2013) Guidelines for Landscape and Visual Impact Assessment ('GLVIA') 3rd.

Meath County Council (2021) Meath County Development Plan 2021-2027

Planning and Development Acts 2001 to 2022

Planning and Development Regulations 2001 to 2022

Transport (Railway Infrastructure) Act 2001 (as amended and substituted)