A38 Derby Junctions
TR010022
Volume 6
6.1 Environmental Statement
Chapter 7 – Landscape and Visual Impact Assessment

Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

~~April~~ November 2019

Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

A38 Derby Junctions

Development Consent Order 202[ ]

6.1 Environmental Statement
Chapter 7 Landscape and Visual Impact Assessment

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7. Landscape and Visual

7.1 Introduction and competent expert evidence

7.1.1 This chapter assesses the potential landscape and visual impacts associated with the construction and operation of the Scheme. This chapter details the methodology followed for the assessment, summarises the regulatory and policy framework related to landscape and visual matters and describes the existing environment in the area surrounding the Scheme. Following this, the design and mitigation measures proposed to manage and minimise potential impacts are specified, after which residual landscape and visual effects of the Scheme are presented. We also provide details of any assumptions and limitations made during the assessment.

7.1.2 This landscape and visual impact assessment is supported by Appendix 7.1 [**TR010022/APP/6.3**]) which includes a visual effects schedule (details of views from 24 representative viewpoints), and Appendix 7.2 [**TR010022/APP/6.3**] which comprises an Arboricultural Impact Assessment Report.

7.1.3 All figures cited within this chapter are included within Environmental Statement (ES) Volume 2 [**TR010022/APP/6.2**].

7.1.4 This chapter of the ES has been prepared by competent experts with relevant and appropriate experience. The technical lead for the landscape and visual assessment has twelve years of relevant experience and has professional qualifications as follows: BA (Hons) and post graduate diploma in Landscape Architecture and is a Chartered member of the Landscape Institute (CMLI). Further details are provided in Appendix 1.1 [**TR010022/APP/6.3**].

7.2 Legislative and policy framework

7.2.1 As discussed in Chapter 1: Introduction, the primary basis for deciding whether or not to grant a Development Consent Order (DCO) is the National Policy Statement for National Networks (NPSNN) (Department for Transport (DfT), 2014) which, at Sections 4 and 5, sets out policies to guide how DCO applications would be decided and how the impacts of national networks infrastructure should be considered. Table 7.1 identifies the NPSNN policies relevant to the landscape and visual assessment and where in this ES chapter information is provided to address these policy requirements.

Table 7.1: Relevant NPSNN policies for the landscape and visual assessment

Relevant NPSNN para. ref.	Requirement of the NPSNN	Location where information addresses policy requirements
5.84	Where the development is subject to an Environmental Impact Assessment, the applicant should assess any likely significant effects on amenity from emissions of artificial light and describe these in the ES.	Lighting is taken into account in the assessment presented in Section 7.10.
5.86	The NPSNN advises the applicant to consult the relevant local planning authority about the scope and methodology of the assessment.	Consultation with the local planning authorities have been undertaken as part of the landscape and visual impact assessment - refer to Section 7.3 and Section 7.4.
5.144 (and footnote 102)	The NPSNN references the 'Guidelines for Landscape and Visual Impact Assessment, Third Edition' (GLVIA 3), as well as the need to include reference to any landscape character assessment and associated studies, as a means of assessing landscape impacts relevant to the proposed project and any relevant policies based on these assessments in local development documents in England.	GLVIA 3 has been used for the assessment, along with reference to published landscape character assessments and studies (refer to Section 7.3.
5.145	The applicant's assessment should include any significant effects during construction of the project and/or the significant effects of the completed development and its operation on landscape components and landscape character (including historic landscape characterisation).	Refer to Section 7.10. Also refer to Chapter 6: Cultural Heritage.
5.149	Projects need to be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints, the aim should be to avoid or minimise harm to the landscape, providing reasonable mitigation where possible and appropriate.	The Scheme has been designed with regard to the existing landscape and visual context, with measures embedded in the Scheme design in order to avoid or minimise impacts - refer to Section 7.9 and the Environmental Masterplans (Figures 2.12a to 2.12h [**TR010022/APP/6.2**]).

Relevant NPSNN para. ref.	Requirement of the NPSNN	Location where information addresses policy requirements
5.156	The NPSNN states that local landscape designations should not be used in themselves as reasons to refuse consent.	Relevant landscape and visual designations are outlined in Section 7.7 and these are incorporated into the Local Character Areas (LCAs) as used herein.
5.157	In taking decisions, the Secretary of State should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to avoid adverse effects on landscape or to minimise harm to the landscape, including by reasonable mitigation.	The Scheme design has taken account of potential impacts on the environment (including effects upon the prevailing landscape) – details are provided in Section 7.9. Also refer to the Environmental Masterplans (Figures 2.12a to 2.12h [**TR010022/APP/6.2**]) which present details of mitigation measures embedded in the Scheme design.
5.158	The Secretary of State would have to judge whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the development.	The visual assessment considers Scheme impacts upon a range of visual receptors, including local residents, visitors and users of public rights of way (PROW) and cyclists. Refer to Section 7.10.
5.160	Adverse landscape and visual effects may be minimised through appropriate siting of infrastructure, design (including choice of materials), and landscaping schemes, depending on the size and type of proposed project. Materials and designs for infrastructure should always be given careful consideration.	The Scheme design has taken account of potential impacts on the environment (including effects upon the prevailing landscape) - details are provided in Section 7.9. Also refer to the Environmental Masterplans (Figures 2.12a to 2.12h[**TR010022/APP/6.2**]) which present details of mitigation measures embedded in the Scheme design.
5.164	The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence.	The Planning Statement [**TR010022/APP/7.2**] includes planning policy considerations of the Scheme being located within green belt. Section 7.10 gives consideration to Scheme impacts upon the openness of green belt.

Relevant NPSNN para. ref.	Requirement of the NPSNN	Location where information addresses policy requirements
5.170	The general policies controlling development in the countryside apply with equal force in Green Belts but there is, in addition, a general presumption against inappropriate development within them. Such development should not be approved except in very special circumstances.	The Planning Statement [**TR010022/APP/7.2**] includes planning policy considerations of the Scheme being located within green belt. Section 7.10 gives consideration to Scheme impacts upon the openness of green belt.
5.185	Public rights of way (PRoW), National Trails…. are important recreational facilities for walkers, cyclists and equestrians. Applicants are expected to take appropriate mitigation measures to address adverse effects on such routes where appropriate, to consider what opportunities there may be to improve access. In considering revisions to an existing right of way consideration needs to be given to the use, character, attractiveness and convenience of the right of way.	The Scheme design takes account of facilities for pedestrians and cyclists. Proposals are based on the fundamental premise that the Scheme design aims to include at least the level of provision that exists at present with enhanced provision where deemed appropriate and reasonable. Refer to Section 7.9, the Environmental Masterplans (Figures 2.12a to 2.12h [**TR010022/APP/6.2**]), and Chapter 12: People and Communities.

7.2.2 The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2019) is of relevance to this landscape and visual assessment, with particular reference to paragraphs 96 to 101, 127 and 170 to 172. In accordance with the NPPF, the NPSNN policies are the primary source of policy guidance regarding this assessment. The NPPF was revised in 2019, but the requirements which relate to this assessment have not substantively changed, and the NPSNN remains the primary source of policy guidance.

7.2.3 Other relevant policies have been considered as part of the landscape and visual assessment where these have informed the identification of receptors and resources and their sensitivity; the assessment methodology; the potential for significant environmental effects; and required mitigation. These policies include:

- Town and Country Planning Act 1990 (as amended) is a key piece of statute that regulates planning and development in the UK.
- Planning (Listed Buildings and Conservation Areas) Act 1990 (as amended) is the principle statutory instrument relating to the protection of listed buildings and conservation areas.

- Town and Country Planning (Tree Preservation) (England) Regulations 2012 provide powers to local planning authorities to make and administer Tree Preservation Orders (TPO), the purpose of which is to protect selected trees and woodland by prohibiting their cutting down, uprooting, topping, lopping, wilful destruction or wilful damage without prior consent.
- Planning Practice Guidance (2016) (PPG) (Ministry of Housing, Communities and Local Government, 2016.) Natural Environment, sub-heading Landscape, paragraph 1 supports the use of landscape character assessment as a tool for understanding the character and local distinctiveness of the landscape and identifying the features that give it a sense of place, as a means to informing, planning and managing change. PPG makes reference to Natural England guidance on landscape character assessment.
- Derby City Local Plan – Part 1 Core Strategy (2017) (Derby City Council (DCiC), 2017). Policy CP16 Green Infrastructure, Policy CP 17 Public Green Open space, CP 18 Green Wedges and Policy CP 20 Historic Environment.
- Derby Local Transport Plan LTP3 (2011 - 2026) (DCiC, 2011).
- Erewash Core Strategy (March 2014) (Erewash Borough Council (EBC), 2014), noting that there are some policies saved from the previous 2005 Local Plan (EBC, 2014) - Policy 16 - Green Infrastructure, Parks and Open Space.
- Derbyshire Local Transport Plan (2011 - 2026) (Derbyshire Country Council (DCC), 2011).

7.3 Assessment methodology

7.3.1 The following guidance has been used to inform the scope and content of this landscape and visual impact assessment, and to assist the identification and mitigation of likely significant effects. This builds upon the overarching EIA methodology and guidance presented in Chapter 4: Environmental Impact Assessment Methodology:

- Design Manual for Roads and Bridges (DMRB): Interim Advice Note (IAN) 135/10 Landscape and Visual Effects Assessment (Highways Agency, 2010): Guidance contained within IAN 135/10 has been applied in this assessment to identify the value and sensitivity of landscape and visual receptors, and the potential impacts and effects associated with Scheme construction and operation. As scoping identified a likelihood of significant environmental effects resulting from the Scheme, a detailed assessment has been undertaken in line with this guidance.

- Guidelines for Landscape and Visual Impact Assessment (Third Edition) (GLVIA3) (Landscape Institute and the Institute of Environmental Management & Assessment, 2013): GLVIA3 has been used in the assessment to supplement the advice and best practice presented in IAN 135/10. This guidance has also been referenced to assist in the analysis and evaluation of townscape character (as a component of wider landscape character).
- An Approach to Landscape Character Assessment (Natural England, 2014): Natural England advice contained within this document has been used to supplement the guidance and approaches to undertaking landscape character assessment contained in IAN 135/10 and GLVIA3.
- Photography and photomontage in landscape and visual impact assessment: Landscape Institute Advice Note 01/11 (The Landscape Institute, 2011): The techniques and guidance set out in the Landscape Institute's Advice Note 01/11 have been applied when undertaking photography as part of this assessment.
- DMRB: Volume 10, Section 0, Part 3 – Landscape Elements (Highways Agency, 2001): The landscaping strategy incorporated into the overall design of the Scheme has been developed in line with the guidance contained in the DMRB: Volume 10, Section 0, Part 3 – Landscape Elements.

Establishment of the baseline conditions

7.3.2 Establishment of the baseline environment has involved reference to existing data sources, consultation with statutory bodies and other organisations, and *fieldwork surveys – details are presented in the sections below.*

Desk studies

7.3.3 The following sources of data were obtained and reviewed as part of this landscape and visual impact assessment:

- The National Character Area Profile: 68 Needwood & South Derbyshire Claylands Landscape Character Area and 50 Derbyshire Peak Fringes Lower Derwent Landscape Character Area: to identify nationally mapped areas of landscape character and their boundaries in relation to the Scheme.
- The Landscape Character of Derbyshire (DCiC, 2003): to identify the key characteristics of individual local character areas (LCAs) within the study area and their relationship to the Scheme.
- Derbyshire Townscape Character Assessment (DCiC, 2009): to identify the key characteristics of the individual townscape areas within the area and their relationship to the character of the area.

7.3.4 These published studies were used to assist in the initial identification of the boundaries, qualities and elements of individual character areas, and their susceptibility to change.

7.3.5 Reference was also made to the prevailing policy framework to identify any designated landscapes of value and their relationship to the Scheme.

7.3.6 Other information sources referenced as part of the baseline review included 1:25,000 and 1:10,000 scale Ordnance Survey (OS) mapping, 3-dimensional topographical data, and aerial photography available in the public domain.

Fieldwork

7.3.7 Field surveys were undertaken by a qualified and experienced landscape architect in September 2018 to record summer season conditions, with further surveys carried out in November 2018 and March 2019 to record winter season conditions. These field surveys update information regarding baseline site conditions as indicated by site visits undertaken in June and July 2015 (summer) and November 2015 (winter).

7.3.8 The purpose of these field surveys was to identify record and map the following aspects and characteristics of the landscape:

- Land cover, pattern and texture.
- Scale and appearance.
- Tranquillity.
- Cultural associations.
- Human interaction.

7.3.9 Attributes of the landscape were recorded as part of the field surveys, which included features and elements associated with the built environment, the historic environment, and areas of managed landscape. Less tangible aesthetics and qualities of the landscape, such as background noise, were also recorded.

Representative viewpoints and visualisations

7.3.10 The extents of the preliminary Zone of Theoretical Visibility (ZTV) and the existing visual outlook from representative receptors were also examined and verified as part of the field surveys as detailed above.

7.3.11 The preliminary ZTV has been updated as part of the assessment to identify whether evolutions of the Scheme design has altered the maximum extents of visibility previously modelled. The final ZTV is illustrated in Figures 7.1a and 7.2b [**TR010022/APP/6.2**].

7.3.12 The ZTV was created using GIS software to create a 3-dimensional digital model of the Scheme, overlaid onto a digital terrain model (DTM) based on the OS Terrain 5 dataset. The Scheme visibility extents were defined by placing points along the Scheme at intervals not exceeding 50m, and assuming: a viewer's height of 1.5m, and viewers from cars and heavy goods vehicles (HGVs) would be from 1.5m and 4.5m respectively. The modelling process also included 3-dimensional data to represent built form (of a height of 7.5m) and woodland areas (of a height of 12.5m) which could potentially screen or filter views of the Scheme. It is considered that

the extents of the ZTV as illustrated on the computer generated model is much more extensive than the actual limits of visibility of the Scheme obtained by eye from on the ground (refer to Section 7.7). The computer generated ZTV does not reflect the percentage of the Scheme perceivable within the view and in some circumstances all that would be visible would be a fraction of the top of lighting columns which constitutes a small fraction of the view and may be barely perceivable to the naked eye.

7.3.13 A review has also been undertaken of the representative viewpoints identified during previous environmental assessments undertaken during Project Control Framework (PCF) Stage 2 (refer to Chapter 3: Scheme History and Assessment of Alternatives, Section 3.2 and Illustration 3.1) to assess whether previously proposed viewpoints are still representative of locations likely to experience visual change as a consequence of the Scheme.

7.3.14 The previous PCF Stage 2 assessment identified 18 representative viewpoints, however, only 10 (11 if you count A and B for viewpoint 12 individually) of these were assessed in terms of potential visual impacts as eight were considered to have limited views of the Scheme due to vegetation and landform and were thus removed from the assessment. All 18 PCF Stage 2 viewpoints have been reviewed as part of this assessment, with one viewpoint discounted during PCF Stage 2 being re-included, eight being removed, with 13 new representative viewpoints being included. Thus a total of 24 viewpoints have been included within the visual assessment, which have been defined through a combination of desk-based studies, site survey, consultation with local planning authorities and feedback during statutory consultation - refer to Figures 7.1a and 7.2b [**TR010022/APP/6.2**].

7.3.15 The viewpoints evaluated as part of the visual assessment are presented in Section 7.7 which includes viewpoints that represent grouped effects associated with multiple individual receptors, such as those located within areas of settlement.

Sensitivity of the landscape and visual environment

7.3.16 The sensitivity of the landscape and the visual environment has been established through the identification and evaluation of the susceptibility of LCAs and visual receptors to changes arising from the Scheme, and the value attached to these.

7.3.17 Susceptibility relates to the ability of a landscape or visual receptor to accommodate change without undue consequences.

7.3.18 Landscape value is typically defined through the process of landscape character assessment and is influenced by factors such as: condition; rarity; scenic quality; perceptual aspects; and the presence of formal designation.

7.3.19 Conversely, value in visual terms is inherently more subjective and can vary between individuals; however, considerations can include whether the view is of or from important heritage assets, afforded its own designation or is from a designated landscape, or named or promoted (such as those found in guidebooks and tourist literature).

7.3.20 Sensitivity has been determined using the criteria presented in Table 7.2, which derive from the guidance presented in IAN 135/10 and GLVIA3, which take account of the above factors.

Table 7.2: Criteria for landscape and visual sensitivity

Sensitivity	Description (landscape)	Description (visual)
High	Landscapes which by nature of their character would be unable to accommodate change of the type proposed. Typically these would be: • Of high quality with distinctive elements and features making a positive contribution to character and sense of place. • Likely to be designated, but the aspects which underpin such value may also be present outside designated areas, especially at the local scale. • Areas of special recognised value through use, perception or historic and cultural associations. • Likely to contain features and elements that are rare and could not be replaced.	Residential properties. Users of PRoW or other recreational trails (e.g. national trails, footpaths, bridleways etc.). Users of recreational facilities where the purpose of that recreation is enjoyment of the countryside (e.g. Country Parks, National Trust or other access land etc.)
Moderate	Landscapes which by nature of their character would be able to partly accommodate change of the type proposed. Typically these would be: • Comprised of commonplace elements and features creating generally unremarkable character but with some sense of place. • Locally designated, or their value may be expressed through non-statutory local publications. • Containing some features of value through use, perception or historic and cultural associations. • Likely to contain some features and elements that could not be replaced.	Outdoor workers. Users of scenic roads, railways or waterways or users of designated tourist routes. Schools and other institutional buildings, and their outdoor areas.

Sensitivity	Description (landscape)	Description (visual)
Low	Landscapes which by nature of their character would be able to accommodate change of the type proposed. Typically these would be: • Comprised of some features and elements that are discordant, derelict or in decline, resulting in indistinct character with little or no sense of place. • Not designated. • Containing few, if any, features of value through use, perception or historic and cultural associations. • Likely to contain few, if any, features and elements that could not be replaced.	Indoor workers. Users of main roads (e.g. trunk roads) or passengers in public transport on main arterial routes. Users of recreational facilities where the purpose of that recreation is not related to the view (e.g. sports facilities).

Magnitude of impact criteria

7.3.21 The magnitude of impact on the landscape and visual environment has been established in relation to the extent that the Scheme would directly or indirectly affect the character and components of individual LCAs, and the extent to which the Scheme would emerge in available views from visual receptors.

7.3.22 The criteria contained within IAN 135/10 have been adopted in the assessment to identify the magnitude of impact (adverse or beneficial) that the Scheme is likely to have on landscape character and its component features and elements. These landscape impact criteria are reproduced in Table 7.3.

Table 7.3: Magnitude of landscape impact criteria

Magnitude of impact	Description (landscape)
Major Adverse	Total loss or large scale damage to existing character or distinctive features and elements, and/or the addition of new but uncharacteristic conspicuous features and elements.
Moderate Adverse	Partial loss or noticeable damage to existing character or distinctive features and elements, and/or the addition of new but uncharacteristic noticeable features and elements.
Minor Adverse	Slight loss or damage to existing character or features and elements, and/or the addition of new but uncharacteristic features and elements.
Negligible Adverse	Barely noticeable loss or damage to existing character or features and elements, and/or the addition of new but uncharacteristic features and elements
No Change	No noticeable loss, damage or alteration to character or features or elements.
Negligible Beneficial	Barely noticeable improvement of character by the restoration of existing features and elements, and/or the removal of uncharacteristic features and elements, or by the addition of new characteristic elements.

Magnitude of impact	Description (landscape)
Minor Beneficial	Slight improvement of character by the restoration of existing features and elements, and/or the removal of uncharacteristic features and elements, or by the addition of new characteristic elements.
Moderate Beneficial	Partial or noticeable improvement of character by the restoration of existing features and elements, and/or the removal of uncharacteristic and noticeable features and elements, or by the addition of new characteristic features.
Major Beneficial	Large scale improvement of character by the restoration of features and elements, and/or the removal of uncharacteristic and conspicuous features and elements, or by the addition of new distinctive features.

7.3.23 The criteria contained within IAN 135/10 have been adopted in the assessment to identify the magnitude of impact that the Scheme is likely to have on visual receptors. These visual impact criteria are reproduced in Table 7.4.

Table 7.4: Magnitude of visual impact criteria

Magnitude of impact	Description (visual)
Major (adverse or beneficial)	The project, or a part of it, would become the dominant feature or focal point of the view.
Moderate (adverse or beneficial)	The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.
Minor (adverse or beneficial)	The project, or a part of it, would be perceptible but not alter the overall balance of features and elements that comprise the existing view.
Negligible	Only a very small part of the project would be discernible, or it is at such a distance that it would form a barely noticeable feature or element of the view.
No Change	No part of the project, or work or activity associated with it, is discernible.

Identification of likely significant effects and additional mitigation

7.3.24 The identification of the likely significant effects on landscape and visual receptors has been undertaken using professional judgement, and has involved combining the sensitivity towards change (refer to Table 7.2) with the predicted magnitude of impact (refer to Tables 7.3 and 7.4). The process has been guided by the significance matrix illustrated in Table 7.5 as reproduced from IAN 135/10. Professional judgement has been used to determine the significance of an effect where there are two descriptors in Table 7.5.

Table 7.5: Significance matrix

Sensitivity	Magnitude of impact				
	No change	**Negligible**	**Minor**	**Moderate**	**Major**
High	Neutral	Slight	Slight/ Moderate	Moderate/ Large	Large/Very Large
Moderate	Neutral	Neutral/Slight	Slight	Moderate	Moderate/ Large
Low	Neutral	Neutral/Slight	Neutral/Slight	Slight	Slight/ Moderate

7.3.25 GLVIA3 acknowledges that the assessment of significance is not a prescriptive process. Accordingly, the matrix shown in Table 7.5 has been used to guide the identification and assessment of landscape and visual effects; however, where professional judgement has resulted in a deviation from the thresholds contained in the matrix, these are explained within the relevant sections of the chapter and are supported by appropriate evidence and explanation.

7.3.26 For the purposes of this assessment, effects are considered to be significant where the effect is assessed as being moderate, large or very large.

7.3.27 Adverse and beneficial landscape and visual effects have been identified at the following stages of Scheme development:

- **Construction (2020 - 2024):** to represent the changes that would be apparent when Scheme construction activity is at its peak i.e. when construction works, vehicles, equipment and machinery are in maximum use.
- **Winter year of opening year 1 (2024):** to represent the changes that would be apparent on a winter's day in the year that the Scheme would be open to traffic i.e. prior to the establishment of landscaping.
- **Summer year 15 (2039):** to represent the changes that would be apparent on a summer's day 15 years after opening of the Scheme i.e. once all landscape planting has reached a level of maturity where it is fulfilling its intended screening and integration functions.

7.3.28 In accordance with Chapter 4: Environmental Impact Assessment Methodology, Section 4.3, when assessing the potential significance of landscape and visual effects, impact avoidance measures embedded in the Scheme design have been taken into account, as have standard environmental management activities (refer to Section 7.9). Where potentially significant effects have been predicted, further mitigation and management actions have been defined and the significance of effects with the additional mitigation in place has also been assessed (as applicable).

7.3.29 All embedded, standard and additional mitigation measures have been developed as part of an iterative design process within the Scheme design team.

Scoping

7.3.30 The proposed scope of the landscape and visual impact assessment was detailed in the EIA Scoping Report (Highways England, 2018) submitted to The Inspectorate on 15 March 2018 (refer to Chapter 1: Introduction, para. 1.3.5).

7.3.31 An overview of the Inspectorate's Scoping Opinion in relation to landscape and visual effects is presented in Table 7.6. Where the assessment has been undertaken in accordance with the Scoping Opinion point, a response and the relevant ES section is provided; where an alternative approach has been agreed with the relevant stakeholders, an explanation is provided.

Table 7.6: Scoping opinion and response

Scoping Opinion	Where addressed within the ES
Planning Inspectorate	
8.3 - Study Area The Applicant should seek to establish a robust study area based on the extent of the likely impacts of the Proposed Development, and agreement should be sought with the relevant consultees in this regard, with respect to the receptors which should be included in the assessment. The Scoping Report provides no justification for the 1km study area 'corridor' and those areas within the Zone of Theoretical Visibility (ZTV) outside of the 1km study area "with capacity to experience significant effects as a result of a proposed scheme". The ES should include further justification to support the use of a 1km study area and describe how the ZTV has been defined and refined to take account of topography, existing built form, and the maximum parameters of the Proposed Development. The ES should clearly set out how receptors located outside of the 1km study area have been incorporated or excluded from the assessment.	Refer to Section 7.6. Section 7.4 indicates the consultation undertaken with regard to the agreement of receptors.
8.4 – Baseline Visual Context The Scoping Report indicates that as the proposed scheme design develops, the viewpoint locations will be reviewed and updated to account for proposed scheme design changes. The Inspectorate recommends that any changes to viewpoint locations are discussed and agreed with the relevant consultees. Any photomontages prepared should include representative vehicle traffic, including HGVs, to ensure that the worst case visual impact is assessed. The need for visually verified images should be agreed with the relevant local authority, where possible.	Refer to Section 7.4.
8.7- Potential Impacts and Effects The Scoping Report provides limited detail regarding lighting proposals for the Proposed Development. The Inspectorate considers that the operational effects of lighting should be assessed. The potential for lighting effects due to night time working during construction should also be assessed.	Lighting details are provided in Section 7.9, whilst operational effects are detailed in Section 7.10 and

Scoping Opinion	Where addressed within the ES
In light of the extensive vegetation clearance required as part of the scheme, the ES should outline how retention of existing mature trees has been considered within the development of the engineering and landscape design proposals.	Appendix 7.1: Visual Effects Schedule [**TR010022/APP/6.3**].
8.9 – Assessment Methodology The ES should expand upon the information provided in paragraphs 8.9.2 and 8.9.15 of the Scoping Report to clearly explain how the significance of effects will be determined in relation to Landscape Value, Susceptibility and Sensitivity, and Significance of Visual Effects. It should be clear where professional judgement has been applied.	Refer to Section 7.3 (**Tables 7.2 to 7.5** therein).
n/a – Mitigation The Applicant should seek agreement with relevant consultees on all mitigation measures that are proposed. It should be clear in the ES how the proposed landscaping would mitigate the impacts on landscape and visual receptors, and how these impacts would change as the proposed planting matures. The ES should assess the interactions of the proposed mitigation measures with other aspect areas, for example Biodiversity and Cultural Heritage. A proposed landscaping strategy for the Proposed Development should be described in the ES, to a level of detail which forms the basis of the assessment. An appropriate period of aftercare or maintenance for proposed landscaping should be agreed.	Refer to Section 7.9, Section 7.10 and Appendix 7.1: Visual Effects Schedule [**TR010022/APP/6.3**]. The landscape design (as detailed in Figures 7.8a to 7.8c [**TR010022/APP/6.2**]) was provided to DCiC, EBC and DCC for their review and comment in February 2019. Comments received from DCC were reviewed, but did not require changes to the landscaping proposals.

7.4 Consultation

7.4.1 DCiC and DCC were invited to comment on the proposed representative viewpoints to be accessed within the landscape character and visual amenity assessment in September 2018. Comments were received back from DCC and consultation was carried out with their Landscape Architect regarding representative viewpoints around Little Eaton junction. No comments were received from DCiC when they were asked to comment in September and October 2018.

7.4.2 The Preliminary Environmental Information Report (PEIR) was published in September 2018 (Highways England, 2018) and presented the environmental information collected together with the preliminary findings of the assessment of likely significant environmental effects of the Scheme at the time.

7.4.3 During statutory consultation, DCC provided comment (dated 17 October 2018) on the PEIR, with their response letter making reference to the EIA Scoping Report (para. 7.3.30) as well as the PEIR. Key comments from DCC are summarised in Table 7.7, which also indicates where comments are addressed within this ES chapter and/or supporting documents.

Table 7.7: Responses to coping opinion

Scoping Opinion	Where addressed within the ES
Derbyshire County Council – comments on the PEIR	
It is of concern that Table 7.1 Summary of Value, Susceptibility and Sensitivity of Landscape Receptors to the Proposed Scheme, the PEIR fails to make any judgements against the County scale Landscape Character Type (LCT) or a local landscape study area.	Published descriptions of character areas at a national level (National Character Areas (NCA)), and local level (LCT) and townscape character wards were referred to in the identification of LCA within the study area. Refer to Section 7.7.
The judgements being made in 7.9.4 with respect to identifying landscape effects are too simplistic …. In addition judgement needs to be made about the introduction of new features such as the construction of a raised structure in an otherwise flat landscape particularly given that the current road junction is at grade.	Refer to Section 7.10 and Appendix 7.1: Visual Effects Schedule [**TR010022/APP/6.3**].
In assessing visual impacts as outlined in paragraph 7.9.7 the assessment needs to consider other components and changes to a view other than just the ability to see the new elevated junction. For example, will the increased height of the junction and any associated planting, obstruct what is currently an attractive view either at completion in year 1 or in the longer term at year 15.	Refer to Section 7.10 and Appendix 7.1: Visual Effects Schedule [**TR010022/APP/6.3**].

7.4.4 DCiC, EBC and DCC were invited to comment on the proposed landscape design as detailed in Section 7.9 (refer to Figures 7.8a to 7.8c [**TR010022/APP/6.2**]) in February 2019. Comments received from DCC were reviewed, but did not require changes to the landscaping proposals.

7.5 Assessment assumptions and limitations

7.5.1 The landscape assessment has been based on the description of the Scheme detailed in Chapter 2: The Scheme, as well as the limits of deviation as detailed in Section 2.5.

7.5.2 This assessment has been based on, and is limited to, the baseline conditions recorded at the time of undertaking field surveys (within both summer and winter periods) from publicly accessible locations. Whilst the baseline conditions were limited to the surveys undertaken at this time, they are representative of conditions in the last 1 – 1.5 years and thus are unlikely to have materially changed.

7.5.3 The accuracy of the preliminary and final ZTVs modelled as part of this assessment has been constrained by the distance and height parameters adopted in their generation (described in para. 7.3.12). Not every residential receptor within the ZTV has been addressed in its own right. Instead properties were captured as small groups where in some instances one viewpoint is representative of the most severely impacted group as a whole. In this way, although there is not a separate photographic view for each individual receptor, the assessment covers a range of representative receptors that have the potential to be impacted by the Scheme.

7.5.4 The assessment assumes that the screening benefit provided by existing and proposed vegetation is reduced during winter months when vegetation is not in leaf. This would give rise to larger visual effects in the winter months.

7.5.5 The identification and evaluation of likely effects at Year 15 assumes that all landscaping incorporated into the Scheme design is appropriately managed over the period from the year of Scheme opening and is performing its intended function. Accordingly, the assessment assumes that any new planting would have reached a height of at least 4.5m by Year 15, based on conservative predicted growth rates of approximately 0.3m per annum and information obtained from similar implemented highway schemes.

7.5.6 Receptors identified within the study area and ZTV have been assessed as part of the Scheme. However, when considering the construction requirement for the use of a crane during the construction of bridges, the potential area of impact would temporarily increase the number of receptors in the ZTV. Given the very short duration and likelihood of only a negligible change in the view, these receptors have not all been detailed within this assessment. However, it is noted that a number of additional receptors may afford views to the top of a crane only for a very short period during construction. The visual effects of cranes are not considered to be significant. In accordance with the DMRB and IAN 135/10 Landscape and Visual Effects Assessment, impacts from construction activity are assessed at their peak assuming the maximum perceptible change.

7.5.7 With regard to representative viewpoints 7, 21, 23 and 24 as these locations were included within the assessment post-summer 2018 as a result of consultation (refer to Section 7.4), there is no summer viewpoints provided within Figure 7.5 [**TR010022/APP/6.2**] (Representative Viewpoints 1 - 24). Given that a winter viewpoint is available, it is not considered that this limitation affects the results of the assessment.

7.5.8 In this chapter, only landscape character and visual elements are assessed. However, it should be noted that there are overlaps between landscape and cultural heritage elements. Elements of landscape and cultural heritage relevance

within the study area including conservation areas are assessed on their landscape and visual merits and contribution to the landscape, not their historic or cultural value or significance. Cultural heritage effects are presented in Chapter 6: Cultural Heritage.

7.6 Study area

7.6.1 GLVIA3 suggests that the study area should cover the geographical area from which the development being assessed would potentially be visible, whilst the area also should be proportionate to the development (p.116).

7.6.2 In the case of the Scheme, the study area of the assessment has been identified by a combination of the ZTV, professional judgement and field survey verification. Guidance given in IAN 135/10, suggests a 1km study corridor, broadening to capture areas within the ZTV sitting outside of the 1km corridor with capacity to experience significant effects as a result of a highway scheme. This approach is commonly adopted for highway projects and is adopted within this landscape and visual impact assessment.

7.6.3 For the purpose of the landscape character assessment, the desk-based study incorporates a 1km study area from the route of the Scheme. This was selected as the Scheme and associated Scheme boundary is focused along the route of the existing A38. However, for the purpose of the visual amenity assessment, potential receptors were identified outside of the 1km boundary. Potential viewpoints were informed by a combination of desk-study, site surveys and in consultation with the local planning authorities. The landscape and visual impact study area is detailed in Figures 7.1a and 7.1b and Figure 7.4 [**TR010022/APP/6.2**].

7.7 Baseline conditions

Overview of the landscape and visual environment

Topography and drainage

7.7.1 In the south of the study area (Kingsway junction and Markeaton junction) the landform of the area is characterised by an undulating bowl-shaped landform, which is attributed to the presence of various watercourses such as Bramble Brook, Mackworth Brook and Markeaton Brook. Bramble Brook runs north-eastwards from Mickleover and flows through Kingsway junction before entering a culvert. Mackworth Brook and Markeaton Brook flow south-eastwards towards the city centre, meeting at Markeaton Park. There is a prominent ridgeline height which runs through Mackworth, Mickleover and Littleover towards the city centre.

7.7.2 In the north of the study area (Little Eaton junction) the landform is strongly influenced by the valleys of the River Derwent and its tributaries, such as Bottle Brook, Dam Brook and Boosemoor Brook. The River Derwent and its floodplain pass to the west of Little Eaton junction. Bottle Brook flows from the north and joins the River Derwent in the village of Little Eaton. Boosemoor Brook and Dam Brook meet just to the west of Breadsall, with Dam Brook following to the south of Little Eaton junction before passing under the A61 in culvert and then onwards to the River Derwent.

7.7.3 Outside of the study area there are three key high points. One occurs to the north of the village of Little Eaton, the second forms a bowl shaped ridgeline around the village of Breadsall immediately to the east of the study area boundary, and the third is a ridgeline running between Allestree and Quarndon.

Settlement

7.7.4 In the south of the study area (Kingsway junction and Markeaton junction), the suburbs of Mickleover, Mackworth and Markeaton are located to the west of the A38, with Littleover to the south of Kingsway junction, St Luke's to the east, and the suburbs of Allestree and Darley Abbey to the north of Kedleston junction. These areas contain mainly urban, urban fringe, and suburban development. The main settlement pattern is attributed to the dominance of the planned settlement area of Derby.

7.7.5 In the north of the study area (Little Eaton junction) are suburbs of Derby including Allestree and Darley Abbey to the west of Little Eaton junction, with Breadsall Hilltop and Oakwood to the south of the junction. These areas form the northern extents of Derby and contain mainly urban and urban fringe development. To the north and east of Little Eaton junction respectively are the villages of Little Eaton and Breadsall. These are primarily linear villages set within the Derwent Valley. Elsewhere there are scattered individual farmsteads and dwellings.

Communications

7.7.6 Aside from the A38, there are several 'A' roads in the south of the study area (Kingsway junction and Markeaton junction). The A516 joins the A38 at the south of Mickleover; the A5111 runs north-westerly, joining the A38 at Kingsway junction; and the A52 crosses the study area from the west to the east through Markeaton junction. Other roads in the area are more minor and are often associated with residential development.

7.7.7 In the north of the study area (Little Eaton junction) the B6179 Alfreton Road runs in a north south direction to Little Eaton junction and was formally part of the A61. A61 runs to the immediate south of Little Eaton junction towards Derby city centre, whilst the A6 runs north-south and crosses the A38 at Allestree (Palm Court junction). Other roads in the north of the study area are more minor and are often associated with residential development.

PRoW

7.7.8 There are a number of PRoW located across the study area – refer to Figure 7.2 [**TR010022/APP/6.2**] (also refer to Chapter 12: People and Communities). These occur within the floodplain of the River Derwent and within rural land in the north of the study area. In addition, there are two long-distance trails within the study area, namely the Bonnie Prince Charlie Walk and the Derwent Valley Heritage Way.

7.7.9 The Bonnie Prince Charlie Walk runs from Ashbourne to Derby and is a 17 mile path roughly following the route taken by Bonnie Prince Charlie in 1745. It crosses the A38 to the north of Markeaton junction via the Markeaton footbridge. The Derwent Valley Heritage Way forms a 51 mile route from Ladybower Reservoir in the Peak District to Derwent Mouth near Shardlow; crossing the A38 to the west of Little Eaton junction.

7.7.10 In addition, National Cycle Route NR54 runs from Stourport to Little Eaton, forming a 91 mile route. The Derby leg of the route crosses underneath Kingsway junction at Brackensdale Avenue. It roughly follows the line of the A38, although it diverts into Derby city centre from Markeaton junction and follows the River Derwent towards Little Eaton junction. Regional Cycle Route (RR) 66 forms a circular route around Derby and runs parallel to the A38 between Kingsway and Markeaton junctions.

Land cover

7.7.11 The far south of the study area is predominantly an urban landscape interspersed with limited areas of farmland on the urban fringe. This farmland is characterised by a field pattern of medium and large-sized fields enclosed predominantly by hedges. There is little natural woodland in the area, with trees mainly forming parts of field boundaries or small groups, especially around Kingsway junction. Still in the south but further north, Mackworth Park and Markeaton Park form green lungs from the open countryside adjacent to the north-western edge of the study area. There is little natural woodland in the area, with trees mainly forming parts of field boundaries or small groups, especially around Markeaton Park.

7.7.12 The north of the study area is also predominantly an urban fringe landscape interspersed with areas of farmland. This farmland is characterised by a field pattern of medium-sized fields enclosed predominantly by hedges. There are some small areas of natural woodland to the north of the study area; elsewhere trees mainly forming parts of field boundaries or small groups.

Lighting

7.7.13 In the south of the study area, the context of Kingsway and Markeaton junctions are generally well lit at present as a result of the proximity of residential areas, the A38 and local highways.

7.7.14 In the north of the study area, Little Eaton junction is also generally well-lit at present. However, the surrounding context (especially to the north and east of the junction away from local villages) is less well-lit due to its relatively rural character.

International and national designations (refer to Figure 7.3a [TR010022/APP/6.2])

7.7.15 The Derwent Valley Mills World Heritage Site (WHS) and its buffer zone runs north-south through the study area; the core area located approximately 170m to the west of Little Eaton junction. In this case, the WHS designation is primarily cultural heritage based, relating to the industrial revolution, rather than being landscape focused (refer to Chapter 6: Cultural Heritage). However, it still adds value to the landscape of the area and has had a recognised ongoing association with and influence on the character of the valley for many years. A buffer zone is defined as an area surrounding the WHS which has complementary legal restrictions placed on its use and development to give an added layer of protection to the WHS. The buffer zone forms part of the setting of the WHS.

7.7.16 There are no other international or national designations of landscape quality or value within the study area.

Local Designations (refer to Figure 7.3b [TR010022/APP/6.2])

Conservation areas

7.7.17 Conservation areas, whilst not specific landscape designations, reflect landscape and architectural quality and are relevant to development proposals which may impact upon them. The study area encompasses a number of Derby City conservation areas, based on former village centres - these are detailed in Chapter 6: Cultural Heritage (refer to Figure 7.3b **[TR010022/APP/6.2]**).

Green belt

7.7.18 In the north of the study area is an extensive area designated as green belt which includes Little Eaton junction. Green belt is a designation of landscape value related primarily to openness between settlements rather than an indication of landscape quality (refer to Figure 7.3b [**TR010022/APP/6.2**]).

Green wedges

7.7.19 Green wedges are open areas around and between settlements that maintain a distinction between the countryside and built up areas. The designation of green wedge is non-statutory, but is intended to provide an additional layer of protection to areas where it is considered development pressure exists. As detailed within the Derby City Local Plan - Part 1 Core Strategy: "*the primary function of green wedges is to define and enhance the urban structure of the city as a whole, in particular by reinforcing local identity by maintaining areas of open land between the City's neighbourhoods. All have important existing or potential recreational and ecological value and play an important role in mitigating against climate change*".

7.7.20 The locations of the green wedges are illustrated on Figure 7.3b [**TR010022/APP/6.2**], and a brief description of their locations is given below:

- In the south of the study area a green wedge incorporates the Scheme at Kingsway junction and Mackworth Park.
- In the south of the study area, Markeaton Park and the adjacent area around Mill Pond to the east of the A38 forms a green wedge and incorporates part of the Scheme.
- In the north-east of the study area a green wedge forms part of the River Derwent floodplain and surrounding areas (east of the A61), whilst there is a further green wedge to the south of Little Eaton junction (west of the A61).

Areas of Multiple Sensitivity (AMES)

7.7.21 Identified at a local level AMES sites are areas that are sensitive to change based on their biodiversity, historic interest and visual unity. It is intended that AMES are used to inform strategic planning considerations.

7.7.22 Areas that are above average with respect to all three environmental datasets are described as having 'primary sensitivity' and would be most sensitive to change. These areas are considered to be a cultural resource on multiple fronts that provide significant value for green infrastructure (GI) and should be given important consideration for future strategic planning. These areas are likely to attract a strong focus on the protection (conservation) of their environmental assets. Areas that are above average with respect to two of the environmental datasets (e.g. biodiversity + visual unity etc.) are described as having 'Secondary Sensitivity'. These areas are sensitive to change, but may also be capable of being enhanced by development or new GI provision. These areas would attract a strong focus on the management (conservation and enhancement) of their assets.

7.7.23 The locations of the AMES sites are illustrated on Figure 7.3a [**TR010022/APP/6.2**], and a brief description of their locations is given below:

- There is an area of secondary sensitivity south-west of the study area, in the vicinity of Mackworth (which falls outside of the study area).
- There is one area of primary sensitivity and one area of secondary sensitivity covering Markeaton Park, which extend to the west, and encompass an extensive area outside of the study area.
- In the north of the study area there is an extensive area of secondary sensitivity that covers Little Eaton junction and extends out to the north and west outside of the study area.

Tree Preservation Order - TPOs

7.7.24 There are a number of TPOs that include a Woodland Tree Preservation site at Allestree Park (Local Nature Reserve (LNR)). The locations of the TPOs and TPO sites are illustrated on Figure 7.3b [**TR010022/APP/6.2**] – the TPOs closest to the Scheme are as follows (also refer to Appendix 7.2 [**TR010022/APP/6.3**]):

- TPO area to the east of Brackensdale School to the north of Kingsway junction.

- TPO area covering the site of the Royal School of the Deaf to the east of Markeaton Park.
- TPO area to the south of Mill Pond (south of the Markeaton footbridge).
- TPO area to the north of Mill Pond.
- TPO area off Kedleston Road.

Landscape character

National landscape character

7.7.25 The use of landscape characterisation as part of landscape assessment is a widely accepted tool. Natural England produces mapping and written descriptions of the landscape character of England in order to provide a national and regional framework for the more detailed assessment of character at county and local levels. This work has resulted in the classification of distinct landscape character areas, called NCAs, to assist those who make decisions regarding local plans to consider how best to enhance and respect local distinctiveness. Landscape character areas are also identified within The Landscape Character of Derbyshire (DCC, 2003, 2013) - First Edition December 2003, Fourth Edition December 2013.

7.7.26 The two NCAs that fall within the study area are (refer to Figure 7.4 [**TR010022/APP/6.2**]):

- NCA 68: Needwood & South Derbyshire Claylands. This NCA covers the south and the mid-section of the study area.
- NCA 50: Derbyshire Peak Fringe Lower Derwent. This NCA covers the northern part of the study area.

7.7.27 NCAs are further divided up into LCT. The characteristics of the NCAs and LCTs within the study area are detailed in Table 7.8.

Table 7.8: NCA and LCT descriptions

NCA and LCT names	Descriptions
NCA 68: Needwood &South Derbyshire Claylands	• Two distinct areas separated by the River Dove. • Land-use is typically dairy farming with some arable, set within a framework of hedgerows and mature hedgerow trees. Woodlands are few, but locally occurring parkland, such as that at Kedleston Hall, makes a significant contribution to the overall character of the area. • Small red brick villages and estate farms are distinctive features and, although some settlements west of Derby have expanded through post-war development, the landscape retains a deeply rural character. • Winding country lanes bounded by hedgerows provide a sense of enclosure, particularly where the lanes have become sunken within the minor valley sides.
Estate Farmlands LCT	• Gently rolling lowland dissected by minor river valleys. • Seasonally waterlogged fine loamy souls over Permo-Triassic Mudstones, Siltstones and Sandstones.

NCA and LCT names	Descriptions
	• Mixed farming with intensive arable cropping and improved permanent pasture. • Prominent estate woodlands with broadleaf and coniferous species. • Scattered oak and ash trees along hedgerows. • Dense lines of trees along streams. • Small to medium size semi-regular and regular fields enclosed by hedgerows. • Small villages constructed of red brick and Staffordshire blue clay tiled roofs. • Scattered red brick estate farmlands and the occasional country house.
Settled Farmlands LCT	• Gently undulating to rolling lowland dissected by minor stream valleys with localised steep slopes. • Seasonally waterlogged soils over Permo-Triassic Mudstone, Siltstone and Sandstone. • Dairy farming on permanent pasture with localised arable cropping. • Small woodland blocks and copses associated with steeper slopes. • Scattered oak and ash trees along hedgerows. • Dense lines of trees along streams. • Small to medium size, semi-regular and strip fields enclosed by hedgerows. • Extensive ridge and furrow. • Network of winding lanes often sunken on steeper slopes. • Small clusters of red brick and Staffordshire blue clay tile farms and cottages.
Riverside Meadows LCT - correct same text	• Flat flood plains containing meandering rivers and streams. • Seasonally waterlogged soils over alluvium. • Permanent pasture. • Localised patches of rushes in damp hollows. • Scattered, locally dense trees along watercourses, widespread alder and localised willow. • Scattered trees along field boundaries. • Regular shaped fields, bounded by hawthorn hedges. • Lanes alongside edges or crossing the flood plain. • Active and disused railway lines with secondary woodland along embankments.
NCA 50: Derbyshire Peak Fringe Lower Derwent	• The Derbyshire Peak Fringe and Lower Derwent is a Character Area exclusive to Derbyshire, being a transitional landscape between the Derbyshire Coalfield in the east, the Needwood and South Derbyshire Claylands to the south and the Peak District (comprising the Dark and White Peaks) to the north-west. • Central to the character of the area are the river valleys, the Ecclesbourne, the Amber and most notably the Derwent. The Derwent Valley extends through the heart of the area from Cromford to Derby

NCA and LCT names	Descriptions
	taking in the settlements of Belper and Duffield. With steep, wooded valley sides in the north, the flood plain broadens towards Duffield with the Derwent meandering through it. Towards the north of the area smaller fast-flowing brooks were dammed to harness water power and the Derwent Valley itself became a cradle of the industrial revolution with the development of the new factory system, facilitated by the construction of large water powered textile mills. • The predominant land-use is pasture for stock rearing although the quality of the grasslands is variable. • From north to south, the area includes a number of small towns such as Wirksworth, although the settlement pattern is predominantly dispersed with many scattered and isolated farmsteads. • The area's strongest cultural association is with the industrial revolution, when early industrialists like Richard Arkwright and Jedediah Strutt in the late 18th century, built large cotton mills powered by water within the Riverside Meadows.
Wooded Slopes and Valleys LCT	• Upland, undulating ground rising up to moorland. • Slopes are moderate to steep, and steepen along stream valleys. • Poorly draining soils over bands of mudstone and harder sandstone. • Permanent pasture for sheep and dairy cattle. • Widespread bracken and localised gorse on the thinner soils of steeper slopes. • Densely scattered small to medium ancient woodlands and secondary woodland on steeper slopes and along streams. • Densely scattered hedgerow trees. • Irregular field pattern bounded by mixed species hedgerows. • Dry-stone walls are widespread, defining a more regular field pattern. • Network of winding lanes, sunken on steeper slopes, with rocky banks. • Dispersed sandstone farmsteads with stone slate roofs
Riverside Meadows LCT	• Flat, broad flood plains containing meandering rivers. • Seasonally waterlogged soils over alluvium. • Low intensity permanent pasture. • Localised patches of rushes in damp hollows. • Scattered, locally dense trees along watercourses, widespread alder and localised willow. • Scattered trees along field boundaries. • Regular shaped fields, bounded by hawthorn hedges. • Lanes along edges or crossing flood plains with gritstone bridges over the rivers. • Railway lines with secondary woodland along embankments. • Historic textile mills.

7.7.28 In addition, the Derby Townscape Character Assessment (DCiC, 2009) identifies townscape character wards within Derby City boundaries[1]. Descriptions of the townscape character areas identified within the study area are detailed in Table 7.9.

Table 7.9: Derby townscape character assessment descriptions

Townscape character wards	Descriptions
Abbey Ward	Abbey Ward is a mostly residential area with a variety of housing types, densities and layouts. It lies to the east of Kingsway junction and forms a transitional link between the city centre and the suburbs of Derby. The oldest buildings date back to the late 19th century. There are several areas of open space within the townscape area and the main traffic routes run south-west to north-east, with the ring road running along the south-western boundary of the ward.
Mackworth Ward	Mackworth Ward runs from the city centre to its perimeter. There is a separate distinct character either side of the A38, owing to the historic development of the city (late 1800s and early 1900s to the east of the A38, and post-war to the west of the A38). There are several large areas of open space, especially west of the A38, with Greenwich Drive South open space and Markeaton Park forming large areas of open space to the north and south of the ward. The ward also forms part of the landscape setting of Kedleston Hall. Movement within the ward is mainly along Ashbourne Road (the A52) and the A38; these converge adjacent to Markeaton Park.
Littleover Ward	Littleover Ward lies to the south-east of Kingsway junction and is a suburb of the city that originated as a distinct village. The area generally has a leafy character, large properties and good access to the countryside. To the west and east of the ward are green wedges that help to separate the area from the adjacent wards of Mickleover and Blagreaves. The main traffic routes (including the A38) run south-west to north-east, with the ring road forming the north-eastern boundary of the ward.
Allestree Ward	The Allestree Ward lies to the north of Markeaton junction and is a suburb of the city that originated as a distinct village. It is a mostly residential area which underwent substantial expansion in the 1970s and 1980s and has a leafy character, with generally large properties and good access to the surrounding countryside. It is flanked by open space on three sides, Markeaton Park (and a green wedge) to the south, Allestree Park (part of the green belt) to the north and open countryside to the west. The main traffic routes have no particular pattern, but include the A38, the A52, the A6 and Kedleston Road.
Darley Ward	Darley Ward lies to the east of Markeaton junction and has a varied history dating back to Roman times. A strong influence on the ward is its industrial heritage, with a large area of the ward being included in the Lower Derwent Valley World Heritage Site. There is a large green wedge which runs north-south through the majority of the ward. In addition, there is also a green wedge to the south-west of the ward, near Markeaton

[1] Thus the Tables 7.9 excludes a townscape character assessment description of the Little Eaton and Stanley ward.

Townscape character wards	Descriptions
	junction. The main movement corridors run from the outskirts to the city centre (including the A6, A52 and Kedleston Road), with the A38 cutting across these on the western edge of the ward.
Mickleover Ward	Mickleover Ward originated as a distinct village before being subsumed as a suburb of the city. There is a large area of green wedge to the north of the ward – this green wedge acts as a buffer between this ward and the Mackworth Ward. In addition, to the west of the Mickleover Ward is open countryside. Movement within the ward is mainly along Uttoxeter Road (B5020) and Station Road; these converge in the historic centre of Mickleover.

LCAs

7.7.29 The strategies and assessments as detailed above have helped inform the development of ten new LCAs within the study area that have been developed for the purpose of this assessment. Descriptions of the LCAs are detailed below along with summary tables that detail factors which determine the landscape value and susceptibility that have resulted in the sensitivity of each LCA area. Refer to Figure 7.4 [**TR010022/APP/6.2**] for details regarding these LCAs.

LCA 1 Mickleover Residential LCA

7.7.30 This LCA is located to the west of the A38 and incorporates part of the A38 to the south of Kingsway junction. The area is residential with interspersed local amenities including a school, local shops, play area and swimming pool. The residential area is segregated from the A38 by a dense belt of roadside vegetation. The B5020, Uttoxeter Road passes over the A38 and provides a link into Derby from this area. Adjacent to the west of the A38 is a recent housing development consisting of a mix of detached and semi-detached properties, townhouses and low rise flats. Further east are traditional post war semi-detached properties.

7.7.31 Part of the national cycle route NR54, runs in the west of this LCA and Mickleover Meadows LNR is also located in the west. This LCA is largely functional, is relatively high density and has a medium value.

7.7.32 This LCA is located within the NCA 68: Needwood & South Derbyshire Claylands Landscape Character Area and the Settled Farms LCT. It is also located within the Mickleover Ward as identified within the DCiC Townscape Character Assessment.

Table 7.10: Assessment of susceptibility and sensitivity of landscape character LCA 1

Assessment of susceptibility and sensitivity of landscape character in Mickleover Residential LCA 1	
Value of receptor	**Value**
This is a residential housing area with limited open space that is functional in character and has a fair landscape quality and condition. Recreational opportunities are limited to small open space pockets and part of the NR 54. Mickleover Meadows LNR is located in the west. This area displays no scenic quality or rarity and is representative of urban fringe. It has no perceptual aspects or associations.	Medium
Susceptibility of receptor to specific change	**Susceptibility**
The A38 forms part of the existing baseline and the Scheme is not located within this LCA, but adjacent to the north. This LCA has a high capacity to accommodate the Scheme and would have a low susceptibility.	Low
Sensitivity of receptor to specific change	**Sensitivity**
This LCA has a medium value and low susceptibility to the Scheme, and therefore, it has a low sensitivity.	Low

LCA 2 Mackworth Public Open Space

7.7.33 This LCA is located to the west of the A38 and incorporates part of the A38 including the northbound and southbound carriageways to the south of Kingsway junction. Mackworth Park is an area of public open space incorporating Bramble Brook and its tributaries, which flows from the north-east of this character area and which is culverted from Kingsway junction. The area consists of open grassland and groupings of mature trees and woodland which are in good condition and bound the area, segregating this area from the A38 and the surrounding areas.

7.7.34 The area is of local recreational value, with part of the national cycle route NR54, running along the northern boundary of this LCA. This area sits on the urban fringes of Derby and forms an expansive area of open space situated between the urban area and rural villages and farmland to the west, whilst it forms part of a green wedge. The overall landscape quality of this LCA is good and it has a medium landscape value.

7.7.35 This LCA is located within the NCA 68: Needwood & South Derbyshire Claylands Landscape Character Area and the Settled Farms LCT. It is also located within the Mickleover Ward as identified within the DCiC Townscape Character Assessment.

Table 7.11: Assessment of susceptibility and sensitivity of landscape character LCA 2

Assessment of susceptibility and sensitivity of landscape character in Mackworth Public Open Space LCA 2	
Value of receptor	**Value**
This LCA is wholly composed of open space and mature trees that are well maintained and in good condition/quality. The area is contained by mature vegetation that buffers the adjacent residential areas and the A38. Views within the area are pleasant, however, such areas are not unusual on the periphery of large urban areas. This LCA has no designations for conservation value, but it is of importance to the local community for its recreational value NR 54. It has no perceptual aspects or associations.	Medium
Susceptibility of receptor to specific change	**Susceptibility**
The existing A38 and surrounding residential areas contribute to the setting of this LCA, but have little effect on its character and value due to established vegetation that buffers and segregates much of the open space from these areas. The nature of the Scheme in this area is not dissimilar to the existing influence of the A38 on this LCA, however, construction activities associated with and an underground attenuation tank would not be easy to accommodate and result in a medium susceptibility.	Medium
Sensitivity of receptor to specific change	**Sensitivity**
This LCA has a medium value and medium susceptibility to the Scheme, and therefore, it has a moderate sensitivity	Moderate

LCA 3 Derby Fringes Mixed Development

7.7.36 This LCA is located to the east of the A38 and incorporates part of the A38 and Kingsway junction. It forms part of the urban fringes of Derby that expand out to the west of the city centre ring road. The area comprises a retail park, the Kingsway hospital site (currently being sequentially developed for new housing) and areas of existing residential housing. It forms a typical urban fringe area that has developed due to its road links and need for residential expansion and is functional in character.

7.7.37 The density of built form within this area is tall and open space is limited to the grounds of the hospital which accommodates mature planting acting as a buffer between the Kingsway hospital site and the A38. The Kingsway hospital site forms part of the green wedge as identified by DCiC. The overall landscape quality of this LCA is good and it has low landscape value.

7.7.38 This LCA is located within the NCA 68: Needwood & South Derbyshire Claylands Landscape Character Area and it does not form part of a LCT. It falls within the Littleover and Abbey Wards as identified within the DCiC Townscape Character Assessment.

Table 7.12: Assessment of susceptibility and sensitivity of landscape character LCA 3

Assessment of susceptibility and sensitivity of landscape character in Derby fringes mixed use development LCA 3	
Value of receptor	**Value**
This LCA is composed of mixed use development and is functional in character and has a fair landscape quality and condition. The area displays no scenic quality or rarity and is representative of urban fringe on the outskirts of Derby. It holds no sites of conservation interest or recreational value and has no perceptual aspects or associations.	Low
Susceptibility of receptor to specific change	**Susceptibility**
This area sits on the fringes of Derby and the adjacent A38 and its proximity have contributed to the areas landscape character. The nature of the Scheme forms part of the existing baseline and, therefore, this LCA has a high ability to accommodate the Scheme and would have a low susceptibility.	Low
Sensitivity of receptor to specific change	**Sensitivity**
This LCA has a low value and low susceptibility to the Scheme, and therefore, it has a low sensitivity.	Low

LCA 4 Mackworth & Derby Fringes Residential Areas

7.7.39 This LCA is located to the west of Derby city centre and incorporates part of the A38 and both Kingsway and Markeaton junctions. The area is residential, and forms part of the western extent of the city. The area to the west of the A38 developed post-war and is predominantly made up of semi-detached properties with a high proportion being social housing. The area to the east of the A38 consists of a proportion of older terraced properties that were developed to house workers from the mills in the surrounding area.

7.7.40 Aside from housing, the area is made up of local convenience shops, schools and has dispersed areas of open space which are mainly to the west of the A38 and away from the city centre. Friar Gate conservation area is located in the east and is best known for its fine Georgian architecture. This LCA is largely functional, is relatively high density and has a medium value.

7.7.41 This LCA is located within the NCA 68: Needwood & South Derbyshire Claylands Landscape Character Area and it does not contain any LCTs. It is within the Mackworth Ward as identified within the DCiC Townscape Character Assessment.

Table 7.13: Assessment of susceptibility and sensitivity of landscape character LCA 4

Assessment of susceptibility and sensitivity of landscape character in Derby fringes mixed use development LCA 4	
Value of receptor	**Value**
This is a relatively high density residential housing area with limited open space and recreational opportunities. It is typical of the fringes of the city centre that has developed due to housing pressure, The area is functional and Friar Gate conservation area is situated in the east of this area.	Medium
Susceptibility of receptor to specific change	**Susceptibility**
Both the proximity of Derby and the A38 have contributed to the area's landscape character. The nature of the Scheme forms part of the existing baseline and, therefore, this LCA has a high ability to accommodate the Scheme and would have a low susceptibility.	Low
Sensitivity of receptor to specific change	**Sensitivity**
This is a functional area that has developed from the city centre outwards. This LCA has a medium value and low susceptibility to the Scheme, and therefore, it has a low sensitivity.	Low

LCA 5 Markeaton Park & Surrounds

7.7.42 This landscape character area is located to the north of Markeaton junction adjacent and to the west of the A38 which it incorporates. Markeaton Park is located in the south-west of this LCA and consists of extensive parkland with a craft village, gardens, boating lake, play area and sporting facilities. The park was first laid out in the mediaeval period and has many historical features (but not designated) including the 18th Century park and buildings, mature trees, historic lost roads and old arable field patterns. The extensive open parkland is public open space and contains groupings of mature native trees.

7.7.43 To the north, east and west the park is surrounded by rural farmland and the small village of Markeaton (conservation area) which consists of isolated red brick properties, a garden centre and tea rooms. Away from the major road that bound this LCA, the perception is of open parkland and farmland. Bonnie Prince Charlies Walk - RR 66 runs through Markeaton Park and through the rural land to the west. An area of green wedge and AMES sites (designated for both primary and secondary sensitivity) are located in the west of this LCA. The overall landscape quality of this LCA is good and it has a medium/high landscape value.

7.7.44 This LCA is located within the NCA 68: Needwood & South Derbyshire Claylands Landscape Character Area and it contains the Riverside Meadows and Estate Farmlands LCTs. It is within the Allestree Ward as identified within the DCiC Townscape Character Assessment.

Table 7.14: Assessment of susceptibility and sensitivity of landscape character LCA 5

Assessment of susceptibility and sensitivity of landscape character in Markeaton Park & Surrounds LCA 5	
Value of receptor	**Value**
This landscape character area consists of open parkland with historical associations and Markeaton village conservation area. The parkland provides many recreational uses and has inwards attractive views. The area incorporates part of a green wedge. It is fairly unusual, but not rare and has a good landscape quality/condition.	Medium/High
Susceptibility of receptor to specific change	**Susceptibility**
This area sits on the fringes of Derby and has already been affected by the proximity of the A38. The nature of the Scheme forms part of the existing baseline and, therefore, this LCA has a mediumhigh ability to accommodate the Scheme and would have a mediumlow susceptibility.	Mediumlow
Sensitivity of receptor to specific change	**Sensitivity**
This LCA has a medium/high value and low medium susceptibility to the Scheme, and therefore, it has a moderate sensitivity.	Moderate

LCA 6 Darley Residential Surrounds

7.7.45 This landscape character area is located to the east of the A38, from Kedleston junction. The area is predominantly residential. Darley village lies to the west of Darley Abbey and consists of a small village centre located around Church Lane and includes a school, local shops and period terraced properties. The village has historic associations with the Abbey. Away from the village, property styles are more modern, and there is a combination of sizable detached and semi-detached houses. Although the area is predominantly residential, it is interspersed with pockets of open space.

7.7.46 This LCA forms part of the Derwent Valley Mills WHS Buffer Zone, whilst the Leylands Estate conservation area is located within this LCA. The Bonnie Prince Charlie Walk - RR 66 runs adjacent to Darley Abbey and forms the boundary between this LCA and the Darley Abbey & Derwent Valley Flood Plain LCA. A group TPO covers an extensive area adjacent to the A38. Overall, the area has a good quality and medium high value.

7.7.47 This LCA is located within the NCA 68: Needwood & South Derbyshire Claylands Landscape Character Area and does not contain any LCT. It is within the Darley Ward as identified within the DCiC Townscape Character Assessment.

Table 7.15: Assessment of susceptibility and sensitivity of landscape character LCA 6

Assessment of susceptibility and sensitivity of landscape character in Darley Residential Surrounds LCA 6	
Value of receptor	**Value**
This landscape character area is largely residential and includes Darley Village which is attractive and provides associations with Darley Abbey. The area incorporates part of the Derwent Valley Mills WHS Buffer Zone and the Leylands Estate is designated a conservation area and group TPOs. The Bonnie Prince Charlie Walk (RR66) provides some recreational value. Associations with the WHS make the area rare. It has a good landscape quality and condition.	High
Susceptibility of receptor to specific change	**Susceptibility**
This area sits on the fringes of Derby and has already been affected by the existing A38. The A38 forms part of the existing baseline and the Scheme is located some distance from this LCA. This LCA has a medium ability to accommodate the Scheme and would have a medium susceptibility.	Medium
Sensitivity of receptor to specific change	**Sensitivity**
This LCA has a ~~medium~~ high value and ~~low~~ medium susceptibility to the Scheme, and therefore, it has a moderate sensitivity.	Moderate

LCA 7 Allestree Residential Areas

7.7.48 This LCA is located to the west of the A38 and incorporates part of the A38 and extensive residential areas. It runs to the north of Kedleston Road junction to the River Derwent to the west of Little Eaton junction. It incorporates the University of Derby, a small shopping centre, schools, church and small pockets of public open space that include a cricket club, local facilities and pub. This area has a modern, urban character with a mixture of housing styles.

7.7.49 Allestree conservation area is located to the north of the A38 and contains a group TPO. National Cycle Network route 66 runs within the south of this LCA area. This area is functional in character with a fair landscape quality.

7.7.50 This LCA is located within the NCA 68: Needwood & South Derbyshire Claylands and NCA 50: Derbyshire Peak Fringe Lower Derwent Landscape Character Areas and contains the Estate Farmlands LCT. It is within the Allestree Ward as identified within the DCiC Townscape Character Assessment.

Table 7.16: Assessment of susceptibility and sensitivity of landscape character LCA 7

Assessment of susceptibility and sensitivity of landscape character in Allestree Residential Areas LCA 7	
Value of receptor	**Value**
Modern urban area that is representative of urban fringe and contains no associations. It contains small pockets of areas of recreational value and comprises of Allestree conservation area and a group TPO. It has a fair landscape quality and condition.	Medium
Susceptibility of receptor to specific change	**Susceptibility**
The A38 forms part of the existing baseline and the Scheme is located some distance from this LCA. This LCA has a medium ability to accommodate the Scheme and would have a medium susceptibility.	Medium
Sensitivity of receptor to specific change	**Sensitivity**
This LCA has a medium value and medium susceptibility to the Scheme, and therefore, it has a moderate sensitivity.	Moderate

LCA 8 Darley Abbey & Derwent Valley Flood Plain

7.7.51 This LCA is located to the south-east of the A38 and incorporates the western part of Little Eaton junction and parts of the A38 west of the junction. This area is low lying and forms part of the River Derwent floodplain and incorporates part of the green belt. Much of this area is open grassland with Darley Mill and several small works units located around the River Derwent where it forms a weir.

7.7.52 This LCA forms part of the Derwent Valley Mills WHS core area and buffer zone with Darley Abbey designated a conservation area. The Derwent Valley Heritage Way follows the route of the river, passing under the A38 to the west of Little Eaton junction, before crossing the river at the Darley Abbey weir, after which it heads west. Darley and Nutwood LNR is located on the floodplain and is designated for its wetland species – other wildlife designations are detailed in Chapter 8: Biodiversity. An area of green belt is located in the east and incorporates Little Eaton junction. This LCA has an expansive open character with historical, recreational and ecological associations. It has a good landscape quality and high value.

7.7.53 This LCA is located within the NCA 68: Needwood & South Derbyshire Claylands and NCA 50: Derbyshire Peak Fringe Lower Derwent Landscape Character Areas and contains the Riverside Meadows LCT. It is within the Darley Ward as identified within the DCiC Townscape Character Assessment.

Table 7.17: Assessment of susceptibility and sensitivity of landscape character LCA 8

Assessment of susceptibility and sensitivity of landscape character in Derby fringes mixed use development LCA 8	
Value of receptor	**Value**
This area is largely open floodplain and affords open long distant views. It contains a WHS and areas of conservation interest include Darley & Nutwood LNR, Darley Abbey conservation area and it falls part within the green belt. The Derwent Valley Heritage Way runs through this area and is of recreational value. It has a good landscape quality and condition.	High
Susceptibility of receptor to specific change	**Susceptibility**
This LCA sits on the floodplain and has already been affected by the A38 in the north. The A38 forms part of the existing baseline and Little Eaton junction falls within this LCA. However, given this LCA's high value, construction activities associated with the Scheme would be difficult to accommodate and result in a medium/low susceptibility.	Medium /low
Sensitivity of receptor to specific change	**Sensitivity**
This LCA has a high value and medium/low susceptibility to the Scheme, and therefore, it has a moderate sensitivity.	Moderate

LCA 9 Allestree Park & Allestree Hill Open Space

7.7.54 This LCA is located to the north of the A38 and to the north-west of Little Eaton junction. It incorporates Allestree Park LNR, golf course and hall and is located on a high point and forms a large area of woodland, open space, fishery and Allestree Hall. It forms part of Allestree Park LNR and it forms part of a woodland tree preservation site, both of which are designated by DCiC. This LCA has an expansive open character with a good landscape quality.

7.7.55 This LCA is located within the NCA 50: Derbyshire Peak Fringe Lower Derwent Landscape Character Areas and contains the Wooded Slopes and Valleys LCTs. It is within the Allestree Ward as identified within the DCiC Townscape Character Assessment.

Table 7.18: Assessment of susceptibility and sensitivity of landscape character LCA 9

Assessment of susceptibility and sensitivity of landscape character in Allestree Park & Allestree Hill Open Space LCA 9	
Value of receptor	**Value**
Extensive parkland that has a good quality and condition and is of local importance for its wildlife and recreational value, including Woodland TPO and an LNR site. It has local scenic qualities within the area, but is not rare.	Medium
Susceptibility of receptor to specific change	**Susceptibility**
This LCA is situated on the fringes of Allestree and is some distance from the A38. Its context has been affected by the adjacent urban fringe that includes the A38. The Scheme is some distance from this LCA and its nature would not cause changes to the existing adjacent baseline, and therefore, the susceptibility of this LCA is low.	Low
Sensitivity of receptor to specific change	**Sensitivity**
This LCA has a medium value and a low susceptibility to the Scheme, and therefore, it has a ~~low~~ moderate sensitivity.	~~Low~~Moderate

LCA 10 Little Eaton & Breadsall Greenbelt

7.7.56 This LCA is located to the north and east of the A38 and incorporates the eastern part of Little Eaton junction and parts of the A38 to the west of the junction. The fringes of Little Eaton village are located in the north on elevated land that rises up from the floodplain with open rural land beyond. To the east is the village of Breadsall which consists of a nucleus of residential properties, school, church and pub. Within both villages local stone has been used as a building material for some of the older buildings and walling. Breadsall's nucleus of a church and school expands out to newer properties on its fringes and rural land adjacent to the west of Little Eaton junction.

7.7.57 Areas of mature woodland are interspersed within the rural landscape. Derwent Valley Heritage Way is located in the north and the National Cycle Network route 54 follows the route of the B6179 from Little Eaton village in the north and the A61 in the south. Much of this area is green belt, whilst both Little Eaton and Breadsall villages are designated conservation areas. Part of an AMES site of secondary sensitivity is located in the southern corner of this LCA. In summary, this LCA is rural and attractive with a good landscape quality.

7.7.58 This LCA is located within the NCA 50: Derbyshire Peak Fringe Lower Derwent Landscape Character Area and contains the Wooded Slopes & Valleys and Riverside Meadows LCTs. It does not fall within a DCiC Townscape Character Assessment area.

Table 7.19: Assessment of susceptibility and sensitivity of landscape character LCA 10

Assessment of susceptibility and sensitivity of landscape character in Little Eaton and Breadsall LCA 10	
Value of Receptor	**Value**
Rural green belt area. Open rural land allows for attractive distant views. Breadsall village and rural land are representative of the area and historic associations are representative in the use of local stone as a building material. Little Eaton and Breadsall villages have been designated conservation areas and Derwent Valley Heritage Way is of recreational interest. This area has a good landscape quality and condition.	High
Susceptibility of receptor to specific change	**Susceptibility**
This LCA has already been affected by the A38. The A38 forms part of the existing baseline, but the Scheme would incorporate additional land take within the LCA. This LCA has a high value resulting in a medium susceptibility.	Medium
Sensitivity of receptor to specific change	**Sensitivity**
This LCA has a high value and medium susceptibility to the Scheme, and therefore, it has a moderate sensitivity.	Moderate

Landscape visual amenity of the study area

Views from residential locations

7.7.59 The ZTV (refer to Figure 7.1a [**TR010022/APP/6.2**]) illustrates that potential views of all or part of Kingsway junction are obtained from the suburbs of Mackworth, Mickleover and St Luke's. However, site surveys indicate that the availability of views of Kingsway junction are contained by intervening vegetation, especially to the west which screens views from these areas.

7.7.60 In the south of the study area, views of Kingsway junction are not obtained from the residential area of Mickleover located to the west of the A38 as existing mature vegetation located adjacent to the road and within Mackworth Park screens views of the road and junction. To the east of the junction, views of the junction are obtained from the fringes of the industrial area. No views are obtained from the adjacent Kingsway hospital site due to intervening vegetation adjacent to the A38 and within the hospital site. In summary, views are limited to the east by built form that forms the urban fringe of Derby. Views obtained are in close proximity and in the context of the urban fringe.

7.7.61 Further north the ZTV (refer to Figure 7.1a [**TR010022/APP/6.2**]) illustrates that all or parts of Markeaton junction are available from the surrounding suburbs of Darley, Mackworth and St Luke's. However, site survey indicates that actual availability of views of the junction are constrained by intervening built form and vegetation, especially the housing and trees located within and on the edge of Markeaton Park.

7.7.62 The ZTV (refer to Figure 7.1b [**TR010022/APP/6.2**]) indicates potential views of all or part of Little Eaton junction being available from the majority of the north of Derby, as well as from the villages of Little Eaton, Breadsall, Quarndon and Duffield. Site survey indicates that actual availability of views, especially from the edge of Derby as well as Quarndon and Duffield, is highly constrained by intervening built form and vegetation. Views are available from the western edge of Breadsall, often looking across fields towards the existing junction, although there are several belts of trees and shrubs, especially around the junction, which restrict these views. From Little Eaton village, trees and buildings generally confine the direct views of the junction to residents living on the Ford Farm Mobile Home Park on Ford Lane.

Views from PRoWs

7.7.63 In the south of the study area views of Kingsway junction are most apparent to receptors using NR54 and RR66 (see Figure 7.1a [**TR010022/APP/6.2**]). Existing built development and vegetation across the study area acts as a visual barrier, restricting accessible views to Kingsway junction.

7.7.64 Views of Markeaton junction are most apparent to receptors using the Markeaton footbridge, routes running adjacent to the A38, including the Bonnie Prince Charlie Walk and RR66. Other more distant or filtered views are occasionally obtained from NR54 to the south and east of the junction. Existing built development and vegetation across the study area acts as a visual barrier to parts of these rights of way, restricting accessible views to the junction.

7.7.65 Views of Little Eaton junction are obtained by receptors using the rights of way that cross the A38 and those running adjacent to the A38, including the Derwent Valley Heritage Way and NR54 and local footpaths. Existing built development and vegetation across the study area acts as a visual barrier, restricting accessible views to Little Eaton junction.

Views from the road

7.7.66 In the south of the study area and to the south of Kingsway junction, views of the junction from the road are heavily filtered by built form and intervening vegetation along the highway verges. Views of the junction are principally obtained from the A38 and A5111 where they meet. Views to the north of the junction from the A52 are heavily filtered by built form and intervening vegetation along the highway. Views of the junction are also available in places from minor roads, including Greenwich Drive South and Brackensdale Avenue. However, built form and vegetation limit the availability of views.

7.7.67 Driver views of Markeaton junction are obtained principally from the A38 and A52, as these two roads cross at the junction. Views from the A5111 to the south of the junction are heavily filtered by built form and intervening woodland along the highway. Views of the junction are also available in places from minor local roads. However, built form and vegetation tend to limit the availability of views.

7.7.68 In the north of the study area views of Little Eaton junction are obtained from the A38 and A61, where they meet at the junction. Views from the B6179 to the north of the junction and running parallel to the A38 are obtained in close proximity to the junction. Views from the A6 and A608 are heavily filtered by built form and intervening woodland along the highway. Views of the junction are also available in places from minor local roads and farm tracks, including Ford Lane, as well as Croft Lane in Breadsall. However, built form and vegetation tend to limit the availability of views.

Visual receptors and representative viewpoints

7.7.69 The 24 representative viewpoints listed below were identified during the desk based studies, by site surveys (undertaken in September and November 2018) and in consultation with local planning authorities (refer to Section 7.4), as well as taking into consideration of feedback during statutory consultation. The viewpoint locations are illustrated in Figure 7.1a and 7.1b [**TR010022/APP/6.2**]. Details regarding viewpoint selection are provided in para. 7.3.14.

7.7.70 The representative viewpoints listed below have been grouped according to which of the junctions they have views of (refer to Figure 7.1a and 7.1b [**TR010022/APP/6.2**]):

- In the south of the study area around Kingsway junction:
  1 Mackworth Park - NR54 .
  2 Public open space at Greenwich Drive South (looking north-east).
  3 A5111 Kingsway at Kingsway Retail Park.
  4 Footpath adjacent to the A5111 Kingsway.
  5 Public open space at Greenwich Drive South (looking south-east).
  6 Brackensdale Avenue.
- In the south of the study area around Markeaton junction:
  7 Greenwich Drive North looking east.
  8 Junction of Enfield Road and Greenwich Drive North.
  9 A52 Ashbourne Road.
  10 Markeaton Park entrance.
  11 Junction of Ashbourne Road and Pybus Street.
  12 Markeaton Park fringes adjacent to the A38.
  13 Bonnie Prince Charlie Walk within Markeaton Park.
  14 Bonnie Prince Charlie Walk, Markeaton footbridge (looking south).
  15 Bonnie Prince Charlie Walk, Markeaton footbridge (looking north).

- In the north of the study area around Little Eaton junction:
  16 Derwent Valley Heritage Way.
  17 Derwent Valley Heritage Way.
  18 A61 NR 54 (looking north).
  19 Ford Lane to the west of the Mainline Midland Railway line.
  20 Moor Road at the junction with Breadsall Footpath 10 (approach road to Breadsall village from the north-east).
  21 Breadsall Hilltop (south of Breadsall village).
  22 Ford Lane in front of the Ford Farm Mobile Home Park.
  23 Breadsall Footpath FP3.
  24 Breadsall Footpath FP2.

7.7.71 Descriptions of the baseline views obtained at these representative viewpoints are detailed in Appendix 7.1 [**TR010022/APP/6.3**], along with summaries of their value, susceptibility and sensitivity (as defined by the methodologies in Section 7.3) – also refer to Figure 7.5 [**TR010022/APP/6.2**] (Representative Viewpoints 1 - 24).

Future Baseline

7.7.72 As detailed within Chapter 4: Environmental Impact Assessment Methodology, in order to identify the effects of the Scheme on environmental features, it is important to understand the baseline at the year of construction and the future baseline during Scheme operation, as these may be different from those that currently exist. Such changes could alter the sensitivity of existing environmental receptors, as well as introduce new sensitive receptors.

Construction year baseline (2020)

7.7.73 The baseline details as reported in the sections above describe existing landscape and visual conditions.

7.7.74 Preliminary works associated with the Scheme are anticipated to start in late 2020, subject to securing a DCO, with the main construction works starting in early 2021 (refer to Chapter 2: The Scheme, Section 2.6).

7.7.75 The majority of the land that would be impacted by the Scheme (and in its vicinity) at Kingsway junction and Markeaton junction comprise the existing A38 highway and other highway infrastructure, as well as surrounding residential areas and areas of public open space. At Little Eaton junction, the majority of the land that would be impacted by the Scheme (and in its vicinity) comprises agricultural land as well as the existing A38 highway and other highway infrastructure, plus residential and commercial areas. As such, environmental baseline conditions are not anticipated to change significantly by 2020 from the conditions as detailed above. However, as detailed in Chapter 15: Assessment of Cumulative Effects, a

number of development projects are ongoing, or are planned, that have the potential to change baseline conditions. Whilst these are not likely to significantly change baseline conditions within the landscape and visual study area, the following changes are anticipated by the construction baseline year (2020) (the number in brackets refers to the development numbers as detailed in Appendix 15.2 [**TR010022/APP/6.3**]):

- A new footpath within Mackworth Park (No 5) will be operational.
- The development at Radbourne Lane (Langley Country Park) (No 48) will have been completed. Developments within the Mackworth College site (No 6), within the Kingsway hospital site (No 21) and land north of Mansfield Road (Breadsall) (No 39/47) will be further progressed.
- The NHS carpark for 600 cars located to the west of Kingsway Hospital and north of Northmead Drive (No 22) will have been fully developed and will be operational.
- Residential developments at Hackwood Farm (No 29/41), land south of Mansfield Road (Breadsall) (No 40), and land at Kedleston Road (No 50) are anticipated to have been started with resultant land clearance.

7.7.76 Other minor developments in the vicinity of the Scheme which are considered to have been completed by late 2020, and thus will be part of the prevailing baseline, are detailed in Appendix 15.2 [**TR010022/APP/6.3**].

7.7.77 The various developments as detailed above will not alter the current landscape character or sensitivity of the applicable LCAs within the study area that are defined within the baseline as detailed in Section 7.6.

Opening year baseline (2024) and 15 years after Scheme opening (2039)

7.7.78 It is not possible to accurately predict baseline environmental conditions for the year of Scheme opening (2024) and 15 years after Scheme opening. However, it is anticipated that baseline conditions in 2024 in the vicinity of the Scheme and within the associated landscape and visual study area will largely be the same as at 2020, although most of the developments as detailed in Appendix 15.2 [**TR010022/APP/6.3**] are anticipated to have been completed by 2024. Such developments are not anticipated to alter the prevailing landscape character or sensitivity of the applicable LCAs within the study area, although they will increase the coverage of residential areas within and outside the study area. Looking towards 2039, urban pressures associated with an increased population may result in the further expansion of the built environment.

7.8 Potential impacts

7.8.1 Mitigation measures incorporated into the Scheme design and measures to be taken to manage Scheme construction are set out in Section 7.9. Prior to implementation of defined mitigation measures, the Scheme has the potential to affect landscape and visual receptors (positively or negatively), both during construction and once in operation - potential sources of impact are detailed in the sections below.

Construction

Landscape character

7.8.2 The following activities and elements associated with Scheme construction are anticipated to result in temporary impacts on landscape character and visual amenity:

- The introduction of construction plant, materials stockpiles, machinery, construction compounds, fencing, signage and temporary lighting, all of which could temporarily change the perception of local landscape character.
- General construction activity and operations, and the movement of construction vehicles, which could temporarily detract from the appreciation of local landscape character.
- The removal of vegetation such as hedgerows, trees, woodland, buildings and structures as part of site clearance works, which may alter the balance of components that combine to form local landscape character.
- Earthworks and excavations which may alter the balance of components that combine to form local landscape character.

Visual receptors

7.8.3 Impacts on visual receptors during Scheme construction are anticipated to include the following:

- The removal of vegetation, buildings and structures as part of site clearance works, which may alter the visual baseline by opening up new views towards construction working areas for visual receptors such as users of PRoW, occupants of residential properties and road users.
- The demolition of 15 detached properties on Queensway and two semi-detached properties on the A52 which would remove some visual receptors as well as remove structures that provide visual screening.
- The introduction of construction plant, materials stockpiles, machinery, construction compounds, fencing, signage and temporary lighting, which may emerge in the existing outlook afforded to visual receptors as a detracting new feature.

- General construction activity and operations, and the movement of construction vehicles, which may feature as a temporary point of focus within existing views.

Operation

Landscape character

7.8.4 Impacts on landscape character associated with Scheme operation would be contained within LCAs 2, 3, 4, 5, 6, 7, 8 and 10 (refer to Figure 7.4 [**TR010022/APP/6.2**]) and include the following:

- The introduction of permanent new road features (e.g. lighting columns, gantries and signage) and modifications to the existing A38 road, which may lead to the fragmentation and urbanisation of the landscape or be at odds with the wider landscape character.
- Modifications to the profile of the landscape, through the permanent introduction of features such as earthworks, cuttings, flood storage areas and floodplain compensation area, bridges, structures, noise and screening barriers and new junctions.
- The direct and permanent loss of character-forming features such as trees, woodland and hedgerows, which may further impact on landscape character by changing the pattern and balance of components within the landscape.
- Permanent land take from areas of public open space (at Kingsway junction, Markeaton Park and Mill Pond).
- Permanent land take from the River Derwent floodplain that forms part of the Derwent Valley Mills WHS and green belt.
- Watercourse diversion works and associated habitat creation works.
- Provision of replacement public open space and additional green space associated with planting of redundant sections of carriageway.

Visual amenity

7.8.5 Changes in visual amenity within winter year 1 and summer year 15 of Scheme operation would principally be attributed to the following components of the Scheme:

- The removal of character-forming features, which may permanently change the composition of existing views from visual receptors.
- The introduction of new road infrastructure and modifications to existing roads, including increasing the A38 from two lanes to three lanes between Kingsway junction and Kedleston junction, and the associated changes to traffic flows, which may permanently alter the existing outlook afforded to different visual receptors.

- The extension of Kingsway junction to incorporate two dumbbell roundabouts that would entail permanent land take from areas of public open space to the west of the A38.
- Ecological mitigation works within Markeaton Park (creation of new species-rich grassland).
- Carriageway widening resulting in the loss of some public open space at Markeaton junction (Markeaton Park and Mill Pond).
- Replacement footbridge to the south of Markeaton junction.
- The enlargement of Little Eaton junction at ground level with the A38 located above on embankment and supported by two overbridges.
- Lighting of the A38 and associated junctions to tie in with existing lighting.
- The introduction of taller, visually conspicuous highway infrastructure such as lighting columns, signage, gantries, noise barriers and visual screens.
- Provision of replacement public open space and additional green space associated with planting of redundant sections of carriageway.

7.9 Design, mitigation and enhancement measures

Construction

7.9.1 During the construction of the Scheme, a number of measures would be put in place to reduce potential impacts upon the prevailing landscape and visual receptors as follows:

- As detailed in Chapter 2: The Scheme, Section 2.5, construction of the Scheme would be subject to measures and procedures as defined within the Outline Environmental Management Plan (OEMP) for the Scheme (refer to Appendix 2.1 [**TR010022/APP/6.3**]). The OEMP includes a range of good practice measures associated with mitigating potential environmental impacts. The measures detailed within the OEMP would be developed into a Construction Environmental Management Plan (CEMP) by the selected construction contractor which would be implemented for the duration of the Scheme construction phase. Measures that would be included within the CEMP include the following:
  - Impacts on landscape character and visual amenity during the Scheme construction phase would be reduced by keeping well-managed and tidy construction working areas, construction compounds and satellite compounds (refer to Figure 2.11a to 2.11c [**TR010022/APP/6.2**]) to minimise their visual impact and appearance in the landscape.
  - Ensuring that materials are delivered to site on an “as and when” basis to minimise unnecessary stockpiles.

- Stockpiles would be approximately 2m to 3m in height, and may be sown with grass seed to reduce their visual impact should they be present for extended periods of time.
- The protection and retention of trees in proximity to construction working areas, to avoid damage to existing vegetation.
- Appropriate positioning of construction compounds and welfare facilities.
- Temporary offices and welfare facilities within site compounds (refer to Figures 2.11a to 2.11c [**TR010022/APP/6.2**]) would be of a recessive colour to blend in with the local surroundings.
- Lighting would be kept to a minimum luminosity necessary and use low energy consumption fittings. Where appropriate, lighting would be activated by motion sensors to prevent unnecessary usage. However, this would not be the case should lighting be continuously required for safety reasons. The main construction compound at Little Eaton junction would be occupied at all times for the security of the plant, equipment, and materials within it. As such, the compound would be lit as required during hours of darkness. Such lighting would be directional, and positioned sympathetically in order to minimise light spill and disturbance for nearby sensitive receptors.

Scheme design and operation

7.9.2 Environmental considerations have been taken into account during the development of the Scheme design, to avoid and reduce potential impacts on the prevailing landscape and visual receptors. This iterative approach has led to a range of mitigation measures capable of reducing the magnitude of impacts being embedded within the Scheme design – such measures are illustrated on the Environmental Masterplans in Figures 2.12a to 2.12h [**TR010022/APP/6.2**] (also refer to the Environmental Mitigation Schedule provided in Appendix 2.2 [**TR010022/APP/6.3**]). Actions that have been taken that avoid or reduce potential landscape and visual effects include the following:

- Kingsway junction and Markeaton junction have been designed to position the mainline carriageways within cuttings and thus below the level of the existing junctions. The objective here being to visually contain much of the new carriageway and associated infrastructure and screen traffic movements from existing views available from nearby residential properties, footpaths and cycleways.
- At Little Eaton junction the new A38 would pass the new roundabout on two bridges on embankment (approximately 11m above existing ground level at the highest point on the north side of the junction before quickly dropping down to around 3m above existing ground levels - it would be around 9m above the existing roundabout carriageway level on the high side of the main line). In order to reduce the potential visual and noise effects of the Scheme at Little

Eaton junction, noise and screening barriers have been included in the Scheme design as detailed in the Environmental Masterplans (refer to Figures 2.12f and 2.12g [**TR010022/APP/6.2**]). Following the assessment of potential noise and visual effects associated with Scheme operation, and taking into account consultation responses (refer to Chapter 3: Scheme History and Assessment of Alternatives, Table 3.10), combined noise and visual screening barriers approximately 2.5m high have been included in the Scheme design, both along the northbound mainline A38 in the vicinity of the Ford Lane Mobile Home Park, and along the southbound mainline A38 and associated A61 diverge slip-road as the Scheme passes Breadsall. Such barriers would reduce noise effects associated with the Scheme (refer to Chapter 9: Noise and Vibration) and would also screen all vehicles other than HGVs from adjacent residential areas.

- Lighting of new and improved sections of road within the Scheme has been confined to locations where road safety is a priority, in order to minimise the potential for light spill in night time views across the landscape. Lighting via the use of light-emitting diode (LED) luminaires reduces light spill into adjacent areas, whilst LED lights (with directional and narrow beam) emit warm white lighting rather than the yellow and orange colour which is more commonly emitted by conventional lighting. In addition, the A38 mainline at Little Eaton junction would not have overhead lighting in order to minimise visual intrusion (refer to Chapter 3: Scheme History and Assessment of Alternatives, Table 3.10 for details of the assessment of alternatives considered). To ensure that drivers would be aware of the bend in the road at this location, appropriate signing would be installed along with the provision of solar powered studs integrated within the road pavement. This approach would avoid the need to install approximately 56 lighting columns along the A38 mainline. However, 12m high LED luminaires would still be provided at the new at-grade Little Eaton roundabout and the approaching slip-roads for safety reasons.
- Signage provisions have been designed to minimise the potential for visual clutter along the Scheme, taking into account safety design standards. Due to limited verge widths and the requirement for large retaining walls, along with complex merge and lane drop arrangements on the Scheme, in some instances the most appropriate signing arrangement would be to provide gantry mounted direction signs. As such, up to seven gantries are proposed along the Scheme mainline between Kingsway junction and Kedleston Road junction and approaches (refer to Figure 2.5 and 2.6 [**TR010022/APP/6.2**]). If such gantries were not used, signage requirements would need further land to be taken and with signage being placed significantly closer to nearby sensitive receptors.

- A key consideration throughout the development of the Scheme design has been the retention of existing vegetation and trees wherever possible - refer to Figures 7.6a/b and Figures 7.7a/b [**TR010022/APP/6.2**] which show indicative areas of existing tree and habitat retention, respectively (also refer to Appendix 7.2: Arboricultural Impact Assessment Report [**TR010022/APP/6.3**]). This includes appropriate layout design of the construction compound at Little Eaton junction to minimise tree losses, including tree loss along the boundary with Alfreton Road. In addition, the Scheme design has aimed to avoid impacts upon veteran trees – as such the layout of the floodplain compensation area at Little Eaton junction would avoid three veteran trees to the north of the area, whilst the veteran tree located to the south of Little Eaton junction (within an area proposed for material storage) would be retained and appropriately protected during the Scheme construction phase. Similarly, the position of the replacement Markeaton footbridge was amended such that it largely occupies the footprint of the current footbridge in order to minimise additional tree losses (refer to Chapter 3: Scheme History and Assessment of Alternatives, Table 3.10). Retention of existing vegetation has biodiversity benefits, but also aims to retain areas of screening vegetation and minimise the need for area replanting.
- The floodplain compensation area at Little Eaton junction (refer to Chapter 2: The Scheme, Table 2.1 and Chapter 13: Road Drainage and the Water Environment) is located within the Derwent Valley Mills WHS. Given the sensitivity of the site, very careful consideration has been given to the final landform created by the required excavation works (refer to Figure 2.10 [**TR010022/APP/6.2**]). The landform design has been developed with input from landscape, ecological and cultural heritage specialists with the aim that it creates a naturalistic profile that blends in with the surrounding valley profile, as well as enabling the land to be returned to agricultural use, whilst also retaining isolated veteran trees of ecological and landscape note. It is the intention that following profiling and re-establishment of agricultural grassland, it would not be apparent that any works had taken place on the site. A visualisation of the floodplain compensation area is provided in the Heritage Impact Assessment (Appendix 6.1 [**TR010022/APP/6.3**] – refer to Appendix 1 therein). This visualisation illustrates the floodplain compensation area before and after the works from two viewpoints on the Derwent Valley Heritage Way. The visualisations illustrate that the floodplain compensation area would appear as a natural agricultural area, similar to current conditions.
- The Scheme would integrate fully with the existing A38, whilst some sections of the existing A38 and adjacent roads would be made redundant by the Scheme which would be closed (refer to Chapter 2: The Scheme, para. 2.5.72). Some redundant highway sections would be released for landscape planting, including the parts of the existing access from Brackensdale Avenue onto the A38; sections of existing carriageway associated with the existing northbound A38 from Markeaton junction; the existing access from Ford lane onto the A38 (located between the River Derwent bridge and the bridge over

the Midland Mainline railway line); and a section of existing A38 mainline carriageway located to the north of Little Eaton junction. Planting of such areas aims to integrate the Scheme landscape design with existing green wedges (refer to Figure 7.3b [**TR010022/APP/6.2**]) and existing areas of public open space.

- The Scheme would result in the loss of public open space at Kingsway junction (Chapter 2: The Scheme, para 2.5.8) and Markeaton junction (Chapter 2: The Scheme, para. 2.5.23). Chapter 3: Scheme History and Assessment of Alternatives, Table 3.10 provides details of the options considered to provide replacement public open space offered in exchange. This evaluation indicated that the area left vacant following the demolition of 15 detached residential properties on Queensway, the area left vacant by the downgrading of the existing A38 as it follows the southern boundary of Markeaton Park, and the area left vacant by the closure of Brackensdale Avenue access to and from the A38 would collectively provide the required replacement public open space. The replacement public open space at Queensway would be appropriately landscaped and would provide facilities for pedestrians and cyclists connecting the A52 Ashbourne Road with the proposed new Markeaton footbridge.

7.9.3 In addition to the measures identified above, a landscape planting strategy has been developed and incorporated into the Scheme design (refer to Figures 7.8a to 7.8c [**TR010022/APP/6.2**]). This has been developed in accordance with the landscape design guidance and principles contained in DMRB, Volume 10 (Highways Agency, 2001). The Environmental Masterplans for the Scheme, which places the planting strategy within the wider framework of other environmental mitigation measures, are provided as Figures 2.12a to 2.12h [**TR010022/APP/6.2**], whilst the Environmental Mitigation Schedule provided in Appendix 2.2 [**TR010022/APP/6.3**]) provides details of the principles behind the landscaping proposals.

7.9.4 The planting strategy for the Scheme has sought, where possible, to utilise trees, shrub, scrub and grassland species that would not only provide an essential landscape mitigation (screening and integration) function, but also offer wider biodiversity benefits. The objectives of the planting strategy have been to (refer to Figures 7.8a to 7.8c [**TR010022/APP/6.2**]):

- Filter, screen and contain more prominent components in existing views from visual receptors.
- Provide compensatory planting for trees, hedgerows, shrubs, woodland and grassland lost as a result of permanent land take within the Scheme, and to reinstate planting removed as a consequence of site clearance activities.
- Reinforce the existing vegetation pattern by planting species found locally.
- Assist the integration of drainage features and watercourse channel realignment works into the surrounding landscape framework and pattern.

- Provide visual interest to people travelling on new and modified sections of road, as well as local pedestrians and cyclists.

7.9.5 In order to maximise landscape benefits upon Scheme opening, it is proposed to plant a number of semi-mature trees in prominent locations around the Scheme (detailed as plot type LE5.1 – individual trees on the landscape design drawings shown in Figures 7.8a to 7.8c [**TR010022/APP/6.2**]). This includes the locations as follows:

- Kingsway junction:
  - Between the northbound carriageway and the northbound off-slip.
  - Between the southbound carriageway and southbound off-slip.
  - Open space at Brackensdale Avenue.
- Markeaton junction:
  - Markeaton junction island.
  - Along the fringes of Markeaton Park.
  - Replacement public open space.
- Little Eaton junction:
  - Northbound A38 to the north of the junction.

7.9.6 The appointed contractor would be responsible for undertaking landscape management within the contract period (for up to five years after Scheme opening), after which the longer term maintenance and management of the soft estate responsibilities would transfer to Highways England as the East Midlands Asset Delivery team.

7.9.7 The appointed contractor would also be responsible for the preparation of a Handover Environmental Management Plan (HEMP) during the contract period (refer to Chapter 2: The Scheme, para. 2.7.8). The purpose of the HEMP would be to provide information relating to existing and future environmental commitments that would need to be delivered by those responsible for the future management and operation of the Scheme. The HEMP would include specific requirements concerning the long term maintenance and management of all landscaping incorporated into the Scheme.

7.10 Assessment of likely significant effects

7.10.1 The following section assesses the Scheme effects on landscape and visual receptors resulting from construction and operation of the Scheme. The assessment takes into account the environmental design measures embedded in the Scheme design (including the landscape design as detailed in Figures 7.8a to 7.8c [**TR010022/APP/6.2**]), as well as the management actions as detailed in Section 7.9.

Construction phase

Landscape character

7.10.2 The following tables outline the predicted Scheme effects on LCAs 1 to 10 (refer to Figure 7.4 [**TR010022/APP/6.2**]) during the construction phase.

Table 7.20: Scheme construction phase effects on LCA 1 Mickleover Residential

Assessment of the magnitude of change within the Mickleover Residential LCA 1 as a result of Scheme construction	
Size/scale, geographical extent, duration & reversibility of impact	**Magnitude of landscape effect**
Construction: There would be no Scheme construction works within this LCA. The closest and most significant construction works would be those associated with the Scheme at Kingsway junction and within Mackworth Park (installation of underground highway drainage attenuation tank). Thus this LCA would be indirectly affected by construction works taking place within the Derby Fringes Mixed Development LCA and the Mackworth Public Open Space LCA as detailed below. This area is of low sensitivity and would have a low susceptibility to construction activities associated with the Scheme. The magnitude of change during Scheme construction would be no change.	Neutral

Table 7.21: Scheme construction phase effects on LCA 2 Mackworth Public Open Space

Assessment of the magnitude of change within the Mackworth Public Open Space LCA 2 as a result of Scheme construction	
Size/scale, geographical extent, duration & reversibility of impact	**~~Magnitude~~ Significance of landscape effect**
Construction: Construction operations associated with the Scheme at Kingsway junction within this LCA would include works within Mackworth Park to install an underground highway runoff storage tank, with a swale outfall to a tributary of Bramble Brook. In addition, earthworks would be carried out in isolated locations to the west of the A38. Some tree removal would be necessary for these earthworks and to enable the installation of the underground highway runoff storage tank. This LCA would also be indirectly affected by construction works taking place within the Derby Fringes Mixed Development LCA and the Mackworth & Derby Fringes Residential Areas LCA as detailed below. Construction works would be short term, whilst there would be direct impacts to the public open space within Mackworth Park. However, impacts on the rest of this LCA (which includes the surrounding residential properties) would be minimal as the area affected by construction activities is well contained and buffered by boundary vegetation. This area is of moderate sensitivity and has a ~~moderate~~ medium~~low~~ susceptibility to construction activities associated with the Scheme. The magnitude of change during Scheme construction would be moderate.	Moderate adverse

Table 7.22: Scheme construction phase effects on LCA 3 Derby Fringes Mixed Development

Assessment of the magnitude of change within the Derby Fringes Mixed Development LCA 3 as a result of Scheme construction	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Construction: The formation of the eastern dumbbell roundabout associated with the Scheme at Kingsway junction would entail a small area of earthworks adjacent to the A38 and retaining wall. Most construction operations would be focused within the junction, including excavations to construct the new A38 mainline, the realignment of Bramble Brook, the formation of a flood storage area, a highway runoff attenuation pond as well as two underground cellular storage tanks, a lay-down area of materials storage and construction worker welfare facilities. Works would also be undertaken in the Kingsway hospital site associated with the construction of flood storage areas – such works would require the removal of roadside vegetation in order to gain access into the site. Elsewhere existing vegetation within the Kingsway hospital site would be unaffected by the works and forms a buffer between the works and the adjacent hospital site (which is undergoing sequential housing development) and areas to the east of the A38 thus containing activities. This LCA would also be indirectly affected by construction works taking place within the Mackworth Public Open Space LCA and the Mackworth & Derby Fringes Residential Areas LCA. This area of low sensitivity has a low susceptibility to construction activities associated with the Scheme. The magnitude of change during Scheme construction would be of minor magnitude.	Slight adverse

Table 7.23: Scheme construction phase effects on LCA 4 Mackworth & Derby Fringes Residential Areas

Assessment of the magnitude of change within the Mackworth & Derby Fringes Residential Areas LCA 4 as a result of Scheme construction	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Construction: Construction operations associated with the Scheme at both Kingsway junction and Markeaton junction within this LCA would include: the formation of a new dumbbell roundabout to the west of the existing Kingsway junction (which would encroach on public open space adjacent to Greenwich Drive South and require removal of some of the mature woodland that forms a buffer between this area and the A38); the existing footpath in this area would be temporarily diverted during the works; satellite construction compounds on the area of open space adjacent to the Brackensdale Avenue access onto the A38 and at the Army Reserves Centre (which would be lit overnight for security purposes); the existing junctions with the A38 at Brackensdale Avenue and Raleigh Street would be closed off; existing roadside vegetation would be removed adjacent to Greenwich Drive North and noise barriers would be constructed on either side of the A38; construction of a new link road to Kingsway Park Close (with associated noise barrier); construction of up to four gantries and the demolition of two properties on Ashbourne Road. Construction works would be short term, whilst there would be direct impacts upon areas of public open space at both junctions, as well as tree clearance. However, impacts would be focused along the A38 corridor and construction impacts on the rest of this LCA would be minimal. This area is of low sensitivity and would have a low susceptibility to construction activities associated with the Scheme. The magnitude of change during Scheme construction would be major.	Moderate adverse

Table 7.24: Scheme construction phase effects on LCA 5 Markeaton Park & Surrounds

Assessment of the magnitude of change within Markeaton Park & Surrounds LCA 5 as a result of Scheme construction	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Construction: Construction operations associated with the Scheme at Markeaton junction within this LCA would include: construction of the A52 merge slip road onto the new A38 mainline carriageway; the demolition of the toilet block and removal of a number of mature trees on the fringes of Markeaton Park and subsequent landscape reinstatement (associated with the utilities corridor); demolition and replacement of the Markeaton footbridge; gantry installation; reconfiguration of the park exit/entrance and some internal park roads, plus creation of a species rich grassland within Markeaton Park. Construction works would be short term, whilst there would be direct impacts to the fringes of Markeaton Park and residential areas immediately adjacent to Markeaton junction. This area is of moderate sensitivity and would have a ~~high~~ medium~~low~~ susceptibility to construction activities associated with the Scheme. The magnitude of change during Scheme construction would be major.	Large adverse

Table 7.25: Scheme construction phase effects on LCA 6 Darley Residential Surrounds

Assessment of the magnitude of change within the Darley Residential Surrounds LCA 6 as a result of Scheme construction	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Construction: Construction operations associated with the Scheme at Markeaton junction within this LCA would include: the demolition of 15 detached properties at Queensway to the east of the A38 (and associated mature trees); the demolition and replacement of the Markeaton footbridge; the construction of a noise barrier adjacent to the Royal School for the Deaf; the use of the vacant Queensway site as a satellite construction compound for materials storage and welfare facilities; and construction of two gantries. Construction works would be short term, whilst there would be direct impacts to the residential areas immediately adjacent to the junction and open park grassland in the north of this LCA. This area is of moderate sensitivity and would have a ~~high~~ medium susceptibility to construction activities associated with the Scheme. The magnitude of change during Scheme construction would be major.	Large adverse

Table 7.26: Scheme construction phase effects on LCA 7 Allestree Residential Areas

Assessment of the magnitude of change within the Allestree Residential Areas LCA 7 as a result of Scheme construction	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Construction: There would be no major construction operations within this LCA, although there would be some minor works to signages north of Kedleston Road junction and to the west of the River Derwent (within the existing highway junction), minor reconfiguration and signalisation works at the Ford Lane junction with the A6 (Duffield Road) and the realignment of Ford Lane and reconfiguration of junction with Lambourn Drive. The closest main construction works would be those associated with works to tie in the new A38 with Kedleston junction, as well as works required to excavate the floodplain compensation area to the west of the River Derwent and south of the A38 (within the adjacent LCA 8). This area is of moderate sensitivity and would have a ~~low~~ medium susceptibility to construction activities. The magnitude of change during Scheme construction would be minor.	Slight adverse

Table 7.27: Scheme construction phase effects on LCA 8 Darley Abbey & Derwent Valley Flood Plain

Assessment of the magnitude of change within the Darley Abbey & Derwent Valley Flood Plain LCA 8 as a result of Scheme construction	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Construction: Construction operations associated with the Scheme at Little Eaton junction within this LCA would include: use of the construction compound to the north of the junction (to be lit overnight for security purposes); the formation of the floodplain compensation area to the west of the River Derwent; closure of Ford Lane access to the A38 and potential works to strengthen the Ford Lane bridge over the River Derwent; construction of the new mainline A38 embankment and associated slip roads (including extension works to the Flood Arch and bridge over the Midland Mainline railway line); construction of approximately 2.5m high noise and screening barriers on the mainline A38 in the vicinity of the Ford Farm Mobile Home Park. This LCA would also be indirectly affected by construction works taking place within the Little Eaton & Breadsall Greenbelt LCA as detailed below. Construction works would be short term and indirect impacts would be caused to the fringes of the residential area of Allestree and the mobile home park site immediately adjacent to Little Eaton junction. This area is of moderate sensitivity and would have a ~~high~~ medium/low susceptibility to construction activities associated with the Scheme at Little Eaton junction. The magnitude of change during Scheme construction would	Large adverse

be major.	

Table 7.28: Scheme construction phase effects on LCA 9 Allestree Park & Allestree Hill Open Space

Assessment of the magnitude of change within the Allestree Park & Allestree Hill OpenSpace LCA 9 as a result of Scheme construction	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Construction: There would be no Scheme construction works within this LCA. The closest and most significant construction works located outside of this LCA would be the embankment works at Little Eaton junction and use of the construction compound to the north of the junction. This area is of ~~low~~ moderate sensitivity and would have a low susceptibility to Scheme construction activities. The magnitude of change during Scheme construction would be no change.	Neutral

Table 7.29: Scheme construction phase effects on LCA 10 Little Eaton & Breadsall Greenbelt

Assessment of the magnitude of change within Little Eaton & Breadsall Greenbelt LCA 10 as a result of Scheme construction	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Construction: Construction operations associated with the Scheme at Little Eaton junction within this LCA would include: diversion of Dam Brook and creation of ecology ponds and two highway drainage attenuation ponds; works to construct the A38 mainline embankment, bridges and associated slip roads; installation of approximate 2.5m high noise/screening barriers along the southbound mainline A38 and associated A61 diverge slip-road as the Scheme passes Breadsall. An area to the south of the junction would also be used for temporary soil storage. This LCA would also be indirectly affected by construction works taking place within the Darley Abbey & Derwent Valley Flood Plain LCA. Construction works would be short term and indirect impacts would be caused to the fringes of the residential areas of Breadsall to the east of Little Eaton junction. Direct impacts would be caused to the southern part of the Green Belt as construction works would be carried out within part of this area. This area is of moderate sensitivity and would have a ~~high~~ medium susceptibility to Scheme construction activities. The magnitude of change during construction would be major.	Large adverse

Visual amenity

7.10.3 Effects during Scheme construction have been assessed for each visual receptor identified in the assessment process or where receptors are so close together that a view can be reasonably approximated for a collection of receptors.

7.10.4 The visual baseline and impact schedule contained in Appendix 7.1 [**TR010022/APP/6.3**] provides a description of the predicted change in view and the associated magnitude of impact for 24 representative viewpoints, together with the predicted significance of effect during Scheme construction (also refer to Figure 7.5 [**TR010022/APP/6.2**] which provides details of views for the representative viewpoints 1 to 24).

7.10.5 In respect of visual amenity, the assessment has recorded that visual receptors associated with settlements, PRoW and the local road network would be subjected to varying degrees of impact during the Scheme construction phase.

7.10.6 Based on the sensitivity of the 24 assessed representative viewpoints towards change and the scale, the nature and duration of the impacts predicted to occur during the Scheme's construction phase, the temporary effects presented within Table 7.30 are predicted to occur in relation to visual amenity.

Table 7.30: Construction effects on visual amenity

Viewpoint	Receptor type	Sensitivity of view	Construction	
			Magnitude of impact	Effect
Representative Viewpoint 1	Recreational	High	Moderate	Large adverse
Representative Viewpoint 2	Recreational and residential	Moderate	Major	Moderate adverse
Representative Viewpoint 3	Local road users	Low	Minor	Slight adverse
Representative Viewpoint 4	Local footpath users	Low	Major	Moderate adverse
Representative Viewpoint 5	Recreational and residential	Moderate	Moderate	Moderate adverse
Representative Viewpoint 6	Residential	Low	Moderate	Slight adverse
Representative Viewpoint 7	Residential and local road users	Moderate	Major	Large adverse
Representative Viewpoint 8	Residential and local road users	Low	Moderate	Slight adverse
Representative Viewpoint 9	Residential and local road users	Low	Moderate	Slight adverse
Representative Viewpoint 10	Recreational	Moderate	Major	Moderate adverse
Representative Viewpoint 11	Residential and local road users	Low	Minor	Neutral
Representative Viewpoint 12	Recreational and local road users	Low	Major	Moderate adverse

Viewpoint	Receptor type	Sensitivity of view	Construction	
			Magnitude of impact	Effect
Representative Viewpoint 13	Recreational	Moderate	Minor	Slight adverse
Representative Viewpoint 14	Local footpath users	Low	Major	Moderate adverse
Representative Viewpoint 15	Local footpath users	Low	Moderate	Slight adverse
Representative Viewpoint 16	Recreational	High	Moderate	Large adverse
Representative Viewpoint 17	Recreational	Moderate	Major	Large adverse
Representative Viewpoint 18	Recreational	Low	Moderate	Slight adverse
Representative Viewpoint 19	Residential and local road users	Moderate	Minor	Slight Adverse
Representative Viewpoint 20	Local footpath and road users	Low	No change	Neutral
Representative Viewpoint 21	Local footpath users	Moderate	No change	Neutral
Representative Viewpoint 22	Residential and local road users	Low	Moderate	Slight Adverse
Representative Viewpoint 23	Local footpath users	Moderate	Moderate	Moderate adverse
Representative Viewpoint 24	Local footpath users	Moderate	Moderate	Moderate adverse

7.10.7 In summary, the assessment of Scheme construction phase effects on visual amenity has concluded that:

- Four representative receptors would experience temporary large adverse effects, three of which relate to recreational users, and one to residential and local road users.
- Eight representative receptors would experience temporary moderate adverse effects, of which two relate to recreational and residential users, one to recreational users only, four to local footpath users and one to recreational and local road users.
- Nine representative receptors would experience temporary slight adverse effects, of which two relate to recreational users, one to residential users, four relate to residential and local road users, one relates to local footpath users and one relates to local road users.

- Three representative receptors would experience neutral effects, of which one relates to local footpath users, one relates to residential and local road users, and one relates to local footpath and road users.

7.10.8 Full details of the predicted temporary effects on visual amenity resulting from Scheme construction are presented within the visual baseline and impact schedules contained in Appendix 7.1 [**TR010022/APP/6.3**].

Operation phase

Landscape character

7.10.9 The following tables outline the predicted Scheme effects on LCAs 1 to 10 (refer to Figure 7.4 [**TR010022/APP/6.2**]) during the Scheme operational phase.

Table 7.31: Scheme operational effects on LCA 1 Mickleover Residential

Assessment of the magnitude of change within the Mickleover Residential LCA 1 as a result of the operation of the Scheme	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Winter Year 1 of operation: There would be no Scheme works within this LCA. There would be no change magnitude of impacts on this low sensitivity LCA during year 1.	Neutral
Summer Year 15 of operation: There would be no change magnitude of impacts on this low sensitivity LCA during year 15.	Neutral

Table 7.32: Scheme operational effects on LCA 2 Mackworth Public Open Space

Assessment of the magnitude of change within the Mackworth Public Open Space LCA 2 as a result of the operation of the Scheme	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Winter Year 1 of operation: Additional tree planting would be carried out to replace those removed during installation of the underground highway runoff storage tank on the edge of Mackworth Park, but it would take time for mitigation planting to take full effect. Considering the contained nature of the Scheme in this area and the LCA's moderate sensitivity and ~~low~~ medium susceptibility at year 1 to the Scheme at Kingsway junction, the magnitude of change during year 1 would be minor.	Slight adverse
Summer Year 15 of operation: The mature landscape mitigation would replace those removed during construction. By year 15 impacts associated with the Scheme at Kingsway junction on this moderate sensitivity LCA, the magnitude of change would be no change.	Neutral

Table 7.33: Scheme operational effects on LCA 3 Derby Fringes Mixed Development

Assessment of the magnitude of change within the Derby Fringes Mixed Development LCA 3 as a result of the operation of the Scheme	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Winter Year 1 of operation: Planting to replace vegetation lost to gain access into area used for flood storage within the Kingsway hospital site would not have established to replace those removed. The planting within the flood storage areas adjacent to Dam Brook would also not have matured. Considering the contained nature of the Scheme in this area (with the mainline A38 passing through the junction in cutting) and the LCA's low sensitivity and low susceptibility at year 1 to the Scheme, the magnitude of change during year 1 would be negligible.	Slight adverse
Summer Year 15 of operation: At year 15 the mature road side planting would integrate the A38 into the surrounding landscape, whilst the flood storage areas adjacent to Dam Brook would have developed into wetland habitats. The magnitude of change would be no change.	Neutral

Table 7.34: Scheme operational effects on LCA 4 Mackworth & Derby Fringes Residential Areas

Assessment of the magnitude of change within the Mackworth & Derby Fringes Residential Areas LCA 4 as a result of the operation of the Scheme	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Winter Year 1 of operation: At Kingsway junction the implementation of mitigation measures within the landscape design include planting of the closed Brackensdale Avenue access onto the A38, as well as planting at the western dumbbell roundabout and planting at new link road to Kingsway Park Close. At Markeaton junction the implementation of mitigation measures within the landscape design include noise ~~/~~visual barriers adjacent to Greenwich Drive North which would be planted with climbing plants, planting at Enfield Road as well as planting at the Army Reserves Centre and the area left vacant by the building demolition on Ashbourne Road. Such planting would not have established by year 1 and would not perform as a buffer between the Scheme and adjacent areas. Impacts during year 1 on this low sensitivity area would be of moderate magnitude.	Slight adverse
Summer Year 15 of operation: The mature landscape mitigation would integrate the Scheme with its surrounding areas. By year 15 impacts associated with the Scheme on this low sensitivity LCA would be of a no change magnitude in year 15.	Neutral

Table 7.35: Scheme operational effects on LCA 5 Markeaton Park & Surrounds

Assessment of the magnitude of change within Markeaton Park & Surrounds LCA 5 as a result of a result of the operation of the Scheme	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Winter Year 1 of operation: The implementation of mitigation measures within the landscape design includes semi-mature tree planting on the fringes of Markeaton Park – such trees would be relatively small compared to those removed and would not fully preform the function of a landscape buffer between the park and A38 as the trees removed previously did. Ecological mitigation to create a new species rich grassland in Markeaton Park would also not have matured. The replaced Markeaton footbridge would provide pedestrian and cyclist access over the A38, although associated planting would not have fully established. Impacts during year 1on this ~~medium~~ moderate sensitivity area would be of moderate magnitude.	Moderate adverse
Summer Year 15 of operation: The mature landscape mitigation planting would integrate Markeaton junction with the surrounding areas, whilst there would be a developed area of species rich grassland in Markeaton Park. By year 15 impacts associated with Markeaton junction on this moderate sensitivity LCA would be of a negligible magnitude of change.	Slight adverse

Table 7.36: Scheme operational effects on LCA 6 Darley Residential Surrounds

Assessment of the magnitude of change within the Darley Residential Surrounds LCA 6 as a result of the operation of the Scheme	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Winter Year 1 of operation: The implementation of mitigation measures within the landscape design include the area formally occupied by properties on Queensway that would have been landscaped and provided with facilities for walkers and cyclists as well as a highway runoff attenuation pond. The 4m high noise barrier would be present along the boundary with the Royal School for the Deaf. However, associated planting would not have established and taken full effect. There would be moderate magnitude of impacts on this moderate ~~medium~~ sensitivity LCA during year 1.	Moderate adverse
Summer Year 15 of operation: The mature landscape mitigation would integrate the Scheme with surrounding areas. By year 15 impacts on this moderate ~~medium~~ sensitivity LCA would be of a no change magnitude.	Neutral

Table 7.37: Scheme operational effects on LCA 7 Allestree Residential Areas

Assessment of the magnitude of change within the Allestree Residential Areas LCA 7 as a result of the operation of the Scheme	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Winter Year 1 of operation: Minor works within this LCA would have been completed and the areas suitably restored. Landscape planting associated with the tie in of the new A38 with Kedleston Road junction would not have established, whilst the floodplain compensation area to the west of the River Derwent and south of the A38 would have been restored to agricultural use. There would be negligible magnitude of impacts on this moderate ~~medium~~ sensitivity area during year 1.	Slight adverse
Summer Year 15 of operation: Landscape planting of Scheme associated with the tie in of the new A38 with Kedleston Road junction would have established. There would be no change magnitude of impacts on this moderate ~~medium~~ sensitivity LCA during year 15.	Neutral

Table 7.38: Scheme operational effects on LCA 8 Darley Abbey & Derwent Valley Flood Plain

Assessment of the magnitude of change within the Darley Abbey & Derwent Valley Flood Plain LCA 8 as a result of the operation of the Scheme	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Winter Year 1 of operation: The implementation of mitigation measures within the landscape design would include the reinstatement of the Little Eaton construction compound; landscaping of the closed Ford Lane access onto the A38; the floodplain compensation area to the west of the River Derwent and south of the A38 would have been restored to agricultural use; woodland and shrub planting on the new mainline A38 embankment and associated slip roads; planting associated with the noise and screening barriers on the mainline A38 in the vicinity of the Ford Farm Mobile Home Park. However, the planting would not have established and taken full effect at this time and the A38 would have a greater influence on this LCA than at baseline (noting that lighting columns would not be placed along the new A38 mainline). There would be moderate magnitude of impacts on this moderate ~~medium~~ sensitivity ~~view~~ LCA during year 1.	Moderate adverse
Summer Year 15 of operation: The mature landscape mitigation would integrate Little Eaton junction with the surrounding areas. By year 15 impacts associated with Little Eaton junction on this moderate sensitivity LCA would be of a negligible magnitude.	Slight adverse

Table 7.39: Scheme operational effects on LCA 9 Allestree Park & Allestree Hill Open Space

Assessment of the magnitude of change within the Allestree Park & Allestree Hill Open Space LCA 9 as a result of the operation of the Scheme	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Winter Year 1 of operation: There would be no Scheme works within this LCA. There would be no change magnitude of impacts on this ~~low~~ moderate sensitivity LCA during year 1.	Neutral
Summer Year 15 of operation: There would be no change magnitude of impacts on this moderate ~~low~~ sensitivity LCA during year 15.	Neutral

Table 7.40: Scheme operational effects on LCA 10 Little Eaton & Breadsall Greenbelt

Assessment of the magnitude of change within Little Eaton & Breadsall Greenbelt LCA 10 as a result of the operation of the Scheme	
Size/scale, geographical extent, duration & reversibility of impact	**Significance ~~Magnitude~~ of landscape effect**
Winter Year 1 of operation: The implementation of mitigation measures within the landscape design would include the diversion of Dam Brook and creation of ecology ponds; reinstatement of the soil storage area; woodland and tree planting on A38 mainline embankment and associated slip roads; amenity grassland planting on closed sections of the A38; planting associated with the 2.5m high noise and screening barriers along the southbound mainline A38 and associated diverge slip-road as the Scheme passes Breadsall. However, such planting would not have established and taken full effect at this time and the elevated mainline section of the A38 would have a greater influence on this LCA and the southern extents of the green belt than at baseline (noting that lighting columns would not be placed along the new A38 mainline). However, the openness of the green belt would not be significantly changed in this area as the Scheme would not significantly increase the extents of the A38 into this area. There would be moderate magnitude of impacts on this moderate ~~medium~~ sensitivity view during year 1.	Moderate adverse
Summer Year 15 of operation: The mature landscape mitigation would integrate Little Eaton junction into the surrounding areas. By year 15 impacts associated with Little Eaton junction on this moderate sensitivity LCA would be of a negligible magnitude.	Slight adverse

Visual Amenity

7.10.10 Based on the sensitivity of the 24 assessed representative viewpoints (refer to Figure 7.5 [**TR010022/APP/6.2**]) towards change and the scale, the nature and duration of the impacts predicted to occur during the Scheme operational phase,

the impacts and effects on visual amenity in winter year 1 and summer year 15 have been assessed.

7.10.11 The visual baseline and impact schedules contained in Appendix 7.1 [**TR010022/APP/6.3**] provides a description of the predicted change in view and the associated magnitude of impact, together with the predicted significance of effect during Scheme operation – a summary is provided Table 7.41.

Table 7.41: Operational effects on visual amenity

Viewpoint	Receptor type	Sensitivity of view	Winter Year 1		Summer Year 15	
			Magnitude of impact	Effect	Magnitude of impact	Effect
Representative Viewpoint 1	Recreational	High	Minor	Slight adverse	No change	Neutral
Representative Viewpoint 2	Recreational and residential	Moderate	Moderate	Moderate adverse	Minor	Slight adverse
Representative Viewpoint 3	Local road users	Low	Negligible	Slight adverse	No change	Neutral
Representative Viewpoint 4	Local footpath users	Low	Moderate	Slight adverse	No change	Neutral
Representative Viewpoint 5	Recreational and residential	Moderate	Moderate	Slight adverse	No change	Neutral
Representative Viewpoint 6	Residential	Low	Negligible	Slight adverse	Negligible	Neutral
Representative Viewpoint 7	Residential and local road users	Moderate	Moderate	Moderate adverse	Minor	Slight adverse
Representative Viewpoint 8	Residential and local road users	Low	Minor	Slight adverse	Negligible	Neutral
Representative Viewpoint 9	Residential and local road users	Low	Minor	Slight adverse	No change	Neutral
Representative Viewpoint 10	Recreational	Moderate	Moderate	Moderate adverse	No change	Neutral
Representative Viewpoint 11	Residential and local road users	Low	No change	Neutral	No change	Neutral
Representative Viewpoint 12	Recreational and local road users	Low	Minor	Slight adverse	No change	Neutral
Representative	Recreational	Moderate	Negligible	Slight	No change	Neutral

Viewpoint	Receptor type	Sensitivity of view	Winter Year 1		Summer Year 15	
			Magnitude of impact	Effect	Magnitude of impact	Effect
Viewpoint 13				adverse		
Representative Viewpoint 14	Local footpath users	Low	Moderate	Slight adverse	Minor	Slight adverse
Representative Viewpoint 15	Local footpath users	Low	Negligible	Slight adverse	No change	Neutral
Representative Viewpoint 16	Recreational	High	Minor	Moderate adverse	Negligible	Slight adverse
Representative Viewpoint 17	Recreational	Moderate	Moderate	Moderate adverse	Minor	Slight adverse
Representative Viewpoint 18	Residential and recreational	Low	Minor	Slight adverse	Negligible	Neutral
Representative Viewpoint 19	Local road users	Moderate	Negligible	Slight adverse	No change	Neutral
Representative Viewpoint 20	Local footpath and road users	Low	No change	Neutral	No change	Neutral
Representative Viewpoint 21	Local footpath users	Moderate	No change	Neutral	No change	Neutral
Representative Viewpoint 22	Residential and local road users	Low	Minor	Slight adverse	Negligible	Neutral
Representative Viewpoint 23	Local footpath users	Moderate	Minor	Slight adverse	Negligible	Neutral
Representative Viewpoint 24	Local footpath users	Moderate	Minor	Slight adverse	Negligible	Neutral

7.10.12 In summary, the assessment of Scheme operational phase effects on visual amenity has concluded that, in winter Year 1:

- Five representative receptors would experience moderate adverse effects, of which three relate to recreational users, one relates to recreational and residential users, and one relates to and one to residential and local road users.

- Sixteen representative receptors would experience slight adverse effects of which two relate to recreational users, one relates to residential users, one relates to recreational and local road users, two relate to local road users, two relate to recreational and residential users, three relate to residential and local road users, and five relate to local footpath users.
- Three representative receptors would experience neutral effects, of which one relates to local footpath users, one relates to local footpath and road users, and one relates to residential and local road users.

7.10.13 In summary, the assessment of Scheme operational phase effects on visual amenity has concluded that by summer Year 15, landscape mitigation measures would have established and be fulfilling their intended function of visually screening and filtering a proportion of these views, resulting in the following effects:

- Five representative receptors would experience slight adverse effects, of which two relate to recreational users, one relates to local footpath users, one relates to residential and recreational users, and one relates to residential and local road users.
- Nineteen representative receptors would experience neutral effects, of which three relate to recreational users, five relate to local footpath users, two relates to recreational and residential users, one relates to local footpath and road users, four relate to residential and road users, two relate to local road users, one to residential users, and one to recreational and local road users.

7.11 Monitoring

7.11.1 No significant landscape and visual effects identified within the assessment are considered to require monitoring, either during the Scheme construction or operation phase. This is the case given that Scheme construction would be delivered in accordance with the measures set out within the OEMP **(**refer to Appendix 2.1 [**TR010022/APP/6.3**]), whilst all landscaping forming part of the Scheme design would be routinely inspected, managed and maintained post-construction in accordance with the requirements as stipulated within the HEMP. Such maintenance practices would ensure that all landscaping establishes and achieves its intended environmental functions and objectives (as indicated in Figures 7.8a to 7.8c [**TR010022/APP/6.2**]).

7.12 Summary of assessment

7.12.1 Scheme construction would cause temporary large adverse effects to four of LCAs and four representative viewpoints, moderate adverse temporary effects to two LCAs and eight of the representative viewpoints, slight adverse temporary effects to two LCAs and nine of representative viewpoints and neutral temporary effects to two LCAs and three of representative viewpoints.

7.12.2 During Scheme operation year 1, there would be moderate adverse effects to four LCAs and five representative viewpoints, slight adverse effects to four LCAs and sixteen representative viewpoints and neutral effects to two LCAs and three representative viewpoints. By year 15 of Scheme operation, there would be slight adverse effects to three LCAs and five representative viewpoints and neutral effects to seven LCAs and nineteen representative viewpoints. This indicates that as the Scheme landscape design matures, landscape and visual effects would reduce, such that by year 15 of Scheme operation, there would be no significant effects.

7.12.3 A summary of the landscape and visual impact assessment is provided in Table 7.42.

Table 7.42: Landscape and visual - summary of effects

C – Construction O – Operation

Receptor	Attribute	Receptor sensitivity	Impact description	Design and mitigation measures	Impact magnitude	Residual effect
Mickleover residential LCA 1	Landscape character	Low	C – No Scheme construction works within this LCA. O – No change caused to existing baseline as a result of the Scheme.	Refer to Section 7.9	No change – C No change – O (year 1) No change – O (year 15)	Neutral – C Neutral – O (year 1) Neutral – O (year 15)
Mackworth Public Open space LCA 2	Landscape character	Moderate	C – Short-term construction impacts. O – Scheme integral mitigation would restore baseline conditions.	Refer to Section 7.9	Moderate – C Minor – O (year 1) No change – O (year 15)	Moderate adverse – C Slight adverse – O (year 1) Neutral – O (year 15)
Derby Fringes Mixed Development LCA 3	Landscape character	Low	C – Short-term construction impacts. O – Scheme integral mitigation would restore baseline conditions.	Refer to Section 7.9	Minor – C Negligible – O (year 1) No change – O (year 15)	Slight adverse – C Slight adverse – O (year 1) Neutral – O (year 15)
Mackworth & Derby Fringes Residential Areas LCA 4	Landscape character	Low	C – Short-term construction impacts. O – Scheme integral mitigation measures would restore baseline conditions.	Refer to Section 7.9	Major – C Moderate – O (year 1) No change – O (year 15)	Moderate adverse – C Slight adverse – O (year 1) Neutral – O (year 15)
Markeaton Park & Surrounds LCA 5	Landscape character	Moderate	C – Short-term construction impacts. O – Scheme integral mitigation measures would not fully restore baseline conditions.	Refer to Section 7.9	Major – C Moderate – O (year 1) Negligible – O (year 15)	Large adverse – C Moderate adverse – O (year 1) Slight adverse – O (year 15)

Receptor	Attribute	Receptor sensitivity	Impact description	Design and mitigation measures	Impact magnitude	Residual effect
Darley Residential Surrounds LCA 6	Landscape character	Moderate	C – Short-term construction impacts. O – Scheme integral mitigation would restore baseline conditions.	Refer to Section 7.9	Major – C Moderate – O (year 1) No change – O (year 15)	Large adverse – C Moderate adverse – O (year 1) Neutral – O (year 15)
Allestree Residential Areas LCA 7	Landscape character	Moderate	C – Short-term construction impacts, although no major works within this LCA. O – Scheme integral mitigation would restore baseline conditions.	Refer to Section 7.9	Minor – C Negligible – O (year 1) No change – O (year 15)	Slight adverse – C Slight adverse – O (year 1) Neutral – O (year 15)
Darley Abbey & Derwent Valley Flood Plain LCA 8	Landscape character	Moderate	C – Short-term construction impacts. O – Addition of new built features in the area located within the existing highways context.	Refer to Section 7.9	Major – C Moderate – O (year 1) Negligible – O (year 15)	Large adverse – C Moderate adverse – O (year 1) Slight adverse – O (year 15)
Allestree Park & Allestree Hill Open Space LCA 9	Landscape character	~~Low~~Moderate	C – No Scheme construction works within this LCA. O – No change caused to existing baseline as a result of the Scheme.	Refer to Section 7.9	No change – C No change – O (year 1) No change – O (year 15)	Neutral – C Neutral – O (year 1) Neutral – O (year 15)
Little Eaton & Breadsall Greenbelt LCA 10	Landscape character	Moderate	C – Short-term construction impacts. O – Addition of new built features in the area located within the existing highways context.	Refer to Section 7.9	Major – C Moderate – O (year 1) Negligible – O (year 15)	Large adverse – C Moderate adverse – O (year 1) Slight adverse – O (year 15)
Representative Viewpoint 1	Visual amenity	High	C – Short-term construction impacts. O – No change to view obtained by this representative viewpoint as a result of Scheme integral mitigation.	Refer to Section 7.9	Moderate – C Minor – O (year 1) No change – O (year 15)	Large adverse – C Slight adverse – O (year 1) Neutral – O (year 15)

Receptor	Attribute	Receptor sensitivity	Impact description	Design and mitigation measures	Impact magnitude	Residual effect
Representative Viewpoint 2	Visual amenity	Moderate	C – Short-term construction impacts. O – Planting on the earth works would have matured and would largely screen views of the A38, however the view would not be quite as extensive as the baseline.	Refer to Section 7.9	Major – C Moderate – O (year 1) Minor – O (year 15)	Moderate adverse – C Moderate adverse – O (year 1) Slight adverse – O (year 15)
Representative Viewpoint 3	Visual amenity	Low	C – Short-term construction impacts. O – No change to view obtained by this representative viewpoint as a result of Scheme integral mitigation.	Refer to Section 7.9	Minor – C Negligible – O (year 1) No change – O (year 15)	Slight adverse – C Slight adverse – O (year 1) Neutral – O (year 15)
Representative Viewpoint 4	Visual amenity	Low	C – Short-term construction impacts. O – No change to view obtained by this representative viewpoint as a result of Scheme integral mitigation.	Refer to Section 7.9	Major – C Moderate – O (year 1) No change – O (year 15)	Moderate adverse – C Slight adverse – O (year 1) Neutral – O (year 15)
Representative Viewpoint 5	Visual amenity	Moderate	C – Short-term construction impacts. O – No change to view obtained by this representative viewpoint as a result of Scheme integral mitigation.	Refer to Section 7.9	Moderate – C Moderate – O (year 1) No change – O (year 15)	Moderate adverse – C Slight adverse – O (year 1) Neutral – O (year 15)
Representative Viewpoint 6	Visual amenity	Low	C – Short-term construction impacts. O – No change to view obtained by this representative viewpoint as a result of Scheme integral mitigation.	Refer to Section 7.9	Moderate – C Negligible – O (year 1) Negligible – O (year 15)	Slight adverse – C Slight adverse – O (year 1) Neutral – O (year 15)

Receptor	Attribute	Receptor sensitivity	Impact description	Design and mitigation measures	Impact magnitude	Residual effect
Representative Viewpoint 7	Visual amenity	Moderate	C – Short-term construction impacts. O – Some integral mitigation would screen much of the adjacent A38 resulting in a less open view of the highway and surrounding landscape.	Refer to Section 7.9	Major – C Moderate – O (year 1) Minor – O (year 15)	Large adverse – C Moderate adverse – O (year 1) Slight adverse – O (year 15)
Representative Viewpoint 8	Visual amenity	Low	C – Short-term construction impacts. O – Scheme integral mitigation would screen much of the adjacent A38 resulting in a less open view of the highway and surrounding landscape.	Refer to Section 7.9	Moderate – C Minor – O (year 1) Negligible – O (year 15)	Slight adverse – C Slight adverse – O (year 1) Neutral – O (year 15)
Representative Viewpoint 9	Visual amenity	Low	C – Short-term construction impacts. O – The Scheme and integral mitigation would cause minimal changes to the baseline view, and slightly increase the amount of planting at the junction.	Refer to Section 7.9	Moderate – C Minor – O (year 1) No change – O (year 15)	Slight adverse – C Slight adverse – O (year 1) Neutral – O (year 15)
Representative Viewpoint 10	Visual amenity	Moderate	C – Short-term construction impacts. O – The Scheme and integral mitigation would cause minimal changes to the baseline view, and would not increase views of the A38 and associated infrastructure obtained at baseline.	Refer to Section 7.9	Major – C Moderate – O (year 1) No change – O (year 15)	Moderate adverse – C Moderate adverse – O (year 1) Neutral – O (year 15)

Receptor	Attribute	Receptor sensitivity	Impact description	Design and mitigation measures	Impact magnitude	Residual effect
Representative Viewpoint 11	Visual amenity	Low	C – Short-term construction impacts. O – No change to view obtained by this representative viewpoint as a result of Scheme integral mitigation.	Refer to Section 7.9	Minor – C No change – O (year 1) No change – O (year 15)	Neutral – C Neutral – O (year 1) Neutral – O (year 15)
Representative Viewpoint 12	Visual amenity	Low	C – Short-term construction impacts. O – The Scheme and integral mitigation would cause minimal changes to the baseline view, and would not increase views of the A38 and associated infrastructure obtained at baseline.	Refer to Section 7.9	Major – C Minor – O (year 1) No change – O (year 15)	Moderate adverse – C Slight adverse – O (year 1) Neutral – O (year 15)
Representative Viewpoint 13	Visual amenity	Moderate	C – Short-term construction impacts. O – No change to view obtained by this representative viewpoint as a result of Scheme integral mitigation.	Refer to Section 7.9	Minor – C Negligible – O (year 1) No change – O (year 15)	Slight adverse – C Slight adverse – O (year 1) Neutral – O (year 15)
Representative Viewpoint 14	Visual amenity	Low	C – Short-term construction impacts. O – Part of the Scheme would form a visible element of the view within the context of the existing highway.	Refer to Section 7.9	Major – C Moderate – O (year 1) Minor – O (year 15)	Moderate adverse – C Slight adverse – O (year 1) Slight adverse – O (year 15)
Representative Viewpoint 15	Visual amenity	Low	C – Short-term construction impacts. O – The Scheme and integral mitigation would cause minimal changes to the baseline view, and would not increase views of the A38 and associated infrastructure obtained at baseline.	Refer to Section 7.9	Moderate – C Negligible – O (year 1) No change – O (year 15)	Slight adverse – C Slight adverse – O (year 1) Neutral – O (year 15)

Receptor	Attribute	Receptor sensitivity	Impact description	Design and mitigation measures	Impact magnitude	Residual effect
Representative Viewpoint 16	Visual amenity	High	C – Short-term construction impacts. O – Part of the Scheme would form a visible element of the view within the context of the existing highway.	Refer to Section 7.9	Moderate – C Minor – O (year 1) Negligible – O (year 15)	Large adverse – C Moderate adverse – O (year 1) Slight adverse – O (year 15)
Representative Viewpoint 17	Visual amenity	Moderate	C – Short-term construction impacts. O – Part of the Scheme would form a visible element of the view within the context of the existing highway.	Refer to Section 7.9	Major – C Moderate – O (year 1) Minor – O (year 15)	Large adverse – C Moderate adverse – O (year 1) Slight adverse – O (year 15)
Representative Viewpoint 18	Visual amenity	Low	C – Short-term construction impacts. O – Part of the Scheme would form a visible element of the view within the context of the existing highway.	Refer to Section 7.9	Moderate – C Minor – O (year 1) Negligible – O (year 15)	Slight adverse – C Slight adverse – O (year 1) Neutral – O (year 15)
Representative Viewpoint 19	Visual amenity	Moderate	C – Short-term construction impacts. O – No change to view obtained by this representative viewpoint as a result of Scheme integral mitigation.	Refer to Section 7.9	Minor – C Negligible – O (year 1) No change – O (year 15)	Slight adverse – C Slight adverse – O (year 1) Neutral – O (year 15)
Representative Viewpoint 20	Visual amenity	Low	C – No impacts during Scheme construction. O – No change to view obtained by this representative viewpoint as a result of Scheme integral mitigation.	Refer to Section 7.9	No change – C No change – O (year 1) No change – O (year 15)	Neutral – C Neutral – O (year 1) Neutral – O (year 15)

Receptor	Attribute	Receptor sensitivity	Impact description	Design and mitigation measures	Impact magnitude	Residual effect
Representative Viewpoint 21	Visual amenity	Moderate	C – No impacts during Scheme construction. O – No change to view obtained by this representative viewpoint as a result of Scheme integral mitigation.	Refer to Section 7.9	No change – C No change – O (year 1) No change – O (year 15)	Neutral – C Neutral – O (year 1) Neutral – O (year 15)
Representative Viewpoint 22	Visual amenity	Low	C – Short-term construction impacts. O – Part of the Scheme would form a visible element of the view within the context of the existing highway.	Refer to Section 7.9	Moderate – C Negligible – O (year 1) Negligible – O (year 15)	Slight adverse – C Slight adverse – O (year 1) Neutral – O (year 15)
Representative Viewpoint 23	Visual amenity	Moderate	Part of the Scheme would form a visible element of the view within the context of the existing highway.	Refer to Section 7.9	Moderate – C Minor – O (year 1) Negligible – O (year 15)	Moderate adverse – C Slight adverse – O (year 1) Neutral – O (year 15)
Representative Viewpoint 24	Visual amenity	Moderate	Part of the Scheme would form a visible element of the view within the context of the existing highway.	Refer to Section 7.9	Moderate – C Minor – O (year 1) Negligible – O (year 15)	Moderate adverse – C Slight adverse – O (year 1) Neutral – O (year 15)

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