

A46 Newark Bypass

Scheme Number: TR010065

6.1 Environmental Statement

**Chapter 7 Landscape and Visual Effects
- Track Changed**

APFP Regulation 5(2)(a)

Planning Act 2008

**Infrastructure Planning (Applications: Prescribed Forms
and Procedure) Rules 2009**

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Volume 6

Infrastructure Planning

Planning Act 2008

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

The A46 Newark Bypass
Development Consent Order 202[#]

6.1 Environmental Statement

Chapter 7 Landscape and Visual Effects - Track Changed

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7 Landscape and Visual Effects

7.1 Introduction

- 7.1.1 This Chapter presents the information required by the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) to be provided in the Environmental Statement (ES) to enable the identification and assessment of likely significant effects on landscape character and visual receptors.
- 7.1.2 The potential landscape and visual effects have been considered following the requirements set out in Design Manual for Roads and Bridges (DMRB) LA 107 Landscape and visual effects.¹
- 7.1.3 Landscape encompasses many more elements than the common association which focuses merely upon the view or appearance of the land. The term 'landscape' is defined as '*an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors.*' This chapter captures the assessment of environmental factors such as topography, drainage, land use and management, vegetation and ecology, as well as historical and cultural associations (in accordance with DMRB LA 107 paragraph 1.3, Note 1). The notion of landscape can be applied to both rural and urban environments with the term 'townscape' frequently adopted within the urban context (in accordance with DMRB LA 107 paragraph 1.3, Note 2).
- 7.1.4 This assessment considers both construction and operational phase effects.
- 7.1.5 This Chapter has been undertaken in compliance with the Planning Inspectorate's EIA Scoping Opinion ([\(TR010065/APP/6.10\)\[APP-189\]](#). Appendix 4.13 (Scoping Opinion Schedule of Comments and Responses) of the ES Appendices [\[APP-125\]](#) ([\(TR010065/APP/6.3\)](#)) contains further information on how each of the matters raised in the EIA Scoping Opinion have been addressed.
- 7.1.6 Chapter 2 (The Scheme) of this ES contains a detailed description of the Scheme. The drawings referenced in this Chapter can be found in the ES Figures [\[contained within Volume 6.2 of the ES\]](#) ([\(TR010065/APP/6.2\)](#)) and the technical appendices referred to in this Chapter are presented in the ES Appendices [\[contained within Volume 6.3 of the ES\]](#) ([\(TR010065/APP/6.3\)](#)).

¹ DMRB LA107 Landscape and Visual Effects [LA 107 - Landscape and visual effects \(standardsforhighways.co.uk\)](#) (last accessed December 2023).

7.2 Competent expert evidence

- 7.2.1 The competent expert holds a master's level degree in Landscape Architecture and is a chartered member of the Landscape Institute (CMLI). The competent expert has over 16 years' postgraduate experience as a Landscape Architect and in the production of Landscape and Visual Impact Assessments, specialising in major highways projects including Nationally Significant Infrastructure Projects (NSIPs).

7.3 Legislative and policy framework

- 7.3.1 The principal legislation and planning context for the assessment of the environmental effects of the Scheme on landscape and visual is presented below. The relevant legislation and policies listed below have been taken account of in the assessment.

Legislation

European Landscape Convention

- 7.3.2 The European Landscape Convention (ELC) promotes the protection, management and planning of European landscapes and organises European co-operation on landscape issues.² The UK Government became a signatory to the ELC in 2006, introducing it in March 2007. The ELC is a convention of the Council of Europe and is therefore not affected by Brexit. The ELC contains 18 articles which, collectively, promote landscape protection, management, planning and organising European co-operation on landscape issues. Articles 5 and 6 commit signatory states to a number of actions which are designed to help compliance with the overarching aims of the ELC. These include the need to recognise landscapes in law, to establish policies aimed at landscape planning, protection and management, and the integration of landscape into other policy areas. The ELC does not advocate the same measures and policies for all landscapes. Instead, it encourages approaches that are adaptable to particular landscape types and which respond to their unique characteristics.³
- 7.3.3 The requirements of the ELC have been accounted for in the assessment in the consideration of relevant legislation and policy that are relevant to the landscape context, and with the identification of

² GOV.UK (November 2010) Corporate report, European Landscape Convention: guidelines for managing landscapes [online] available at: [European Landscape Convention: guidelines for managing landscapes](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/364810/ELC_guidelines_for_managing_landscapes.pdf) - GOV.UK (www.gov.uk) (last accessed December 2023).

³ Landscape Institute (2022) The European Landscape Convention (ELC) [online] available at: [The European Landscape Convention \(ELC\) | Landscape Institute](https://www.landscapeinstitute.org/what-we-do/landscape-policy/the-european-landscape-convention/) (last accessed December 2023).

landscape character areas in order to ensure the Scheme responds to the unique characteristics of the study area through which it passes.

Environment Act

- 7.3.4 The Environment Act 2021⁴ (the Environment Act) sets out measures to protect and improve the UK's environments, including biodiversity, water, and habitats. Although there are no landscape-specific targets, Part 6 of the Environment Act introduces a requirement for developments to deliver a net gain in biodiversity. The statutory requirements for Nationally Significant Infrastructure Projects (NSIPs) are expected for those applications for development consent which are not yet in examination, in November 2025⁵. The Environment Act also introduces local nature recovery strategies (LNRS), a system of spatial strategies in England. Appointed authorities (Nottinghamshire County Council in the case for this Scheme) will be tasked with creating opportunities to improve local habitats and aid their recovery.
- 7.3.5 The assessment of impacts and effects on biodiversity, water and habitats are reported in Chapter 8 Biodiversity of this ES. The findings of these have contributed to the development of Figure 2.3 (Environmental Masterplan) of the ES Figures [\[AS-026\] \(TR010065/APP/6.2\)](#) alongside understanding the needs for the design to consider local landscape character.

Countryside and Rights of Way Act 2000

- 7.3.6 The Countryside Rights of Way Act⁶ (CROW) sets out measures to protect and improve provision for public access to the countryside. Part II sets out regulations regarding Public Rights of Way (PRoW) and road traffic, including provision for the management and maintenance of PRoW and makes allowance for temporary diversions in order to carry out certain types of work. Part III sets out regulations for nature conservation and wildlife protection.
- 7.3.7 The landscape and visual assessment has considered the effect of the Scheme on users of PRoW and how this effects user experience of the landscape. More detailed assessment regarding PRoW and nature conservation and wildlife protection in relation to the CROW Act are reported in the assessment for Population and Human Health within Chapter 12 (Population and Human Health) and Chapter 8 (Biodiversity) of this ES.

⁴ UK Government (2021). Environment Act 2021 [online] available at: [Environment Act 2021 \(legislation.gov.uk\)](#) (last accessed December 2023).

⁵ Department for Environment, Food and Rural Affairs (2023). Consultation on Biodiversity Net Gain regulations and implementation: Consultation outcome. Government response and summary of responses (21 February 2023) [online] available at: <https://www.gov.uk/government/consultations/consultation-on-biodiversity-net-gain-regulations-and-implementation/outcome/government-response-and-summary-of-responses> (last accessed December 2023).

⁶ UK Government (2000), Countryside and Rights of Way Act 2000. Available at: [Countryside and Rights of Way Act 2000 \(legislation.gov.uk\)](#) (last accessed December 2023).

Natural Environment and Rural Communities Act 2006

- 7.3.8 The Natural Environment and Rural Communities Act⁷ (NERC) makes provision for bodies concerned with the natural environment and rural communities, including wildlife, sites of special scientific interest (SSSI), National Parks and inland waterways.
- 7.3.9 The landscape and visual assessment has taken the requirements of the NERC Act into account during the assessment and production of Figure 2.3 (Environmental Masterplan) of the ES Figures [\[AS-026\]\(TR010065/APP/6.2\)](#).

The Hedgerow Regulations 1997

- 7.3.10 The Hedgerow Regulations 1997 makes provision for the protection of hedgerows within the countryside that meet certain criteria either due to length, location or importance.
- 7.3.11 The requirements of the Hedgerow Regulations have been taken into account within the Landscape and Visual Impact Assessment (LVIA) contained within this Chapter and production of Figure 2.3 (Environmental Masterplan) of the ES Figures [\[AS-026\]\(TR010065/APP/6.2\)](#). Further information in relation to hedgerows can be referenced in Chapter 8 (Biodiversity) of this ES and Appendix 7.4 (Arboricultural Impact Assessment) of the ES Appendices [\[APP-140 and AS-086 to AS-089\]\(TR010065/APP/6.3\)](#).

Town and Country Planning (Tree Preservation) England Regulations 2012

- 7.3.12 A Tree Preservation Order (TPO) is an order made by a local planning authority in England to protect specific trees, groups of trees or woodlands in the interests of amenity. The law on TPOs is presented in Part VIII of the Town and Country Planning Act 1990 as amended, and subsequently, the Town and Country Planning (Tree Preservation) (England) Regulations 2012 .
- 7.3.13 The presence of TPOs has been considered within the LVIA and production of Figure 2.3 (Environmental Masterplan) of the ES Figures [\[AS-026\]\(TR010065/APP/6.2\)](#). Further information in relation to TPOs within the Order Limits is provided in Appendix 7.4 (Arboricultural Impact Assessment) of the ES Appendices [\[APP-140 and AS-086 to AS-089\]\(TR010065/APP/6.3\)](#).

National policy

National Policy Statement for National Networks

- 7.3.14 The National Policy Statement for National Networks (NPSNN) sets out the policy which the Scheme should comply with. It is also the basis for informing a judgement on the impacts of the Scheme, for

⁷ UK Government (2006), Natural Environment and Rural Communities Act 2006. Available at: [Natural Environment and Rural Communities Act 2006 \(legislation.gov.uk\)](#) (last accessed December 2023).

example whether the Scheme is consistent with the requirements of the NPSNN. Compliance of the Scheme with the [2015](#) NPSNN is detailed within the NPSNN [\(2015\)](#) Accordance Tables [\[REP6-016\]](#)~~(TR010065/APP/7.2)~~.

7.3.15 At the time of the DCO application submission in April 2024, a Draft NPSNN (2024) Accordance Table [APP-192] was submitted with the application which summarised compliance of the Scheme with the draft NPSNN. This was because, even though the NPSNN 2024 was still in draft at that time (having been published for consultation in March 2023), it was still capable of constituting a material consideration in the Secretary of State's decision on the Application. As the 2024 NPSNN was designated on 24 May 2024, the Draft NPSNN (2024) Accordance Table [APP-192] has been superseded by the NPSNN (2024) Accordance Table [REP5-032], which assesses the Scheme against the designated 2024 NPSNN. The application for development consent for the Scheme was accepted for examination on 23 May 2024. As set out in the transitional provisions of the 2024 NPSNN (paragraphs 1.16 and 1.17), the 2015 NPSNN has effect for any application for development consent accepted for examination prior to 24 May 2024 and will inform decisions made by the Secretary of State in relation to those applications. However, it is noted that the 2024 NPSNN may still be an important consideration for the Secretary of State for Transport when determining whether to consent the DCO for this Scheme. Therefore, the NPSNN (2024) Accordance Tables [REP5-032] summarised compliance of the Scheme with the 2024 NPSNN.

~~7.3.15 A draft NPSNN was published for consultation in March 2023. The consultation period ended in June 2023. The draft NPSNN may be subject to change following the consultation and once published in its designated form. Although this is currently in draft it may still be an important consideration for the Secretary of State for Transport when determining whether to consent the DCO for this Scheme. Accordingly the Draft NPSNN Accordance Tables (TR010065/APP/7.3) summarise compliance of the Scheme with the draft NPSNN.~~

7.3.16 The policies of relevance to landscape and visual effects within the [current-2015](#) NPSNN, and detail on how they have been addressed in the assessment are provided below.

7.3.17 Paragraphs 4.28-4.35 of the [2015](#) NPSNN set out the principles of good design for national network infrastructure, outlining the importance of integrated design, with visual appearance “*a key factor in considering the design of new infrastructure, as well as functionality, fitness for purpose, sustainability and cost.*”

7.3.18 Paragraphs 5.143-5.161 of the [2015](#) NPSNN consider how LVIA's should be undertaken and how landscape impacts should be considered within the decision-making process in order to “*avoid adverse effects on landscape or to minimise harm to the landscape,*

including by reasonable mitigation". Paragraphs 5.120 - 5.142 [of the 2015 NPSNN](#) set out the approach for impact assessment, decision making and recording for the historic environment.

- 7.3.19 The requirements of the [2015 NPSNN](#) in relation to identifying the characteristics, value and importance of designated and undesignated landscapes, and assessing and mitigating the landscape and visual effects of the Scheme, have been taken into account during the assessment and design process. This has subsequently informed the environmental design with due consideration for the principles of good design.

National Planning Policy Framework

- 7.3.20 The National Planning Policy Framework (NPPF) (December 2024⁸) sets out the Government's planning policy framework for the whole of England, including the Government's expectation for content and quality of planning applications and local plan policy. The overall strategic aims of the NPSNN and NPPF are consistent. The NPPF may be an important and relevant matter but does not form the basis for a decision on an NSIP.
- 7.3.21 Section 15, Paragraphs [180187-194201](#) of the NPPF sets out the framework with respect to conserving and enhancing the natural environment. Section 16, Paragraphs [195202-214221](#), sets out a framework for the [conserving and enhancing management of](#) the historic environment.
- 7.3.22 Section 13, paragraphs 142-[156160](#) of the NPPF relate to Protecting Green Belt land, with paragraph 143 outlining the five purposes of Green Belt. Paragraphs [1532-156160](#) address proposals affecting the Green Belt and set out the parameters for appropriate and inappropriate development. Paragraph [155154](#) states that "[Development in the Green Belt is inappropriate unless... Certain other forms of development are also not inappropriate in the Green Belt provided they preserve its openness and do not conflict with the purposes of including land within it](#)". The list of these developments include "[local transport infrastructure which can demonstrate a requirement for a Green Belt location](#)".
- 7.3.23 The requirements of the NPPF have been accounted for in the assessment, with particular emphasis placed on: establishing the character and value of landscapes; avoiding, or minimising the extent and duration of, potential landscape and visual effects; and the development of Figure 2.3 (Environmental Masterplan) of the ES

⁸ Ministry of Housing, Communities and Local Government (December 2024) National Planning Policy Framework [online] available at: https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf (last accessed March 2025) Department for Levelling Up, Housing & Communities (December 2023). National Planning Policy Framework [online] available at: [National Planning Policy Framework \(publishing.service.gov.uk\)](#) (last accessed March 2024).

Figures ~~(TR010065/APP/6.2)~~[AS-026] that positively responds to local landscape character and opportunities.

25 Year Environment Plan

7.3.24 The Department for Environment, Food & Rural Affairs (Defra) 25 Year Environment Plan (2018)⁹ (the Plan) is a policy paper setting out what Government will do to improve the environment, including restoring and safeguarding wildlife habitats. The Plan is being treated as the first Environmental Improvement Plan required under the Environment Act. Chapter 2: Recovering nature and enhancing the beauty of landscapes of the Plan relates to the development of a Nature Recovery Network to protect and restore wildlife, as well as a review of nationally designated landscape areas. The Plan also introduces three new environmental land management (ELM) Schemes to incentivise land managers to restore and improve natural capital and rural heritage. The three ELM schemes include:

- Sustainable Farming Incentive, which will pay farmers to carry out farming activities in a more environmentally sustainable way
- Local Nature Recovery, which will pay for actions that support local nature recovery and meet local environmental priorities
- Landscape Recovery, which will support landscape and ecosystem recovery through long-term projects

7.3.25 The recovery Schemes have been piloted in 2022 and are due to be launched in 2024. The first revision of the 25 year plan 'Environmental Improvement Plan' was published in February 2023.¹⁰

7.3.26 The 25 Year Environment Plan has been taken into account in preparation of the environmental masterplan shown in Figure 2.3 (Environmental Masterplan) of the ES Figures [AS-026]~~(TR010065/APP/6.2)~~ and the consideration of long-term effects on the landscape character.

Local policy

7.3.27 The Scheme and surrounding context fall within the administrative areas of Nottinghamshire County Council and Newark & Sherwood District Council. There are no specific policies identified at the county level, but relevant policies and strategy documents from Newark & Sherwood District Council are listed below.

7.3.28 The policies have a common thread of aiming to conserve, enhance and protect the landscape, and basing the design of development upon an understanding of the existing landscape context supported

⁹ HM Government (2018) A Green Future: Our 25 Year Plan to Improve the Environment [online] available at: [25 Year Environment Plan - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/681102/25-Year-Environment-Plan-2018.pdf) (last accessed December 2023).

¹⁰ HM Government (2023) Environment Improvement Plan 2023; First revision of the 25 Year Environment Plan.[online] available at: [Environmental Improvement Plan \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1181102/Environmental-Improvement-Plan-2023.pdf) (www.gov.uk) (last accessed December 2023).

by the use of landscape character assessments. Similarly, these policies require that adverse impacts must be mitigated by sensitive landscape measures which respond to their context. This has been addressed in the study of the baseline landscape character and visual amenity of the area, assessment of impacts and proposed development of mitigation as presented in Figure 2.3 (Environmental Masterplan) of the ES Figures [\[AS-026\]\(TR010065/APP/6.2\)](#).

Newark & Sherwood Plan Review – Amended Core Strategy Development Plan Document¹¹

- 7.3.29 Core Policy 12 Biodiversity and Green Infrastructure includes the following: *“The District Council will seek to conserve and enhance the biodiversity and geological diversity of the District by working with partners to implement the aims and proposals of the Nottinghamshire Local Biodiversity Action Plan, the Green Infrastructure Strategy and the Nature Conservation Strategy”*.
- 7.3.30 Core Policy 13 Landscape Character states the following: *“Based on the comprehensive assessment of the District’s landscape character, provided by the Landscape Character Assessment Supplementary Planning Document, the District Council will work with partners and developers to secure new development which positively addresses the implications of relevant landscape Policy Zone(s) that is consistent with the landscape conservation and enhancement aims for the area(s) ensuring that landscapes, including valued landscapes, have been protected and enhanced”*.
- 7.3.31 Core Policy 14 Historic Environment states that the following should be secured:
- *“The continued conservation and enhancement of the character, appearance and setting of the District’s heritage assets and historic environment, in line with their identified significance as required in national policy”*.
 - *“The preservation and enhancement of the special character of Conservation Areas including that character identified through Conservation Area Character Appraisals which will form the basis for their management. Important open spaces and features identified through the Conservation Area Appraisal process will be protected through subsequent allocation in the Allocations & Development Management Development Plan Document”*.

¹¹ Newark and Sherwood District Council (2019) Amended Core Strategy DPD. Accessible at: [amended-core-strategy-DPD.pdf \(newark-sherwooddc.gov.uk\)](#) (last accessed December 2023).

Newark & Sherwood Local Development Framework – Allocations & Development Management DPD¹²

7.3.32 Policy NUA/OB/1 Newark Urban Area – Open Breaks identifies areas that are under pressure from development which provide an open break between settlements:

- Newark and Farndon
- Newark and Winthorpe
- Newark and Coddington

7.3.33 Planning permission will not normally be granted for built development in these areas.

7.3.34 Policy DM5 Design

- *“In accordance with Core Policy 13 all development proposals will be considered against assessments contained in the Landscape Character Assessment Supplementary Planning Document”.*¹³
- *“In accordance with Core Policy 12, natural features of importance within or adjacent to development sites should, wherever possible, be protected and enhanced.”*

7.3.35 Policy DM7 Biodiversity and Green Infrastructure

- *“New development, in line with the requirements of Core Policy 12, should protect, promote and enhance green infrastructure to deliver multi-functional benefits and contribute to the ecological network both as part of on site development proposals and through off-site provision.”*

7.3.36 Policy DM9 Protecting and Enhancing the Historic Environment

- *“Development proposals should take account of the distinctive character and setting of individual conservation areas including open spaces and natural features”*
- *“Development proposals should respect the varied historic landscapes of the district through their setting and design.”*

Newark & Sherwood Landscape Character Assessment Supplementary Planning Document

7.3.37 The landscape character assessment provides an assessment of the landscape in Newark & Sherwood described by Regional Character Areas and further defined by Landscape Policy Zones. The policy zones include specific information to form the basis for considering landscape issues as part of planning decisions.

¹² Newark and Sherwood District Council (2013) Allocations & Development Management DPD, Accessible at: http://www.cartogold.co.uk/newark_sherwood/text/Adopted-Allocations-DPD.pdf#page=32 (last accessed December 2023).

¹³ Newark and Sherwood District Council (2013) Landscape Character Assessment SPD, Accessible online at: [Landscape character assessment SPD | Newark & Sherwood District Council \(newark-sherwood.gov.uk\)](http://www.newark-sherwood.gov.uk/Landscape-character-assessment-SPD) (last accessed December 2023).

A Green Infrastructure Strategy for Newark & Sherwood

- 7.3.38 The strategy¹⁴ “will allow for the expansion of settlements whilst ensuring that the District, its assets and landscapes suffer no negative effects and instead prosper from new development”. The need “to respond to the threats and challenges of climate change for communities and wildlife has also shaped the strategy’s development”.

National Highways’ policy and guidance

- 7.3.39 Landscape is one of the environmental topic areas where the six strategic levers of National Highways’ Environment Strategy¹⁵ will be applied. The strategic levers will make a contribution towards the organisation’s environment vision.
- 7.3.40 National Highways’ ‘People, places and processes: A guide to good design at National Highways’ (2022)¹⁶ sets out a vision, which aims to put people at the heart of National Highways’ work, by designing an inclusive, resilient and sustainable road network. This road network should be appreciated for its usefulness but also its elegance, reflecting in its design the beauty of the natural, built and historic environment through which it passes, and enhancing it where possible. The accompanying set of principles for good road design follow the themes of people, places and processes. The focus on good design seeks to make a difference to both road users and the communities through which the roads pass, while being sensitive to the context of a road’s surroundings. The road should contribute to higher quality of life, greater economic vitality and a more efficient use of resources.
- 7.3.41 National Highway’s policy and guidance has been considered in the development of Figure 2.3 (Environmental Masterplan) of the ES Figures [\[AS-026\]\(TR010065/APP/6.2\)](#), which was developed in collaboration with all environmental disciplines in order to achieve a cohesive design that respects, and where possible enhances, the landscape setting.

7.4 Consultation

- 7.4.1 A meeting was held on 16 March 2021 with representatives from Newark & Sherwood District Council, where the potentially affected TPOs and conservation areas were discussed. It was established that

¹⁴ Newark and Sherwood District Council (2010) A Green Infrastructure Strategy for Newark & Sherwood [online] available at: [Microsoft Word - 2134.023 contents pages etc.doc \(newark-sherwooddc.gov.uk\)](#) (last accessed December 2023).

¹⁵ National Highways (2015) National Highways Environment Strategy [online]. Available at: [Environment Strategy 21 .pdf \(publishing.service.gov.uk\)](#) (last accessed December 2023).

¹⁶ National Highways (2022) People, places and processes: A guide to good design at National Highways [online] available at: [People, places and processes \(nationalhighways.co.uk\)](#) (last accessed December 2023).

the TPO status was applied to safeguard trees along the original A46 relief road Scheme constructed in the 1990s to retain screening for local residents.

- 7.4.2 The importance of mitigation measures was reinforced throughout the meeting with the focus on retaining as much existing vegetation as possible, and at worst replacing any affected TPO with like for like species or suitable alternatives, noting that many of the trees were ash and would potentially be lost through ash die-back. The replacement strategy will be based on an assessment of all trees within the Order Limits undertaken in accordance with BS 5837 (2012) – Trees in Relation to Design Demolition and Construction. The assessment will also define construction exclusion zones to protect existing trees.
- 7.4.3 A meeting was held on 21 July 2022 with the Senior Conservation Officer at Newark & Sherwood District Council to discuss the proposed visual receptors. The inclusion of additional receptors was discussed, and an agreement was reached on the visual receptors to inform the Landscape and Visual Impact Assessment (LVIA). The Tree Officer at Newark & Sherwood District Council was also in attendance. There was further discussion on trees within the Order Limits, as well as dialogue on proposed tree surveys to inform the Environmental Impact Assessment (EIA) and design. Further consultation with the Tree Officer will take place if deemed appropriate.
- 7.4.4 An Environmental Technical Working Group (TWG) was established to support continued engagement with the Environment Agency, Natural England, Historic England, Nottinghamshire County Council and Newark & Sherwood District Council, as well as other relevant environmental organisations. The first Environmental TWG took place on 21 September 2022 and meetings have been held quarterly thereafter. Discussions have been held around any likely environmental issues associated with the Scheme, how these will be managed, and proposed environmental design solutions. For further details on the consultation undertaken to date please see Chapter 4 (Environmental Assessment Methodology) of this ES.

7.5 Assessment methodology

Level and scope of assessment

- 7.5.1 Significant effects upon both landscape character and visual amenity are likely during both construction and operation of the Scheme, and therefore both construction and operational impacts are assessed within this chapter.

7.5.2 This Landscape and Visual Impact Assessment (LVIA) accords with the methodology and significance criteria outlined in DMRB LA 107 Landscape and Visual Effects. Industry best practice has also been followed, with particular reference to:

- Guidelines for Landscape and Visual Impact Assessment Third Edition¹⁷
- An Approach to Landscape Character Assessment¹⁸
- Landscape Institute Technical Guidance Note - TGN 06/19 Visual Representation of Development Proposals¹⁹

Methodology including significance

7.5.3 The assessment uses structured, informed and reasoned professional judgement, taking into account data derived from desk study and walkover survey, to review and update the baseline information.

7.5.4 In accordance with DMRB LA 107 Section 2.6, the assessment of the potential effects of the Scheme, compared with the baseline, examines and assesses:

- Seasonal differences with or without the Scheme including summer with foliage and winter without foliage
- Both day and night-time situations with or without the Scheme
- A winter scenario in the year of opening (Year 1), and a summer scenario (Year 15 of operation)
- Landscape character types and/or landscape character areas
- The opinions and consensus of the local public and different interest groups, their perception of the landscape, the value they place on it and assessment of the change the Scheme will incur.

7.5.5 A digital zone of theoretical visibility (ZTV) has helped to inform the selection of viewpoints. A ZTV is a computer-generated model which illustrates the areas from which the Scheme could theoretically be visible from a viewer height of 1.6 metres. A ZTV based on the operational Scheme has been produced for this assessment. The ZTV has been modelled in Geographical Information System (GIS) using topographical Light Detection and Ranging (LiDAR) data and assumes heights of intervening vegetation and built form, to identify the likely areas that will be visually affected when considering intervening features. In order to assume the worst-case scenario, neither existing vegetation alongside the A46 nor roadside vegetation to be provided alongside the widened A46 have been included within the ZTV, albeit large blocks of existing vegetation beyond the highway corridor have been included. The ZTV also assumes a maximum

¹⁷ Landscape Institute and the Institute for Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA 3).

¹⁸ Natural England Guidance 2014: An approach to Landscape Character Assessment [online] available at: [landscape-character-assessment.pdf](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/261111/landscape-character-assessment.pdf) (publishing.service.gov.uk) (last accessed December 2023).

¹⁹ Landscape Institute Technical Guidance Note- TGN 06/19 Visual Representation of Development Proposals [online] available at [TGN-06-19-Visual Representation \(windows.net\)](https://www.landscapeinstitute.org/technical-guidance/tgn-06-19-visual-representation/) (last accessed December 2023).

height of passing traffic at 4.2 metres to represent heavy goods vehicles.

- 7.5.6 Site surveys undertaken in preparation for the assessment to inform this ES included visits to each visual receptor location identified, to confirm baseline views and descriptions during both winter and summer months. Photography has been used to record baseline views and local landscape character, with summer and winter baseline photography captured to help inform the assessment. The photography has been undertaken in accordance with the Landscape Institute Technical Guidance Note (TGN) 06/19 Visual Representation of Development Proposals¹⁹⁴⁹. An additional site survey has been undertaken from publicly accessible areas. Views have been captured from the closest publicly accessible location at the curtilage of property boundaries. Not every individual residential property has been addressed in its own right. Instead, representative viewpoints have been used to capture groups or receptors where appropriate, and where similar views are afforded. Where lack of access was encountered, representative viewpoints have also been used to best capture the visual baseline for a particular given receptor.
- 7.5.7 Whilst numerous receptors fall within the study area, as defined in Section 7.7 of this Chapter, only the impacts on those receptors identified as falling within the visual envelope of the Scheme, as indicated by the ZTV, have been assessed.
- 7.5.8 A review of local landscape character has been undertaken as part of the LVIA presented within Section 7.9 of this Chapter.

Sensitivity (susceptibility and value) of resource

Landscape

- 7.5.9 The value and susceptibility of landscape receptors presented in this Chapter is based on the descriptions in Table 7-1. The assessment of value is based on a combination of factors including importance and quality/condition, as well as professional judgement. The assessment of susceptibility takes into account the ability of this area to accommodate change without fundamentally changing key landscape characteristics. It is also recognised that receptors may have a lower or higher sensitivity within a localised area, taking into account local conditions that may influence landscape character.

Table 7-1: Landscape sensitivity (susceptibility and value) and typical descriptions

Landscape sensitivity (susceptibility and value) of receptor/resource	Typical Description
Very High	Landscapes of very high international/national importance and rarity or value with no or very limited ability to accommodate change without

Landscape sensitivity (susceptibility and value) of receptor/resource	Typical Description
	substantial loss/gain (for example: national parks, internationally acclaimed landscapes - UNESCO World Heritage Sites).
High	Landscapes of high national importance containing distinctive features/elements with limited ability to accommodate change without incurring substantial loss/gain (for example: designated areas, areas of strong sense of place - registered parks and gardens, country parks).
Medium	Landscapes of local or regional recognition of importance, able to accommodate some change (for example features worthy of conservation, some sense of place or value through use/perception).
Low	Local landscape areas or receptors of low to medium importance with ability to accommodate change (for example non-designated or designated areas of local recognition or areas of little sense of place).
Negligible	Landscapes of very low importance and rarity able to accommodate change.

Source: LA 107, DMRB, 2020 (Table 3.22)

Visual

7.5.1 The value and susceptibility of visual receptors is based on the descriptions in Table 7-2. The assessment of susceptibility is based on a combination of the type of visual receptors experiencing the view, the activity they are engaged in and the degree to which their attention is focused on the view. Value takes into account designations or value attached to a view by visitors, the condition of the elements in the view and presence of detracting/valued features. Value and susceptibility are then considered together to make judgements about visual sensitivity. It is also recognised that receptors may have a lower or higher sensitivity within a localised area, taking into account local conditions that may influence existing views.

Table 7-2: Visual sensitivity (susceptibility and value) and typical descriptions

Sensitivity (susceptibility and value)	Typical descriptions
Very High	Static views from and of major tourist attractions. Views from and of very important national/international landscapes, cultural/historical sites (for example National Parks, UNESCO World Heritage sites). Receptors engaged in specific activities for enjoyment of dark skies
High	Views by users of nationally important Public Rights of Way (PRoW)/recreational trails (for example national trails, long distance footpaths). Views by users of public open spaces for enjoyment of the

Sensitivity (susceptibility and value)	Typical descriptions
	countryside (for example country parks). Static views from dense residential areas, longer transient views from designated public open space, recreational areas. Views from and of rare, designated landscapes of national importance.
Moderate	Static views from less populated residential areas, schools and other institutional buildings and their outdoor areas. Views by outdoor workers. Transient views from local/regional areas such as public open space, scenic roads, railways or waterways, users of local/regional designated tourist routes of moderate importance. Views from and of landscapes of regional importance.
Low	Views by indoor workers. Views by users of main roads (for example, trunk roads) or passengers in public transport on main arterial routes. Views by users of recreational facilities where the purpose of that recreation is not related to the view (for example, sports facilities). Views by users of local public open spaces of limited importance with limited variety or distinctiveness.
Negligible	Quick transient views such as from fast moving vehicles. Views from industrial areas, land awaiting re-development. Views from landscapes of no importance with no variety or distinctiveness.

Source: LA 107, DMRB, 2020 (Table 3.41)

Magnitude of effect (change)

Landscape

7.5.2 In accordance with DMRB LA 107 (paragraph 3.19), assessment of magnitude of effect (change) on the landscape considers a combined judgement of the following:

- The size and scale of effect
- Year 1 (opening year) and Year 15 (design year) including summer and winter
- Geographical extent of the area to be affected
- The duration of the effect and its reversibility

7.5.3 The magnitude of landscape effect (change) is reported in accordance with the typical descriptions in Table 7-3.

Table 7-3: Magnitude and nature of the effect (change) on the landscape and typical descriptions

Magnitude of effect (change)		Typical Descriptions
Major	Adverse	Total loss or large-scale damage to existing landscape character or distinctive features or elements; and/or addition of new uncharacteristic, conspicuous features or elements (for example road infrastructure).

Magnitude of effect (change)		Typical Descriptions
Moderate	Beneficial	Large scale improvement of landscape character to features and elements; and/or addition of new distinctive features or elements, or removal of conspicuous road infrastructure elements.
	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 (for example road infrastructure).
Minor	Beneficial	Partial or noticeable improvement of landscape character by restoration of existing features or elements; or addition of new characteristic features or elements or removal of noticeable features or elements.
	Adverse	Slight loss or damage to existing character or features and elements, and/or the addition of new but uncharacteristic features and elements.
Negligible	Beneficial	Slight improvement of landscape character by the restoration of one (maybe more) key existing features and elements; and/or the addition of new characteristic features.
	Adverse	Very minor loss, damage or alteration to existing landscape character of one or more features and elements.
No change	Beneficial	Very minor, but noticeable improvement of character by the restoration of one or more existing features and elements.
	-	No noticeable alteration or improvement, temporary or permanent, of landscape character of existing features and elements.

Source: LA 107, DMRB, 2020 (Table 3.24)

Visual

7.5.4 The locations of visual receptors were visited during the site survey to identify the nature of the existing view and the likely magnitude of change upon that receptor as result of the Scheme. In accordance with DMRB LA 107 (paragraph 3.42), the establishment of the magnitude of visual impacts is informed by the following criteria:

- Scale, nature and duration of change
- Distance
- Screening
- Direction and focus of the view
- Year 1 (opening year) and Year 15 (design year) including summer and winter
- Removal of past mitigation or existing vegetation
- Whether the receptor is static or moving

7.5.5 The magnitude of visual effect (change) is reported in accordance with the criteria in typical descriptions in Table 7-4.

Table 7-4: Magnitude (change) of visual effect and typical descriptions

Magnitude (change) of visual effect	Typical descriptions
Major	The Scheme, or a part of it, would become the dominant feature or focal point of the view.
Moderate	The Scheme, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.
Minor	The Scheme, 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 Scheme would be discernible, or being at such a distance that it would form a barely noticeable feature or element of the view.
No Change	No part of the Scheme, or activity would be discernible.

Source: LA 107, DMRB, 2020 (Table 3.43)

Assessment of significance

7.5.1 The assessment of the significance of effect has been undertaken by combining sensitivity to change of a receptor with an assessment of the magnitude of change put upon it. This allows the prediction of the significance of the effect, as shown in Table 7-5 below. Where there are two potential outcomes, professional judgement is used to determine which is the more appropriate. These effects can be beneficial or adverse, and temporary or permanent, depending on the nature of the development and the mitigation measures proposed. In accordance with DMRB guidance, moderate, large, or very large effects are considered significant in terms of EIA.

Table 7-5: Assessing significance of potential effects

Environmental value (sensitivity)	Magnitude of potential impact (degree of change)					
		No Change	Negligible	Minor	Moderate	Major
	Very High	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large
	High	Neutral	Slight	Slight or Moderate	Moderate or Large	Large or Very Large
	Medium	Neutral	Neutral or Slight	Slight	Moderate	Moderate or Large
	Low	Neutral	Neutral or Slight	Neutral or Slight	Slight	Slight or Moderate
	Negligible	Neutral	Neutral	Neutral or Slight	Neutral or Slight	Slight

Source: DMRB LA104 Environmental Assessment Methodology

7.6 Assessment assumptions and limitations

7.6.1 The assessment has been based on the Scheme description and construction strategy presented in Chapter 2 (The Scheme) of this ES ([TR010065/APP/6.1](#))[[APP-046](#)] and has taken into account the lateral limits of deviation illustrated on the Works Plans

(~~TR010065/APP/2.3~~)[REP3-002] and vertical limits of deviation secured under Article 10 of the draft DCO

(~~TR010065/APP/3.1~~)[REP6-004] to establish a realistic worst case assessment scenario. It is assumed that in the instance of any changes to the design within the vertical and horizontal limits of deviation, mitigation measures would still be provided and would function as described in Section 7.10 of this Chapter and as such there would be no change to the assessment of significant effects.

- 7.6.2 Not every residential receptor has been addressed in its own right. Instead, properties were captured as small groups in some instances where one viewpoint would be representative of the most severe impact for the group as a whole. In this way, although there is not a separate photographic view for each individual receptor, the assessment covers every receptor expected to be impacted by the Scheme. Likewise, where a visual receptor is linear such as a PRoW or road, a representative location and description from that location has been provided.
- 7.6.3 Night-time visual assessment has only been undertaken where continuous working during construction or additional lighting during the operation of the Scheme has the potential to affect residential receptors.
- 7.6.4 Photographs were taken from beyond the curtilage of properties, on the nearest publicly accessible roads and footpaths, and do not represent views from within the top floor of dwellings. The predicted influence of the Scheme on views from inaccessible areas is only reported in this assessment if the impacts are expected to differ noticeably from the representative view collected on site.
- 7.6.5 In accordance with the DMRB LA107, impacts from construction activity are assessed at their peak assuming the maximum perceptible change.
- 7.6.6 Receptors identified within the study area and ZTV (see Section 7.7 of this Chapter) have been assessed as part of the Scheme. However, when considering the construction requirement for the use of a crane during the construction of structures, the potential area of impact would temporarily increase the number of receptors in the ZTV. However, given the narrow forms of cranes and transient appearance within views, resulting in the likelihood of only a minor or negligible change in the view, the visual effects of the crane are not likely to be significant and as such these additional receptors have not all been detailed within this assessment.
- 7.6.7 A baseline description of the relevant National Character Area is provided for context only. The scale and nature of the works as a widening scheme, is considered diminutive within the broader regional character area and therefore the LVIA has focused upon the assessment of landscape character at a local level, where greater changes may be afforded. The assessment captures likely

construction and operation impacts and effects upon the seven local landscape character areas informed in part by the county level character assessment.

- 7.6.8 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 listed buildings and structures and Conservation Areas, are assessed on their landscape and visual merits and contribution to the landscape, not their historic or cultural value or significance. The historic landscape character baseline condition and assessment is contained in Chapter 6 (Cultural Heritage) of this ES.

7.7 Study area

- 7.7.1 In accordance with the DMRB LA 107 (paragraphs 3.11 and 3.31), the study area for the scoping of landscape and visual effects considers the following:

- Areas anticipated to be used for the Scheme and its construction works and their visual footprint.
- The wider landscape setting and visual envelope which may be influenced by the Scheme.
- The extent of the area visible by the Scheme and the extent of representative viewpoints visible of the Scheme.
- Where applicable, the full extent of adjacent or affected landscape receptors of special value where the setting may be influenced by the Scheme.
- The extent of adjacent or affected visual receptors and the visual amenity of the area that may be influenced by the Scheme.

- 7.7.2 The ZTV indicates that the vast majority of receptors lie within 500 metres of the Scheme alignment, with many situated within 200 metres. A small number of receptors have been identified up to 1 kilometre from the Order Limits, with one receptor beyond 1 kilometre at South Muskham.

- 7.7.3 The study area for the landscape assessment has been determined as 2 kilometres from the Scheme alignment, as shown in Figures 7.1 to 7.3 of the ES Figures ~~(TR010065/APP/6.2)~~[\[AS-037 to AS-039\]](#). It is not considered that significant effects upon landscape character [and visual amenity](#) would be likely beyond this distance due to the intervening built form and existing vegetation. ~~It is not considered that significant effects upon landscape character would be likely beyond this distance due to the intervening built form and existing vegetation.~~

7.8 Baseline conditions

Site description

- 7.8.1 The existing A46 runs through the centre of the study area. The current road is single carriageway and generally elevated on embankment due to the low-lying alluvial floodplain of the nearby River Trent.
- 7.8.2 The River Trent is a strong natural influence within an otherwise manmade landscape, flowing sinuously in two channels located either side of the existing A46 within the study area. There is a mixed geology of river terrace Sand and Gravel in Newark-on-Trent, and Riverine Clay, Sands and Gravels to the west, overlying various Mudstone strata.
- 7.8.3 Several roundabouts form key junctions along the existing A46, linking with a number of A roads locally. The Nottingham to Lincoln railway line and East Coast Main Line (ECML) traverse the area, bringing further infrastructure to the landscape. The Nottingham to Lincoln line crosses the existing A46 twice, once at the south-western Scheme extent and the second at the north-eastern end of the Scheme extent. The ECML intersects the existing A46 once to the east of the British Sugar Factory.
- 7.8.4 The existing A46 highway infrastructure is softened by roadside vegetation in places. Exceptions are the railway and watercourse crossings. To the north of the existing A46, farmland of irregular field patterns dominate, interspersed with small-scale settlement. To the south of the existing A46, the town of Newark-on-Trent has developed from a long and rich history to form a notable urban settlement. The CPRE interactive map which presents England's Light Pollution and Dark Skies,²⁰ identifies Newark-on-Trent as having some of the brightest night lighting levels, gradually reducing away from Newark-on-Trent, moving into a more rural landscape.

Data sources

- 7.8.5 The relevant baseline conditions of the Scheme location and study area have been established using the following sources of information:
- Figure 2.2 (Environmental Constraints Plan) of the ES Figures [\(TR010065/APP/6.2\)\[REP2-009\]](#)
 - Newark & Sherwood Core Strategy DPD (Adopted March 2019)
 - A Green Infrastructure Study for Newark & Sherwood
 - Natural England's National Character Area (NCA) profiles²¹

²⁰ CPRE (2016) Interactive Map [online] available at: [England's Light Pollution and Dark Skies Map \(cpre.org.uk\)](#) (last accessed December 2023).

²¹ Natural England (2014) National Character Area profile: 48. Trent and Belvoir Vales [online] available at: [NCA Profile: 48: Trent and Belvoir Vales - NE429 \(naturalengland.org.uk\)](#) (last accessed December 2023).

- Newark & Sherwood Landscape Character Assessment Supplementary Planning Document²²
- Natural England's MAGIC (Multi-agency geographic information for the countryside) interactive map²³
- Conservation Areas identified on Newark & Sherwood District Council's Conservation Area Maps and Character Appraisals²⁴
- Nottinghamshire County Council's online Definitive Map²⁵
- Newark Open Breaks Review²⁶

Designations within the study area

7.8.6 Designations relevant to the assessment of landscape and visual effects of the Scheme are illustrated on Figure 2.2 (Environmental Constraints Plan) of the ES Figures [\[REP2-009\]\(TR010065/APP/6.2\)](#). Table 7-6 below presents designations within the study area and their distance from the Order Limits.

Table 7-6: Relevant designations within the study area

Designations within the study area	Distance from the Order Limits
Winthorpe Conservation Area	Within the Order Limits to the northern extents of Scheme at Winthorpe.
Newark Conservation Area	Within the Order Limits to the east of the existing A46 mainline.
Averham Conservation Area	Immediately adjacent to the Order Limits (proposed floodplain compensation area only).
Kelham Conservation Area	Within the Order Limits (proposed floodplain compensation area only).
Farndon Conservation Area	1 kilometre west of the Order Limits at Farndon junction.
Listed Buildings - various	Numerous within the study area: 387 Grade II, 15 Grade II* and seven Grade I (within 1 kilometre), closest listed building lies within the Order Limits and is Grade II listed.
Scheduled Monuments - various	17 within 1 kilometre; closest within 10 metres of the Order Limits at Cattle Market junction.
Newark Castle Gardens Grade II listed Registered Park and Garden	580 metres to the south of the A46 Cattle Market junction.
Veteran and notable trees	Five veteran and 10 notable trees within, or directly adjacent to, the Order Limits (the majority of which, one veteran and nine notable trees, are located at Kelham). Three veteran trees are currently in conflict with the Order Limits.
TPO	Four group TPOs within the Order Limits (TPOs

²² Newark & Sherwood District Council (2013) Landscape Character Assessment Supplementary Planning Document [online] available at: [Landscape character assessment SPD | Newark & Sherwood District Council \(newark-sherwooddc.gov.uk\)](#) (last accessed December 2023).

²³ Natural England (2017) MAGIC Interactive Map [online] available at: [Magic Map Application \(defra.gov.uk\)](#) (last accessed December 2023).

²⁴ Newark and Sherwood District Council (2017) Conservation Areas [online] available at: [Conservation areas | Newark & Sherwood District Council \(newark-sherwooddc.gov.uk\)](#) (last accessed December 2023).

²⁵ Nottinghamshire County Council (2017) Definitive Map [online] available at: [Definitive Map and Statement | Nottinghamshire County Council](#) (last accessed December 2023).

²⁶ Nottinghamshire County Council (2019) Newark Open Breaks Review available at: [Nottinghamshire Landscape Character Assessment \(newark-sherwooddc.gov.uk\)](#) (last accessed December 2023).

Designations within the study area	Distance from the Order Limits
	56, 116, 152 and 153). Three of which will be in partial conflict with the Order Limits (TPOs 116, 152 and 153).

Landscape character

National level

- 7.8.7 The Scheme and study area are located within National Character Area (NCA) 48 Trent and Belvoir Vales.
- 7.8.8 NCA 48 is characterised by “*undulating, strong rural and predominantly arable farmland, centred on the River Trent. A low-lying rural landscape with relatively little woodland cover, the NCA offers long open views. Newark-on-Trent lies at the centre with Grantham, Nottingham, Lincoln and Gainsborough on the peripheries. The area’s generally fertile soils and good quality agricultural land have supported a diversity of farming over a long period but, because of this, little semi-natural habitat remains... The powerful River Trent and its floodplain provide a strong feature running through the landscape... It is the greatest biodiversity resource, being a major corridor for wildlife moving through the area and supporting a variety of wetland habitats. It also provides flood storage as well as large amounts of cooling water for local power stations.*”²⁷

County Level

- 7.8.9 At a county level, the study area includes parts of four regional character areas (RCA) defined by the Newark & Sherwood Landscape Character Assessment SPD.
- Trent Washlands RCA which covers the River Meadowlands and Village Farmlands Landscape Character Types (LCT)
 - East Nottinghamshire Sandlands RCA, which covers the Village Farmlands LCT
 - South Nottinghamshire Farmlands RCA, which covers the Meadowlands and Village Farmlands LCT
 - Mid-Nottinghamshire Farmlands RCA, which covers the Village Farmlands with Ancient Woodlands LCT
- 7.8.10 The study area also includes areas of urban development identified in the Newark & Sherwood Landscape Character Assessment SPD:
- Newark-on-Trent
 - Farndon

²⁷ Natural England (2014) National Character Area profile: 48. Trent and Belvoir Vales [online] available at: [NCA Profile: 48: Trent and Belvoir Vales - NE429 \(naturalengland.org.uk\)](https://www.naturalengland.org.uk/NCA/Profile/48/Trent-and-Belvoir-Vales-NE429) (last accessed December 2023).

- 7.8.11 Each of the RCA identified are further defined by Landscape Policy Zones (LPZ) within the SPD. The location of Newark & Sherwood District Council's RCAs and the subdivision of policy zones are presented within Figure 7.1 (Published Regional Character Areas and Policy Zones) of the ES Figures [\(TR010065/APP/6.2\)](#)[\[AS-037\]](#), whilst Appendix 7.1 (Landscape Character Policy Zone Descriptions) of the ES Appendices [\[APP-136\]](#)[\(TR010065/APP/6.3\)](#) provides a description of each policy zone.
- 7.8.12 A review of these regional character areas and urban areas has helped inform the identification of the landscape character areas (LCA) assessed in this Chapter. Seven LCAs have been identified. These are described in more detail below and Figure 7.2 (Landscape Character Areas) of the ES Figures [\[AS-038\]](#)[\(TR010065/APP/6.2\)](#) presents the locations of each of these. Reference has been made to relevant key characteristics, as described within the Newark & Sherwood Landscape Character Assessment, including details presented in the relevant Policy Zones, Newark Open Breaks assessment, as well as Conservation Area Appraisals where available.

LCA 1 Trent Washlands

- 7.8.13 The broad flat valley of the River Trent, with meandering river channels and terraces gently rising to the west, characterises the area. Land use is predominantly arable with a regular pattern of fields in various sizes and degrees of openness. Smaller scale fields, including some irregular fields, and areas of permanent pasture are more prevalent closer to settlements. The area is sparsely populated with few buildings or with nucleated villages of traditional red brick and pantile roofed buildings. Historic parkland landscape still exists around Kelham Hall, and the villages at Averham and Kelham include designated conservation areas. Long sinuous hedgerows with hedgerow trees and riparian vegetation, including willow pollards and holts, form the main component of tree cover which contributes to a sense of enclosure. Flood meadows and areas of open water at restored mineral extraction sites are present, particularly adjacent to the River Trent. Major A roads, local roads and several railway lines, including the Nottingham to Lincoln line and ECML, fragment the area. Electricity pylons and associated overhead power lines traverse the landscape, with a notable increase in the presence of detracting features towards Newark.
- 7.8.14 This LCA has rural scenic qualities, particularly away from the southern edge of the character area. Features such as the British Sugar Factory and transport corridors, including the existing A46 are detracting influences and overall it is considered that the Trent Washlands LCA has a moderate sense of place. The area is considered to be of local importance with features worthy of conservation, particularly in respect of historic features and conservation areas, as well as local pattern but could accommodate

some change. The landscape sensitivity to change is considered to be medium.

LCA 2 Winthorpe Village and Farmlands

- 7.8.15 Winthorpe is a large village of medieval origin, although principally shaped in the 18th and 19th Century. Situated on Gainsborough Road, formerly the main route from Newark, the village developed as a commuter settlement. The historic core of the village is designated as a Conservation Area, notable for being a quiet secluded village in an attractive rural setting. There is a legacy of estate cottages and a relatively small amount of vernacular architecture with orange red brick and pantile roofs. The River Fleet runs through the area, partially underground. Mature trees and large houses with extensive gardens contribute to the leafy character and appearance of Winthorpe, particularly on Gainsborough Road.
- 7.8.16 The landscape setting of Winthorpe includes historic field patterns and a mixture of intensive arable fields with strongly trimmed hedges and some low intensity farming with permanent improved pasture. Remnant parklands associated with Winthorpe Hall, Winthorpe House and Langford Hall are characterised by grassland areas with scattered parkland trees and mature belts of woodland. Areas to the south and east of Winthorpe are designated as part of the Newark Open Breaks policy to ensure that Newark and Winthorpe maintain their separate identities and characteristics.
- 7.8.17 The Winthorpe Village and Farmlands LCA has rural, scenic and historic qualities, particularly within the conservation area and areas of parkland associated with country houses. The area is considered to be of local importance with features worthy of conservation, particularly in respect of historic features and conservation areas, as well as historic field patterns and mature hedgerows and woodland. It has a limited ability to accommodate change. The sensitivity to change is considered to be high.

LCA 3 East Nottinghamshire Sandlands

- 7.8.18 This flat and gently undulating rural landscape lies within the low-lying broad vale of the Trent. Although generally intensive agricultural, a variable pattern of land use and land holding has developed on the free-draining sandy soils typical of the area. Mixed, small-scale geometric plantations with birch, oak and Scots pine and intermittent woodland blocks contribute to a well wooded character. Acidic grassland and grass heaths are found throughout the area. Well-maintained hawthorn hedgerows are typical around field boundaries and alongside roads, although bracken, gorse and broom are also found. Leisure land uses, including golf courses, sports fields, Newark Air Museum and Newark Showground are common, particularly in proximity to Newark. Electricity pylons and overhead power lines traverse the landscape.

- 7.8.19 The East Nottinghamshire Sandlands LCA has few unusual features, due to the generally intensive arable land use and shallow topography. The area includes elements worthy of conservation, mainly hedgerows and tree cover. Various leisure and industrial land uses towards Newark contribute to a typical urban fringe sense of place. It is considered that LCA3 East Nottinghamshire Sandlands has a moderate sense of place and an ability to accommodate change. The landscape sensitivity is considered to be low.

LCA 4 Newark

- 7.8.20 Newark is identified as one of the main settlements in the Trent and Belvoir Vales NCA, a busy market town in contrast to the generally rural surrounding area. Newark is situated in the Trent Valley where the River Devon joins the River Trent, which has long been a strategic river crossing. A number of historical routes connect in the area, including the Roman road, Fosse Way (now the A46) and the Great North Road (now the A1). The addition of the Midland and Great Northern railways meeting in the town helped to strengthen Newark's role as a market town. The historic core of the town is designated as a conservation area and includes many listed buildings, notably Newark Castle. There are many church spires, notably St Mary Magdalene church, within the town which are prominent in the surrounding landscape. Building styles vary but red brick and pantiles are common throughout the Trent Valley. Major industrial developments are mainly focused along the Trent floodplain north-west of the town in the Trent Washlands LCA. Expansion of Newark during the 20th century was away from the River Trent and is predominantly residential but there are a small number of large industrial areas.
- 7.8.21 The north-eastern area of the town is in Bridge Ward.²⁸ The residential area comprises various estates and neighbourhoods with a mix of semi-detached, detached and short terraced properties, mostly with front gardens or driveways and limited street trees. The area also includes Brunel Drive Business Park, which is the district's main employment area, along with further industrial and commercial areas on Quibell's Lane and Northern Road.
- 7.8.22 The historic core of Newark remains mostly intact, with a strong sense of place and limited ability to accommodate change. Sensitivity to change is considered high given the setting of important historic features within the town.

LCA 5 South Nottinghamshire Farmlands

- 7.8.23 This is a flat low-lying rural landscape to the south of Newark and Farndon. Arable farmland is the dominant land use in a pattern of small to medium sized regular fields with some remnant large fields defined by thorn hedges or ditches. The River Devon and other small

²⁸ Newark and Sherwood District Council (2012), Bridge Ward Neighbourhood Study, available online at [20160930BridgeWardNeighbourhoodStudy.pdf](https://www.newark-sherwooddc.gov.uk/20160930BridgeWardNeighbourhoodStudy.pdf) ([newark-sherwooddc.gov.uk](https://www.newark-sherwooddc.gov.uk)) (last accessed December 2023).

watercourses cross the area with seasonally wet alluvial and peaty soils. Settlement is generally confined to nucleated villages, including Hawton and Thorpe, and farmsteads, with small scale pastoral fields around village peripheries. Some villages have become suburbanised commuter settlements. Small irregular woodland blocks are common throughout. Detracting features include multiple pylons and overhead powerlines traversing the area and Newark Wind Farm beyond the study area.

- 7.8.24 South Nottinghamshire Farmlands LCA has a moderate sense of place. It is considered to be of local importance as the first area of rural landscape beyond the urban fringe of Newark, providing a rural setting for the town. It could accommodate some change. Overall sensitivity is considered to be medium.

LCA 6 Farndon Village

- 7.8.25 A large village situated between the River Trent and the former A46 Fosse Road to the south-west of Newark. The historic built core and conservation area is situated to the west of the village close to a meander on the River Trent. The vernacular red brick and pantile roofed dwellings, typical of Nottinghamshire's Trent valley in the 19th century, and mature vegetation enclosing gardens contribute to the character of the conservation area. In the 20th century, residential development spread north-east along Marsh Lane and infilled fields to Fosse Road. This includes detached 1930s housing overlooking the fields south-east of Fosse Road and a mix of 1960s-80s houses and bungalows with limited garden vegetation along the wide suburban Marsh Lane.
- 7.8.26 Farndon Village LCA has a sense of history within the historic core and conservation area to the south-west, although later development to the east of the village has a character more typical of suburban development. It has a moderate sense of place. It is considered to be of local importance with features worthy of conservation, particularly in respect of historic features and conservation areas, and has a limited ability to accommodate change. The sensitivity to change is considered to be high.

LCA 7 Mid-Nottinghamshire Farmlands

- 7.8.27 A varied undulating topography underlies this predominantly arable landscape. Field patterns are small to medium sized with a well-defined pattern of hedged fields. Settlements are generally confined to small rural nucleated villages or isolated farmsteads, with red brick buildings with pantile roofs typical of the area. Small remnant orchards and permanent pastures are present around villages. The landscape is well wooded, with ancient woodlands, often sited on hilltops, tree and hedgerow planting alongside country roads and lines of trees defining routes of streams. Detracting features include the A616 and A617.

- 7.8.28 The Mid-Nottinghamshire Farmlands LCA has rural and scenic qualities. Field patterns are strong and generally intact and there are few detracting features. It has a moderate sense of place. The area is considered to have local importance with features worthy of conservation including riparian vegetation, blocks of woodland, hedgerows and historic field pattern and could accommodate some change. The sensitivity to change is considered to be medium.

Visual baseline

- 7.8.29 Visual receptors have been identified through a desktop study, including reference to the most current ZTV for the Scheme (see Figure 7.3 (Zone of Theoretical Visibility) of the ES Figures [\[AS-039\]\(TR010065/APP/6.2\)](#)). Each visual receptor location has been visited during winter and summer months to capture the visual baseline. Visual receptors included within the assessment are presented in Figure 7.4 (Visual Receptor Location Plan) of the ES Figures [\[AS-040\]\(TR010065/APP/6.2\)](#). A list of the receptors, including the type of receptor, their sensitivity to change and a description of the baseline view, is presented in Appendix 7.2 (Visual Baseline and Impact Schedules) of the ES Appendices [\[APP-137\]\(TR010065/APP/6.3\)](#).
- 7.8.30 The visual receptors identified during the baseline study include occupiers of residential properties, Public Rights of Way (PRoW) users (including the Trent Valley Long Distance Footpath), users of local recreation facilities, users of the River Trent, and people working in local businesses. A small number of the visual receptor locations were identified as key viewpoints during the assessment to show a representative sample of existing conditions and provide a visual representation of the scale of the new structures within their setting. Photographs from each key viewpoint and photomontage locations are provided in Appendix 7.3 (Key Visual Receptor Photographs and Photomontages) of the ES Appendices [\[APP-138 to APP-139\]\(TR010065/APP/6.3\)](#).

7.9 Potential impacts

- 7.9.1 The following potential impacts from the Scheme have been identified for the construction and operational stages.

Construction

- 7.9.2 Construction impacts may be short-term, long-term, temporary or permanent in nature. The sources of potential impacts considered in relation to landscape and visual amenity during construction include:
- Presence and movement of construction traffic, plant and equipment

- Presence of construction compounds and haul routes
- Temporary fencing and hoardings
- Demolition and site clearance, including vegetation clearance along the route
- Introduction of temporary structures and signage
- Earthworks and changes in the landform of the site, particularly along the length of the northbound carriageway widening
- Storage of earth and other materials
- Presence and views of lighting for works during low daylight levels or for night work, as well as compounds
- The progressive construction of the permanent built elements including above grade structures such as the rail and river crossings and the grade separated junction at Cattle Market
- Vegetation removal, including that which currently offers landscape character and visual screening value, or which has TPO status
- Bare soil of newly formed earthworks

Operation

7.9.3 Sources of potential impacts considered in relation to landscape character and visual amenity during operation include:

- Additional road infrastructure, notably hard surfacing and new at height structures such as the grade separated junction at Cattle Market. These elements would increase the extents, vertical scale and perception of the highway network.
- Potential increase in the number of, or scale of, related infrastructure such as signs, traffic signals, lighting, CCTV, technology elements, servicing or power units; also, any new maintenance access platforms/routes and associated hard surfacing and pedestrian guardrails.
- Permanent loss of vegetation within and outside the existing highway boundary, which in turn may reduce physical containment and open up views to the widened A46.
- New or modified earthworks and drainage elements that may require additional land take, including ponds, swales and floodplain compensation areas.
- New planting and habitat creation leading to a change in land use from the baseline.

7.10 Design, mitigation and enhancement measures

Design measures

7.10.1 The development of the Scheme design has been an iterative process, undertaken as part of an integrated design team. The design adheres to the principles of the design and mitigation hierarchy

outlined in DMRB LA 104. The first principle being to avoid potential adverse effects where possible, before seeking to reduce and if possible, offset, any unavoidable impacts. This has formed a well-developed essential mitigation strategy. The landscape design strategy for the Scheme seeks to respond to the local landscape character and physical topography of the area, aiding the settlement of the Scheme within the receiving environment. It also seeks to limit visual clutter and detracting features as far as possible, whilst mitigating impacts and enhancing biodiversity as part of a holistic design approach. Embedded mitigation incorporated into the Scheme design is outlined in Chapter 2 (The Scheme) of this ES. Embedded mitigation measures incorporated in the Scheme design include maintaining existing infrastructure, earthworks and screen planting and avoiding vegetation clearance as far as practicable, integration of new earthworks into the landscape, limiting the vertical alignment of the new infrastructure as far as practicable, directional lighting where required, and consideration of colour, form, and materials to minimise the visual prominence of these new features and aid their integration into the receiving landscape or architectural context. These features are described below and some of which are shown on Figure 2.3 (Environmental Masterplan) of the ES Figures [\[AS-026\]\(TR010065/APP/6.2\)](#).

Mitigation measures – construction

7.10.2 Mitigation measures of relevance during construction are included within the First Iteration Environmental Management Plan (EMP) [\[REP6-012\]\(TR010065/APP/6.5\)](#) which will be developed into a Second Iteration EMP for implementation during construction of the Scheme. Details on the First Iteration EMP and Second Iteration EMP, including how mitigation is secured within the draft DCO [\[REP6-004\]\(TR010065/APP/3.1\)](#), is provided within Section 4.4 of Chapter 4 (Environmental Assessment Methodology) of this ES. Mitigation measures of relevance to landscape and visual amenity during construction include the following:

- Keeping a well ordered and tidy site, including keeping stockpiles to a minimum, with delivery of goods on an as needed basis.
- Limiting works to core hours in the most part (noting the exceptions detailed in commitment G2 of Table 3-2 REAC of the FI EMP [\[REP6-012\]\(TR010065/APP/6.5\)](#)).
- Protecting existing trees and vegetation to be retained with protective fencing, where deemed necessary, in accordance with BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations.
- Restoration of land used temporarily to construct the Scheme, as soon as reasonably practicable.

- Constructing screening mounds, where they are proposed as part of the permanent works, as early as is reasonably practicable to provide screening to the construction work.
- Temporary offices and welfare facilities would be a recessive colour to blend in with the local surroundings. This is particularly the case in more rural areas away from the urban edge of Newark.
- Lighting would be kept to the minimum luminosity necessary and use low energy consumption fittings. Where appropriate, lighting would be activated by motion sensors to prevent unnecessary usage. The main site compound would be occupied at all times for the security of the plant, equipment, and materials within it. As such, the main site compound would be lit as required during hours of darkness. Lighting would be directional, and positioned sympathetically, to minimise light spill and disturbance for highly sensitive receptors. Construction lighting arrangements are further detailed in Chapter 2 (The Scheme) of this ES [\[APP-046\]](#).

Mitigation measures – operation

7.10.3 Mitigation measures of relevance during operation, included within the First Iteration EMP [\[REP6-012\]](#)~~(TR010065/APP/6.5)~~ and shown on Figure 2.3 (Environmental Masterplan) of the ES Figures [\[AS-026\]](#)~~(TR010065/APP/6.2)~~ include the following:

- New and replacement native planting which takes into account climate change resilience and reflects the local landscape character, including those species listed in the Newark & Sherwood Landscape Character Assessment SPD. Over time, this vegetation would mature to offer effective screening where required as well as general landscape integration and softening of built features.
- Retention and strengthening of hedgerows and linear belts of vegetation along the highway boundary where possible, to ensure that existing field boundaries and highways planting remains intact and wildlife corridors are not severed. Where retention is not possible, new planting will be sought to restore continuity of existing vegetation. This would include, but not be limited to, areas of species rich grassland, hedgerows, hedgerows with trees, linear belts of shrubs and trees and woodland, as well as wetland planting of drainage features and habitat creation at Farndon East and West Floodplain Compensation Areas (FCAs).
- Land used temporarily during construction would be, so far as reasonably possible, reinstated to previous land use where not required for essential environmental mitigation.
- Appendix 7.4 (Arboricultural Impact Assessment) of the ES Appendices [\[APP-140 and AS-086 to AS-089\]](#)~~(TR010065/APP/6.3)~~ details specific mitigation in relation to potential remediation measures following construction with respect to trees.

Enhancement measures

- 7.10.4 Enhancement measures seek to improve and/or restore local landscape character and visual amenity where possible, aligning with the Landscape Actions specified for the relevant policy zones established by the Newark & Sherwood Landscape Character Assessment SPD. Measures include enhancement of existing hedgerows within the Order Limits, which would be undertaken where possible by means of coppicing, hedge laying or planting up gaps, with native climate resilient species as appropriate. However, these enhancement measures have not been taken into account when determining significance of effects because they are over and above what is required to mitigate the adverse effects of the Scheme.

7.11 Assessment of likely significant effects

- 7.11.1 The assessment of likely significant effects considers effects on landscape and visual receptors during construction and operation. These effects are determined following the incorporation of the essential mitigation measures outlined in Section 7.10 and embedded mitigation measures in Chapter 2 (The Scheme) of this ES [\[APP-046\]](#) and shown on Figure 2.3 (Environmental Masterplan) of the ES Figures [\[AS-026\]\(TR010065/APP/6.2\)](#).

Construction

Landscape Character

- 7.11.2 The following section provides a description of the likely significant effects upon LCAs within the study area during construction. The location and extent of each character area can be found in Figure 7.2 (Landscape Character Areas) of the ES Figures [\[AS-038\]\(TR010065/APP/6.2\)](#) and should be read in conjunction with Figure 2.4 (Location of Temporary Works Areas Required During Construction) of the ES Figures [\[AS-027\]\(TR010065/APP/6.2\)](#) showing the temporary works areas such as compound and haul route locations.

LCA 1 Trent Washlands

- 7.11.3 There would be a direct impact upon the Trent Washlands LCA, with the majority of the Scheme extents and associated construction activity occurring within this large LCA. During construction there would be a notable presence of construction activity including the removal of existing vegetation to the west and north of the existing northbound carriageway of the A46. This would require the removal of both established highway planting and also planting within neighbouring fields such as hedgerows, groups of vegetation and

individual trees, including group TPOs (11/00100/TPO (11/00099/TPO), within the Order Limits. Further information is provided within Appendix 7.4 (Arboricultural Impact Assessment) of the ES Appendices [\[APP-140 and AS-086 to AS-089\]\(TR010065/APP/6.3\)](#).

- 7.11.4 Large scale earthworks and associated construction traffic and activity would be required in the construction of the embankments to carry the new northbound carriageway of the A46. This would bring about a change in land use from farmland within the River Trent floodplain to engineering built elements. It would also lead to a localised change in topography as the road would continue to be elevated above the surrounding ground level. Similarly, excavation to accommodate two new floodplain compensation areas at Farndon (Farndon East FCA and Farndon West FCA), as well as construction borrow pits, would also lead to localised changes in topography, lowering the landscape in an area adjacent to the River Trent and also to the east of the existing A46 up to a maximum depth of 4 metres. Localised removal or pruning of riparian vegetation may be required along the interface between Farndon West and East FCAs and the Old Trent Dyke. Localised and small scale vegetation clearance would be required adjacent to the River Trent to allow for construction of temporary and permanent river crossings. There would also be changes to local watercourses and drainage ditches during construction. These activities would collectively alter land use, land cover and pattern immediately adjacent to the A46 within the Order Limits. Impacts and resulting effects upon cultural assets such as Smeeton's Arches are addressed within Chapter 6 (Cultural Heritage) of this ES [\[APP-050\]](#).
- 7.11.5 Beyond the A46 corridor, there would be direct impacts and resulting landscape effects due to the creation of a new floodplain compensation area at Kelham and Averham. An area of existing arable farmland would be excavated to create a depression in the local topography to provide suitable floodplain compensation for the main Scheme. Excavated material would be stockpiled, leading to a localised change in land use and topography with the stockpiled bunds. Topsoil would be reinstated across the completed floodplain compensation area. In order to accommodate construction access, isolated stretches of vegetation clearance would be required along the existing hedgerow boundary between the field and A617 Main Road. An existing pond would also be removed.
- 7.11.6 Broader indirect impacts upon the remainder of the Trent Washlands LCA would likely result from a decrease in audible and visual tranquillity associated with the presence of construction traffic and machinery, construction activity and areas of material and equipment storage. This would be set in the context of existing detracting features and operational activities within the LCA, including the A616, A617, A46, A1, Staythorpe Power Station and British Sugar Factory.

- 7.11.7 The magnitude of effect (change) upon Trent Washlands LCA as a whole is considered to be Moderate Adverse, which when combined with the medium sensitivity of the LCA, would result in a temporary Moderate Adverse significance of effect during construction for a period of up to four years.

LCA 2 Winthorpe Village and Farmlands

- 7.11.8 During construction there would be a direct impact upon the farmlands surrounding Winthorpe, with the widening of the existing A46 and the construction of the new A46 link, including associated new slip roads and roundabout, between the existing A46 and A1. At height works associated with the construction of the A1 overbridge, earthworks and construction activity would all bring detracting elements to this high sensitivity character area during construction. Additional earthworks movements would arise as a result of the excavation of borrow pits north of the new Brownhills roundabout, and new ponds, swales and drainage features would be introduced to the area. There would also be notable earthwork movements associated with the construction of new permanent bunds alongside the A46 between Brownhills and Winthorpe roundabouts. Vegetation clearance would be necessary to accommodate the Scheme, including the loss of mature woodland and the fragmentation of existing hedgerows. This would lead to a change in landcover and pattern as well as the alteration in land use associated with the loss of agricultural land during construction. Laydown areas, several satellite compounds, welfare units, haul routes and temporary soil stockpiles would also be present, bringing further detracting features to the character area. A decrease in local tranquillity levels adjacent to the works is likely. A concrete batching plant within the main construction compound in the adjoining East Nottinghamshire Sandlands LCA to the south would be apparent from the Winthorpe Village and Farmlands LCA.
- 7.11.9 There would be no direct impact upon the fabric of Winthorpe Village. There would be no engineering works within the conservation area, albeit woodland planting would be provided to the east of the A1 within the most western extents of the conservation area adjacent to Lowood. The works would be set in the context of the existing A46 and A1 and existing detracting features in neighbouring LCAs but would be conspicuous in the LCA.
- 7.11.10 The magnitude of change to the Winthorpe Village and Farmlands LCA as a whole is considered to be Major Adverse, which when combined with the high sensitivity of the LCA, would result in a temporary Large Adverse significance of effect during construction for a period of up to four years.

LCA 3 East Nottinghamshire Sandlands

- 7.11.11 During construction there would be a direct impact upon a small proportion of the East Nottinghamshire Sandlands LCA, immediately adjacent to the existing A46, east of the A1. There would be construction activity and plant associated with the Friendly Farmer Link adjacent to the existing A46 mainline carriageway. Away from this, the main direct impacts would arise from haul routes, laydown areas for material storage, satellite compounds and a concrete batching plant within the main construction compound which whilst on the very edge of the East Nottinghamshire Sandlands LCA would be a notable detracting feature in the character area for a temporary period during construction. Whilst works would lead to a localised and temporary change in land use, it is not expected that there would be a change in landcover or pattern associated with the construction period. There may be effects upon audible and visual tranquillity in the character area, particularly given its open aspect and flat topography with little tree cover. Works would be set in the context of the Newark Showground and built development associated with the large-scale buildings of Dixons Regional Distribution Centre between the A17 and A1, south of the existing A46.
- 7.11.12 Given the localised extent and temporary nature of the works in the East Nottinghamshire Sandlands LCA, the magnitude of effect (change) upon landscape character is considered to be Moderate Adverse. This combined with the low sensitivity to change would result in a Slight Adverse significance of effect during construction.

LCA 4 Newark

- 7.11.13 A very small proportion of the Newark LCA would be directly impacted during construction, with the use of local roads (Trent Lane, Wolsey Road, and Wheatsheaf Avenue) to access construction works and compounds in the neighbouring Trent Washlands LCA and Winthorpe Village and Farmlands LCA. There would be no change to the physical characteristics of the area, but there would be a temporary increase in construction related traffic on the roads affected. These pass through the most north-eastern part of Newark Conservation Area, although it should be noted that this area is already characterised by disused ex-industrial land in poor condition and is adjacent to the ECML railway. There would be indirect impacts and associated effects on the character area due to construction activity within the adjacent Trent Washlands LCA between the River Trent and the existing A46 beyond, decreasing tranquillity at the north-western edge of Newark, particularly given the lack of screening features between the two LCA.
- 7.11.14 Overall, the magnitude of effect (change) on the Newark LCA would be Negligible, which when considered in the context of Newark's high sensitivity to change, would lead to a Slight Adverse significance of effect during construction.

LCA 5 South Nottinghamshire Farmlands

- 7.11.15 There will be no direct impact upon the South Nottinghamshire Farmlands LCA as a result of the Scheme construction, and no change to the physical characteristics of the character area. Whilst the Order Limits sit almost immediately adjacent to the northernmost extent of the character area, the current Scheme design does not envisage that construction would be required within this area of the Order Limits. The closest construction activities would take place at Farndon Roundabout approximately 350 metres to the north of the character area. Due to the open nature and lack of enclosure within the LCA, there may be a decrease in tranquillity and some broader influences resulting from detracting construction features in the neighbouring Trent Washlands LCA. However, this would be set in the context of existing detracting features including the existing A46 and overhead powerlines and pylons that traverse the area.
- 7.11.16 Overall, the magnitude of effect (change) on South Nottinghamshire Farmlands LCA would be Negligible, which combined with the medium sensitivity to change would result in a Neutral effect during construction.

LCA 6 Farndon Village

- 7.11.17 Farndon Village LCA sits outside of the Order Limits for the Scheme and as such physical characteristics of the LCA would remain unchanged during construction. There would be a slight reduction in tranquillity resulting from the use of nearby land to the north of the LCA as a holding area for delivery vehicles and as a satellite compound. However, this would affect a very small part of the LCA and it is not considered that there would be an impact upon the setting of Farndon Conservation Area.
- 7.11.18 The magnitude of effect (change) upon Farndon Village LCA is considered to be Negligible, which when combined with a high sensitivity to change, leads to a Slight Adverse effect during construction.

LCA 7 Mid-Nottinghamshire Farmlands

- 7.11.19 There will be no direct impact upon the Mid-Nottinghamshire Farmlands LCA as a result of the construction of either the main alignment or the Kelham and Averham FCA. The LCA only just falls within the 2 kilometre study area of the Scheme, with the most southerly extents of the LCA being more than 2.5 kilometres from the main alignment, and within 1 kilometre of construction of the Kelham and Averham FCA. There may be a small deterioration in tranquillity as a result of excavation and earthworks movement in the neighbouring Trent Washlands LCA to the south, although this is considered to be temporary in nature and set in the context of arable land use and transient presence of farming activities and machinery. Large woodland plots at Frog Abbey and Kelham Hills bring

containment to the LCA from the south, limiting construction impacts and their resulting effects on the setting of the character area.

- 7.11.20 The magnitude of effect (change) upon the Mid-Nottinghamshire Farmlands LCA is considered to be Negligible, which when combined with a medium sensitivity to change, leads to a Slight Adverse effect during construction.

Visual amenity

- 7.11.21 Effects during construction of the Scheme have been assessed for individual visual receptors identified in the baseline assessment or, where receptors are so close together that effects on their views are likely to be similar, for a group of receptors. The Visual Baseline and Impact Schedules contained in Appendix 7.2 of the ES Appendices [\[APP-137\]\(TR010065/APP/6.3\)](#) provide a detailed description of the change in view and the associated magnitude of impact and significance of effect during construction. This includes taking account of mitigation measures set out in Section 7.10 of this Chapter. The schedules should be read in conjunction with Figure 2.4 (Locations of Temporary Works Areas Required During Construction) of the ES Figures [\[AS-027\]\(TR010065/APP/6.2\)](#) showing the temporary works areas such as compound and haul route locations and Figure 7.5 (Visual Effects Plan) of the ES Figures [\[AS-041\]\(TR010065/APP/6.2\)](#).
- 7.11.22 Of the 63 receptors identified in Appendix 7.2 (Visual Baseline and Impact Schedules) of the ES Appendices [\[AS-038\]\(TR010065/APP/6.3\)](#), 15 would experience Significant Adverse effects during construction. Of these receptors, three would experience Very Large Adverse effects and four would experience Large Adverse effects. The remaining eight receptors would experience Moderate Adverse effects. Further detail of these significant effects upon visual receptors (including their reference numbers), grouped by type, is outlined below. The location of visual receptors are shown on is contained in Figure 7.4 (Visual Receptor Location Plan) of the ES Figures [\[AS-040\]\(TR010065/APP/6.2\)](#).

Residential receptors

- 7.11.23 Of the five representative residential receptors reporting significant effects during construction, one would experience Very Large Adverse effects (24), two would experience Large Adverse effects (41 and 48) and the remaining two receptors would experience Moderate Adverse effects (9 and 21). All the residential receptors that would experience significant effects are within proximity to the Order Limits, typically within 100 metres of the works, notably close to new road infrastructure at Farndon roundabout, Cattle Market junction and Brownhills junction. The largest impacts during the construction phase would be due to the removal of screening vegetation and the presence of construction plant and machinery within the view.

Public Rights of Way and Recreational Facilities

7.11.24 Of the eight representative visual receptors using PRoW, recreational routes or recreational facilities that would experience significant effects during construction, two would experience Very Large Adverse effects (32 and 40), two would experience Large Adverse effects (34 and 43) and four would experience Moderate Adverse effects (10, 13, 23 and 46). All significant effects for recreational receptors would be on recreational routes, on the River Trent or at recreational facilities close to the construction of new structures such as Windmill Viaduct, Nether Lock Viaduct, Castle Market Junction and Brownhills Junction. The largest impacts during the construction phase would be due to the removal of screening vegetation and the presence of construction plant and machinery within the view from these receptors.

Road users

7.11.25 There would be Moderate Adverse significant effects on views from two viewpoints representing road users (12 and 50). Whilst not highly sensitive receptors, impacts and resulting significant effects would arise from the construction of large-scale structures including the Windmill Viaduct, Nottingham to Lincoln Railway Line West and East crossings, Cattle Market junction, Nether Lock Viaduct and Brownhill junction and Winthorpe roundabout. Removal of screening vegetation would open up views of construction leading to changes in existing views from the road.

Operation

Landscape Character

7.11.26 The following section provides a description of the likely significant effects upon Landscape Character Areas within the study area during operation. The location and extent of each character area can be found in Figure 7.2 (Landscape Character Areas) of the ES Figures [\[AS-038\]\(TR010065/APP/6.2\)](#) and should be read in conjunction with Figure 2.3 (Environmental Masterplan) of the ES Figures [\[AS-026\]\(TR010065/APP/6.2\)](#).

LCA 1 Trent Washlands

7.11.27 During operation there would be a direct and permanent change in land use and land cover as a result of the widened carriageway of the A46. Adjacent to the new carriageway, surface drainage features including ponds, swales and ditches would be introduced as well as a new lake to the east of the A46 formed at the site of the construction borrow pit and Farndon East FCA. Proposed planting around these features and alongside the A46 would incorporate a variety of native planting types including species rich grassland, hedgerows and linear belts of shrubs and trees. The new Farndon West FCA would bring a permanent alteration in land use and local topography where ground

levels would be reduced within a defined area adjacent to the River Trent west of the existing A46. The FCA to the west would comprise an area of wetland planting and priority habitat creation and would be temporarily flooded on an infrequent basis. Farndon East FCA would comprise a large permanent lake with wet grassland and native individual tree planting along the margins. Therefore, both Farndon East and West FCAs would not be returned to agriculture following construction.

- 7.11.28 Similarly, the new Kelham and Averham FCA would lead to localised topographic changes in two fields adjacent to the A617 between the villages of Kelham and Averham. Field boundary vegetation removed during construction to allow access, would be reinstated wherever possible, restoring vegetation continuity and pattern. The FCAs would be returned to agriculture and as such there would not be an alteration from the existing land use, with the exception of when the areas become temporarily inundated with water during a flood event expected once in every 20 years, as well as a new field access track, adjoining grassland strip and native hedgerow redefining the field boundary.
- 7.11.29 During Year 1 of operation, it is considered that the magnitude of effect (change) would be Moderate Adverse which combined with a medium sensitivity would result in a Moderate Adverse significance of effect. On establishment of the ponds, swales and ditches associated with the surface drainage, the lake at Farndon East FCA along with reinstatement planting, the magnitude of change would reduce, resulting in a Minor Adverse magnitude of effect (change) and Slight Adverse significance of effect on Trent Washlands LCA at Year 15.

LCA 2 Winthorpe Village and Farmlands

- 7.11.30 There would be direct impacts upon landscape character in Winthorpe Village and Farmlands LCA leading to significant effects in the early years of operation. This would result from the increase in highway land use and associated infrastructure in the southern extents of the character area, between the A1 and A46 at Brownhills roundabout. This would include an above grade crossing of the A1, bringing additional bridge structures, slip roads and roundabouts to an area defined as an Open Break in the Newark & Sherwood Local Development Framework which currently provides an open break between settlements. The new infrastructure would reduce the sense of openness between settlements. Widening of the A46 corridor to include a link road to the south-east of Winthorpe would reduce the area of farmland surrounding the village. The Scheme includes bunds and attenuation ponds which would introduce permanent alteration in local topography and land use. Vegetation removed during construction and to allow for permanent works would alter the pattern of fields south-east of Winthorpe and the setting of remnant parkland at Winthorpe House. Wide belts of native woodland and shrub planting would be provided alongside the road corridor would restore

the sense of enclosure in the farmland and remnant parkland to the south-east of Winthorpe by Year 15.

- 7.11.31 There would not be a direct impact upon the fabric of Winthorpe Village. The small corner of the conservation area within the Order Limits would not be directly impacted during construction or operation. Despite the character area being set in the context of the existing A46 and A1, and other detracting features in neighbouring LCAs, the addition of new uncharacteristic features associated with the Scheme during operation, including a presence within the Winthorpe Open Break, is considered to lead to a Major Adverse magnitude of effect (change), which when combined with a high sensitivity to change would result in a Large Adverse significant effect during Year 1 of operation. By Year 15 woodland planting, linear belts of shrubs and trees as well as hedgerow planting would reduce the impact of the presence of new highways infrastructure on the wider landscape, although the localised alteration to field patterns and partial loss of open space around Winthorpe would remain. Therefore, the magnitude of impact would reduce to Moderate Adverse, resulting in a Moderate Adverse effect at Year 15.

LCA 3 East Nottinghamshire Sandlands

- 7.11.32 There would be a direct impact upon a very small proportion of this LCA, immediately adjacent to the A46, east of the A1. This would result from the slight increase in land occupied by the highway and loss of vegetation where the Friendly Farmer Link would be constructed immediately south of the existing carriageway. The change would be contained to a small proportion of the East Nottinghamshire Sandlands LCA and set in the context of the existing A46, Newark Showground and large scale shed development of Dixons Regional Distribution Centre.
- 7.11.33 Given the localised extent of the Scheme within the East Nottinghamshire Sandlands LCA it is considered that there would be a Minor Adverse magnitude of impact during operation. This, combined with a low sensitivity to change, would result in a Slight Adverse effect during both Year 1 and Year 15 of operation.

LCA 4 Newark

- 7.11.34 There would be no direct impact upon this LCA during operation. Neither is it considered there would be indirect impacts associated with the Scheme due to the dense vegetation retained along the boundary of the character area towards the LCA restricting connectivity with the Scheme. As a result, it is predicted that the magnitude of impact would be No Change in Year 1 and Year 15 which when combined with the high sensitivity to change would result in a Neutral significance of effect.

LCA 5 South Nottinghamshire Farmlands

- 7.11.35 There would be no direct impact upon this LCA during operation. Neither is it considered there would be indirect impacts associated with the Scheme. As a result, it is predicted that the magnitude of impact would be No Change in Year 1 and Year 15 which when combined with the medium sensitivity to change would result in a Neutral significance of effect.

LCA 6 Farndon Village

- 7.11.36 There would be no direct impact upon the Farndon Village LCA during operation. Whilst changes in the neighbouring Trent Washlands LCA may be apparent in the Farndon Village LCA, it is not considered to damage or alter the setting of the character area. As a result, it is predicted that the magnitude of impact would be No Change in Year 1 and Year 15 which when combined with the high sensitivity to change would result in a Neutral significance of effect.

LCA 7 Mid-Nottinghamshire Farmlands

- 7.11.37 There would be no alteration in landscape features and elements within this LCA during operation. The magnitude of effect (change) is considered to be No Change, leading to a Neutral significance of effect during Year 1 and Year 15 of operation.

Visual amenity

- 7.11.38 Effects during operation of the Scheme have been detailed 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. The Visual Baseline and Impact Schedules contained in Appendix 7.2 of the ES Appendices [\[APP-137\]\(TR010065/APP/6.3\)](#) provides a detailed description of the change in view and the associated magnitude of impact and significance of effect during operation. The schedules should be read in conjunction with Figure 2.3 Environmental Masterplan of the ES Figures [\[AS-026\]\(TR010065/APP/6.2\)](#) and Figure 7.5 (Visual Effects Plan) of the ES Figures [\[AS-041\]](#).
- 7.11.39 Of the 63 receptors identified in Appendix 7.2 (Visual Baseline and Impact Schedules) of the ES Appendices [\(TR010065/APP/6.3\)](#)[\[APP-137\]](#), seven would experience Significant Adverse effects during Year 1 of operation. Of these receptors, three would experience Large Adverse effects and the remaining four would experience Moderate Adverse effects. By Year 15 of operation mitigation planting would have matured to aid integration of the Scheme, leaving one receptor reporting a Large Adverse significant effect and one reporting a Moderate Adverse significant effect. Further detail of these significant effects upon visual receptors (including their reference numbers), grouped by type, is outlined below. The location of visual receptors

are shown on Figure 7.4 (Visual Receptor Location Plan) of the ES Figures [\[AS-041\]](#)~~(TR010065/APP/6.2)~~.

Residential receptors

7.11.40 Of the four residential receptors experiencing significant effects in Year 1 of operation, two would experience Large Adverse effects (24 and 41) and two would experience Moderate Adverse effects (9 and 21). This would be a result of vegetation removal during construction opening up views of new elevated structures close in the view, that would be visible during Year 1 of operation, notably at Cattle Market Junction and Brownhills Junction. By Year 15, maturing mitigation planting would remove significant effects for three of the residential receptors (9, 21 and 41), however due to the proximity and scale of the new structures at Cattle Market Junction, effects for residents on Sandhills Park (24) would remain Large Adverse.

Public Rights of Way and Recreation Facilities

7.11.41 Of the three representative visual receptors using PRow or recreational routes experiencing significant effects during operation, one would experience Large Adverse effects (40) and two would experience Moderate Adverse effects (11 and 23). All significantly affected recreational receptors would be on recreational routes close to new structures at Brownhills Junction, Cattle Market Junction and Windmill Viaduct. The largest impacts during Year 1 would be due to the removal of screening vegetation opening views of new large-scale infrastructure. By Year 15, mitigation planting in the foreground of the views would screen the new structures and effects would be reduced to non-significant for two of the recreational receptors (11 and 23), however due to the proximity and scale of the new structures at Brownhills Junction, effects for users of the Trent Valley Way long distance route and National Cycle Network Route 64 on Winthorpe Road (40) would remain Moderate Adverse.

7.12 Monitoring

Construction

7.12.1 During the construction phase of works, and in accordance with Requirement 3 of the draft DCO [\[REP6-004\]](#)~~(TR010065/APP/3.1)~~ a Second Iteration EMP will secure the monitoring requirements and procedures to reduce or eliminate impacts on the environment. The Second Iteration EMP must be substantially in accordance with the mitigation measures detailed within the First Iteration EMP ~~(TR010065/APP/6.5)~~[\[REP6-012\]](#), including Table 3-2 Register of Environmental Actions and Commitments (REAC) of the First Iteration EMP [\[REP6-012\]](#)~~(TR010065/APP/6.5)~~. An Environmental Clerk of Works or Site Environmental Manager would be appointed to ensure

that the actions and commitments made within the First and Second Iteration EMPs are upheld. The Environmental Clerk of Works or Site Environmental Manager would monitor the measures in place to minimise the effects of construction activities that would cause likely significant effects including:

- The effectiveness and suitability of root protection fencing ensuring no impacts to trees that are to be retained. The areas of most concern being south-east of the British Sugar Factory lake (veteran trees T136 and T139, shown respectively in Appendix E.1 Sheet 08 of 21 and Appendix E.2 Sheet 08 of 21 of Appendix 7.4 (Arboricultural Impact Assessment) of the ES Appendices ~~(TR010065/APP/6.3)~~[\[APP-140 and AS-086 to AS-089\]](#), veteran tree T038 (shown in Appendix E.1 Sheet 12 of 21 and Appendix E.2 Sheet 12 of 21 of Appendix 7.4 (Arboricultural Impact Assessment) of the ES Appendices [\[APP-140 and AS-086 to AS-089\]](#)~~(TR010065/APP/6.3)~~, Winthorpe Roundabout (shown in Appendix E.1 Sheet 14 of 21 and Appendix E.2 Sheet 14 of 21 of Appendix 7.4 (Arboricultural Impact Assessment) of the ES Appendices [\[APP-140 and AS-086 to AS-089\]](#)~~(TR010065/APP/6.3)~~, and TPO group G024 (11/00226/TPO) (shown in Appendix E.1 Sheet 13 of 21 and Appendix E.2 Sheet 13 of 21 of Appendix 7.4 (Arboricultural Impact Assessment) of the ES Appendices [\[APP-140 and AS-086 to AS-089\]](#)~~(TR010065/APP/6.3)~~
- Working hours of operation of the main works and in site compounds which may produce visual, noise or lighting impacts in particular on nearby residential properties.
- The angle and direction of night-time lighting, to ensure that it is not directly focused on residential receptors in particular at those in proximity to night works or construction compounds such as properties at Sandhills Park.
- To ensure that soil stockpiles are in accordance with the Outline Soils Management Plan (Appendix B.3 of the First Iteration EMP [\[REP6-012\]](#)~~(TR010065/APP/6.5)~~) following Defra guidance and BS 8601:2013 Specification for subsoil and requirements for use and BS 3882:2015 Specification for topsoil. Low fertility topsoil required for species rich seeding areas should be stored by nutrient value not physical soil properties, to ensure the soil in these seeding areas is suitable for the establishment and support of species rich grassland.

Operation

- 7.12.2 Monitoring measures during operation have been detailed below. In accordance with Requirement 3 of the draft DCO [\[REP6-004\]](#)~~(TR010065/APP/3.1)~~ a Second Iteration EMP is required to secure these monitoring requirements and procedures to reduce or eliminate impacts on the environment. The Second Iteration EMP must be substantially in accordance with the outline measures detailed within the First Iteration EMP [\[REP6-012\]](#)~~(TR010065/APP/6.5)~~, including Table 3-2 REAC of the First

Iteration EMP [\[REP6-012\]](#)~~(TR010065/APP/6.5)~~. The Second Iteration EMP will also include a Landscape and Ecology Management Plan (LEMP) detailing the monitoring requirements for the first 5 years of planting. The Third Iteration EMP, substantially in accordance with the First Iteration EMP, will then be established in accordance with Requirement 4 of the draft DCO [\[REP6-004\]](#)~~(TR010065/APP/3.1)~~.

- 7.12.3 In order to enable the planting to establish and mature to fulfil its environmental, landscape and visual function, an appropriate management regime should be undertaken.
- 7.12.4 Monitoring would be required in accordance with both DMRB LA104 and LA107 to determine the effectiveness of the implementation of mitigation measures. This would include a review of the success of planting establishment linked to key mitigation functions such as screening views, landscape integration and habitat creation. In line with paragraph 4.3 of DMRB LA107 monitoring would be reported to the overseeing organisation and used to update the Third Iteration EMP and remedial actions required to be undertaken.

7.13 Conclusions

- 7.13.1 The potential impact upon seven LCAs was assessed as part of this LVIA. Of the seven identified, two LCAs (LCA 1 Trent Washlands and LCA 2 Winthorpe Village Farmlands) would experience temporary Significant Adverse effects during the construction of the Scheme. Two LCAs (LCA 1 Trent Washlands and LCA 2 Winthorpe Village and Farmlands) are likely to experience Significant Adverse effects in Year 1. When considering the establishment of mitigation planting by Year 15, only one LCA (LCA 2 Winthorpe Village and Farmlands LCA) is considered to have a residual Significant Adverse effect as a result of the Scheme. A summary of the landscape effects is presented in Table 7-7 below.

Table 7-7 : Summary of Landscape Effects

LCA	Effect during construction	Effect during Year 1 of operation	Effect during Year 15 of operation
LCA 1 Trent Washlands	Moderate Adverse	Moderate Adverse	Slight Adverse
LCA 2 Winthorpe Village and Farmlands	Large Adverse	Large Adverse	Moderate Adverse
LCA 3 East Nottinghamshire Sandlands	Slight Adverse	Slight Adverse	Slight Adverse
LCA 4 Newark	Slight Adverse	No Change	No Change
LCA 5 South Nottinghamshire Farmlands	Neutral	Neutral	Neutral

LCA	Effect during construction	Effect during Year 1 of operation	Effect during Year 15 of operation
LCA 6 Farndon Village	Slight Adverse	Neutral	Neutral
LCA 7 Mid-Nottinghamshire Farmlands	Slight Adverse	Neutral	Neutral

7.13.1 The potential impacts upon visual amenity were addressed through the assessment of 63 receptors identified within the visual envelope of the Scheme. Details of these are contained within Appendix 7.2 (Visual Baseline and Impact Schedules) of the ES Appendices (TR010065/APP/6.3)[APP-137] and shown on Figure 7.5 (Visual Effects Plan) of the ES Figures (TR010065/APP/6.2)[AS-041]. Of those 63 receptors, 15 receptors would experience Significant Adverse effects during construction of the Scheme, reducing to seven receptors in Year 1 of Operation. When considering the establishment of mitigation planting by Year 15, two visual receptors (No.24 being residential properties at Sandhills Park and No.40 users of the Trent Valley Way and NCN route 64 on Winthorpe Road), were considered to have a residual Significant Adverse effects as a result of the Scheme. A summary of the visual effects is presented in Table 7-8 below.

Table 7-8: Summary of Visual Effects

Significance of Effect	Number of visual receptors affected during construction	Number of visual receptors affected in Year 1 of Operation	Number of visual receptors affected in Year 15 of Operation
Very Large Adverse	3		
Large Adverse	4	3	1
Moderate Adverse	8	4	1
Slight Adverse	33	23	15
Neutral	15	33	45
Slight Beneficial			1

7.14 References

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