Tritax Symmetry (Hinckley) Limited

# HINCKLEY NATIONAL RAIL FREIGHT INTERCHANGE

---

## The Hinckley National Rail Freight Interchange Development Consent Order

**Project reference TR050007**

## Environmental Statement Non-Technical Summary

**Document reference: 6.4**

**Revision: 03**

## March 2023

---

**Planning Act 2008**

**The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 Regulation 5(2)(a)**

**The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 Regulation 14**

## This document forms a part of the Environmental Statement for the Hinckley National Rail Freight Interchange project.

Tritax Symmetry (Hinckley) Limited (TSH) has applied to the Secretary of State for Transport for a Development Consent Order (DCO) for the Hinckley National Rail Freight Interchange (HNRFI).

To help inform the determination of the DCO application, TSH has undertaken an environmental impact assessment (EIA) of its proposals. EIA is a process that aims to improve the environmental design of a development proposal, and to provide the decision maker with sufficient information about the environmental effects of the project to make a decision.

The findings of an EIA are described in a written report known as an Environmental Statement (ES). An ES provides environmental information about the scheme, including a description of the development, its predicted environmental effects and the measures proposed to ameliorate any adverse effects.

## Further details about the proposed Hinckley National Rail Freight Interchange are available on the project website:

**http://www.hinckleynrfi.co.uk/**

## The DCO application and documents relating to the examination of the proposed development can be viewed on the Planning Inspectorate's National Infrastructure Planning website:

**https://infrastructure.planninginspectorate.gov.uk/projects/east-midlands/hinckley-national-rail-freight-interchange/**

# Contents

# One ◆ Introduction

## BACKGROUND

1.1. Tritax Symmetry (Hinckley) Limited is applying for consent to develop a new Strategic Rail Freight Interchange (SRFI) on land east of Hinckley in Leicestershire. A SRFI is a multi-purpose freight interchange and distribution centre linked to both the national rail and road networks. SRFIs reduce the cost of moving freight and encourage transfer of freight from road to rail. The project is known as the Hinckley National Rail Freight Interchange (HNRFI).

### The Applicant

1.2. Tritax Symmetry is a leading developer of large logistics buildings, with sites primarily along the M1 and M40 motorways in the Midlands and on the M6 and M62 motorway corridors in northern England. Tritax Symmetry (Hinckley) Limited ('TSH' or 'the Applicant') was established for the purpose of promoting the HNRFI project.

### The planning process

1.3. Under the Planning Act 2008 a SRFI development qualifies as a Nationally Significant Infrastructure Project (NSIP). This means that, instead of applying to the local council for planning permission, TSH must apply to the government for a Development Consent Order (DCO). DCO applications are submitted to the Planning Inspectorate (PINS), which will examine the DCO application on behalf of – in the case of a SRFI – the Secretary of State for Transport. The Secretary of State then decides whether to grant consent for the project.

1.4. Before applying for a DCO, an applicant is required to undertake extensive public consultation and use the feedback obtained to refine the development proposals. TSH undertook public consultations for the HNRFI project in late 2018 and summer 2019. A formal statutory consultation on the project took place between January and April 2022. A Consultation Report setting out TSH's response to matters raised in the consultation is submitted as part of the DCO application (document reference 5.1).

## ENVIRONMENTAL IMPACT ASSESSMENT

1.5. To help inform the determination of the DCO application, the Applicant has undertaken an Environmental Impact Assessment (EIA) of its proposals. EIA is a process that aims to improve the environmental design of a development proposal, and to provide the decision maker with sufficient information about the environmental effects of the project to make a decision.

1.6. The findings of the EIA are described in a written report known as an Environmental

Statement (ES). An ES provides environmental information about the scheme, including a description of the development, its predicted environmental effects and the measures proposed to mitigate any adverse effects.

1.7. TSH applied to the government for an EIA scoping opinion in 2020 (document reference 6.2.6.1). This is a stage that enables TSH to make sure that the ES contains all of the information required to inform the government's decision-making. The ES provides a detailed account of the likely significant effects and is based upon the scoping opinion received from the government in 2020 (document reference 6.2.6.2).

## THIS DOCUMENT

1.8. This document is a Non-Technical Summary (NTS) of the ES. It has the following parts.

- The remainder of **Part one** (this part) describes the development that is proposed, and the site and surrounding area.
- **Part two** explains how the site for the HNRFI was selected, how the design and masterplan have evolved, and outlines the policy and law context for the Proposed Development.
- **Part three** is a summary of the topic-based assessments in chapters 7-19 of the ES.
- **Part four** presents concluding comments and outlines the next steps in the DCO process

1.9. For more detail about the HNRFI proposals and environmental effects, you can also read the ES chapters and other documents submitted with TSH's DCO application. Document reference numbers for these more detailed documents are provided throughout this summary.

## SITE DESCRIPTION

### Location

1.10. The site boundaries for a DCO application are called '**Order Limits**', these are set out in figure NTS-1. Chapter 2: *Site description* of the ES provides a description of the proposed HNRFI site and its surroundings. The **Main HNRFI Site** is on land between the M69 motorway and the Leicester to Hinckley railway, as shown in Figure NTS-2.

1.11. As Figure NTS-2 shows, the Order Limits that contain the Main HNRFI Site also include three corridors of land extending to the north-west, south and east. Taken together, these are called the **Main Order Limits**. As will be explained, the corridor to the north-west is for a proposed link road (called 'the A47 Link Road') that would cross the Leicester to Hinckley railway and connect to the B4668/A47 Leicester Road near the Greene King Stadium. The corridor to the south is intended to accommodate works to Junction 2 of

the M69 motorway, and the corridor to the east follows a section of the B4669 Hinckley Road from the M69 motorway towards the village of Sapcote, for which traffic management measures are proposed.

1.12. The Order Limits also include additional areas of land at roads and junctions for which highway enhancements and traffic management measures are proposed, along with some pedestrian level crossings on the Leicester to Hinckley railway that are subject to proposed works and restrictions.

### Council areas

1.13. All of the land inside the Main Order Limits is in Blaby District in Leicestershire except for the north-western end of the A47 Link Road corridor, which is in the Borough of Hinckley and Bosworth in the same county. Supporting highway works are proposed in Blaby, Hinckley and Bosworth and Harborough Districts in Leicestershire and in the Borough of Rugby in Warwickshire.

### Local features and characteristics

1.14. The locality is generally rural in character with gently undulating farmland, crossed by small watercourses. The fields are defined by hedgerows and with deciduous trees. As well as farms, businesses in and near the Main HNRFI Site include a farm shop and livery stables.

1.15. The closest settlements to the Main HNRFI Site are the village of Elmesthorpe along the B581 Station Road to the north and a mobile home park and a separate gypsy and traveller settlement off Smithy Lane to the south-west of M69 Junction 2. In the wider area and generally at a range of 2-3km from the Main HNRFI Site are the settlements of Stoney Stanton and Sapcote to the east, Earl Shilton and Barwell to the north and north-west, Hinckley and Burbage to the west and south-west and the village of Aston Flamville to the south.

1.16. The Burbage Wood and Aston Firs Site of Special Scientific Interest (SSSI – a nature conservation site) lies close to the south-western boundary of the Main HNRFI Site and outside the DCO Site. This SSSI is designated for its mixed ash, oak and maple woodland and adjoins the Burbage Common and Woods Local Nature Reserve (LNR).

1.17. Burbage Common and Burbage Wood to the south-west of the Main HNRFI Site are a popular recreational resource managed by Hinckley and Bosworth Borough Council, providing woodland and open meadows for informal recreation, with car parks and a visitor centre. Hinckley Golf Course lies beyond Burbage Common, on the edge of Hinckley itself.

## PROJECT OVERVIEW

1.18. Chapter 3: *Project description* of the ES (document reference 6.1.3) describes what TSH proposes to build and explains how it would operate. The purpose of a SRFI is described

in a government document called the *National Policy Statement for National Networks* ('the NPS'), which was approved by Parliament in 2014, as follows.

*'The aim of a strategic rail freight interchange (SRFI) is to optimise the use of rail in the freight journey by maximising rail trunk haul and minimising some elements of the secondary distribution leg by road, through co-location of other distribution and freight activities. SRFIs are a key element in reducing the cost to users of moving freight by rail and are important in facilitating the transfer of freight from road to rail, thereby reducing trip mileage of freight movements on both the national and local road networks' (paragraph 2.44).'*

1.19. A SRFI generally has the following main elements:

- an intermodal area where containers are lifted between rail freight wagons and container lorries;
- rail-connected buildings either with their own dedicated rail siding or sufficiently close to the rail terminal to allow containers to be moved from the rail wagons into the warehouse by overhead cranes or reach stackers without the need for them to be loaded first onto a heavy goods vehicle (HGV) or 'tugmaster' yard tractor vehicle;
- rail-served buildings which allow containers to be moved from the rail wagons into the warehouse by means of a HGV or tugmaster vehicle.
- rail-accessible buildings with the potential either to be rail-connected or rail-served.

## Main elements

1.20. The Proposed Development has the following main components.

### *Development on the Main HNRFI Site*

a) demolition of Woodhouse Farm, Hobbs Hayes Farm, Freeholt Lodge and the existing bridge over the Leicester to Hinckley railway on Burbage Common Road;

b) new rail infrastructure including points off the existing Leicester to Hinckley railway providing access to a series of parallel sidings at the HNRFI, in which trains would be unloaded, marshalled and loaded;

c) an intermodal freight terminal or 'Railport' capable of accommodating up to 16 trains up to 775m in length per day, with hard-surfaced areas for container storage and HGV parking and cranes for loading and unloading shipping containers from trains and lorries;

d) up to 850,000 square metres ($m^2$) (gross internal area or GIA) of warehousing and ancillary buildings with a total footprint of up to 650,000 $m^2$ and up to 200,000 $m^2$ of

'mezzanine' floorspace [1], including the potential for some buildings to be directly rail connected if required by occupiers. These buildings might incorporate ancillary data centres to support the requirements of HNRFI occupiers and operators. They will also incorporate roof-mounted photovoltaic arrays with a generation capacity of up to 42.4 megawatts (MW), providing direct electricity supply to the building or exporting power to battery storage in the energy centre;

e) an energy centre incorporating an electricity substation connected to the local electricity distribution network, battery storage (adjacent to each unit and at the energy centre) and a gas-fired combined heat and power plant (designed to be ready for 100% hydrogen in the grid gas supply) with an electrical generation capacity of up to 5 MW. Total electricity generation capacity at the Main HNRFI Site is therefore 47.4 MW;

f) a lorry park with welfare facilities for drivers and fuelling facilities;

g) a site hub building providing office, meeting space and marketing suite for use in connection with the management of the HNRFI and ancillary car parking;

h) terrain remodelling, hard and soft landscape works, watercourse diversion, amenity water features and planting;

i) noise attenuation measures, including acoustic barriers up to six metres in height;

j) habitat creation and enhancement, and the provision of publicly accessible open space at the south-western extremity of the HNRFI near Burbage Wood and to the south of the proposed A47 Link Road between the railway and the B4668/A47 Leicester Road;

k) pedestrian, equestrian and cycle access routes and infrastructure, including a new dedicated route for pedestrians, cyclists and horse riders from a point south of Elmesthorpe to Burbage Common;

l) utility compounds, plant and service infrastructure;

m) security and safety provisions inside the HNRFI including gatehouses, fencing and lighting; and

n) drainage works including surface water retention ponds, underground attenuation tanks and swales.

### Highway works

a) works to M69 Junction 2 comprising the reconfiguration of the existing roundabout and its approach and exit lanes, the addition of a southbound slip road for traffic joining the M69 motorway and the addition of a northbound slip road for traffic leaving

[1] *A mezzanine floor is an intermediate level built between the main floor and ceiling of a double-height building. A mezzanine floor does not extend across the whole area of the building and might have partly open sides. In logistics buildings, mezzanine floors are often used to provide office space and staff facilities or additional storage space.*

the M69 motorway at Junction 2.

b) a new road ('the A47 Link Road') from the modified M69 Junction 2 to the B4668 / A47 Leicester Road with a new bridge over the railway, providing vehicular access to the proposed HNRFI from the strategic highway network. The A47 Link Road will be intended for adoption as a public highway under the Highways Act 1980.

c) modifications to several junctions and amendments to Traffic Regulation Orders on the local road network in response to the different traffic flow patterns resulting partly from the trips generated by the HNRFI development and principally from the change in movements as a result of the M69 Junction 2 upgrade.

d) works affecting existing pedestrian level crossings on the Leicester to Hinckley railway at Thorney Fields Farm north-west of Sapcote, at Elmesthorpe and at Outwoods between Burbage and Hinckley. In addition, pedestrian level crossings serving footpaths that connect Burbage Common Road to Earl Shilton and Barwell are proposed for closure with the associated footpaths being diverted.

e) off-site (outside the Order Limits) railway infrastructure including signals and signage.

**Table NTS-1: List of proposed modifications to roads proposed in connection with the HNRFI development**

| No. | Location | Works proposed | Highway Authority |
|---|---|---|---|
| **Blaby DC** | | | |
| B1 | Junction of B581 Station Road / New Road and Hinckley Road, Stoney Stanton | The existing mini-roundabout will be replaced by traffic lights with signalised crossings for pedestrians. | Leicestershire County Council |
| B2 | Junction of B4669 Hinckley Road and Stanton Lane, west of Sapcote | Traffic lights will be introduced with a phase to allow pedestrians and cyclists to cross. | Leicestershire County Council |
| B3 | Stanton Lane / Hinckley Road, south-west of Stoney Stanton | Reduction of the speed limit to 40mph from the national speed limit; traffic calming features. | Leicestershire County Council |
| B4 | B4669 Hinckley Road/ Leicester Road, Sapcote | Traffic calming features and creation of public realm with junction improvements, bus stop relocation and inclusion of a pedestrian crossing at junction of Church Street with the B4669.<br>Introduction of a gateway feature to the | Leicestershire County Council |

| No. | Location | Works proposed | Highway Authority |
|---|---|---|---|
| | | east of the village. | |
| B5 | Junction of B4114 Coventry Road and B581 Broughton Road at Soar Mill, south-east of Stoney Stanton | New traffic lights are already scheduled to be introduced as part of the Broughton Astley S278 works (Planning Ref: 19/00856/OUT).<br><br>Should the above committed scheme not come forward in advance of the opening of the HNRFI access infrastructure, the applicant proposes to undertake a mitigation scheme. This would include signalisation of the ghost island junction with the Broughton Road with separate right and left turn lanes and connecting to the existing signalled junction at Coventry Road on the B4114. This layout differs from the S278 proposals by removing the Coventry Road widening, as the traffic levels forecast do not require improvements on this arm. | Leicestershire County Council |
| B6 | Junction of B4114 Coventry Road and Croft Road, south-west of Narborough | Lane widening on junction approaches | Leicestershire County Council |
| **Hinckley and Bosworth BC** | | | |
| HB1 | Junction of A47 Normandy Way and A447 Ashby Road, Hinckley | It is proposed that the approach roads to this junction will all be widened to accommodate additional traffic. Indicative right turn and two lanes would be provided through the junction in a westbound direction.<br><br>Formal signal-controlled pedestrian crossing points will be introduced. | Leicestershire County Council |
| HB2 | Junction of A47 Normandy Way / Leicester Road, the B4668 Leicester Road and The Common, south-east of Barwell | Widening of the entry arm on the B4668 Leicester Road. | Leicestershire County Council |

| No. | Location | Works proposed | Highway Authority |
|---|---|---|---|
| **Harborough DC** | | | |
| H1 | Cross in Hand roundabout at the junction of the A5 Watling Street, A4303 Coventry Road, B4027 Lutterworth Road and Coal Pit Lane, west of Lutterworth. | Increased roundabout radius and widened lane entries on Coal Pit Lane and B4027 Lutterworth Road, with two lanes marked for longer distances for traffic approaching the junction on the A5 Watling Street from the south. | National Highways |

## Illustrative master plan

1.21. An illustrative master plan of the proposed HNRFI development has been submitted with the ES (document reference 6.3.3.1). Noteworthy features include the railport next to the existing Leicester to Hinckley railway, rows of logistics buildings with space for lorries and car parking, the proposed link road between M69 junction 2 and the B4668 / A47 Leicester Road to the north-west, with a new bridge over the railway, and new areas of open space to the south of the A47 Link Road on both sides of the railway.

## Development 'parameters'

1.22. Because the detailed needs of individual building occupiers cannot be anticipated at this time, the DCO application for the HNRFI will be similar in concept to an application for outline planning permission. The DCO application will fix the outer envelope or 'parameters' of the Proposed Development including its position, land uses and the overall maximum dimensions of features such as buildings, roads and landscape areas. If the DCO is granted or 'made', the Applicant will be required to submit details of individual buildings and development phases to either Blaby District Council or Hinckley and Bosworth Council for approval (depending on location) prior to construction of those elements. These design details must remain within the assessed and approved parameters.

1.23. The parameters plan for the Proposed Development can be viewed at document reference 6.3.3.2. The parameters reflect the development shown in the illustrative master plan (document reference 6.3.3.1). Six main development zones are proposed, identified as Development Zones A-F in the Parameter Plan (document reference 6.3.3.2). In each development zone a maximum number of buildings is proposed. For example, Development Zone B might contain five smaller buildings or anything between one and four larger buildings, in all cases not exceeding a total footprint. In all cases the EIA for the Proposed Development is assessing the maximum parameters.

1.24. The parameters plan also sets parameters for the following:

- rail and railport infrastructure including connections from the existing railway

(including rail chord – the linking line) and sidings, gantry cranes and areas for temporary stacking of freight containers (contained within zones H and J of the parameters plan);

- highway infrastructure corridors including carriageways, landscaping, footpaths, laybys and cycleways. The parameters plan proposes a 'limit of deviation' within which internal roads would be contained;

- external road infrastructure within landscaped corridors, including the proposed upgrades to M69 Junction 2 and the proposed A47 Link Road, and a bridge to replace the existing Burbage Common Road bridge;

- areas for woodland protection, landscape and planting, footpath, bridleway and water course diversions, new ponds and swales and amenity areas for public use;

- a development zone for a site hub containing site management and security offices and a marketing suite, energy centre, with ancillary parking and planting (contained within zone G of the parameters plan); and

- signage for the development.

## Development phasing

1.25. The Proposed Development would take place in five main phases over a ten year period, subject to market conditions. Phase 1 includes site earthworks and preparation, landscape and planting work, the upgrades to Junction 2 of the M69 motorway and the A47 Link Road. Phase 2 includes a first phase of the rail terminal and completion of the first logistics buildings. Phases 3-5 would see the completion of the full rail terminal and the construction of the remaining buildings with related internal access roads and landscape works.

## The HNRFI in operation

1.26. Trains entering the site from either direction would move either directly into the one of the four railport sidings served by gantry cranes or into one of four reception sidings running alongside the main line. From the reception sidings, trains might continue on to rail-connected buildings via the run-around chord on the northern edge of the Main HNRFI Site.

1.27. Up to 16 train visits a day are provided for (i.e. up to 16 trains arriving and 16 departing, giving a maximum total of up to 32 train movements a day).

1.28. Gantry cranes or reach stackers would be used to remove and load containers from the train. These cranes would run on rails and move up and down the terminal. They would be powered by electricity for clean and quiet operation. The main benefit of gantry cranes is that they allow a faster operation with more space to stack containers. A reach stacker is a large mobile lift truck which can pick up containers and move around flexibly. While reach stackers are flexible, they require more manoeuvring space.

1.29. Containers unloaded from a train would be transferred by the crane to a temporary stockpile nearby or, more often, transferred directly onto a flatbed trailer pulled by a lorry or a 'tugmaster' yard tractor vehicle. These vehicles would then:

- transport the container directly to one of the logistics buildings on the Main HNRFI Site for processing. From there the contents of the container will be batched and forwarded to customers, who might include manufacturers, retailers and private individuals, using vehicles ranging from HGVs to vans.
- transfer the container to a storage area where it can be held until needed;
- if HGV-hauled, deliver the container to a business elsewhere in the region, generally within 80km of the HNRFI.

1.30. The HNRFI would operate on a 24 hour / seven days a week basis. Staff at the railport and in logistics buildings would generally work in shifts. The Applicant will implement a site-wide travel plan to provide the workforce with alternatives to private car use for commuting.

# Two ◆ Site selection and project description

## INTRODUCTION

1.31. This section summarises chapters four and five of the ES. Chapter 4 *Site selection and evolution* (document reference 6.1.4) explains the site selection process that led to choosing this site and the main development options that were considered once the Main HNRFI Site was selected. Chapter 5: *Legislation and policy* of the ES describes the planning and economic policy context for the HNRFI.

1.32. Chapter 6 *EIA scope and general methodology* (document reference 6.1.6) of the ES explains how the scope of the EIA has been determined and then sets out the general methodology for the assessment. Further topic-specific explanations of the assessment methodology are provided in the topic specific chapters of the ES. Chapter 6 is not further summarised in this NTS.

## FINDING A SITE

1.33. Chapter 4: *Site selection and evolution* of the ES (document reference 6.1.4) explains how the Applicant identified a site for the HNRFI. It begins by looking at the regional context and outlines the options that the Applicant considered in terms of alternative locations.

1.34. By definition a SRFI needs direct rail access or spurs, which constrains the site search to railway corridors that were identified originally by the Victorian engineers and surveyors who designed most of the UK's railway network. To optimise locomotive performance and to minimise the need for expensive cuttings, tunnels, embankments and bridges, these engineers favoured level routes in low-lying river valleys. Railway lines were protected from flood risk through a combination of clever routing and the use of low embankments.

1.35. Most intermodal freight interchanges are located in the Midlands and the North of England. These are hub regions for both the strategic road and rail networks and the UK economy that these serve. These regions also enjoy direct rail access to a range of large ports through which containerised goods pass.

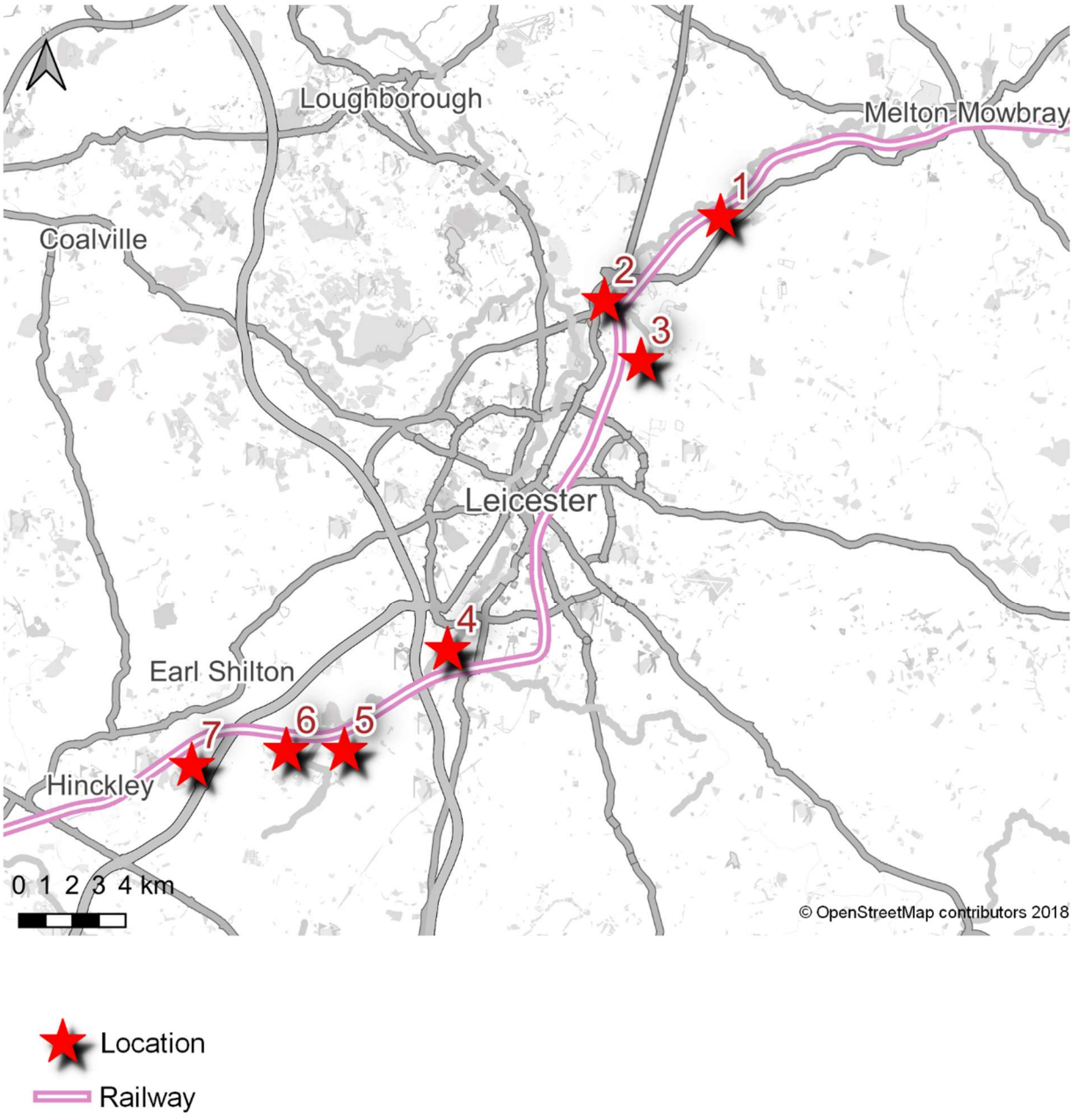
1.36. Studies undertaken for the Leicester and Leicestershire Enterprise Partnership (LLEP) established that there remains a significant need for rail related logistics development in the county. The LLEP's Strategic Economic Plan identified five growth zones and the Applicant took these into account in its site search.

1.37. As ES chapter 4 explains, a list of site selection criteria was drawn up, covering rail, road, environmental and commercial and economic considerations. Seven site options were identified and studied. These are shown on Image NTS-1 and described individually in chapter 4 (document reference 6.1.4).

1.38. The chosen site to the east of Hinckley is considered to offer an optimum balance of advantages, including:

i). an ample area of open level land;
ii). sufficient at-grade rail frontage for rail connections to the main line, and space to accommodate trains up to 775m in length;
iii). the potential for direct road access to the strategic highway network from M69 Junction 2, with scope to add southbound slips to the junction;
iv). separation from existing residential settlements sufficient to avoid significant adverse effects on noise and visual amenity after mitigation;
v). a comparatively low level of environmental constraint, with no designated features of landscape, ecological or cultural heritage interest inside the site;
iv). a location within the LLEP's designated South-West Leicestershire Growth Area.

**Image NTS-1: Location plan of the seven potential SRFI locations appraised by the Applicant**




1. Brooksby
2. Syston Junction / Fosse Way
3. Barkby Lane
4. Whetstone
5. Littlethorpe
6. Croft
7. Hinckley / Burbage

1.39. On this basis, the Applicant concluded that the site for the SRFI should be focused upon land between the railway and the M69 motorway, which affords the best opportunity to bring forward a SRFI meeting the policy requirements of the NPS and the practical

potential to deliver a site of the scale required. Specifically, the site:

- could provide an 'in-out' rail connection to a rail line accessible from a range of the UK's leading freight ports, with potential for future electrification;
- would be capable of handling over four trains per day, which was deemed the minimal frequency for a SRFI site;
- would be able to accommodate trains up to 775m long with minimal shunting;
- would offer ample space for an intermodal terminal for rail handling and storage; and
- could include a number of rail-connected or rail-served buildings with all building users having access to the intermodal rail terminal.

## DESIGN AND EVOLUTION

1.40. Having chosen a preferred location, the Applicant has undertaken a range of activities to explore the potential of the site, including testing a range of technology, design and layout options.

1.41. An early consideration in the master-planning exercise was to understand in detail the constraints and opportunities that the site offers. Considerations influencing the master-planning of the site included the following.

*i)* *Pre-application consultation feedback*
ii) *Terrain*
iii) *Existing access and rights of way*
iv) *Proposed access to the development*
v) *Residential amenity*
vi) *Ecology and biodiversity*
vii) *Cultural heritage and archaeology*
viii) *Landscape*
ix) *Drainage, ground conditions and the water environment*

1.42. Chapter 4: *Site selection and evolution* (document reference 6.1.4) of the ES explains the main development options that the Applicant has considered in the evolution and refinement of its proposals for the HNRFI. The main development options and the choices that have been made have been based upon extensive site evaluation, wide ranging design studies and extensive consultation.

1.43. In summary the main development options have included.

- **layout options for specific parts of the site**, including rail connectivity and accessibility options, the road junction on the M69 motorway, landscape and

amenity areas, public rights of way and roads including the Burbage Common Road bridge over the railway, drainage and environmental mitigation;

- **technology options** including methods of unloading, loading and transporting freight containers around the site. At a time of technological change, the Applicant wants to ensure that the HNRFI is as far as possible 'future-proofed' and capable of serving the Midlands economy effectively in the long term;
- **off-site road access**;
- **measures to protect local residential and environmental amenity**, taking into account factors including landscape and visual effects, measures to control noise and light pollution, biodiversity, the protection of the water environment and the provision of open space and amenity routes through and around the HNRFI; and
- **scale and phasing options for the development**, in part reflecting market intelligence on the size of buildings that logistics occupiers at the HNRFI are likely to require;
- **improvements to waterbody design** for ecological benefit;
- **connectivity of public rights of way**;
- **height of the proposed units and potential use of green walls**; and
- **extent of the draft Order Limits**.

1.44. Chapter 4 of the ES (document reference 6.1.4) discusses in detail the development options considered and the technical chapters of the ES asses the likely environmental effects of these options as part of the EIA.

## LEGISLATION AND POLICY

1.45. The primary policy statement for the determination of this proposal is specifically provided by the National Policy Statement for National Networks ('the NPS'), which was approved by Parliament and published in December 2014. The NPS sets policy for nationally significant infrastructure projects (NSIPs). The NPS states in paragraph 2.42 that *'Over recent years rail freight has started to play an increasingly significant role in logistics and has become an important driver of economic growth'*. The NPS acknowledges that rail is used to best effect to undertake the *'long haul primary trunk journey with other modes (usually road) providing the secondary (final delivery) leg of the journey'* (NPS paragraph 2.43).

1.46. NPS paragraph 2.10 states that:

*'that at a strategic level* ***there is a compelling need for development of the national networks*** *… The Examining Authority and the Secretary of State should therefore start*

*their assessment of applications for infrastructure covered by this NPS on that basis'* (emphasis added).

1.47. Subject to the detailed policies and protections in the NPS, *'there is a presumption in favour of granting development consent for national networks NSIPs that fall within the need for infrastructure established in this NPS'* (NPS paragraph 4.2).

1.48. The NPS proceeds to identify a range of environmental considerations that should be taken into account when planning and designing a SRFI. These are considered on a topic-by-topic basis in the technical assessment chapters of the ES.

1.49. Although HNRFI would not be a nationally-significant energy generator, an important component of the Proposed Development is the development of energy infrastructure to serve the site's users. The ES and the application for the HNRFI has therefore also had regard to the collection of energy NPS's, which set out policy for overarching energy development and renewable energy.

1.50. The government's planning policies for England are set out in the National Planning Policy Framework (NPPF). The National Networks NPS states that the NPPF is likely to be an important and a relevant consideration in decisions on NSIPs, but only to the extent relevant to an individual project.

1.51. The local plans for Blaby or Hinckley and Bosworth have not provided for any large-scale transport facilities of the form of a SRFI. However, ES Chapter 5 identifies the local plans relevant to the Proposed Development and the technical chapters of the ES identify the specific policies that are relevant to the assessment.

# Three ◆ Environmental effects

## INTRODUCTION

1.52. This section summarises the assessments of the environmental effects of the HNRFI proposals under the topic headings listed below.

- Land use and socio-economics (document reference 6.1.7)
- Transport and traffic (document reference 6.1.8)
- Air quality (document reference 6.1.9)
- Noise and vibration (document reference 6.1.10)
- Landscape and visual effects (document reference 6.1.11)
- Ecology and biodiversity (document reference 6.1.12)
- Cultural heritage (document reference 6.1.13)
- Surface water and flood risk (document reference 6.1.14)
- Hydrogeology (document reference 6.1.15)
- Geology, soils and contaminated land (document reference 6.1.16)
- Materials and waste (document reference 6.1.17)
- Energy and climate change (document reference 6.1.18)
- Major accidents and disasters (document reference 6.1.19)
- Cumulative and in-combination effects (document reference 6.1.20)

1.53. The ES provides a chapter for each of these topics. In this NTS, the following standard headings are used in each topic section.

i) **Introduction**

ii) **Baseline** – a summary by topic of what is happening in the locality at the moment.

iii) **Likely environmental effects and proposed mitigation** – the predicted effects that the construction and operation of the HNRFI is likely to have on these baseline conditions, the measures that have been included to mitigate the effects of the HNRFI, and a conclusion that highlights any likely significant effects that remain after mitigation has been applied.

1.54. The topic specific assessments contained within this ES assess the likely significant effects of the Proposed Development at both the construction and operational phases. To determine the level of effect, the predicted magnitude of the impact is combined with the assigned sensitivity of the receptor. Magnitude is determined by predicting the scale of any potential change in the baseline conditions. The sensitivity of a receptor refers to its importance, i.e. its environmental value and attributes.

1.55. The level of effect can range on a scale from negligible to major. The definition of at what level of significance a significant effect arises is provided in each technical chapter within the ES, although typically negligible or slight effects are not considered significant.

1.56. Where significant effects are defined, mitigation may be applied to reduce the effect. Mitigation can be embedded or additional. Embedded mitigation is where the design of the Proposed Development has been altered to take account of a particular environmental effect or accommodate an important environmental feature. Additional mitigation is any other measures that have been identified as a result of the EIA undertaken for the design of the Proposed Development, i.e. to reduce an effect that has been identified through the assessment.

1.57. Effects that remain after the proposed mitigation measures have been taken into account are called 'residual effects'. The key outcome of the EIA is to identify residual effects that are likely to be significant after mitigation.

1.58. The sections below provide a summary of this process and identify those effects that remain significant following the assessment and consideration of any mitigation measures, the chapters in the ES contain the full assessment and set out the level of all effects identified.

## LAND USE AND SOCIO-ECONOMIC EFFECTS

### Introduction

1.59. Chapter 7: *Land use and socio-economic effects* (document reference 6.1.7) of the ES considers the effects of the Proposed Development on communities, jobs and livelihoods and the local and regional economy. The study area for the socio-economic assessment includes local authority areas within a 30km radius of the main HNRFI Site.

### Baseline

1.60. The assessment of existing or 'baseline' conditions in ES Chapter 7 identifies the local and regional context in a defined study area, including existing employment, housing supply, skill levels and educational attainment, open space provision, health and crime, along with the scale and skill levels of the available construction workforce. This provides a basis for assessing the effects of the project on:

- ***The local and regional economy*** - including the effects on existing businesses that

might be displaced by the Proposed Development and effects from the construction and operation of the HNRFI;

- ***Residents*** - including the labour market;
- ***Employment, skills and training providers*** - including local schools, colleges, universities and vocational training centres;
- ***Housing*** - the stock of homes in the housing market and the people who live in them;
- ***Community facilities*** - including open space and public rights of way and the people who use them.

1.61. The baseline research showed that:

- at present the Main HNRFI Site has a low level of employment, mainly to do with farming and related businesses;
- there are more residents employed in the construction sector than there are jobs in construction, indicating the study area is a net exporter of construction workers;
- there are 1,036,900 people in the study area aged between 16-64 (i.e. of working age), of which 79.7% are economically active. Unemployment in the study area sits below the English average of 4.4% at 4%;
- there were estimated to be 58,000 people employed in the construction sector in 2019. The East Midlands is expected to see the highest growth rate in commercial construction output across 2019 to 2023, with average annual growth forecasted at 2.3% per annum;
- the latest Leicester and Leicestershire Strategic Distribution Study (LLEP, 2021) identifies a need for 2,751,000m$^2$ of warehouse floorspace by 2041, including 1,106,000m$^2$ of rail-served and 1,466,000m$^2$ of road-served floorspace.

1.62. New technologies will continue to affect the logistics sector significantly, changing the way tasks are performed and how businesses operate. Technology is replacing the most routine jobs through automation and self-driving vehicles, accelerating the shift towards a higher-skilled labour force in the sector.

## Likely environmental effects and proposed mitigation

1.63. The socio-economic assessment has identified a range of potential social and economic effects. Each of these has been analysed to establish whether significant positive or negative effects would be felt by the local and wider community.

1.64. Construction will take place over approximately ten years, during which it is estimated that an average of 461 full-time equivalent (FTE) construction jobs would be created directly by the HNRFI per annum.

1.65. When new construction jobs are created, the associated business and worker expenditure feeds back into the economy, creating further employment. This is called the 'employment multiplier'. The positive multiplier effects of 1.8 for HNRFI results in an estimated average additional 275 FTE jobs per annum created during the ten-year construction period after taking account of displacement effects.

1.66. This equates to 737 (i.e. direct jobs plus indirect jobs) net additional jobs per annum during the construction period. Overall, construction is considered to have a positive impact on employment in the study area, resulting in a moderate beneficial effect over the short and medium term, which is a significant beneficial effect.

1.67. Employment on-site is estimated to be 8,400 – 10,400 workers once fully occupied. This will be split across management, professional, technical, administrative, sales, machine operative and elementary occupations.

1.68. The assessment assumes that approximately 25% of the occupiers at the HNRFI would be relocated from existing, lower-quality storage and distribution premises in the local area. This being the case, the net additional employment created is predicted to be in the range of 10,400-12,900 FTE jobs, this is a significant beneficial effect.

1.69. To gain an idea of the overall value of the HNRFI in operation to the economy, the gross value added (GVA) has been calculated. This is an estimate of the value of goods and services produced minus the cost of inputs and materials used in the production process. The addition of between 8,400 – 10,400 on-site jobs would generate an estimated £329 million - £406 million GVA per year.

1.70. Chapter 7 of the ES also considers the effects of job creation on housing demand. During the construction of the HNRFI it is estimated that most posts would be filled by locally-based construction workers, creating minimal additional housing demand. Similarly and when considering the housing allocations made by the local councils in current and emerging local plans, it is estimated that HNRFI in operation would have a neutral effect on housing demand in the long term. The impact of the operational employment in relation to demand for housing is anticipated to result in a minor adverse effect, this is not a significant effect.

1.71. An estimate of the business rates for HNRFI indicates that this will create a potential £24.1 million per year, depending on confirmed rating valuations. Of this, approximately £12 million (50%) would be retained by Central Government, £9.6 million (40%) retained by Blaby District Council, £2.2 million (9%) retained by Leicestershire County Council and £240,000 (1%) retained by the Fire Authority. This would equate to £353.8 million over 20 years which would be split by the same proportions as above, this is a non-significant beneficial effect.

1.72. In terms of land use effects, existing farming operations, agricultural and kennel businesses on the Main HNRFI Site would cease permanently, resulting in a major adverse effect, by way of mitigation the landowners would gain financially from the sale of the land, reducing the impact to a neutral effect which is not significant.

1.73. Access to Burbage Woods and Common from the direction of Elmesthorpe would be affected by the HNRFI. This would be mitigated by the provision of diverted and new links resulting in a minor adverse effect which is not significant.

1.74. No additional mitigation measures are required apart from the measures proposed in the transport and traffic, air quality and noise and vibration chapters of the ES. These include setting aside an area of open space south of the A47, landscaping, earth mounding to screen the return container yard, and the lighting strategy (document reference 6.2.3.2).

## TRANSPORT AND TRAFFIC

### Introduction

1.75. ES Chapter 8: *Transport and traffic* (document reference 6.1.8) assesses the effects of the HNRFI on the road network. The central purpose of the HNRFI is to divert existing movements of freight from road to rail so in these terms the project is, in principle, inherently beneficial. At the county level, however, the introduction of the HNRFI and the associated upgrading of M69 Junction 2 has the capacity to change traffic flows significantly, and it is these changes that have been the focus of assessment work.

1.76. To guide the assessment a Transport Working Group was established comprising representatives from National Highways (formerly Highways England), AECOM (National Highways' consultant), Leicestershire County Council, Warwickshire County Council, Leicester City Council, Coventry City Council, Blaby District Council, and Hinckley and Bosworth Borough Council. The Transport Working Group has met regularly and provided guidance on traffic modelling methods and the interpretation of modelling outputs. The assessment has taken into account the feedback from the informal public consultations undertaken by the Applicant in late-2018 and summer 2019, as well as the formal consultation undertaken in 2022.

1.77. The road traffic generated by the HNRFI has been modelled using a computer package developed for local authorities in Leicestershire, known as the Pan-Regional Transport Model (PRTM). PRTM enables the effects on road traffic in Leicestershire and neighbouring counties to be modelled. The assessment work presented in ES Chapter 8 and its appendices uses the latest version of the model, known as PRTM2.2.

### Baseline

1.78. The baseline conditions section of ES Chapter 8 includes a detailed description of the existing strategic and local road network. This identifies constraints such as vehicle weight limits and the height restrictions on the A5 Watling Street on the edge of Hinckley, and potential future improvements such as those under consideration for the A5. Footpaths across the Main HNRFI Site are also identified.

1.79. The baseline section also identifies the current status of the Leicester to Hinckley railway that would serve the proposed HNRFI. This railway forms a section of Network Rail's strategic freight route between Felixstowe and Nuneaton and affords good access to the

east and west coast main lines. At present the average number of two-way daily trains through Hinckley Rail Station is 62 freight trains and 69 passenger trains.

## Likely environmental effects and proposed mitigation

1.80. The assessment in Chapter 8 of the ES concentrates on operational traffic because volumes of construction traffic at any given time would be very much lower.

1.81. The railport is designed to handle up to 16 freight trains a day at capacity, amounting to 32 inward and outward train movements. The Leicester to Hinckley railway has sufficient spare capacity to accommodate these additional train movements.

1.82. As well as modelling the effects of road traffic generated by the HNRFI, the traffic assessment also takes into account changes in the pattern of local traffic flows arising from the proposed addition of a northbound off-slip and a southbound on-slip to M69 Junction 2. These changes are significant, creating additional traffic on some routes and reducing traffic on others. As there are multiple affected routes, they are not summarised individually here, but are mapped and tabulated in Chapter 8 of the ES.

1.83. Footpaths and bridleways inside the Main HNRFI Site would in most cases be closed and require diversion. The two pedestrian level crossings over the Leicester to Hinckley railway to the north-east of the existing Burbage Common Road bridge would both be closed as a result of the HNRFI. There is also the potential for trains held on red signals on approach to the HNRFI to block or obscure views from pedestrian level crossings further up and down the railway.

1.84. The changes outlined above and described in detail in chapter 8 of the ES, will result in major and moderate adverse effects, which are significant, at both the construction and operation phase in relation to severance, driver delay, pedestrian and cyclist delay and amenity, fear and intimidation and accidents and safety.

1.85. Given the potential for significant traffic and transport effects, a range of measures is proposed to manage the effects of the HNRFI on the highway network, including the following:

- the implementation of a Construction Traffic Management Plan (CTMP, document reference 17.6), submitted to and approved by the local highways and planning authorities;
- the diversion of footpaths and bridleways to ensure that connectivity from one side of the HNRFI to the other is retained for horseriders, cyclists and pedestrians;
- a HGV Route Management Plan and Strategy (document reference 17.4) to restrict lorry movements to identified routes at all stages of the Proposed Development;
- the approval and implementation of a travel plan for workers at the HNRFI, containing measures to encourage cycling, car sharing and home working (where appropriate);

- improvements to the existing X6 bus service between Leicester and Coventry so that it can serve the HNRFI;
- off-site highway improvements; and
- the closure of pedestrian level crossings at Thorney Fields Farm and Elmesthorpe to the north-east of the HNRFI and at Outwoods on the edge of Hinckley to the south-west, and the provision of alternative pedestrian crossing arrangements including a new footbridge at Outwoods.

1.86. With this mitigation in place, the assessment in Chapter 8 of the ES concludes that the HNRFI would have a direct impact of negligible to minor adverse significance upon severance, driver delay, pedestrian delay, non-motorised users' amenity, fear and intimidation and accidents and safety. The residual environmental impact of the HNRFI and associated mitigation package is insignificant. There are no likely significant effects in EIA terms.

## AIR QUALITY

### Introduction

1.87. ES Chapter 9: *Air quality* (document reference 6.1.9) considers the likely effects of the HNRFI on air quality. During construction, air quality can be affected by the release of dust and very fine particles known as 'particulates' and by emissions from vehicles, plant and machinery. Once operational, vehicle and railway locomotive fumes and emissions from on-site energy generation might have a negative effect in the absence of mitigation.

### Baseline

1.88. Chapter 9 explains how the effects of HNRFI on air quality have been assessed. In order to understand air quality effects, the people and things affected by air quality (known as receptors) are first identified. This includes identifying all locations where members of the public might be regularly exposed to emissions from the HNRFI and nature conservation sites where changes in air quality might affect the habitat.

1.89. By law, local authorities are responsible for reviewing and assessing local air quality within their jurisdiction. Where national objectives are not being met, areas are declared as Air Quality Management Areas (AQMAs). These areas are typically located where there are significant sources of air pollution along with relevant human exposure.

1.90. Blaby District Council have declared five AQMAs for the potential exceedance of the annual mean (average) nitrogen dioxide ($NO_2$) objectives across the borough. Harborough District Council has declared two AQMAs for the potential exceedance of the annual mean $NO_2$ objective, however neither of these are located in the vicinity of the DCO Site. Rugby Borough Council declared an AQMA for the potential exceedance of the annual mean $NO_2$ objective, covering the whole urban area of Rugby, including part of the study area. Exceedances of the annual mean $NO_2$ objective were recorded at two locations. These

monitoring locations are not within the study area. Overall, annual mean $NO_2$ concentrations recorded between 2015 and 2019 demonstrate a downward (improving) trend.

## Likely environmental effects and proposed mitigation

1.91. Given the scale and nature of the Proposed Development there is potential for temporary major adverse air quality effects during construction, as a result of the following activities:

- dust generated through demolition, excavation, construction and departing vehicles;
- exhaust pollutant emissions from construction traffic on the local highway network;
- exhaust emissions from non-road mobile machinery within the construction site itself.

1.92. How close sensitive receptors are to particular construction activities will affect the potential for the construction activities to cause dust soiling, nuisance and local air quality impacts. Weather conditions and the use of control measures will also contribute to the effects experienced.

1.93. No exceedances of the relevant air quality objectives are predicted during construction.

1.94. Once the Proposed Development is operational, it would lead to an increase in the number of trains using the Felixstowe to Nuneaton strategic freight railway. Additional train movements generated by the Proposed Development are predicted to amount to 32 train movements per day (16 trains). From an air quality perspective this level of train activity is considered negligible. As such the effects on local air quality from rail emissions as a result of the operation of HNRFI are deemed to be insignificant.

1.95. Additional traffic movements generated by the Proposed Development once operational have been assessed. From an air quality perspective this level of vehicle movements is considered negligible. As such the effects on local air quality from operational traffic as a result of the HNRFI are deemed to be insignificant.

1.96. The Proposed Development will also include a back up combined heat and power system, the emissions from this system on human health are assessed to be negligible and not significant.

1.97. ES Chapter 9: Air quality identifies a range of best practice measures for managing and controlling air quality effects, where potential significant effects have been identified. These are secured through 'requirements' in the DCO. The measures include the following;

- A Construction Environmental Management Plan (CEMP, document reference 17.1) sets out the mitigation methods to be implemented to minimise any impacts associated with the demolition and construction phases of the Proposed Development;
- A Travel Plan (document reference 6.2.8.2) has been prepared with the DCO and a comprehensive package of on and off-site transport improvements is proposed. The

Travel Plan promotes the use of sustainable transport methods such as public transport, walking and cycling to the Main HNRFI Site.

- Car parking provision incorporates charging facilities for electric vehicles (EVs) and would include ductwork provision for future car charging points on all remaining car parking spaces. This will encourage the use of EVs for staff commuting to work. Provision is also made for covered cycle parking facilities and new cycling routes to encourage cycling to the HNRFI.

1.98. Measures set out within the ES chapter aim to reduce emissions associated with HNRFI and encourage the use of sustainable methods of transport. Any reduction in emissions would be beneficial to both human and ecological receptors. Once these measures are taken into account the level of adverse effects are reduced and are no longer assessed as significant.

## NOISE AND VIBRATION

### Introduction

1.99. ES Chapter 10: *Noise and vibration* (document reference 6.1.10) considers how the Proposed Development might give rise to noise and vibration during both the construction and operational phases. Noise and vibration can arise from groundworks, piling and machinery during construction and from traffic and rail movements and operation of the railport during operation.

### Baseline

1.100. In order to understand the noise characteristics of the Main HNRFI Site and its surroundings, noise surveys have been undertaken.

1.101. The noise levels across the Main HNRFI Site are dominated by noise from road traffic on the surrounding road network, notably the M69 motorway. A large change in traffic flow (double) is needed before the change in noise levels becomes perceptible.

### Likely environmental effects and proposed mitigation

1.102. Different types of noise and vibration will arise at the construction and operational phases of the Proposed Development.

1.103. Not all specific details of activities and associated plant are available at this stage, therefore, Chapter 10 of the ES explains the assumptions that have been made in the assessment. In terms of the potential noise effects, excavation, earthworks and regrading using heavy plant machinery is likely to be the source of the main impacts at nearby noise sensitive receptors (NSRs). The construction and fitting out of the new buildings are likely to result in lower noise levels because work would progressively be contained by the shell of the new building.

1.104. Construction activity has the potential to result in significant adverse effects, though construction activities would progress on different parts of the Main HNRFI Site and would not take place close to individual receptors for a prolonged period of time.

1.105. Should any vibration-generating works be undertaken close to the Main HNRFI Site boundary, the effects are identified as being moderate adverse, which is significant, but it should be noted that any effect would be short-term and temporary in nature.

1.106. In the absence of mitigation, the effect of operational noise associated with the HNRFI is likely to be permanent and major adverse as a worst case for the closest NSRs, during daytime and night-time and on a weekday and weekend.

1.107. Rail vibration is currently at levels considered to be low, to the extent whereby the additional vibration generated from additional train movements is likely to result in a negligible effect.

1.108. In order to address the identified potentially significant effects, chapter 10 of the ES sets out mitigation measures. The preferred approach for controlling construction noise and vibration is to reduce levels at source where possible, but with due regard to practicality. Sometimes a greater noise level may be acceptable if the overall construction time, and therefore length of disruption, is reduced. Proposed measures include the following;

- The occurrence of exceptional works defined above will be notified to the relevant planning authority within 72 hours of their commencement, in accordance with sections 61 and 62 of the Control of Pollution Act 1974. Night-time working will be restricted to specific defined circumstances, and to work inside buildings. By arrangement, there are likely to be some out-of-hours construction deliveries made to the site;

- method statements for construction of a number of elements of the Proposed Development have been prepared (appended to CEMP, document reference 17.1), these aim to manage the construction process in order to minimise impacts of construction works to local residents and businesses during the construction phase;

- communication with the local community would be maintained throughout the construction period;

- the CEMP would help to ensure that the noise and vibration impacts relating to construction activities are minimised; and

- acoustic barriers are proposed along sections of the boundary of the Main HNRFI Site to mitigate noise from train and lorry movements and from container handing in the railport.

1.109. With the specified mitigation measures in place, the assessment concluded that at the construction phase there would remain some temporary moderate adverse effects, which are significant. At the operational phase a number of permanent minor adverse effects remain at some NSR's, which are not considered significant. One significant operational

effect is identified for road traffic effects at NSR1.

## LANDSCAPE AND VISUAL EFFECTS

### Introduction

1.110. ES Chapter 11: *Landscape and visual effects* describes the landscape character of the site and adjoining areas and considers the landscape and visual effects of the Proposed Development. Landscape effects and visual effects are separate but related. Landscape effects relate to changes to the landscape and the features that contribute to the landscape character and quality. Visual effects relate to the appearance of such changes within views and the resulting effect on visual amenity (what people see).

### Baseline

1.111. No part of the Order Limits lies within a nationally or regionally designated landscape. The closest designated Area of Outstanding Natural Beauty (AONB) to the Main HNRFI Site is the Cannock Chase AONB, 43 km to the north-west. The closest designated National Park is the Peak District, 60 km to the north-north-west.

1.112. The Order Limits contain a range of character areas, including rolling farmland, wooded farmland, floodplain, agricultural parkland, quarries, open plateau and urban areas.

1.113. For the landscape and visual assessment, 54 viewpoints have been identified at locations agreed through consultation to date. These views are at locations where there are likely to be sensitive visual receptors, including receptors on public rights of way (PROW) and at residential properties. These views form the basis of the visual assessment, the significance of any effect being assessed in terms of the magnitude of change in the view and the sensitivity of the visual receptor.

### Likely environmental effects and proposed mitigation

1.114. At the construction stage the main operations considered to be of importance to the landscape and visual assessment are described below:

- *Construction-related traffic.* This includes vehicle movements associated with the import of building materials, machinery and labour using local roads;
- *Groundworks.* Cut and fill earthworks including the construction of two development platforms across the Main HNRFI Site, levelling for access roads and ground modelling for landscaped areas;
- *Noise and vibration effects* (see Chapter 10: Noise and vibration, document reference: 6.2.10) have the potential to affect landscape character;
- *Construction activities.* The use of large cranes and construction platforms (rising above the height of the proposed buildings) will be necessary; and

- *Lighting required for construction activities* (see Lighting Strategy, document reference 6.2.3.2) and CEMP (document reference: 17.1). The Lighting Strategy (document reference 6.2.3.2) sets out the basis, through which the final designs and implementation of the artificial lighting are to be addressed. The lighting strategy sets out the recommendations, applicable regulations and best practice, to be adopted for the Proposed Development.

1.115. Landscape and visual amenity effects resulting from the construction stages are considered to be adverse, as there are few, if any, aspects of the process that could be considered positive in terms of promoted landscape strategies or visual amenity. The Stoney Stanton Rolling Farmland Landscape Character Area (LCA) and Elmesthorpe Floodplain LCA are among those most effected, with significant adverse effects predicted. These effects will, however, be temporary and restricted by the phased nature of the Proposed Development.

1.116. Effects on landscape character during construction will arise from lighting, noise, vibration and traffic which extend beyond the Main Order Limits. The works would require temporary lighting where previously there was little artificial lighting, away from the existing residential urban edges or major roads. The effects would be significant but short-term and temporary in nature.

1.117. The Proposed Development, on a 'greenfield' site and at the scale proposed, will result in the unavoidable removal of landscape features, in particular the agricultural field parcels and hedgerows, at a level which materially alters the character of the local context. This will result in a change to the landscape and with visual effects on dwellings, public highways, railway and public rights of way.

1.118. The assessment concluded that there would also be significant effects on visual amenity during construction from a number of viewpoints. However, these effects would be temporary in nature.

1.119. The 'operational lifetime' of the Proposed Development is measured in decades, resulting in a permanent change to the character of the Main HNRFI Site. Landscape proposals included as part of the Proposed Development will take time to mature. It is therefore often the case that initial (Year 1) effects are more considerable than those at Year 15 due to the limited initial effect of the landscape works.

1.120. Once the Proposed Development is built and operational, the landscape and visual effects are variable, depending on factors such as distance from the land within the Order Limits and availability of views. Effects on views will evolve as the proposed landscape works, habitat enhancements and tree and shrub planting grow to maturity. In summary:

- development at the Main HNRFI Site would materially alter the landscape character of the site and the receiving environment. There will also be level changes to allow for development plateaux and the introduction of drainage basins. The stream currently crossing the Main HNRFI Site will be diverted;

- the character of the A47 Link Road corridor will be transformed from agricultural

farmland to an embanked link road, with field boundaries and mature hedgerows retained as far as practically possible. Newly planted trees and areas of scrub will result in a permanent and beneficial change, including the enhancement of existing areas of ecological habitat;

- views from dwellings surrounding the Main HNRFI Site will be materially altered, with the addition of a bund and planting to soften views of the Proposed Development. The newly planted area of public open space adjacent to Burbage Common would provide a natural, attractive space and potential significant beneficial effects. Views from PROW, public highways and railways would in general be less stark than during construction as a result of planting and landscaping;

- at the sites of highways works, landscape and visual effects would be extremely localised and limited given the nature of the proposed changes (signage or minor roadway adjustments).

1.121. Where possible, mitigation is embedded into the Proposed Development. The current condition and key characteristics of the landscape have been considered throughout the design of the Proposed Development and integrated into the landscape strategy where possible.

1.122. The Proposed Development benefits from existing dense mature woodland to the south of the Main HNRFI Site which provides natural screen to views from the south. The north-western edge of the Main HNRFI Site would incorporate a bund, planted with woodland species to assist in softening views from the west and north. The northern edge of the Main HNRFI Site will include further areas of woodland planting and areas adjacent to the M69 motorway will feature a new bridleway route, planted with a mixture of woodland, shrub and scrubby species. Areas to the south of the A47 Link Road on both sides of the railway would be laid out as additional naturalistic public access land.

1.123. A number of strategies and plans have been secured through the DCO to secure mitigation measures, including;

- Public Rights of Way Appraisal and Strategy (document reference 6.2.11.2)

- Construction Environmental Management Plan (CEMP, document reference 17.1)

- Lighting Strategy (document reference 6.2.3.2)

- Site Waste and Materials Management Plan (SWMMP, document reference 17.3)

1.124. There would be significant adverse landscape effects during construction, at year 1 and at year 15 across the host landscape character areas (LCAs), LCA1: Aston Flamville Wooded Farmland and LCA6: Elmesthorpe Floodplain as well as the Main HNRFI Site and the A47 Link Road Corridor. These effects are unavoidable given the nature of the scheme. Whilst mitigation has been shown to be effective in creating a softened development and one where Green Infrastructure is an integral part of the design, large-scale built development and a Link Road are so very different in character to a rural agricultural landscape that no amount of mitigation could reduce this effect.

1.125. There would be significant adverse visual effects during construction and at Year 1 from 30 of the representative viewpoint locations which represent various receptor groups, principally users of PRoW throughout the local area.

1.126. There would be significant adverse residual effects at year 15 from 23 of the representative viewpoint locations, demonstrating that landscape mitigation is effective in reducing effects from some locations.

1.127. Notably, with mitigation, there are no residual significant visual effects on the most sensitive receptors in Burbage Common and Woods Country Park, the landscape mitigation serving to screen the Proposed Development from view as it matures. It is also of note, that where significant residual visual effects have been identified in longer range views, these are in the main, in isolated locations where there is an opportunity for a view from an elevated vantage point such as at Croft Hill or on Shilton Road, Barwell. For the most part, the Proposed Development is not visible within the wider landscape. The exception to this is in views from the east, where the more open landscape will allow views across the fields along PRoW from Stoney Stanton to the M69.

1.128. There would also be significant adverse visual effects at construction, year 1 and year 15 across the 20 residential receptors identified.

## ECOLOGY AND BIODIVERSITY

### Introduction

1.129. ES Chapter 12: *Ecology and biodiversity* (document reference 6.1.12) considers the likely effects of the Proposed Development on features of nature conservation value including habitats and species.

### Baseline

1.130. The Applicant has undertaken wide ranging general and species-specific surveys of wildlife and wildlife habitats inside the Main HNRFI Site. These surveys are described in detail in Chapter 12 of the ES and its technical appendices.

1.131. No part of the Main HNRFI Site is covered by any internationally important statutory nature conservation designations and there are no such designations within a 10km radius.

1.132. The Main HNRFI Site is not covered by any nationally or locally important statutory nature conservation designations. There are five such designations within 5km, there are four designated as Sites of Special Scientific Interest (SSSIs) (a national designation) and a single Local Nature Reserve (LNR) (a local designation). Burbage Wood and Aston Firs SSSI and the overlapping Burbage Common and Woods LNR are located immediately to the south-west of the Main HNRFI Site.

1.133. Within 3km of the Main Order Limits are 13 Local Wildlife Sites (LWS), of which two lie

within the Main Order Limits (Field Rose Hedgerow and Elmesthorpe Plantation Hedgerow), one lies immediately next to the western boundary of the Main Order Limits (Burbage Common and Woods), and one lies immediately next to the southern boundary (The Borrow Pit Grassland). Two LWS (Billington Rough and Hay Meadow) lie 100m and 250m to the north of the railway respectively.

1.134. Land inside the Main Order Limits consists of arable, improved, semi-improved grassland, buildings and hardstanding, marshy grassland and tall vegetation on waste ground of limited ecological importance.

1.135. A full description of the habitats and species present inside the Main Order Limits is provided in ES Appendix 12.1 (document reference 6.2.12.1).

### Likely environmental effects and proposed mitigation

1.136. The assessment identified a number of potential effects from the HNRFI. At the construction phase the following effects have been identified:

- There is a low risk that the Burbage Wood and Aston Firs SSSI might be subject to indirect impacts, such as soil compaction and encroachment by machinery or pollution events resulting from close by construction works and material storage. This is a temporary minor adverse effect and not significant.

- Burbage Common Road railway bridge, which is a Potential Local Wildlife Site (pLWS), would be lost to the HNRFI and although further surveys have shown that the pLWS would be unlikely to qualify as a full LWS, it is still regarded as having value at the local level. This is a temporary minor adverse effect and not significant.

- The HNRFI has been designed to keep as many mature scattered trees as possible. However, the unavoidable loss of an estimated 258 scattered mature and early mature trees is likely. This is a moderate adverse effect and therefore significant.

- The HNRFI has been designed to retain the existing hedgerow network and minimise its fragmentation where possible, particularly around the edge of the site. However, losses of hedgerow are unavoidable given the nature of the HNRFI. These effects range from moderate to minor adverse and are significant and not significant respectively.

- Direct loss and indirect degradation and damage to ponds and wet ditches at the site, will result in moderate adverse, significant effects.

- Diversion, severance and degradation of the existing stream on site will result in major to moderate adverse effects, which are significant.

- The loss and degradation of grassland habitat will result in moderate to minor adverse effects, which are significant and not significant respectively.

- A number of species are present on site, and/or use the site for foraging, these include winter birds, breeding birds, bats, badger, otter, European hare and common toad, the loss or degradation of habitat will result in a range of effects from major and moderate

adverse which are significant to minor adverse which are not significant.

1.137. Once operational the likely effects are assessed to include:

- Recreational pressure on Burbage Wood and Aston Firs SSSI is anticipated to experience moderate adverse effects as a result of the HNRFI.
- The changes on water quality from on-site pollution could result in moderate adverse, significant, effects on Billington Rough local wildlife site.
- Habitats on site may experience minor adverse effects from indirect degradation and damage, this is not a significant effect.
- Breeding birds, bats, badgers, otter and common toad may experience minor adverse effects, which are not significant as a result of disturbance and collision risk.

1.138. The design of the scheme has retained much of the habitat network and a redirected watercourse within areas of open space that contain new drainage features. This helps to reduce the potential for impacts to arise and allows for long-term management through a management company.

1.139. At the construction phase the ecology effects of the HNRFI will be mitigated through the implementation of the Construction Environmental Management Plan (CEMP, document reference 17.1) and Ecological Mitigation and Management Plan (EMMP, document reference 17.5). These set measures which will be implemented during the demolition and construction phase of the HNRFI, these will include :

- suitable external lighting to avoid impacts to nocturnal wildlife;
- surface water drainage system to improve drainage and water quality; and
- soft landscaping to include valuable habitats within the public open space.

1.140. During the operational phase, wildlife and habitat protection would be secured through the Landscape and Ecology Management Plan (LEMP, document reference 17.2). This sets out the measures for the ongoing management, maintenance and monitoring of the ecological receptors and of those newly created habitats to maximise opportunities for biodiversity enhancement and gain.

1.141. Once these measures are taken into account, all identified ecology and biodiversity effects at both the construction and operational phase of the Proposed Development are assessed to be non significant.

1.142. The ecology assessment concludes that the HNRFI would comply with the legal protection afforded to these ecological receptors and with national, regional and local planning policy requirements.

## CULTURAL HERITAGE

### Introduction

1.143. ES Chapter 13: *Cultural heritage* (document reference 6.1.13) considers the likely significant effects of the HNRFI on the historic environment, including sites and buildings of historical, architectural, cultural and archaeological value.

### Baseline

1.144. A detailed review has been undertaken of published records of historical and archaeological sites to identify features of interest and value both within the DCO Site and in the surrounding area. The baseline study has identified that there are 13 scheduled monuments, two Grade I, eleven Grade II*, 128 Grade II listed buildings and ten conservation areas located within the 5km study area around the Main Order Limits. Detailed assessment has identified that the majority of these assets have no potential to be affected by the Proposed Development due to a lack of any visual or functional association with it.

1.145. No designated heritage assets are located inside the DCO Site. However, a scheduled monument, seven listed buildings, and a single conservation area located outside the DCO Site, could potentially experience a change to their wider 'settings' as a result of the HNRFI. These assets have been assessed in respect of potential effects of the HNRFI and are listed below.

- Elmesthorpe Church, Ruined Nave and West Tower Scheduled Monument, Elmesthorpe
- Grade II listed Church of St Mary, Elmesthorpe
- Grade II listed Wentworth Arms and adjoining stables, Elmesthorpe
- Grade I listed Church of St Mary, Barwell
- Grade II* listed Church of St Simon and St Jude, Earl Shilton
- Grade II listed Church of All Saints, Sapcote
- Grade II listed Church of St Michael, Stoney Stanton
- Grade II* listed Church of St Catherine, Burbage
- Aston Flamville Conservation Area

1.146. The Leicestershire Historic Environment Records (HER) show only two non-designated heritage assets on the Main HNRFI Site, this includes an undated ditch recorded as a cropmark, and an 18th century barn. Survey work at the Main HNRFI Site and across the A47 Link Road has identified few non-designated heritage assets in the form of below ground remains.

1.147. Whilst the Main HNRFI Site is not situated in a landscape of significant historic landscape value, it still contains a number of internal field boundaries from the 18th century. Despite this, the historic landscape of the Main HNRFI Site is considered to be of no more than low sensitivity. The A47 Link Road is similar in containing 18th century field boundaries reorganised in the 19th and 20th centuries and are considered to be no more than low sensitivity. The remainder of the DCO Site beyond the Main Order Limits and the A47 corridor is defined by off-site highways and junctions or existing railway infrastructure, as such they have no historical landscape value.

1.148. Three historic farm buildings have been identified within the farmsteads of Woodhouse Farm, Hobbs Hayes and Freeholt Lodge, within the Main HNRFI Site. These non-designated buildings are considered to be of low sensitivity. The Burbage Common Road bridge on the western boundary of the Main HNRFI Site is also a non-designated building of low sensitivity.

### Likely environmental effects and proposed mitigation

1.149. The HNRFI has the potential to result in direct (i.e. physical) effects on heritage features of interest, mainly at the construction phase, and indirect effects, such as the change in the setting in which a historic building is viewed and appreciated. Indirect effects arise mainly during the operational phase of the Proposed Development. The setting may still be affected even if the building lies outside the DCO Site.

1.150. Most of the Main HNRFI Site is currently occupied by agricultural land. Construction activities are considered to have potential for direct effects on heritage assets. The proposals for the A47 Link Road itself have similar potential for impacts.

1.151. There will be no direct impacts from the construction of the HNRFI on the one scheduled monument, seven listed buildings and one conservation area that are identified as sensitive receptors.

1.152. The Main HNRFI Site contains three non-designated buildings, comprising two historic barns and a historic farmhouse. The proposals will require the demolition of these, thereby resulting in a large magnitude of change during the construction phase. On this basis, the HNRFI would result in a direct adverse effect to each of these, however, based on their assessed sensitivity for heritage, these effects are assessed to be insignificant.

1.153. Where possible, any adverse heritage effects have been avoided through the overall design of the HNRFI, through careful siting of the different elements of the Proposed Development and its required infrastructure.

1.154. The potential impact of the HNRFI on known and unknown non-designated archaeological (below ground) receptors, is expected to be contained to within the Main HNRFI Site and A47 Link Road. Further mitigation, in the form of archaeological investigation and recording, in advance of or during construction, will be set out in a DCO requirement should consent be granted. This will extend to a programme of appropriate field investigation and mitigation, which will include publication of the results and the archive being passed to a relevant museum.

1.155. The landscape strategy for the HNRFI will include proposed bunding and structured landscaping around the boundary. This will aim to screen development and minimise its visual impact on the surrounding landscape and cultural heritage receptors.

1.156. The implementation of the construction and operation phases of the HNRFI, incorporating mitigation, is predicted to have at most a minor or moderate adverse effect on the designated and non-designated heritage assets identified within the DCO Site and wider study area.

1.157. None of the predicted adverse effects on designated or non-designated archaeology and built heritage assets, either during the construction or operation phases of the HNRFI, are assessed to be of greater than moderate significance and are not considered to be 'significant' in EIA terms.

## SURFACE WATER AND FLOOD RISK

### Introduction

1.158. ES Chapter 14: *Surface water and flood risk* (document reference 6.1.14) considers the potential effects of the Proposed Development on surface water and flood risk. It covers matters relating to a number of different aspects of water resources and the water environment, including:

- flood risk;
- surface water drainage;
- surface water quality;
- water supply; and
- surface and foul water sewerage capacity.

### Baseline

1.159. The majority of the HNRFI is located in the Thurlaston Brook catchment. The River Basin Management Plan establishes a number of requirements that must be met to comply with the Water Framework Directive, which is a piece of legislation that aims to protect and improve the ecological health of waterbodies. Currently, the Thurlaston Brook catchment has a water body quality classification of 'Poor', with an ecological status of 'Poor' and a 'Fail' chemical status. The catchment has an objective of achieving 'Good' overall status by 2027. Agricultural and rural land management and pollution from waste water are the main issues preventing waters reaching good status.

1.160. With reference to the Environment Agency's Flood Map for Planning, the majority of the Main HNRFI Site lies within Flood Zone 1 (low probability of flooding). However, a small portion, next to the northern boundary is located in Flood Zone 3 (high probability of

flooding) and Flood Zone 2 (medium probability of flooding).

1.161. The Environment Agency's Flood Risk from Surface Water Map for the Main HNRFI Site shows the potential flooding which could occur when rainwater does not drain away through the normal drainage systems or soak into the ground. This identifies the Main HNRFI Site to be mostly at very low risk of flooding from rainwater, with some areas of higher risk associated with the watercourses.

1.162. Burbage Wood Site of Special Scientific Interest (SSSI) and Aston Firs Local Nature Reserve (LNR) are located immediately next to the south-west of the Main HNRFI Site, but the landscape slopes, and watercourses flow, away from the SSSI. As such, changes to surface water and drainage are not expected to have any significant effect on the SSSI or LNR.

### Likely environmental effects and proposed mitigation

1.163. Temporary risks to the water environment from the construction phase, include the following;

- Certain construction activities, such as mounding of materials, have the potential to increase flood risk within the Main Order Limits and in downstream catchments this would be a major adverse effect, which is significant, before any mitigation is put in place.

- The use of heavy machinery during the construction phase is likely to result in short term disruption to the rate of drainage into the ground which would be a major adverse effect, which is a significant effect.

- Construction activities can lead to the pollution of controlled waters. Impacts are generally from sediment in runoff, particularly from rainfall during storm events, which can affect water quality, or from pollution by construction materials or fuels, this is a minor adverse effect, which is not significant.

- There would be a minor adverse increase in pressure on the local foul water network and local water supply due to the temporary presence of construction workers and associated welfare facilities.

1.164. Once operational, the ES has identified the following potential effects:

- the HNRFI would introduce a significant area of impermeable surfaces (where water cannot pass through) onto a currently greenfield area. This has the potential to increase surface water runoff which will increase flows into receiving watercourses which could cause an increase in flood risk. The design incorporates a drainage strategy which will assist in reducing flood risk and lead to a minor beneficial effect, which is not significant; and

- once in use, pollutants associated with run-off from the Main HNRFI Site and the A47 Link Road have the potential to affect water quality, both in the sewer network and at local watercourses, which have the potential to result in major, significant, and minor,

not significant, adverse effects respectively.

1.165. Chapter 14 identifies a series of best practice mitigation measures to address the potential risks that have been identified. Construction related measures are set out in the CEMP (document reference 17.1) which has been submitted with the ES and will be enforced through a DCO requirement. With these measures in place, construction effects are reduced to a negligible level which is not significant.

1.166. Once the HNRFI is operational, the surface water drainage strategy will ensure that surface water is managed so that the rate of surface water arising from the Main HNRFI Site and A47 Link Road is not increased and water quality is not adversely affected. The minor nature of the off-site works mean they will have negligible impact on flood risk and water quality which is not significant.

1.167. A Preliminary Water Framework Directive Assessment (document reference 12.1) has been produced to support the ES, which assesses the impacts and water quality and quantity in relation to the waterbodies potentially affected by the HNRFI.

## HYDROGEOLOGY

### Introduction

1.168. ES Chapter 15: *Hydrogeology* (document reference 6.1.15) assesses the potential effects of the HNRFI on hydrogeology, which is the study of the distribution and movement of groundwater in soils and rocks. It describes the methods used to assess the effects, the baseline conditions currently existing at the Main HNRFI Site and surroundings, the potential direct and indirect effects of the HNRFI and the mitigation measures required.

### Baseline

1.169. A review has been undertaken of the ground conditions present across the DCO Site, pulling together information from extensive published data and site investigations.

1.170. The Main HNRFI Site is currently used for agricultural purposes, consisting of fields and farm buildings, and sections of the local road and rail network.

1.171. The Main HNRFI Site increases in height from north-east to south-west, with a slight ridge feature through the centre aligned roughly in a south west to north east direction. The Main HNRFI Site is not located in an area associated with coal mining or within a mineral safeguarding area.

1.172. Limited historical development has occurred at the Main HNRFI Site. Several farms have been present on site since before the 1880s, with streams and fields crossing the area. A former railway station, electricity substation, tank, scrap yard, small brick works and two landfill sites have been recorded in the surrounding area.

1.173. The Main HNRFI Site is not located within an Environment Agency designated Source

Protection Zone (areas defined to provide additional protection to safeguard drinking water quality). The Water Framework Directive (WFD) sets an obligation for water bodies to meet 'good ecological status'. The site lies within the Soar Secondary Combined Groundwater Body, which recorded a good chemical and overall rating in 2015.

### Likely environmental effects and proposed mitigation

1.174. Contamination might be mobilised during construction, where soils are excavated and rainfall washes away soluble contaminants. Earthworks also have the potential to increase erosion and migration of particulate matter and suspended solids into watercourses.

1.175. Piled foundations might be required for the proposed buildings, particularly where high loadings are required. Piled foundations have the potential to create pathways between surface contamination and underlying 'aquifers' (a permeable rock that can contain or transmit groundwater).

1.176. The presence of significant hardstanding in the HNRFI will reduce the infiltration of rainfall and subsequent leaching of any soluble contamination in shallow soils into underlying groundwater and surface waters. Runoff from HGV's serving the HNRFI has the potential to be contaminated by heavy metals and petroleum hydrocarbons.

1.177. The sealing of the Main HNRFI Site through the introduction of hardstanding would reduce infiltration and recharge of shallow aquifers, which could lead to reduced groundwater levels. However, significant volumes of groundwater are not expected beneath the HNRFI Site and there is no recorded groundwater supply that could be affected.

1.178. The above impacts have the potential to result in minor adverse effects, which are not significant. Mitigation and safeguards have been included in the design and the construction of the HNRFI, including the following.

- A CEMP (document reference 17.1) has been prepared and submitted with the ES, setting out the requirements for the management of dust, odours and other sources of nuisance and pollution control measures to be implemented during the construction phase.

- Fuelling areas would be constructed on low permeability ground wherever possible and all tanks would be bunded with a capacity of 110% of the tank volume. Spill kits should be available at all fuelling locations and regular training provided on dealing with spillages.

- To avoid infiltration of polluted water from vehicles or accidental spillage, vehicles would be inspected regularly and maintained to reduce the risk of leakages. Vehicle wash-down areas would be at least 10m from any surface waters and located in a designated bunded impermeable area. Any runoff would be treated through oil interceptors before being discharged.

1.179. Overall, the potential effects on hydrogeology from the construction and operational phases of the HNRFI have been assessed to be negligible to minor adverse following the

implementation of appropriate mitigation measures, which is not significant.

## GEOLOGY, SOILS AND CONTAMINATED LAND

### Introduction

1.180. ES Chapter 16: *Geology, soils and contaminated land* (document reference 6.1.16) considers the potential effects of the HNRFI on the geology, soils and contaminated land beneath the site and in the local area.

### Baseline

1.181. The Applicant has undertaken a review of the ground conditions present across the DCO Site, assembling information from extensive published data and site investigations.

1.182. The local geological conditions represent a possible source of ground gas. However, generation rates are likely to be low. The site is located in an area where less than 1% of properties are affected by radon and so is not considered a risk.

1.183. The Main HNRFI Site is not located in an area associated with coal mining or in a mineral safeguarding area. The Main HNRFI Site is classified as Grade 3 (good to moderate) agricultural land which is further subdivided into 3a good quality and 3b moderate quality. The majority is classified as Grade 3b poor with a small pocket (approximately 3 hectares) of Grade 3a land in the north of the Main HNRFI Site.

### Likely environmental effects and proposed mitigation

1.184. Local contamination might be expected around farm buildings, likely to comprise asbestos, petroleum hydrocarbons and agrochemicals such as pesticides, herbicides and insecticides. The ground investigation has not identified any significant contamination sources at the Main HNRFI Site, and based on the current and historical land use there is a low risk of further significant contamination being identified during the groundworks.

1.185. Contamination risks to human health during demolition and enabling works and through soil and groundwater contamination, is assessed to be minor adverse in the absence of any mitigation, which are not significant.

1.186. Localised contamination might be mobilised during construction where soils are excavated, and rainfall can release soluble contaminants. In addition, earthworks in general have the potential to increase erosion and migration of particulate matter and suspended solids into water courses. The effect on controlled waters during construction are considered to be minor adverse, which is not significant, confined to a localised area and of short / medium duration.

1.187. Minor adverse effects, which are not significant, are also identified in relation to local instability around slopes and soft ground, migration of hazardous ground gases into buildings and the re-use of unsuitable soils and generation of waste soils requiring

disposal.

1.188. The ES chapter details the mitigation and safeguards that have been incorporated into the design and the construction of the HNRFI to address the minor adverse effects identified, including the following:

- Prior to the demolition of existing buildings a full asbestos survey would be completed to identify all asbestos and enable a plan of work to be prepared to safely remove any asbestos.
- Detailed investigation of the Main HNRFI Site would be completed to ensure that excavated materials are suitable for use and any areas of potential contamination understood and remediation strategies prepared.
- The CEMP (document reference 17.1) sets out the requirements for the management of dusts, odours and other sources of nuisance. Measures are incorporated to manage run off and protect water courses and prevent erosion and dust generation.
- Designated fuelling areas for plant would be set up with low permeability surfacing, suitable double bunding for tanks, spill kits available and an emergency plan in place for dealing with any spills.
- If elevated ground gases are recorded, suitable gas protection measures may be incorporated into the building design. The measures could incorporate the floor slab, gas impermeable membrane and/or sub sab ventilation in accordance with current best practice.
- Fuel storage facilities required for the railport and elsewhere would be bunded with appropriate wet stock management and spill management systems. Refuelling areas would be constructed on impermeable cover.
- Further intrusive ground investigation will be completed to confirm ground conditions, assess the presence of any soil or groundwater contamination and obtain information for foundation design. Ground gas monitoring will be undertaken, and a ground gas risk assessment completed to support the design of any required gas protection measures.

1.189. Once the mitigation measures are taken into account, it is considered that potential effects from the construction and operational phases of the HNRFI would be negligible and therefore not significant.

## MATERIALS AND WASTE

### Introduction

1.190. ES Chapter 17: *Materials and waste* (document reference 6.1.17) considers the likely effects of the HNRFI on the generation and management of waste during construction and

operation, and assesses the use of materials during the construction phase.

## Baseline

1.191. The Main HNRFI Site currently comprises a mixture of farmland small holding and private dwellings. There is existing infrastructure in the immediate vicinity, the M69 motorway, including the roundabout infrastructure of Junction 2, and the railway along the north-western boundary.

1.192. The Main HNRFI Site is a source of agricultural and green waste and potentially small quantities of commercial waste from Hobbs Hayes Farm and Woodhouse Farm.

1.193. Chapter 17 of the ES identifies the existing and future capacity of waste management facilities in the region. The extent of the regional baseline for landfill capacity was determined to include three landfill sites that are accepting waste, namely Griff No4 Quarry Landfill, Cotesbach Landfill, and Ling Hall Landfill.

1.194. The Main HNRFI Site does not fall within a Coal Authority reporting area. A number of quarries have been identified in the surrounding area that could provide mineral sources for construction materials.

## Likely environmental effects and proposed mitigation

1.195. The demolition of existing buildings on the Main HNRFI Site would produce a variety of waste materials including concrete, masonry, aggregates, ferrous and non-ferrous material, timber, glass, plasterboard and slate. A relatively small quantity of material is expected to be generated from these demolition works. A high proportion of this demolition and site clearance material is expected to be suitable for reuse and recycling. The volumes of non-hazardous waste from demolition works are considered to be relatively low in comparison to the regional capacity.

1.196. The HNRFI will require a cut and fill exercise to produce a development base in two main plateaux. The majority of excavated material is expected to be reused on site in a cut-fill balance, where topsoil cannot be reused on site, it will be stored, with an aim to sell for other uses in the region or transferred to a Waste Transfer Station or to landfill. There are no known contamination sources that would cause the ground to be polluted to levels that could classify soils as hazardous waste.

1.197. The scale of impact from the total quantity of construction waste generated by the HNRFI is considered to be negligible. The proposed railport is not expected to generate significant volumes of waste through its operation or maintenance. The replacement of rails on sidings will occur at a frequency greater than 50 years and it is assumed that the rails would be recycled and the ballast cleaned and reused.

1.198. Aside from the earthwork operations the HNRFI would require the use of a range of other construction materials. These include road paving, concrete, precast concrete, steel, plastics and timber.

1.199. It is proposed that measures will be implemented to collectively mitigate the identified

effects from both the use of materials and the management of waste. In relation to construction effects, the CEMP (document reference 17.1) includes measures to manage and control waste arising through construction.

1.200. A Site Waste and Materials Management Plan (SWMMP, document reference 17.3) has been prepared and will be updated regularly during the lifetime of the HNRFI. The SWMMP identifies the types and likely quantities of wastes that may be generated and how these wastes would be reduced, reused, managed and disposed of.

1.201. Waste generated by the HNRFI which cannot be reused will have to be taken off-site. With the implementation of the SWMMP and the associated reuse of material, the quantity of waste would not have a significant impact on the capacity of the landfill sites in the region, with the impact assessed as slight adverse.

1.202. Overall, with the use of mitigation measures in place (such as the SWMMP), the HNRFI is not expected to have any significant residual effects.

## CLIMATE CHANGE

### Introduction

1.203. ES Chapter 18: *Energy and climate change* considers the likely significant effects of energy and climate change, both upon and from the HNRFI. The increasing concentration of greenhouse gases such as carbon dioxide ($CO_2$) and methane in the atmosphere restricts the earth's ability to reflect solar heat back into space, resulting in global warming. This affects weather patterns and, amongst other things, is causing a rise in sea levels.

1.204. These risks prompt an obligation to reduce greenhouse gas emissions, which arise from sources including vehicle exhausts and the generation of electricity and heat from non-renewable energy sources.

### Baseline

1.205. The baseline assessment in ES Chapter 18 takes into account the likely greenhouse gas emissions of existing land uses on the DCO Site. The baseline assessment uses the UK government's data and projections. In 2021, net territorial emissions in the UK of the group of seven Greenhouse Gases (GHGs) covered by the Kyoto Protocol were estimated to be 424.5 million tonnes $CO_2$ equivalent ($MtCO_2e$), a decrease of 5.2% compared to the 2019 figure (the most recent pre-Covid pandemic year) and 47.3% lower than they were in 1990. $CO_2$ made up around 80% of the 2021 total.

1.206. The transport sector consists of emissions from road transport, railways, domestic aviation, shipping, fishing and aircraft support vehicles. It is estimated to have been responsible for around 31.5% of $CO_2$ emissions in the UK in 2021. The main source of emissions from this sector is the use of petrol and diesel in road transport.

1.207. The existing GHG emissions from within the Main HNRFI Site are expected to be very low

given current land uses and limited human and natural activity including energy consumption, agriculture and rail movements.

1.208. Mean annual temperatures over the region vary from around 8°C to just over 10°C, with variation mainly associated with altitude. This range is more pronounced than other regions within the country due to its distance to the sea. Both winter frosts and occasional very hot summer days are common. These temperature extremes of both winter and summer are a key characteristic of the Midlands climate.

### Likely environmental effects and proposed mitigation

1.209. Chapter 18 of the ES explains how the HNRFI might contribute to climate change due to carbon emissions during construction and operation, and how the potential sources of GHG have been identified as a basis for mitigation. It also explains how climate change may affect the designs and how these have been developed to be resilient to climatic changes.

1.210. The assessment has given proportionate consideration to whether and how HNRFI will contribute to or jeopardise the achievement of the climate change targets identified. For the avoidance of doubt, a 'minor adverse' or 'negligible' non-significant effect conclusion does not necessarily refer to the magnitude of GHG emissions being carbon neutral (i.e. zero on balance) but refers to the likelihood of avoiding severe climate change, aligning project emissions with a science-based 1.5°C compatible trajectory, and achieving net zero by 2050. The industry standard guidance from the Institute of Environmental Management and Assessment (IEMA) (2022) states; '*When evaluating significance, all new GHG emissions contribute to a negative environmental impact*, [however], *the crux of significance therefore is not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline'*.

1.211. The effects of GHG emissions have been assessed in the ES chapter across both the construction stage and operational phase. Prior to mitigation, it is considered that HNRFI would increase emissions and would not be compliant with do-minimum standards set through regulation or make a meaningful contribution to the UK's route towards net zero, resulting in a net significant, moderate adverse, effect.

1.212. Commitments to reasonable and deliverable measures to reduce emissions for both construction and operation in accordance with relevant policy and guidance have been set out in the ES chapter. Considering the commitments to design and mitigation that have been made by the Applicant, it is concluded that such measures are '*fully consistent with applicable existing and emerging policy requirements and good practice design standards for projects of this type'.* It is estimated that construction would result in a net residual emission of 13.7 $ktCO_2e$. Furthermore, though HNRFI would result in a net operational residual effect of approximately 247.36 $ktCO_2e$ per annum, it is considered that this would not prevent commitments necessary to achieve the UK's route towards net zero as they represent less than 1% of both the representative target for 2036 and the total UK's 6th Carbon Budget, which constitutes a non-significant minor adverse impact.

*Resilience of HNRFI to climate change*

1.213. Due to the anticipated length of the construction stage, it is not anticipated that there would be any significant effects as climate extremes are unlikely to deviate beyond the climate experienced in the recent past. However, mitigation measures have been recommended to improve resilience to the effects of extreme weather.

1.214. Following the consideration of mitigation measures included within the design of HNRFI, as set out in the chapter and its associated technical appendices, the assessment of the resilience of HNRFI to climate change during the operational phase determined that there would be no significant effects. Mitigation measures will be put in place to bolster the resilience of the identified receptors.

## MAJOR ACCIDENTS AND DISASTERS

1.215. ES Chapter 19: *Major accidents and disasters* (document reference 6.1.19) provides an assessment of the likely effects of the HNRFI in relation to the risk from major accidents and disasters.

1.216. There are no pathways by which the HNRFI would increase the risk of significant environmental effects from external natural or man-made hazards.

1.217. Furthermore, freight carried by rail in the UK has a better safety record than freight carried by road. By enabling a transfer of freight from road to rail the HNRFI should help to reduce road accidents.

1.218. The DCO application is accompanied by the following documents that include provisions to avoid or reduce vulnerability to accidents and disasters:

- CEMP (Construction Method Statements appended, document reference 17.1);
- Lighting Strategy (document reference 6.2.3.2);
- Construction Traffic Management Plan (document reference 17.6); and
- Other Consents and Licences report (document reference 5.2).

1.219. This integrated approach to control and management ensures that vulnerability to major accidents and/or disasters is being taken into account in the design and environmental assessment of the HNRFI and the risks identified are reduced to as low as reasonably practicable.

1.220. To conclude, through the review of all relevant hazard sources, the Applicant has identified appropriate mitigation measures to ensure that the overall risk of potential significant effects associated with the Proposed Development is as low as reasonably practicable.

## CUMULATIVE AND IN-COMBINATION EFFECTS

1.221. Chapter 20: *Cumulative and in-combination effects* (document reference 6.1.20) of the ES provides an assessment of the potential effects the Proposed Development is likely to have with other existing or approved developments (cumulative schemes) in the study area. The chapter also provides an assessment of in-combination effects (intra-project effects), which are effects of the Proposed Development that in isolation would not be considered significant but together may produce a significant effect.

1.222. The assessment follows guidance produced by the Planning Inspectorate (PINS) in Advice Note 17 (Cumulative Effects Assessment). The advice note provides a staged process for undertaking cumulative assessments and is considered standard practice for projects of this nature. This process includes Stage 1 (establishing zones of influence), Stage 2 (creating long list and short list of developments), Stage 3 (information gathering) and Stage 4 (assessment).

1.223. The assessment utilises zones of influence for each technical discipline to produce specialised lists of cumulative schemes that are relevant to each discipline. The master list is appended to the ES chapter as Appendix 20.1 (document reference 6.2.20.1), with the table listing the results of the cumulative assessment in full appended as Appendix 20.2 (document reference 6.2.20.2). Some topics, such as transport and the operational aspects of air quality and noise, have cumulative assessments as part of their standard assessment methods and therefore have not been included in this assessment.

1.224. During the formal consultations on the Preliminary Environmental Information Report (PEIR) in 2022, relevant stakeholders and the public were invited to advise on which projects should be considered in the assessment of cumulative effects. Where responses were received, projects have been incorporated into the long list of cumulative schemes (document reference 6.2.20.1).

1.225. The long-list of cumulative schemes includes planning applications and local plan allocated sites for residential, commercial infrastructure and energy schemes. The list was used by the technical consultant team to assess whether the Proposed Development would have a combined impact with any of the defined schemes. An impact in this instance could be, for example, that two schemes progressed at the same time and in the same area and resulted in the combined construction traffic from the schemes causing an effect on the local road network. Mitigation would then be proposed to ameliorate any effects which were predicted, which may take the form of additional landscape planting to hide views between schemes or from key viewpoints.

1.226. The location that cumulative effects are felt generally depends on the source of the effect. For example, transport-related cumulative effects are likely going to impact the local road network, whereas landscape-related cumulative effects could cover anywhere within sight of the source of effect.

1.227. The only technical discipline which prescribed a cumulative effect of moderate or worse, which would be considered significant, was noise and vibration in relation to Sites 8 (crematorium building) and 21 (light industrial building) (document reference 6.2.20.1).

The effect related to construction noise which may act cumulatively with construction noise from the other schemes due to the close proximity to the HNRFI. Construction noise will be mitigated through measures in the CEMP, such as restricting hours of work and using site hoardings. Following mitigation the effect was considered to be temporary in nature and was assessed as being moderate at worst.

1.228. The assessment of in-combination effects was also undertaken, which considered those effects of minor level or less which in isolation are not considered significant but when combined may produce a greater effect. During the construction phase, there were a number of minor effects upon local residents considered, however when balanced against the positive effects relating to job creation and investment it is not considered that there would be any significant in-combination effects. During operation, there were more adverse effects identified, in relation to landscape character. When considered together, it is concluded that there is potential for significant adverse in-combination effects during the operational phase.

## TRANSBOUNDARY EFFECTS

1.229. An assessment of transboundary effects was undertaken for the Proposed Development. Transboundary effects are those which have the potential to extend beyond the boundary of the UK. Screening for potential transboundary effects is an iterative process and has been continually reviewed as further assessment work has become available. This review process has confirmed that the Proposed Development would give not rise to significant transboundary effects on other European States and so the issue has been screened out of the EIA.

# Four ◆ Conclusion and next steps

## SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION

1.231. TSH proposes a wide range of measures to protect the environment and local amenity during the construction and operational stages of the HNRFI. Specific mitigation measures proposed in response to individual environmental effects are set out in a table in Chapter 21 *Conclusion* of the ES (document reference 6.1.22).

1.232. The mitigation in the table includes a wide range of safeguarding plans, strategies and commitments. These would be enforced through the Development Consent Order (document reference 3.1), which would be subject to 'Requirements' similar to planning conditions that apply to a conventional planning permission from the local planning authority.

1.233. With these mitigation measures in place the effects that remain are termed 'residual effects', residual effects can be both beneficial and adverse. Many of the effects are reduced in significance once mitigation is taken into account, however, given the scale and nature of the Proposed Development, a number of residual significant effects remain. These residual likely significant effects are summarised in the table below.

**Table NTS-2 Residual likely significant environmental effects of the HNRFI**

| Topic | Impact | Residual significant effects |
|---|---|---|
| Socio-economics | • Construction employment<br>• Operational employment<br>• Logistics sector | Moderate to major beneficial effects |
| Traffic and transport | • Driver stress and delay at The Common<br>• Pedestrian delay and amenity at B4669 Leicester Road and A447 Ashby Road<br>• Fear and intimidation at B4669 Hinckley Road | Moderate adverse effects |
| Air quality | No residual significant effects identified | |
| Noise and vibration | • Temporary construction noise<br>• Temporary construction vibration<br>• Short-term off-site road traffic noise impacts at noise sensitive receptor 1 | Moderate to major adverse effects |

| Topic | Impact | Residual significant effects |
|---|---|---|
| Landscape and visual impact | • Construction effects and year 1 on 30 visual receptors including: PRoW users; road users at Burbage Common Road, B581, and Shilton Road; St Mary's Church Elmesthorpe; Croft Hill viewpoint; Smenell Field users; Burbage Common and Woods Country Park users; and, Elmesthorpe open space and play area.<br>• Construction, year 1 and year 15 effects on 20 residential receptors<br>• Year 15 effects at 23 visual receptors including: PRoW users; road users at Burbage Common Road, B581 and Shilton Road; St Mary's Church Elmesthorpe; Croft Hill viewpoint; and, Elmesthorpe open space and play area. | Major to minor adverse effects |
| Ecology and biodiversity | No residual significant effects identified | |
| Cultural Heritage | No residual significant effects identified | |
| Surface water and flood risk | No residual significant effects identified | |
| Hydrogeology | No residual significant effects identified | |
| Geology, soils and contaminated land | No residual significant effects identified | |
| Materials and waste | No residual significant effects identified | |
| Energy and climate change | • Greenhouse gas emissions at construction and operational phases | Moderate adverse effect |

1.234. To summarise, the assessment has concluded that the Proposed Development may result in significant adverse effects on landscape character and visual receptors. There would be significant effects on the landscape character areas in which the HNRFI is present, which are unavoidable considering the scale of the scheme. There would also be significant adverse visual effects from certain viewpoint locations, primarily the PRoW network

nearby. For the most part, the Proposed Development is not visible within the wider landscape. The exception to this is in views from the east, where the more open landscape will allow views across the fields along PRoW from Stoney Stanton to the M69. Notably, there would be no significant effects on the most sensitive receptors in Burbage Common and Woods Country Park. Temporary construction vibration effects have also been identified along with the effects associated with greenhouse gas emissions during construction and operation. In addition to the adverse effects, there are residual beneficial effects for employment at both construction and operation of the HNRFI.

1.235. All other topic chapters showed that, following mitigation, there would be no significant adverse effects identified.

## NEXT STEPS

1.236. The DCO application for the HNRFI will be examined by a panel appointed by the Planning Inspectorate, known as the 'Examining Authority'. During the examination process, interested parties will have several opportunities to comment on the DCO application, including the findings of the ES and the adequacy of the measures that TSH proposes to ensure an acceptable form of development.

1.237. To view the full ES and other application documents mentioned in this ES NTS, and to keep up to date with the DCO examination process, please refer to the HNRFI project page on the Planning Inspectorate's National Infrastructure Planning website at the following link:

https://infrastructure.planninginspectorate.gov.uk/projects/east-midlands/hinckley-national-rail-freight-interchange/