Tritax Symmetry (Hinckley) Limited

HINCKLEY NATIONAL RAIL FREIGHT INTERCHANGE

The Hinckley National Rail Freight Interchange Development Consent Order

Project reference TR050007

Environmental Statement
Volume 1: Main Statement

Chapter 3: Project description

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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/

Chapter 3 ◆Project description

INTRODUCTION

3.1 This chapter provides the definitive description of the HNRFI that has informed the environmental impact assessment reported in the topic specific assessment chapters of this ES. It begins with an overview of the Proposed Development and proceeds to describe the proposed rail and road infrastructure, buildings, the landscape strategy and public rights of way. The chapter concludes with explanations of development construction and phasing and of how the HNRFI will operate.

3.2 This chapter should be read in conjunction with the HNRFI Illustrative Master Plan shown in Figure 3.1 (document reference 6.3.3.1), the DCO parameters plan shown in Figure 3.2 (document reference 6.3.3.2) and the off-site highways and junction improvement plans presented in Figure 3.3 (document reference 6.3.3.3). Permanent and temporary land take, land for utility diversions and environmental mitigation are shown in the Land Plans (document reference 2.20) and Works Plans (document reference 2.2-2.2H).

3.3 The Planning Act 2008 provides that development consent may be granted for both a NSIP, referred to as the 'Principal Development' in this document, and for 'Associated Development', which is development associated with the Principal Development. This distinction is made in the description of the authorised development in the DCO (document reference 3.1) that accompanies this ES. However, the distinction is not relevant to an assessment of the Proposed Development's environmental effects, which should be considered in the round.

PURPOSE OF A STRATEGIC OR NATIONAL RAIL FREIGHT INTERCHANGE

3.4 Paragraph 2.44 of the National Networks NPS states:

'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'.

3.5 Paragraph 4.88 of the National Networks NPS describes the key elements of a SRFI application:

'Applications for a proposed SRFI should provide for a number of rail connected or rail accessible buildings for initial take up, plus rail infrastructure to allow more extensive rail connection within the site in the longer term. The initial stages of the development must

provide an operational rail network connection and areas for intermodal handling and container storage. It is not essential for all buildings on the site to be rail connected from the outset, but a significant element should be.'

OVERVIEW OF THE PROPOSED DEVELOPMENT

3.6 The location and characteristics of the DCO site is described in chapter 2 of the ES (document reference 6.1.2). The land within the DCO covers an area of approximately 268 hectares (ha), the Main HNRFI Site covers an area of approximately 187 ha. In summary, the Proposed Development comprises the following main components.

Development on the Main HNRFI Site

a) The 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 the loading and unloading of shipping containers from trains and lorries;

d) up to 850,000 square metres (gross internal area or GIA) of warehousing and ancillary buildings with a total footprint of up to 650,000 square metres and up to 200,000 square metres of mezzanine floorspace, 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 megawatts (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 HGV 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 amenity 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;

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 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.

c) modifications to several junctions and amendments to Traffic Regulation Orders on the local road network in response to the different traffic flow pattern 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.

DEVELOPMENT PARAMETERS

3.7 The DCO application for the Proposed Development seeks consent for development parameters – a maximum outer envelope for specified types of physical development – within which detailed proposals for individual buildings and infrastructure would come forward for subsequent approval. The ES for the project assesses the likely significant environmental effects of these 'Rochdale Envelope' parameters (the Rochdale Envelope principle is described in chapter 1 of the ES (document reference 6.1.1)).

3.8 The parameters for the Proposed Development on the Main HNRFI Site are shown on a parameters plan in Figure 3.2 (document reference 6.3.3.2). The illustrative master plan (Figure 3.1, document reference 6.3.3.1) is informed by and reflects the development shown in the parameters for the HNRFI. Each development zone includes all elements integral to each development plot, including buildings, hardstandings, parking, landscape and planting, utilities and drainage infrastructure.

3.9 The parameters plan reproduced in Figure 3.2 (document reference 6.3.3.2) also sets parameters for the following:

- rail and railport infrastructure including connections from the existing railway (including rail chord) and sidings, gantry cranes and areas for the 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, including 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.

3.10 The main project elements will now be described in detail.

ELEMENTS OF THE PROPOSED DEVELOPMENT

The Main HNRFI Site

3.11 The development of the HNRFI comprises the following elements.

Demolition

3.12 The Demolition Plan (document reference 2.10) identifies all of the buildings that are to be demolished as part of the development of the HNRFI. This includes existing buildings on the Main HNRFI Site, forming three clusters at Woodhouse Farm, Hobbs Hayes Farm and Freeholt Lodge, which will be vacated and demolished in order to facilitate the regrading of the land in preparation for development. These are residential properties of traditional brick and tile construction together with ancillary garages as well as stores and barns associated with agricultural activities which are varied in size and form and a combination of metal, timber and asbestos cladding.

3.13 The existing single-lane hump-back bridge over the Leicester to Hinckley railway on Burbage Common Road will also be demolished to make room for railport infrastructure, with a replacement bridge provided nearby for the proposed A47 Link Road.

Rail infrastructure

3.14 The HNRFI will be located adjacent to Network Rail's strategic freight route linking the west coast and east coast main lines and serving as a primary link between Felixstowe and the Midlands and North. Locally this route passes between Leicester and Hinckley and takes the form of two parallel railway tracks. The line is not currently electrified and is used exclusively for diesel-hauled freight and passenger traffic. The closest passenger stations are Hinckley 2.7 km to the south-west and Narborough in the direction of Leicester, 10 km to the east-north-east.

3.15 Provision is made for two north and south connections to the main line with associated signalling, allowing access for trains arriving from or departing in either direction with crossovers on the main line itself to allow freight trains to move from one track to another. As such, a train from the west would cross to the eastbound line before entering the terminal, and a train from the east would be able to enter directly from the westbound line. The Rail Plans (document ref 2.25) show the mainline connections at either end including the location demarking the transition point from mainline network to private terminal.

3.16 Connections into the HNRFI from the main line have been designed so that trains turn out from the mainline at up to 25 miles per hour (mph). The speed at which trains can terminate beneath the overhead gantry cranes will be determined by the future terminal operator. Trains carrying containers will enter the site from either direction and will run directly into the proposed railport.

3.17 The Rail Operations Report (Appendix 3.1, document reference 6.2.3.1) validates that the HNRFI can operate within the current rail network capacity, this has been confirmed through statement by Network Rail. This conclusion has been based on a detailed assessment of the current train timetable and through consultation with Network Rail to ensure that freight associated with the HNRFI can be added without exceeding capacity constraints.

The Railport

3.18 The adjoining railway is on a gradient above any floodplain. The site earthworks will enable a platform to be created to stable and service trains up to 775 m and store containers, using reach stackers and gantry cranes to lift and load containers between modes of transport and the storage areas. The design has allowed for future electrification, if this is the NetZero solution adopted for rail freight in the future and will include any necessary signalling for internal operations and external links to Network Rail.

3.19 The railport is where ISO containers or European swapbodies ('containers') are transferred to and from trains. It comprises a level area of concrete running along most of the length of the sidings on the western side of the Main HNRFI Site. In this area, containers will be unloaded and loaded on to trains by means of gantry cranes or free moving 'reach stacker' vehicles – wheeled cranes designed to lift freight containers.

3.20 On arrival, trains will be directed to one of the four intermodal sidings which are served by gantry cranes for unloading and loading. In Phase 1 two lines and a runaround will be constructed as a minimum with reach stackers used to lift and load containers, with an ability to serve at least four trains per day. An additional line would provide a runaround facility for engines to be repositioned.

3.21 Up to an additional three reception sidings may be provided for the purpose of holding and marshalling further trains and to provide for future electrification. Trains in the reception sidings will be moved to a final position for unloading via a headshunt, electrified if necessary, that comprises an additional pair of tracks curving around the northern edge of the HNRFI.

3.22 This arrangement enables the locomotive (loco) to decouple from the front of the train, run around to the other end and recouple with the opposite end of the train. It also permits an electric train using overhead line equipment to arrive via an electrified reception siding and the headshunt, to be then shunted or propelled back into an intermodal siding. The headshunt and reception sidings will also provide links to rail connected buildings. The various sidings and reception roads are shown in the illustrative railport general arrangement drawings (document reference 2.25).

3.23 The reception sidings and headshunt include provision for future overhead line electrification (OLE), so that the railport is capable of being used by electric or 'bi-modal' trains that can use either diesel or electric power (including battery backup). The lines under the gantry and close to reach stackers cannot be electrified. Intermodal trains do not need to be split and can go straight under the gantry if self-propelled. They will only be head shunted once if the OLE is required in the future.

3.24 The spacing between tracks has been set to leave space for stanchions to support OLE of the reception tracks. All tracks fan out from the mainline connection road at both ends of the railport to enable transfer between the reception roads and sidings. The railport also includes a 'cripple siding' to which faulty locomotives and rolling stock will be shunted. A fuel siding is provided for refuelling of locos from a fuel tanker.

3.25 The proposed rail infrastructure and railport will have the capacity to handle up to 16 trains per day, equating to 16 inbound movements and 16 outbound movements or 32 train movements in total. Trains will be up to 775 metres in length, reflecting Network Rail's standards for new intermodal freight infrastructure and the rail freight industry's move to increase maximum train lengths from the established length of c. 600 metres, to provide more capacity with each train; and reduce costs per container.

3.26 Up to four rail mounted mobile gantry cranes up to 24 metres in height and with spans of up to 70 metres will unload and load containers between trains, a short term loading area and / or HGV's or tugmaster trailers. Up to four rubber tyred mobile gantry cranes, up to 28 metres in height and with a span of up to 40 metres would manage the container stack, for stored predominantly laden containers.

3.27 The cranes will run under electric power. Stacked containers will be a maximum of five containers high or up to 14.5 metres in total. Containers will be transferred between the logistics warehouses in the HNRFI or off-site for direct delivery and collection to and from customers in the surrounding area, usually within a 20 mile radius.

3.28 Empty containers will be stacked in a separate 'Railport returns area' located to the south of the proposed A47 Link Road adjacent to the south-western end of the Railport. Empty containers will be placed in stacks of up to seven containers to a maximum height of 20.3 metres, whilst they await collection by train or lorry.

3.29 The Railport will be fenced via a 2.4 metre palisade fence for security and will incorporate ancillary office, maintenance and mess room accommodation and car parking for Railport staff. It will be lit to enable 24-hour operation, using lighting designed to minimise light pollution including directional lighting on gantry cranes. Lighting will be pole-mounted with a maximum height of 25 metres. Directional LED lighting will be installed to minimise light spill. The lighting strategy for the HNRFI is set out in Appendix 3.3 (document reference 6.2.3.3).

3.30 The proposed rail infrastructure and railport will be built in phases to reflect demand, which will mean that the number of sidings and size of container loading slab will be increased in phases. The envisaged phasing is described later in this chapter.

Railway infrastructure

3.31 Supporting infrastructure will be required along the section of the existing Leicester to Hinckley railway, at and close to HNRFI to enable the proposed rail freight interchange to be integrated with the established railway network. This infrastructure will include railway signals and enhanced safety systems, track points and supporting electrical and monitoring infrastructure in the form of lineside kiosks and connecting cabling.

Built development

3.32 Nine main development zones are proposed, identified as Development Zones A-J (excludes I) in Figure 3.2 (document reference 6.3.3.2). The maximum proposed building heights are expressed as height above ground level (AGL) following site levelling and

preparation and height above ordnance datum (AOD), a fixed measure of height above mean sea level used as a consistent point of reference. 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 parameter.

3.33 The greater part of the Main HNRFI Site will be occupied by buildings falling within use class B8 (storage or distribution) of the Town and Country Planning (Use Classes) Order 1987. The HNRFI will contain a total floor area of up to 650,000 square metres at ground floor level and, in the B8 buildings, up to a further 200,000 square metres of mezzanine floorspace.

3.34 Table 3.1 below describes the proposed maximum floorspace and building height parameters in the zones identified on the parameters plan in Figure 3.2 (document reference 6.3.3.2).

Table 3.1: Schedule of parameters for development zones

Development zone	Maximum number of buildings in each development zone	Maximum internal built footprint (m^2)	Maximum building height measured to roof ridge / highest point in metres above ordnance datum (AOD)	Maximum building heights to ridge (metres above finished ground level)
A	1 to 6 units	105,000	119.15m	up to 22m
B	1 to 5 units	115,000	B1 115.65m B2 121.65m B3 115.65m	up to 22m up to 28m up to 22m
C	1 to 6 units	140,000	C1 119.15m C2 122.15m	up to 22m up to 25m
D	1 to 4 units	184,000	D1 119.15m D2 125.15m	up to 22m up to 28m
E	1 to 3 units	137,000	E1 118.65m E2 115.65m	up to 25m up to 22m
F	1 to 2 units	500	111.50m	up to 10m
G	1 to 2 units Energy services	500	107.15m 112.15m	up to 10m
H	1 to 2 units	750	107.15m	up to 10m

Development zone	Maximum number of buildings in each development zone	Maximum internal built footprint (m^2)	Maximum building height measured to roof ridge / highest point in metres above ordnance datum (AOD)	Maximum building heights to ridge (metres above finished ground level)
	Yard		119.15m	
J	1 to 2 units Yard Gantry cranes	500	106.50m 112.50m 123.50m	up to 10m
Maximum total floorspace across the Main HNRFI Site (excl. mezzanine space):		**650,000****		-

* *The maximum height of the built development includes the roof-mounted photovoltaics and a limit of deviation of +1.5 / -3m to the top of rail levels*

** *The individual floorspace maxima for Zones A to J add up to 683,250 m^2. However, this will be subject to an overall cap on floorspace for each zone of 650,000 m^2.*

3.35 Proposed building heights will allow the logistics area to accommodate modern automation systems and occupiers requiring high bay racking. These buildings will incorporate loading bays in the external walls and will have associated areas for lorry manoeuvring and parking and staff car parks. Containers will be transferred to and from buildings within the railport using tugmaster yard tractors, towing trailers on to which single containers will be loaded. The Proposed Development parameters for the HNRFI include flexibility for rail-connected buildings handling non-containerised freight to over half the proposed floorspace.

3.36 Within these maximum total floor areas the DCO specifies the maximum number of B8 buildings proposed in each zone of the site. This will ensure that the development can reflect occupier demand, which might be for a few very large buildings or a larger number of smaller buildings.

3.37 As Figures 3.1 and 3.2 show (document references 6.3.3.1 and 6.3.3.2), it is proposed that the B8 buildings are arranged efficiently with rail-connected buildings generally next to the railport and rail-served buildings located on other parts of the site.

3.38 A surface water drainage scheme will be employed in hard-surfaced areas using Sustainable Drainage Systems (SuDS) wherever suitable. The detailed drainage design will be the subject of submissions to the appropriate authority under the terms of a DCO requirement. The appropriate authority could be the local planning authority, the highways department and Leicestershire or Warwickshire Lead Local Flood Authority

(LLFA) depending on the nature and location of the specific element of the Proposed Development and the Council arrangements. A full assessment of the flood and drainage issues and the surface water drainage scheme is contained in chapter 14 of the ES *Surface water and flood risk* (document reference 6.1.14, the flood risk assessment (Appendix 14.1, document reference 6.2.14.1) and the sustainable drainage statement (Appendix 14.2, document reference 6.2.14.2).

3.39 With a combined roof area of up to 65 hectares the HNRFI offers substantial potential for roof-mounted solar photovoltaic installations, providing renewable electricity. All of the proposed B8 buildings on the site will be able to accommodate solar photovoltaic (PV) panels on their roofs, giving a potential electricity generation capacity of up to 42.4 MW. The electricity generated will either supply the occupier of the building or be exported to the battery storage facility in the energy centre, for subsequent use by occupiers.

3.40 The detailed design of B8 buildings will be the subject of submissions to Blaby District Council under the terms of a DCO Requirement. The Applicant proposes that a design code for buildings and landscape in the HNRFI will be submitted to Blaby District Council for approval. A draft of the design code is submitted with the DCO application for the project (document reference 13.1). The design code will ensure consistency in the appearance of development across the site. Figure 3.4 (document reference 6.3.3.4) provides images of the Applicant's recent logistics developments elsewhere to provide a general idea of how the B8 buildings might appear.

3.41 The proposed B8 buildings might include ancillary data centres providing occupiers with centralised computer facilities for data storage and networking. Data centres play an important role in the tracking of freight and will be located inside the proposed B8 buildings.

3.42 The security requirements for each building plot will reflect individual occupier requirements. Some buildings will be in fenced and gated compounds, the design of which will be the subject of detailed submissions to Blaby District Council in response to the DCO Requirements. Typically, the security fencing will be 2.4 m paladin mesh fencing and matching gates. In certain circumstances and to meet occupier's specific needs the fencing could be higher.

3.43 Within the Main HNRFI Site, internal distributor roads will branch from the A47 Link Road to serve buildings and other areas across the site. These internal distributor roads will be single carriageway roads set in landscaped corridors, secured through the Design Code (document reference 13.1). The roads will be lit using lighting designed to minimise light pollution. These internal roads are not intended for adoption as public highways under the Highways Act 1980 but will be private roads available for public use. These roads will be maintained by the appointed management company. The railport will have a lit, private, dedicated access off the A47 Link Road.

3.44 Car parks will be provided adjacent to the railport and each B8 building for staff and visitors. The indicative master plan (Figure 3.1 (document reference 6.3.3.1)) demonstrates that the proposed development parameters allow for the provision for HGV

and car parking to local authority standards, totalling approximately 1,000 lorry spaces and 5,000 car parking spaces. The masterplan allows the inclusion of access to the railport through the development zones to the estate distribution roads, the parameters plan (document reference 6.3.3.2) also references the access.

Energy centre and electricity generation

3.45 The HNRFI will include an energy centre containing centralised infrastructure and plant as well as some components that will be distributed at the units. Its purpose is to manage the distribution and control of power across the Main HNRFI Site, managing smart charging of vehicles, the mixing of PV and grid supplies, battery flows and any heat distribution. Electricity provision will come from onsite PV generation plus grid, enhanced with the onsite battery generation and peaking CHP as required. PV will be roof mounted on 100% of available roof area, generating a capacity of 42.4 MW. PV will operate to meet local site demands (including eV charging under smart controls), with any spill being used to charge battery storage onsite both centrally and distributed at units, surplus would be exported using the grid connection.

3.46 The largest part of the Energy Centre will be the incoming 33 kV electricity substation and associated switchgear, it will also include:

- Central battery storage in container-scale modules, additional container-scale battery storage modules will be located at each unit substation according to unit occupier energy demands.

- Provision for onsite backup or emergency standby generators for use only in the case of grid failure. The central location would enable backup power to be provided with less plant than provision on a unit-by-unit basis. These backup generators would be fuelled by diesel or biodiesel and they would only operate for testing and in the case of major unplanned failure in the grid, with typical operation expected to be less than three hours per year. Typically such emergency use plant would run whenever the grid fails, but in this case, the first protection would be provided by batteries, and generators would be started only if batteries are exhausted.

- Provision for the installation of up to 5 MW of central combined heat and power (CHP) units to augment the grid supply in the case of demand exceeding instantaneous firm and variable supplies, i.e. if demand exceeds grid plus PV and battery capacity. CHPs may also operate when occupier process heat and electricity demand mix is such that cogeneration is the best technology. Any CHP units would be hydrogen ready and able to operate on 100% hydrogen as grid gas is decarbonised in accordance with Government policy.

- A hub for the district heating main that would allow the distribution of waste heat between units, such a hub would include hot water storage along with pumps and controls.

- Electrically driven heat pumps to provide unit heating.

Lorry park with welfare and fuelling facilities

3.47 This will be located to the south of the proposed A47 Link Road, from which it will be accessed. Access to the lorry park, driver welfare building and lorry filling station will be controlled so that it is available for HNRFI-related hauliers only. This is in order to prevent the facility being used as a general-purpose service area and truck stop by passing motorway traffic. This will be located in development zone G (see figure 3.2, document reference 6.3.3.2). This development zone (which also includes Energy services also referred to as the Energy Centre) will have a maximum development floorspace of 500 square metres and an equivalent building height relative to finished floor level of up to 10m.

Site hub

3.48 A two-storey site hub building containing site management and security offices and a marketing suite is proposed in an area to the south of the A47 Link Road near Freeholt Wood. This will be locate in development zone F (see figure 3.2, document reference 6.3.3.2). This development zone will have a maximum development floorspace of 500 square metres and an equivalent building height relative to finished floor level up to 10 m.

Terrain remodelling, landscape and planting

3.49 The natural undulating terrain inside the Main HNRFI Site will be remodelled to provide two level plateaux for development. The elevation and shape of these plateaux provide a suitable formation to deliver the development at, or below, the maximum finished floor levels (FFL). The earthworks required to provide the two plateaux require the movement of up to 2.35 million cubic metres of subsoil and have been designed to provide a cut and fill balance across the Main HNRFI Site, removing the need to import or export subsoil for earthworks.

3.50 Organic material will be managed; volumes can be minimised by measurement of organic content of soils with depth. This will minimise the volume stripped. Topsoil quantities can be managed through the construction phase of the whole development by additional techniques introduced into the strategy to manage volume by creating additional uses. No cap will be considered until the grade / quality of soils is confirmed upon commencement of construction. This is addressed in the Site Waste and Materials Management Framework Plan (document reference 17.3).

3.51 The site will be designed to reduce surplus topsoil by trying to use it on site where possible. The topsoil removed will first be used in the following hierarchy:

- Topsoil will be set aside for re-use in on site landscaping requirements (used in permanent works)
- Topsoil will be used to create the various noise / visual bunds (used in permanent works)
- Topsoil requirements for offsite BNG areas will be taken from the site (used in

permanent works)

- Topsoil will be placed back on plots for future development to protect the formation until they are ready to come forward (used in temporary works)

- Topsoil may be used to create surcharge loading if geotechnical conditions require ground improvement (pre-loading technique) (this will be a temporary use)

3.52 The residual topsoil that cannot be utilised in the above listed activities will be stockpiled for storage. Given that a balance of topsoil cannot be achieved on site, there are a number of options for movement of the excess:

- Reuse of the topsoil elsewhere, for use in agricultural or biodiversity uses or to meet the needs of developments in the region.

- The remainder will be transferred for re-use or recovery via a Waste Transfer Station or potentially for inert landfill cover and restoration if a suitable home cannot be found at the right time.

3.53 The transport movements associated with the removal of this residual topsoil from the site during the construction period have been allowed for in the modelling as set out in chapter 8 (document reference 6.1.8) and therefore no additional transport related effects arise through this process.

3.54 The HNRFI will be the subject of a landscape and planting strategy (document reference 6.3.11.14) and Landscape and Ecological Management Plan (LEMP) (document reference 17.3) which has been an integrated part of the design rationale for the SRFI and will be secured through a DCO requirement. These will incorporate boundary landscape areas. These are designed to help integrate the Proposed Development into the surrounding landscape, with the subsidiary functions of noise attenuation and provision of biodiverse corridors of wildlife habitat. The boundary landscape areas will incorporate bunds of up to 3 metres (above adjacent ground level) in height planted with native woodland species north of the railport, west of the railport returns area and within the north-east of the Main HNRFI Site. Elsewhere species-rich native tree and shrub planting, areas of wet grassland and wildflower grassland, wildlife ponds and balancing ponds and swales will provide a softening character. The areas of proposed public open space adjacent to Burbage Common and Country Park will be designed and planted in a character consistent with that of the Country Park. Other boundary features will incorporate security fencing and, where necessary, acoustic fencing, up to 6 m in height, that would be softened by the landscape.

Noise attenuation

3.55 To protect the amenity of local residential communities and areas enjoyed for recreation such as Burbage Common, noise attenuation measures are described in the parameters plan (ES figure 3.2, document reference 6.3.3.2) and the locations are shown in figure 10.10 (document reference 6.3.10.10), including the following:

- a stepped acoustic barrier of between 2.0 and 3.0 metre in height to the north to mitigate impacts on residential receptors;
- acoustic barriers up to 4.0 metres in height to the north-east to mitigate impacts on residential receptors;
- acoustic barriers up to 6.0 metres in height to the south-west to mitigate impacts on residential receptors;
- acoustic barriers up to 6.0 metres in height to the south-west to mitigate impacts on users of Burbage Common.
- acoustic barriers up to 3.5 metres in height to the south-west of the junction where the A47 link road meets the B4668 to mitigate impacts on receptors off Leicester Road.

3.56 Further measures are proposed to reduce noise during construction and operation. During construction, contractors will be required to follow best practice measures set out in framework Construction Environmental Management Plan (CEMP) (document reference 17.1). For the HNRFI in operation, noise limits are proposed in relation to fixed plant, equipment and break-out noise, where detailed information is not available at the time of writing, to protect residential amenity in the worst case (noise limits are set-out in ES Chapter 9, document reference 6.1.9). Careful consideration will be given to gantry crane and other mobile plant procurement to source quiet equipment where reasonably practicable, and this is covered in ES Chapter 9 (document reference 6.1.9).

Public open space and habitat creation

3.57 At the south-western corner of the Main HNRFI Site and to the south of the A47 Link Road areas of publicly-accessible open space 22.66 hectares in extent, are proposed. This is intended to serve as a zone of transition between the HNRFI to the north-east and the habitats and open spaces provided by Burbage Common, Burbage Wood and Aston Firs to the west and south.

3.58 The public open space, which is currently divided into small agricultural fields with peripheral public footpaths, will be sown with meadow grassland mix. Groups of trees and shrubs will also be planted and water features introduced, all with the intention of creating an area rich in biodiversity and being attractive for informal recreation.

3.59 A similar landscape treatment is proposed on land to the west of the existing railway and to the south of the proposed A47 Link Road. This land is circa 14.5 hectares in area and is intended to provide an amenity area contiguous with Burbage Common and Country Park to the south.

3.60 The development of greenfield land can result in the loss of 'biodiversity' – the range of plant and animal life that the land is able to sustain. In accordance with the Environment Act 2021 the Applicant is committed to delivering a 10% net gain in biodiversity in conjunction with the Project.

3.61 The landscape strategy (document reference 6.3.11.15) and Landscape and Ecological Management Plan (LEMP) (document reference 17.3) for the Proposed Development includes provision for wildlife habitat enhancement and will be secured through a DCO requirement. However, this in itself will be insufficient to deliver a 10% biodiversity net gain. In response, the Applicant is proposing additional land off-site, but in close proximity, to provide further gains for biodiversity in the immediate area. Further contributions may be required to meet the biodiversity net gain obligation. Further information on the strategy and approach is provided in Chapter 12: *Ecology and biodiversity* (document reference 6.1.12) of this ES.

Public rights of way and permissive routes

3.62 The proposed closure, diversion and creation of public rights of way (PROW) and permissive routes on the Main HNRFI Site are shown in Figures 11.13 and 11.14 of this ES (document reference 6.3.11.13 and 6.3.11.14). The works plans (document reference 2.2A-H) show in detail the proposed diversions which will be secured as a provision. Burbage Common Road, which crosses the central area of the Main HNRFI Site, will be closed to through traffic from a point circa 320 metres south of the junction with the B581 Stanton Road to the west of the existing railway bridge. Access to the Main HNRFI Site via Burbage Common Road at its northern end near Elmesthorpe will be available to pedestrians, cyclists and horse riders only.

3.63 In recognition of the fact that Burbage Common Road serves as a route for walkers, cyclists and horse riders, a replacement route between Elmesthorpe and Burbage Common is proposed. From a point on Burbage Common Road south of Elmesthorpe, the proposed bridleway route runs along the eastern side of the HNRFI through a landscaped corridor alongside the M69 motorway. This corridor (between circa 22 m – 50 m in width) incorporates a water course diverted from inside the Main HNRFI Site and provision for pedestrians, cyclists and horse riders and connects with an existing bridleway (V29) that originates north of Stoney Stanton and enters the Main HNRFI Site by means of a bridge over the M69 motorway 900 metres to the north-east of M69 Junction 2.

3.64 At the south-eastern corner of the Main HNRFI Site the proposed bridleway route will cross the A47 Link Road by means of a signalised 'Pegasus crossing' - a clearly-marked crossing suitable for equestrian, cyclist and pedestrian traffic, with safety barriers and crossing signals. The new bridleway will continue from this point and meander through a treed corridor within the southern area of the Main HNRFI Site, heading westwards and providing onward connectivity to the southern area of public open space and onto Burbage Common itself via bridleway U51/2 and an existing underpass beneath the railway.

Utilities infrastructure

3.65 There are existing utilities affected by the Proposed Development that will require diversion, additional protection or removal. Through early engagement with the network owners these activities will be co-ordinated to minimise disruption and ensure that the connectivity and capacities of the networks are neither compromised or reduced.

3.66 Initially there are a number of existing properties within the Main Order Limits that will need to be disconnected from the existing networks, these disconnections shall be undertaken locally releasing the Main HNRFI Site for development without interrupting any existing supplies to adjacent properties.

3.67 As the site enabling works progress it will be necessary to divert the following assets, these works will be undertaken by the asset owner or their approved contractors in accordance with any statutory, legislative or regulatory standards required:

- **National Grid Electricity Transmission (NGET):** There is an existing dual circuit 275 kV circuit oversailing the proposed M69 southbound on slip works. This is a nationally strategic asset which must be retained. The importance of this asset is such that there are limited opportunities to de-energise this line to undertake any diversion and the decision was taken to retain this within the overall scheme design. Early engagement with NGET has enabled the development of a design that accommodates the existing assets without any need for diversion.

- **Cadent:** There is an existing 180 mm Medium Pressure (MP) gas main on the Main HNRFI Site. This will be diverted within the Main HNRFI Site boundary to a route within the footpath of the proposed site highway. This route has been agreed in principle with Cadent who will also utilise the diverted pipe to provide a point of connection to supply the Main HNRFI Site thereby reducing disruption on their network.

- **Western Power Distribution (WPD):** There are Low Voltage (LV) circuits providing connections to existing properties within the Main Order Limits, as these are disconnected, the associated high voltage (HV) circuits will be reconfigured to release the site for full development. Any works shall be contained within the Main Order Limits. There is also a HV overhead line that crosses the M69 which will require diverting to facilitate the construction of the southbound on slip. This will be replaced with a below ground cable installed along Sapcote Road and the available ducts within the existing bridge deck.

- **Openreach:** There are assets providing connection to existing properties, these will be disconnected and the existing redundant network removed back to the Main HNRFI Site boundary.

3.68 In addition to the enabling works listed above, there will be new connections from the local utility networks to facilitate the Proposed Development with a 33 kV electrical connection from WPD primary network, potable water from the local trunk main and telecommunications from diverse points on the Openreach network.

Security and safety provisions

3.69 The Proposed Development includes security infrastructure to serve the HNRFI, including fencing, gates, security kiosks, and security lighting. Further details on these ancillary elements are provided in the Design and Access Statement (document reference 8.1) and

the Design Code (document reference 13.1).

3.70 An initial Hazard Identification workshop has been completed prior to the submission of the DCO. This workshop involved the review of hazards, and identified actions for the detailed design stage. A key action involves a commitment to work with operators in ensuring that the operational and maintenance procedures are in place to cover all the hazards noted. Following this workshop, a hazard record will be produced and developed through the course of the project life cycle in accordance with EN50126 to enable hazards to be designed out or mitigated where feasible. The record will include hazard identification and reviews systems in order to identify appropriate actions and mitigation required to ensure that the risks associated with the HNRFI are as low as reasonably possible (ALARP). The work undertaken to date concludes to state that the process ensures that all operational risks are ALARP. This corresponds to the details and assessment provided in ES chapter 19 *Accidents and disasters* (document reference 6.1.19).

Drainage works including groundwater retention ponds and swales

3.71 The drainage characteristics of the Main HNRFI Site will be modified significantly by the addition of large buildings and extensive hard-surfaced areas. To ensure that the Main HNRFI Site drains without giving rise to any enhanced risk of flooding on or off the site, the Main HNRFI Site will be the subject of a comprehensive drainage strategy incorporating sustainable drainage principles and including retention ponds, underground attenuation tanks and swales. Swales are incorporated into the proposed landscape strategy for the HNRFI and will serve a secondary purpose as wildlife habitat.

3.72 The groundwater management and drainage strategy for the HNRFI, including the proposed arrangements for the ultimate discharge of water from the site, is described and assessed in Chapter 14: *Surface water and flood risk* of this ES. A central design objective is to ensure that rates of water run-off from the site in wet weather do not exceed current run-off rates, allowing for increased run-off associated with extreme rain events predicted as a consequence of climate change.

Highway, level crossing closures and associated works

M69 Junction 2

3.73 M69 Junction 2 will be reconfigured and signalised to enable the addition of a dual carriageway access into the Main HNRFI site, via the proposed A47 Link Road, for traffic via the existing roundabout. HGV Route Management measures will be put in place to ensure the use of M69 Junction 2 and the A47 Link Road in preference to the local road network.

3.74 A two-lane northbound off-slip and a two-lane southbound on-slip will be added to M69 Junction 2, making it an 'all-ways' junction and enabling the convenient flow of traffic on the M69 motorway from the direction of Coventry, the M6 motorway and the A5.

3.75 Traffic flow assessments have indicated that both slip roads will be two-lane and will join

and leave the main line in the usual manner as a 'ghost island taper merge' and a 'ghost island taper diverge' respectively. These arrangements will enable traffic to merge with or diverge from motorway traffic in two separate lanes, with a length of hatching separating the flows.

3.76 Works will affect around 700 m of the M69 motorway and will include the provision of a retaining wall adjacent to an existing National Grid transmission tower, the extension of a drainage culvert and provision of roadside features including a safety barrier and drainage.

3.77 Further works on the M69 motorway will include amendment of existing advanced direction signage for the southbound off-slip, provision of new advanced directional signage for the northbound off-slip and provision of route confirmatory and services signage for the southbound on-slip.

The A47 Link Road

3.78 The A47 Link Road will be the only non-emergency road access to the HNRFI.

3.79 The section of the proposed A47 Link Road inside the Main HNRFI Site shown on the illustrative master plan (Figure 3.1, document reference 6.3.3.1) has a sequence of roundabouts to provide access to service roads and reduce traffic speeds. These roundabouts and the design of the A47 Link Road will be subject to detailed design approval post-consent, in accordance with a proposed DCO Requirement. As shown in the indicative master plan in Figure 3.1 (document reference 6.3.3.1), from the M69 Junction 2 the first two sections of the road will be dualled, reducing to a single carriageway as the road proceeds further westward.

3.80 The A47 Link Road crosses the main railway line by means of a new bridge. The bridge will pass over the railport access road at the southern end of the railport, the proposed railway sidings, the existing railway and the existing bridleway beyond. It will replace the existing hump-back bridge over the railway, which will be demolished. The new bridge will include a pedestrian walkway and cycleway and will include sufficient height and width clearance to enable a future electrification of the railway.

3.81 From the proposed railway bridge the A47 Link Road will ramp down to local ground level and proceed north-westwards at grade towards a new roundabout junction on the B4668 / A47 Leicester Road.

3.82 West of the railway the proposed A47 Link Road will be a single carriageway road with footpath and cycleway provision. Landscape works and planting are proposed either side of the road for visual amenity and biodiversity enhancement. The road design will incorporate provisions for drainage and the diversion of existing utility infrastructure. The junction with the B4668 Leicester Road will be lit but the section of the A47 Link Road from there to the proposed railway bridge will be unlit in order to reduce light spillage affecting Burbage Common to the south.

3.83 The A47 Link Road will be open to general traffic and will intercept traffic principally from Barwell and Earl Shilton to the north, which would otherwise be likely to travel to and from

the upgraded M69 Junction 2 via existing roads through Hinckley, Burbage, Elmesthorpe and Stoney Stanton.

Off-site highway works

3.84 Traffic modelling has identified a need for modifications to several junctions on the local road network, in response to the different traffic flow pattern resulting partly from the HNRFI and principally from the M69 Junction 2 upgrade, which will change the pattern of traffic flows in the locality. Affected highways and the works potentially required are listed in Table 3.2 and shown in Figure 3.3 (document reference 6.3.3.3). As explained in Chapter 8: *Transport and traffic* of this ES (document reference 6.2.8), the list in Table 3.2 is considered to be representative of what is required to mitigate the impact.

Table 3.2: List of 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.	Leics CC
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.	Leics CC
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.	Leics CC
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. Introduction of a gateway feature to the east of the village.	Leics CC
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). 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.	Leics CC

No.	Location	Works proposed	Highway Authority
		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.	
B6	Junction of B4114 Coventry Road and Croft Road, south-west of Narborough	Lane widening on junction approaches	Leics CC
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. Formal signal-controlled pedestrian crossing points will be introduced.	Leics CC
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.	Leics CC
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

Traffic Regulation Orders

3.85 In addition to the highway works identified in Table 3.2 (above), Traffic Regulation Orders (TROs) made under the Road Traffic Regulation Act 1984 will be sought at the following locations, subject to further road traffic modelling and discussions with the relevant highway authority. These are listed in Tables 3.3 to 3.7 below and cover clearways, 24 hour waiting restrictions, amendments to existing speed limit orders, indicative 40 mph (64 kph) speed limit orders and indicative derestriction orders respectively.

Table 3.3: List of proposed clearway restrictions

Road	Location	TRO Plan ref.	Description
A47 Link Road	From the roundabout junction between the A47 Link Road and the B4668 to the roundabout junction between the A47 Link Road and Site Access Road 2.	2.6A	Enforcement of clearway restrictions on the A47 Link Road to prevent vehicles from stopping on the carriageway at any time.
A47 Link Road	From the Junction with the M69 Junction 2 circulatory carriageway to a point circa 30 metres north of the junction with the M69 Junction 2 circulatory carriageway.	2.6B	Extension of existing clearway restrictions on the M69 Junction 2 roundabout onto the A47 Link Road.
M69 northbound diverge slip road	From a point circa 22 metres south of the junction with the M69 Junction 2 circulatory carriageway to the junction with the M69 Junction 2 circulatory carriageway.	2.6B	Enforcement of clearway restrictions from the end of Motorway Regulations on the new slip road to the M69 Junction 2 roundabout.
M69 southbound merge slip road	From the junction with the M69 Junction 2 circulatory carriageway to a point circa 22 metres south of the junction with the M69 Junction 2 circulatory.	2.6B	Enforcement of clearway restrictions from the M69 Junction 2 roundabout to the beginning of Motorway Regulations on the new slip road.

Table 3.4: List of proposed 24 hour waiting restrictions

Road	Location	TRO Plan ref.	Description
A47 Link Road	From the roundabout junction between the A47 Link Road and Site Access Road 2, to a point circa 30 metres north of the junction with the circulatory carriageway at the M69 Junction 2 roundabout junction.	2.6A 2.6B	24-hour enforcement of waiting restrictions (double yellow lines) along both carriageways of the dual carriageway section of the A47 Link Road to prevent vehicles from parking on the carriageway.

3.86 In addition to the TRO listed above, proposed speed limit orders may be sought at the following locations subject to further road traffic modelling and discussions with the relevant highway authority:

Table 3.5: Amendments to existing speed limit orders

Order Title	Location	TRO Plan ref.	Changes
The Leicestershire County Council (B4668 Leicester Road, Hinckley) (Imposition of 30mph, 40mph and 50mph Speed Limits) Order 2008	B4668	2.7A	Location of the introduction of the 50mph speed limit on the B4668 to be amended from a point 7 metres south west of the southern boundary of the property *'Penryl'* to a point 35 metres south west of the roundabout junction between the B4668 and the A47 Link Road. The purpose of this change is to reduce the speed limit of the B4668 from 50mph to 40mph on the west side of the proposed roundabout junction between the A47 Link Road and the B4668.

Table 3.6: 40mph speed limit orders

Road	Location	TRO Plan ref.	Description
B4668	From a point 7 metres south west of the southern boundary of the property Penryl to a point 35 metres south west of the roundabout junction between the B4668 and the A47 Link Road.	2.7A	Reduction of the speed limit on this stretch of the B4668 from 50mph to 40mph by means of a new order.
A47 Link Road	From the roundabout junction between the A47 link road and the B4668 to a point circa 90m south east on the A47 Link Road.	2.7A	Enforcement of 40mph speed limit on northern most section of the A47 Link Road.
A47 Link Road	From a point circa 220 metres north of the proposed railway bridge to a point circa 30 metres north of the M69 Junction 2 roundabout.	2.7A 2.7B	Enforcement of 40mph speed limit on the A47 Link Road (both single and dual carriageway sections) from north of the railway bridge to the M69 Junction 2.
Stanton Lane / Hinckley Road	From a point circa 40 metres south of the junction between Hinckley Road and Underwood Drive to a point circa 35 metres north of the junction between Stanton Lane and the B4669.	2.7C	Enforcement of a new 40mph speed limit on Stanton Lane / Hinckley Road between the existing 30mph limit in force in Stoney Stanton and the junction of Stanton Lane and the B4669. This road is currently National Speed Limit.

Table 3.7: derestriction orders

Road	Location	TRO Plan ref.	Description
A47 Link Road	From the junction with the M69 Junction 2 roundabout to a point circa 30 metres north of the M69 Junction 2 roundabout.	2.7B	Extension of existing derestriction order in force on M69 Junction 2 roundabout to the reduction in speed limit to 40mph on the A47 Link Road. A derestriction order is required to enforce a National Speed Limit on highways that are lit.

Road	Location	TRO Plan ref.	Description
M69 motorway northbound diverge slip road	From a point circa 22 metres south of the junction with the M69 Junction 2 circulatory carriageway to the junction with the M69 Junction 2 circulatory carriageway.	2.7C	Derestriction order to cover the new carriageway between the end of Motorway Regulations on the new slip road and the M69 Junction 2 roundabout (where a derestriction order is in force) A derestriction order is required to enforce a National Speed Limit on highways that are lit.
M69 motorway southbound merge slip road	From the junction with the M69 Junction 2 circulatory carriageway to a point circa 22 metres south of the junction with the M69 Junction 2 circulatory.	2.7C	Derestriction order to cover the new carriageway between the M69 Junction 2 roundabout (where an existing derestriction order is in force) and the start of Motorway Regulations on the new slip road. A derestriction order is required to enforce a National Speed Limit on highways that are lit.

Pedestrian level crossings

3.87 As explained in the preceding chapter of this ES, the existing Leicester to Hinckley railway features a series of uncontrolled gated pedestrian level crossings serving local PROW routes. These include level crossings at the following locations, shown in Figure 3.3 (document reference 6.3.3.3) and listed in Table 3.8 below.

3.88 There is the potential for freight trains to be held at signals on their approaches to the HNRFI. Where this happens, trains might temporarily obstruct level crossings or block views along the line, creating a risk that pedestrians might attempt to walk along the railway to get around the end of the train, climb under the couplings of stationary freight wagons or cross when it is not safe to do so because their view of an approaching train is blocked. Following discussion with Network Rail, the following measures will be taken at these crossings to maintain public safety.

Table 3.8: Level crossing modifications proposed in connection with the HNRFI development

Level crossing	Works proposed	Access and limitations proposed in the draft DCO
Thorney Fields Farm No 2: Grid Ref: SP480959 Footpath No. U17/2 1 km NW of Sapcote.	The level crossing would be closed and the existing public right of way diverted with pedestrians rerouted to an existing bridge over the railway south of Thorney Fields Farm.	Permanent closure and PROW diversion.
Elmesthorpe: Grid Ref: SP471958 Footpath No. T89/1 between Bostock Close and the B581 Station Road, opposite the Wentworth Arms public house.	Permanent closure. Pedestrians would instead be able to cross the railway using the existing Station Road bridge, 75 metres to the south-west.	Permanent closure and PROW diversion.
Earl Shilton: Grid Ref: SP460954 Footpath No: U50/3 from Elmesthorpe.	Permanent closure. The footpath to the east of this level crossing is proposed to be stopped up, meaning that the level crossing would have no future purpose. Pedestrian traffic wishing to cross the railway would be diverted to the railway bridge proposed for the A47 Link Road, circa 750 metres to the south-west.	Permanent closure and PROW diversion.
Barwell: Grid Ref: SP457952 Footpath No. V23/1 from Barwell.	Permanent closure. The footpath to the east of this level crossing is proposed to be stopped up, meaning that the level crossing would have no future purpose. Pedestrian traffic wishing to cross the railway would be diverted to the railway bridge proposed for the A47 Link Road, circa 400 metres to the south-west.	Permanent closure and PROW diversion.
The Outwoods: Grid Ref: SP442941 Footpath no. U8/1-U52/3,	Replacement of the level crossing with a pedestrian footbridge, with associated	Permanent closure and PROW diversion.

Level crossing	Works proposed	Access and limitations proposed in the draft DCO
connecting Burbage and the Hinckley Academy and John Cleveland Sixth Form Centre in Hinckley.	public rights of way diversions.	

3.89 The effects of the Proposed Development on the use of these level crossings are described in Chapter 8: *Transport and traffic* of this ES (document reference 6.1.8), where proposed mitigation measures are explained.

CONSTRUCTION AND PHASING

Main works elements

3.90 It is anticipated that the general construction programme will broadly be broken down into following key components, as listed below:

- creation of a construction site access from the M69 Junction 2 roundabout;
- creation of compounds, site preparation and clearance;
- rail port;
- highway works:
  - M69 Junction 2 improvements;
  - A47 Link Road;
  - additional offsite highways works (mitigation within the existing designated highway).
- on-site works:
  - internal highway works;
  - new bridge across the main railway;
  - earthworks;
  - landscape and planting.
- storage and logistics buildings.

Development programme and phasing

3.91 The pace of development will broadly reflect occupier demand and for this reason the programme and phasing set out below is indicative. Subject to the demands of the property market and the detailed design stage being finalised it is anticipated that the below works will be phased over a total period of ten years. The requirement for the southern slip roads at Junction 2, M69, drives the need to carry out further infrastructure such as the site access and the completion of the A47 link road including the new bridge over the railway early in the process prior to the first occupation of the warehousing units.

3.92 The indicative construction programme is shown in Table 3.9. It is proposed that development will take place in phases with floorspace thresholds or triggers specified for the completion of off-site highways works and elements of the railport. Further detail on the phases of programme is provided later in this section.

Table 3.9: Proposed phasing of the HNRFI development

Phase	Period after DCO consent	Indicative description of works

	Year 0 - 2	• Discharge of DCO Requirements
		• Land draw down
		• Site and ground investigations
		• Surveys
		• Detailed design
		• Engagement with stakeholders for approvals:
		  ○ EA / LLFA;
		  ○ Network Rail;
		  ○ National Highways;
		  ○ Leicestershire County Council.
		• Main contractor tender process
		• Mitigation required to commence construction phase, i.e. ecology
		• ECI
		• Section agreements
		• Approvals / permits to commence works
		• Main contractor mobilisation

Construction phases		
A	Year 3 - 5	• Temporary site access • Site clearance • Junction 2 M69 site access, improvement works and southern slip roads • A47 link road and new bridge over the railway • Off-site highway improvements • Initial bulk earthworks to main site including railport • Required utilities diversions • Energy centre and new services including off-site infrastructure

Phase	Period after DCO consent	Indicative description of works
		• Main infrastructure drainage and off-site connections • Public right of way diversions / stopping up • Off-site rail connections • Railport phase 1 • Lorry park and road infrastructure to access railport • Site hub • Extension of infrastructure required for zone A (units 1 and 2 on the illustrative masterplan) (earthworks, drainage, utilities, estate roads) • Construction of units in zone A
B	Year 6	• Extension of infrastructure required for zone C (unit 6 on the illustrative masterplan) (earthworks, drainage, utilities, estate roads) • Construction of units in zone C • Landscape and planting works
C	Year 7	• Extension of infrastructure required for zone B (units 3, 4 and 5 in the illustrative masterplan) (earthworks, drainage, utilities, estate roads) • Construction of units in zone B • Landscape and planting works • Railport phase 2 (including chord)
D	Year 8	• Extension of infrastructure required for zone E (unit 9 on the illustrative masterplan) (earthworks, drainage, utilities, estate roads) • Construction of units in zone E • Landscape and planting works
E	Year 9	• Extension of infrastructure required for zone D2 (unit 8 in the illustrative masterplan) (earthworks, drainage, utilities, estate roads) • Construction of units in zone D2 • Landscape and planting works • Railport returns area
F	Year 10	• Extension of infrastructure required for zone D1 (unit 7 in the illustrative masterplan) (earthworks, drainage, utilities, estate roads) • Construction of units in zone D1 • Landscape and planting works

Rail Accessible, Served and Connected Buildings

3.93 The following definitions have been used for the relationship between the railway and individual buildings:

- "*Rail-connected*"- a warehouse or other building either with its own dedicated rail siding or which is 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 onto a HGV or Tugmaster vehicle;

- "*Rail-served*"- a warehouse forming part of the Strategic Rail Freight Interchange development, but which would require containers to be moved from or to the rail terminal by means of an HGV or Tugmaster vehicle.

- "*Rail-accessible*" - having the potential either for a direct rail connection (rail-connected) or to be rail-served.

3.94 All of the buildings on the development will be Rail Served, having the capability to use HGVs or Tugmasters with skeleton trailers to move containers and swapbodies between the warehouse loading bays and the intermodal terminal.

3.95 The scheme has also been designed to accommodate Rail Connected buildings with a rail chord, headshunt and receptions sidings, with rail connections into or directly alongside the warehousing. These can be for very specialised uses, using dedicated rail wagons going from platform to platform, with a matching facility elsewhere (such as for paper reels, metal coil and potentially, express rail using converted passenger carriages). They can also be used for curtain sided swap bodies.

3.96 Those building adjoining the rail terminal could alternatively be 'Rail Connected' with the main terminal utilising gantries or reach stackers in their own yards, served by gantires or reach stackers from the terminal yard, without the need to use HGV's or Tugmatsers to move containers.

3.97 All of the Rail Connected buildings are by design also Rail Accessible, as they are also capable of being Rail Served, using HGVs or Tugmasters.

Working hours

3.98 At this stage anticipated normal working hours are:

- 07:00 to 19:00 hours Mondays to Saturdays; and

- No routine working Sunday and Bank Holidays.

3.99 Subject to the exceptions set out below and within the CEMP (document reference 17.1)

any works required outside of these hours will be agreed in advance.

3.100 In order to maintain these working hours, the contractor(s) may require a period of up to half an hour before and up to one hour after normal working hours for start-up and close down of activities. This does not include operation of plant or machinery giving rise to noise with the potential to disturb nearby residents or the arrival of any HGV at Site before 07:30 hours.

3.101 These hours will be strictly adhered to, unless, or in the event of, the following:

- Works are carried out within existing buildings or buildings constructed as part of the authorised development inclusive of power floated floors.
- Works to the railway including demolition of Burbage Common Road Bridge and installation of the replacement bridge across the railway forming part of the 'A47 Link Road'.
- Works to the highway agreed with the relevant highway authority.
- Works are carried out with the prior approval of the relevant planning authority.
- Works are associated with slip form working.
- Works involve deliveries, movements to work, maintenance and general preparation works but not including running plant and machinery for a period of one hour either side of the above times.
- Works involve any oversize deliveries or deliveries where daytime working would be excessively disruptive to normal traffic operation.
- Works involve removal / diversion / protection of existing services and installation of new services or drainage.
- Works are associated with an emergency.
- Works involve overnight traffic management measures.
- Works involve completion of an operation that would otherwise cause greater interference with the environment / general public if left unfinished.

3.102 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.

Pre-construction

3.103 The initial two years after DCO consent will focus upon preparing information and discharging the DCO requirements issued as part of the consent. Further site survey work will be carried out across the site to enable the detailed design of the infrastructure.

Consultation will be undertaken with the relevant third party stakeholders to obtain all technical approvals, section agreements and consents. Once sufficient information is available, the infrastructure works will be tendered to obtain suitable contractors and contracts placed.

3.104 Any mitigation required to commence prior to construction will take place in this period.

Construction phase A

3.105 During this phase there is a commitment to delivering a substantial amount of infrastructure as described below:

- The initial works will form a temporary access to the Main HNRFI Site from Smithy Lane. This will enable: the formation of an initial site compound; the commencement of the permanent site access junction; and, first section of road and earthworks to commence. Once a suitable site access is formed this will be used for construction traffic;

- The new roundabout and all other associated section 278 works for the A47 Link Road on Leicester Road would be commenced. This would then give access to construct the A47 relief road on the northern side of the railway and rail crossing bridge abutment works to the north of the lines;

- The construction of the main infrastructure works would be accessed from the M69 site access;

- The main site access and M69 junction improvements including southern slip roads will be completed during this phase of the Proposed Development;

- The A47 Link Road will be completed in this phase of works and this will give road access to the first plots to be developed, the railport, site hub, energy centre and lorry park;

- All off site highway improvements will be completed in this phase of works;

- The construction of the railport (described in further detail below). This will include Network Rail connections and all associated off site rail connection works.

- Main infrastructure services including the energy centre will be installed both offsite and in the onsite infrastructure roads so that services are available during this phase of development. All service diversions required to facilitate the infrastructure works will also be carried out.

- The initial site strip and main earthworks including topsoil temporary capping for the Main HNRFI Site will be carried out with final formations established for the first units and the railport. The bulk earthworks will be carried out but final formations will be set / finalised in future phases. The drainage will be installed including balancing ponds as the earthworks progresses and storm water and foul water drainage

connections will be provided to the railport and first units to be constructed and storm water to highways and all other hard standings. Further drainage will progress in future phases. Any temporary land drainage will be carried out during the earthworks.

- Rights of way will be diverted to their permanent routes to enable the infrastructure works to be carried out and also establish the new routes.
- The lorry park will be completed during this phase and will be available to use for the first occupation of the units or the railport.
- The infrastructure landscaping will be completed in phases as the infrastructure progresses.
- The Hub will be completed and will be available for the occupation of the first unit.

3.106 The infrastructure works above will be constructed in a sequence so that they will completed and made available for use as described above for when the construction of the first unit is completed.

3.107 Once sufficient infrastructure is completed the construction of units in zone A and the associated secondary infrastructure for these units (earthworks, roads, drainage, services and landscaping) will commence. These works will progress alongside the main infrastructure works. The construction of units in zone A will be completed in this phase.

3.108 This first phase will deliver a substantial amount of infrastructure including the completion of the M69 highway improvements, link road to A47 and the railport. This enables the buildings constructed first to be fully served by both rail and road. The initial units in zone A are in the first phase since they are adjacent to the link road that will be constructed and also provide an early gateway building to the Proposed Development.

Railport phase 1 – initial operation

3.109 The initial build will be based on four 775 m intermodal trains a day which are diesel hauled. To achieve this, a secure site with space for the completed railport will be created. The railport will be fenced for security and will incorporate ancillary office, maintenance, mess room accommodation and car parking for railport staff. It will be lit to enable 24-hour operation, using lighting designed to minimise light pollution.

3.110 The initial build intermodal freight yard will be operated by reach stackers, which will enable the unloading of the two closest sidings to the temporary container stacks.

3.111 The rail infrastructure to support this will require the construction of two intermodal sidings, together with a runaround for locos, with fuel and cripple sidings and both connections to the mainline. These will be designed so that trains can enter the railport at a safe and appropriate speed, minimising the time that each train occupies the mainline.

3.112 The loco runaround allows a train to arrive in either direction, be uncoupled, and depart

in the direction it came from to work on other duties.

3.113 The container loading slab will be a minimum length of the maximum 775 m length train running along most of the length of the sidings at the north western side of the site. In this area containers would be stored, loaded and unloaded onto trains using free-moving reach stacker vehicles.

3.114 Empty containers will be stacked in a separate area using reach stackers to accommodate a mix of 40 foot and 20 foot containers handled by the railport.

Construction Phases B – F

3.115 This will entail the construction of the remaining units and associated secondary infrastructure (Earthworks, roads, drainage, services and landscaping) as per the table above.

3.116 The sequence of the further phases is to build other units near to, and adjacent to, the A47 link road from which access can easily be provided, then provide an early direct rail access unit if required zone B3. The last three phases can all have direct rail access and are built in a sequence along the direct rail access line.

3.117 Other key infrastructure will be completed during these phases as detailed below:

- Railport phase 2 – this will be the completion of the railport (as described below) including the chord and will be completed during phase C. The chord will also enable direct rail access to the units in zone B3 if required and will also allow direct rail connection for future units in zones D and E;
- Railport Returns Area - this will be completed during phase E;
- Railport Phase 3 – this is the electrification of 2 lines (as described below) and would be completed during phase F
- A second access to the railport will be constructed during phase F and will provide a second route from the railport to the industrial units via the estate roads only.

3.118 Units in zones B3, D and E are all suitable for direct rail access if required by the end clients / tenants. Rail access will be provided when they are constructed if the client requires this.

Railport phase 2 –expansion up to 16 trains a day

3.119 Rail infrastructure can be added incrementally, up to four intermodal sidings, and dedicated runaround loop, providing five sidings in total. The addition of part of the headshunt track is required to facilitate the splitting up of trains up to 775 m in length to release a failed wagon without using the intermodal sidings.

3.120 The addition of gantry cranes will increase the productivity of the Rail port which will be required to handle the maximum planned capacity of 16 no, 775 m trains each day. Up to four mobile rail mounted gantry cranes spanning all the intermodal sidings are proposed,

together with up to four rubber tyred gantries serving the container stacks, as set out above.

3.121 The container loading slab will be extended to run along most of the length of the siding at the north-western side of the site as a result. Laden stacks would not exceed five containers in height, being a maximum of 14.5 m, empty containers would be tiered and stacked to a maximum of seven high, being a maximum of 20.3 m in a dedicated empty container yard.

Railport Phase 3 – Provision for electrification and directly rail linked building

3.122 In the final phase, if required a total of eight sidings will be provided: four intermodal sidings, and one runaround and three reception sidings for stabling and if the terminal is electrified. Space has been allowed for the subsequent installation of stanchions to mount overhead line equipment above the runaround and reception sidings to complement future electrification of the Hinckley to Nuneaton railway.

3.123 Since the tracks beneath the gantry cranes cannot be electrified, the second headshunt track will be required to act as a loco release road to enable shunters / locos to runaround to both ends of an electric freight train, to facilitate pulling from the reception line to the intermodal siding and vice versa.

3.124 The reception sidings and the headshunt provide access to the rail connected warehouses, where tracks may be alongside a platform into a warehouse to serve conventional cargo wagons and soft sided containers or to express freight; or the sidings may be physically inside the warehouse for handling materials requiring shelter from the weather.

Site compounds

3.125 All compounds for the construction of the Proposed Development at the Main HNRFI Site will be provided on site. The exact details of these will be confirmed through the phase specific CEMPs which are to be secured through DCO requirement. It is anticipated that the following compounds will be required:

- one temporary compound close to the entrance to the construction entrance.
- the initial temporary compound will be replaced by a larger main site infrastructure compound, this will be located on site adjacent to the M69 / A47 link road near to zone C and a gatehouse / security at the entrance to the Main HNRFI Site
- a compound will be required for the M69 junction improvements which would be located near to the junction on site, close to the gatehouse / security
- compound for the Leicester Road roundabout and link road to the bridge located on site adjacent to the new Leicester Road roundabout to the north of the railway line
- compound for the bridge over the railway line located on the Main HNRFI Site side of the line

- compound for the railport within the railport area
- compound at Sapcote Road
- there may need to be the need for plant compounds during the initial earthworks / drainage works which would be located and moved as the works progress
- each zone will have a compound for the construction of each unit and the infrastructure required for the unit, these would be contained within the relevant development zone.

Implementation plans

3.126 The potential environmental effects of construction work are assessed in the technical chapters of this ES. To further assist the assessment of environmental effects and to provide a clear picture of the measures proposed to protect the environment and local amenity during construction, the DCO application for the Proposed Development is accompanied by the following documents.

- ***Construction Environmental Management Plan (document reference 17.1)*** – describing the measures the Applicant proposes to protect the environment of the HNRFI Site and its surroundings during construction, this includes three Construction Method Statements (CMS) for specific elements of the Proposed Development.
- ***Construction Transport Management Plan (document reference 17.7)*** – which will include measures to ensure that construction traffic will not cause an unacceptable increase in traffic on local roads. The plan will include routing restrictions for construction traffic.
- ***Site Waste Management Plan (document reference 17.4)*** – covering the minimisation and management of waste generated during construction.
- ***Ecological Mitigation and Management Plan (document reference 17.6)*** – setting out the ecological mitigation strategies to be employed to ensure that protected species and habitats are safeguarded during site clearance and construction.
- ***Landscape Ecological Management Plan (document reference 17.3)*** – explaining how landscape and planting and habitat protection and enhancement will be undertaken with a view to securing specified landscape visual, ecology and biodiversity benefits.

3.127 These implementation plans are submitted with the DCO application and it is proposed that the DCO will include requirements for the submission and approval of final versions of the implementation plans by the relevant planning authorities after the DCO is 'made'. Each implementation plan will include provisions for its own review in consultation with the relevant planning authorities.

THE RAIL FREIGHT INTERCHANGE IN OPERATION

3.128 As explained earlier in this chapter, the rail connections into the HNRFI have been designed to enable trains to enter the terminal at speeds that minimise the time a train would need to leave the main line. Capacity studies have been undertaken with Network Rail which confirm that there are sufficient paths available on the rail network to accommodate this scheme without other interventions. This is primarily because the HNRFI is on the relatively newly developed Felixstowe to Midlands and the North strategic freight line, with additional capacity and timetabled reserved paths by Freight Train Operators, which are currently used to option departure times.

3.129 Up to 16 train visits a day are provided for, being 32 train movements per day, with the capacity study assuming 10 trains to and from the east and six trains to and from the west.

3.130 Once in the intermodal terminal, gantry cranes or reach stackers will be used to remove and load containers from the train as set out above.

3.131 Containers unloaded from a train will be transferred to a temporary stockpile nearby or, more often, transferred directly onto a skeletal or flatbed trailer pulled by a lorry, for delivery locally; or a tugmaster for delivery on site.

3.132 The HNRFI will operate on a 24 hour / seven days a week basis. Staff at the railport and in B8 buildings will generally work in shifts. The Applicant proposes to implement a site-wide green travel plan to provide the workforce with alternatives to private car use.

Site management - operation

3.133 During the operation of the HNRFI there will be ongoing management of the Main HNRFI Site through the requirements in DCO to ensure a high quality environment is maintained throughout, including its shared areas of public realm and unadopted areas. These management controls will also apply throughout the construction phase to ensure that existing buildings and occupiers do not experience disruption or disturbance.

3.134 Once completed, TSH, occupiers and the appointed management company will be responsible under contractual obligation for ensuring the planned management and maintenance of the Main HNRFI Site, including shared areas of public realm and unadopted areas.

3.135 As is considered standard practice, the facilities will be developed to incorporate Building Energy Management System (BEMS) to control the heating, lighting, ventilation, hot water supply and renewable energy interfaces in full accordance with the Chartered Institution of Building Services Engineers (CIBSE) guidelines to control the use of and save energy.

3.136 A site-wide *HGV Route Management Plan and Strategy* (document reference 17.5) will set objectives and a strategy for the delivery of measures to promote sustainable freight management. It will identify existing local HGV restrictions in the area and specify the proposed routes on the strategic road network that will be promoted for HGV journeys to and from the HNRFI as well as routes through the local villages where HGV movements

will be restricted. An HGV signage strategy will be developed in the version of the *HGV Route Management Plan and Strategy* submitted with the DCO application.

3.137 The *HGV Route Management Plan and Strategy* will include a package of measures that will assist in managing and monitoring HGV movements. An enforcement methodology will be developed with the Relevant Planning and Highway Authorities. The measures will raise awareness of the strategy, support efficient operations of the site and encourage positive freight patterns.

DECOMMISSIONING

3.138 The EIA has not assessed decommissioning as the HNRFI is intended to be a permanent development and consideration for decommissioning at this stage would be too hypothetical to be meaningful. As such powers in relation to decommissioning are not being sought through the DCO.