Tritax Symmetry

HINCKLEY STRATEGIC RAIL FREIGHT INTERCHANGE

Rail Report

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GLOSSARY AND ABBREVIATIONS

1.1.1. The following in an extract of the Glossary and Abbreviations for the Hinckley National Rail Freight Interchange ('HNRFI') Development Consent Order application relevant to the GRIP 2 Feasibility Study Report.

Full Text	Acronym/ Abbreviation	Notes
Tritax Symmetry (Hinckley) Limited	TSH	When referring to the 'applicant'.
Hinckley National Rail Freight Interchange	HNRFI	
Strategic Rail Freight Interchange	SRFI	
The DCO Site		All of the land inside the draft DCO Order Limits.
Main HNRFI Site		All of the land inside the draft DCO Order Limits between the Leicester to Hinckley railway to the north-west and the M69 motorway to the south-east, in which the proposed SRFI would be located.
Main Order Limits		The draft Order Limits that contain the Main HNRFI Site together with the corridor of a proposed link road to the B4668/A47 Leicester Road (the 'A47 Link Road'), proposed works to M69 Junction 2 and a section of the B4669 Hinckley Road towards the village of Sapcote.
Off Site Highway Works		The highway works proposed to various junctions within the vicinity of the site. These are not detailed in this Rail Report but are explained in Chapters 3 and 8 of the Preliminary Environmental Report.
Principal Development		SRFI - New rail infrastructure providing access to a series of parallel sidings - Intermodel freight terminal ('railport') capable of accommodating up to 16 trains

Full Text	Acronym/ Abbreviation	Notes
		of up to 775m in length - Hard surfaces areas for container storage - Up to 850,000m2 GIA of warehousing and ancillary buildings with a total footprint of 650,000m2 & up to 200,000m2 of mezzanine floorspace - Lorry park with HGV fuel filling station - Energy centre incorporating an electricity sub-station connected to the local distribution network and a gas-fired heat and power plant (10MW generation capacity fed from solar PV including standby capacity (20MW) and battery (20MW) - Terrain remodelling, hard and soft landscape works, amenity water features and planting - Noise attenuation measures – acoustic barriers up to 6m in height - Pedestrian, equestrian and cycle access routes and infrastructure A47 Link Road from M69 junction 2 to the B4668 / A47 Leicester Road - New access road connecting to an internal road network serving the SRFI - New rail bridge within the SRFI site - New junction at B4668 / A74 Leicester Road - M69 upgrade worksReconfiguration of existing roundabout and approach lanes - Additional northbound and southbound slip roads Landscape and planting works, ecological mitigation, drainage balancing ponds, heavy goods vehicle parking area, energy centre and footpath, cycleway and bridleway routes and connections.

Full Text	Acronym/ Abbreviation	Notes
Proposed Development	-	The Principal Development and the Off Site Highway Works
Above Ordnance Datum	AOD	
Class 66		The standard diesel-electric freight locomotive in use on the UK mainline rail network.
Class 170		A type of British Rail diesel electric multiple passenger unit.
Container Loading Slab		The reinforced concrete slab within the railport for the stockpiling of freight containers.
Department for Transport	DfT	
Development Consent Order	DCO	A Statutory Instrument which if granted will contain the consent to carry out the Proposed Development
Environment Agency	EA	
Felixstowe to Nuneaton freight line	F2N	Height of land surface above sea level.
Intermodal Sidings		The four sidings within the railport used to stable freight trains
May 2020 Timetable		The last rail timetable before services were first reduced due to COVID
Midlands Connect		
NR Running Control		The extent to which something happens as a result of an intervention (in this case the proposed HNRFI) that would not have occurred in the absence of the intervention.

Full Text	Acronym/ Abbreviation	Notes
Ordnance Survey	OS	
Overhead Line	OHL	
Public Right of Way	PRoW	Paths on which the public have legally protected rights to pass.
Proposed Railway Bridge		The proposed bridge carrying the A47 Link Road over the Hinckley to Leicester Line
Rail Mounted Gantry Crane		Overhead crane used to lift containers in sea and rail ports. Refer to Figure 5-1 for an example.
Reception tracks		The tracks to the northern side of the railport proposed to receive freight trains upon entry to the railport
Sectional Running Times	SRT	the time period measured from the time a Train Service passes the signal controlling entry into a track section between two relevant specified locations on the Nominated Network to the time the Train Service arrives at the signal controlling entry into the next track section between two relevant specified locations on the Nominated Network, and does not include an allowance for Planned Dwell Times;
Standard Hour		Passenger services operate on a 'standard hour' basis, differing only between the peak and off peak. This means that the same service pattern is repeated each hour. It follows therefore that if a freight path is viable in one off peak hour, it will automatically be available in all other off peak hours with the same passenger service pattern. This enables generalisations to be made on the availability of existing freight

Full Text	Acronym/ Abbreviation	Notes
		paths across the day, and the overall hourly number of freight services that could be operated.
Timetable Planning Rules	TPR	The TPR regulate the standard timings between stations and junctions together with other matters enabling trains to be scheduled into the working timetable for the various parts of the main rail network.
Transfer Lanes		The traffic lanes to facilitate the transfer of freight from road to rail located within the railport.
West Coast Mainline	WCML	
Working Timetable	WTT	The working timetable (WTT) is the rail industry's version of the public national timetable It shows all movements on the rail network including freight trains, empty trains and those coming in and out of depots. It also includes our unique identification codes for each train, and intermediate times for journeys, including which stations a train is not scheduled to stop at.
775m freight train		The longest intermodal container trains in use on the national rail network.

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EXECUTIVE SUMMARY

This rail report outlines the railport, its feasibility and functions in support of the submission for the development consent order for the overall Hinckley National Rail Freight Interchange.

The purpose of this rail report is to provide supporting information regarding the rail elements of the railport. The report provides a description of the onsite layout of the railport , its key features and the rail operations that will take place on the site. The report examines the available freight capacity along corridors between Hinckley NRFI and key ports and examines availability for additional paths for the railport .

2 BACKGROUND

2.1 STRATEGIC RAIL FREIGHT INTERCHANGES

Strategic rail freight interchanges (SRFI) are distribution centres that seek to optimise the use of rail freight journeys by connecting to both the rail and strategic road network. The Government supports the creation of a series of SFRIs across the UK, to reduce lorry movements from the roads and transfer them onto the rail network, reducing both road traffic congestion and carbon emissions.

According to para. 2.44 of the government's National Policy for National Networks 2014 ('the NPS'):

'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.'

Furthermore 'Optimising the use of rail freight requires the 'logistics industry to develop new facilities that, in order to be really effective they (SRFI) need to be located alongside the major rail routes, close to major trunk roads, and located near to the conurbations that consume or produce the goods' (NPS paragraph 2.45).

2.2 PASSENGER SERVICE TO HINCKLEY RAIL STATION

Hinckley has a railway station, served by CrossCountry trains. This is situated on the Birmingham – Peterborough line. Services run between Hinckley and Birmingham / Leicester, with usually one train per hour in either direction. Options have been tabled to consider demand responsive public transport (buses) to link with the arrival of trains at Hinckley.

The detailed timetabling exercise that has been carried out has determined that there is capacity in the existing timetable to accommodate up to 16 intermodal freight trains per day and to have space to add an additional stopping passenger service to Hinckley in each direction should passenger footfall mean this would be viable.

3 HINCKLEY SRFI (RAILPORT)

3.1.1. The Hinckley National Rail Freight Interchange (HNRI) is a Strategic Rail Freight Interchange (SRFI) aka “Railport” that is proposed to be constructed alongside the Leicester to Nuneaton Railway on a greenfield site approximately 2.7km from Hinckley Station.

3.1.2. The project is to provide logistics warehousing with links to the M69 Junction 2, Rail freight links to across the United Kingdom utilising the West Coast Mainline (WCML) the Midland Mainline (MML).

3.1.3. The railport provides reception, stabling and refuelling sidings to support the transfer of freight from rail to road and from road to rail.

The Principal Development will consist of:-

- Intermodel freight terminal (‘railport’) capable of accommodating up to 16 trains of up to 775m in length
- Hard surface areas for container storage
- Up to 850,000m^2 GIA of warehousing and ancillary buildings with a footprint of 650,000m^2 & up to 200,000m^2 of mezzanine floorspace
- Lorry park with a HGV fuel filling station
- Energy centre incorporating an electricity sub-station connected to the local distribution network and a gas-fired heat and power plant (10MW generation capacity fed from solar PV including standby capacity (20MWe) and battery (20MWe)
- Terrain remodelling, hard and soft landscape works, amenity water features and planting
- Noise attenuation measures – acoustic barriers up to 6m in height
- Pedestrian, equestrian and cycle access routes and infrastructure

To facilitate connections to the Road Network the following works will be required:-

- New access road connecting to an internal road network serving the SRFI
- New rail bridge within the SRFI site
- New junction at B4668 / A47 Leicester Road
- Link road from M69 junction 2 to the B4668 / A47 Leicester Road
- Reconfiguration of existing roundabout and approach lanes
- Additional northbound and southbound slip roads.

3.2 PROPOSED RAIL INFRASTRUCTURE

3.2.1. The SRFI would be located adjacent to the Network Rail's strategic freight route linking the west coast mainline (WCML), Midland Mainline (MML) and towards the East Coast main lines (ECML) and serving as a primary link between Felixstowe and the Midlands and North.

3.2.2. 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. The Line is known in engineering terms as the Wigston North Junction to Nuneaton South Line (WNS); however, from

3.2.3. Provision is made for two connections to the main line, allowing access for trains arriving from 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.

3.2.4. Connections into the HNRFI from the main line have been designed so that trains can enter the terminal at a safe and appropriate speed, minimising the time that an arriving train takes to vacate the main line. This is to avoid causing delays to other rail services. 'Intermodal' trains carrying containers would enter the site from either direction and would run directly to one of four sidings served by gantry cranes, for unloading and loading. Other trains, which might comprise traditional freight wagons or coaches carrying express freight in roll cages, would be directed to one of four reception sidings before being moved to a final position for unloading via a proposed 'run-around chord'. This comprises an additional pair of sidings curving around the northern edge of the HNRFI. The chord would provide links to rail-connected buildings served by two sidings, and would assist train marshalling generally.

3.2.5. The three reception sidings and runaround track would include provision for future electrification, so that the Railport is capable of being used by all trains. A headshunt and locomotive release road is provided at the eastern end of the Railport to enable a locomotive to reposition to the opposite end of a train in readiness for the outward journey.

3.2.6. The proposed rail infrastructure and the Railport described below would 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 would be up to 775 metres in length, reflecting Network Rail's strategy to increase maximum train lengths from the established length of 600 metres to provide more capacity and reduce costs per container.

Figure 3-1 - Location Map of Hinckley NRFI – Area Shaded Yellow

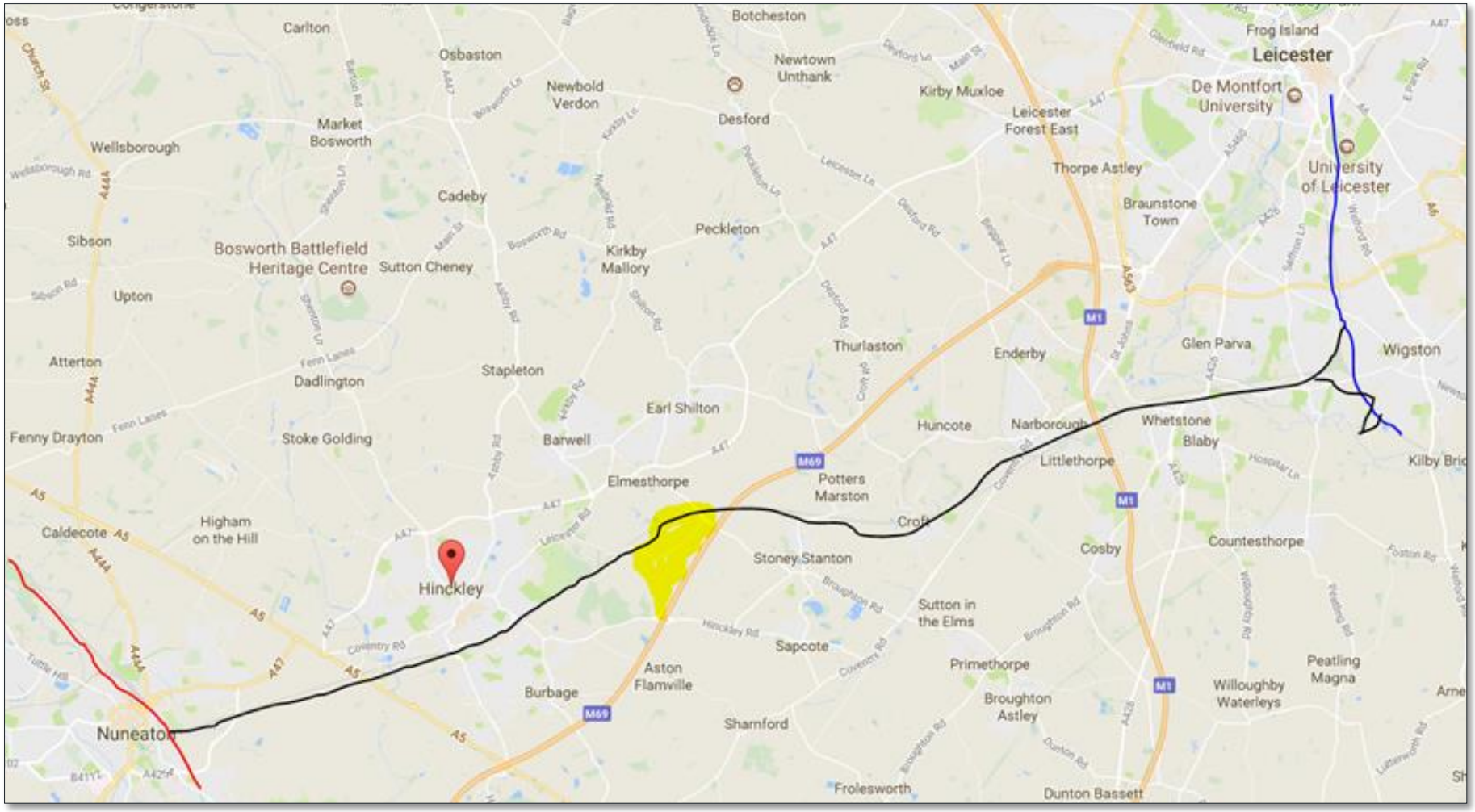
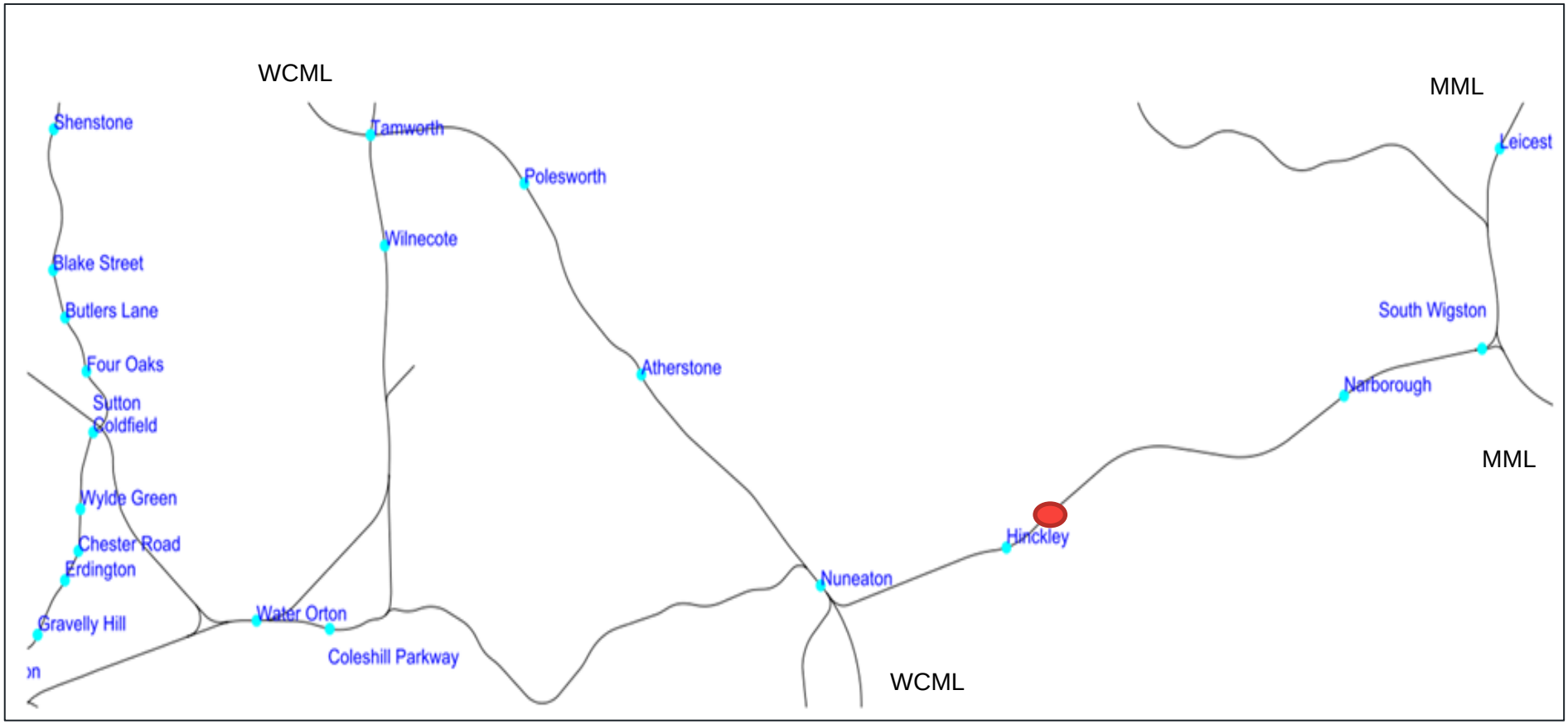


Figure 3-2 - Rail Connections from Hinckley NRFI

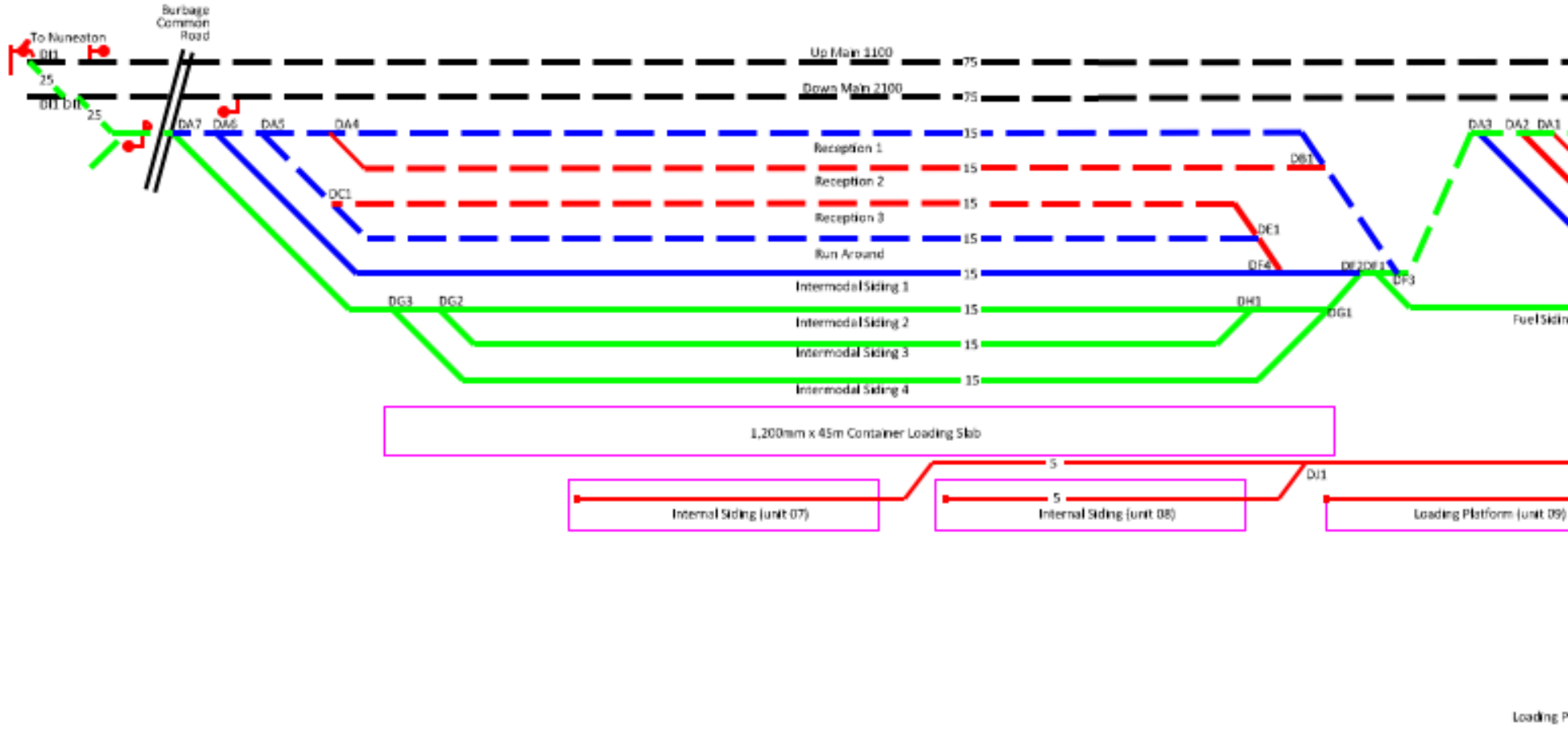


The WCML is already fitted and operating with Overhead Line Equipment

The MML was highlighted in the November 2021 Integrated Rail Plan as planned for Overhead Line Equipment.

Figure 3-3 - Artist's Impression of a Railport

Figure 4 - Schematic Layout of the full scheme for Hinkley Railport



4 TIMETABLE MODELLING

4.1 OBJECTIVE OF TIMETABLE STUDY

4.1.1. To understand the potential operational viability for the proposed freight terminal at Hinckley (HNRFI) a high-level timetable study has been undertaken, looking at the potential availability of additional paths between Wigston North Junction and Water Orton, that could be potentially used to serve the new freight terminal.

4.1.2. This timetable study takes the assumed May 2020 timetable for passenger and freight (pre COVID service alterations) on the route as a starting position, with two CrossCountry services an hour (and additional peak time services). Noting the Midlands Connect aspiration for a through service between Leicester and Coventry a nominal path for this third passenger train has been included, as a sensitivity. It is assumed this service calls at Hinckley and Narborough.

4.1.3. The objective of the timetable study is to find as many additional paths as possible within a window between 0600 and 2300 (therefore unaffected by overnight possessions) from the Leicester and Water Orton direction arriving and departing HNRFI. A high-level overview has also been undertaken looking at paths to / from the WCML north as far as Stafford.

4.1.4. When a quantum of additional paths had been found, together with any other findings from the timetable study, this was analysed against traffic aspirations to help evaluate the operational feasibility of the terminal.

4.2 TIMETABLE ASSUMPTIONS

4.2.1. Passenger and Freight services are based on the May 2020 timetable pre COVID services for the CrossCountry trains between Birmingham and Leicester.

4.2.2. An additional passenger service has been assumed to run between Leicester and Nuneaton, calling at Hinckley and Narborough, to accommodate Midlands Connect aspirations for improved connectivity between Leicester and Coventry. This is assumed to be timed as a class 170 and timetabled to ensure there is as even a service interval between Nuneaton and Leicester as possible between the 3 passenger trains an hour.

4.2.3. The timetable study area is from Water Orton – Wigston North Jn (exc). It is assumed that some form of capacity enhancement would be undertaken in the Leicester area to support expected freight and passenger growth on this corridor and therefore pathing beyond Wigston is not considered a constraint in this study. The study expands to include the WCML to Stafford

4.2.4. Additional paths have been timed based upon a 775m container train hauled by a class 66 loco, 1800T at a maximum speed of 75 mph.

4.2.5. It is assumed line speed within the terminal is 15 mph on all roads and Sectional Running Times (SRTs) have been modelled using Railsys refer to Appendix B

4.2.6. Timetable Planning Rules (TPRs) have been assumed at this stage and the approach these planning rules take is that a conflicting movement for a train arriving / departing the terminal cannot take place on and off the terminal, while there is another train in section between Hinckley and Croft. So, for example

4.2.6.1 A train arriving at the terminal from Nuneaton could not pass the HNRFI West Junction until a passing train had passed Hinckley, or a passing train could not pass Croft until the train had arrived at the terminal

4.2.6.2 For a train arriving from the Leicester direction then a second train could only pass Croft once the first train had arrived on the terminal

4.2.6.3 For a train departing towards Leicester no train should be between Hinckley and Croft in either direction. When following another service towards Croft, the first train must have passed or arrived at Croft, before the departing train can pass HNRFI East Junction.

4.2.6.4 For a train departing towards Nuneaton no down train should be between Croft and Hinckley. When following another service towards Hinckley, the first train must have passed or arrived at Hinckley, before the departing train can pass HNRFI West Junction

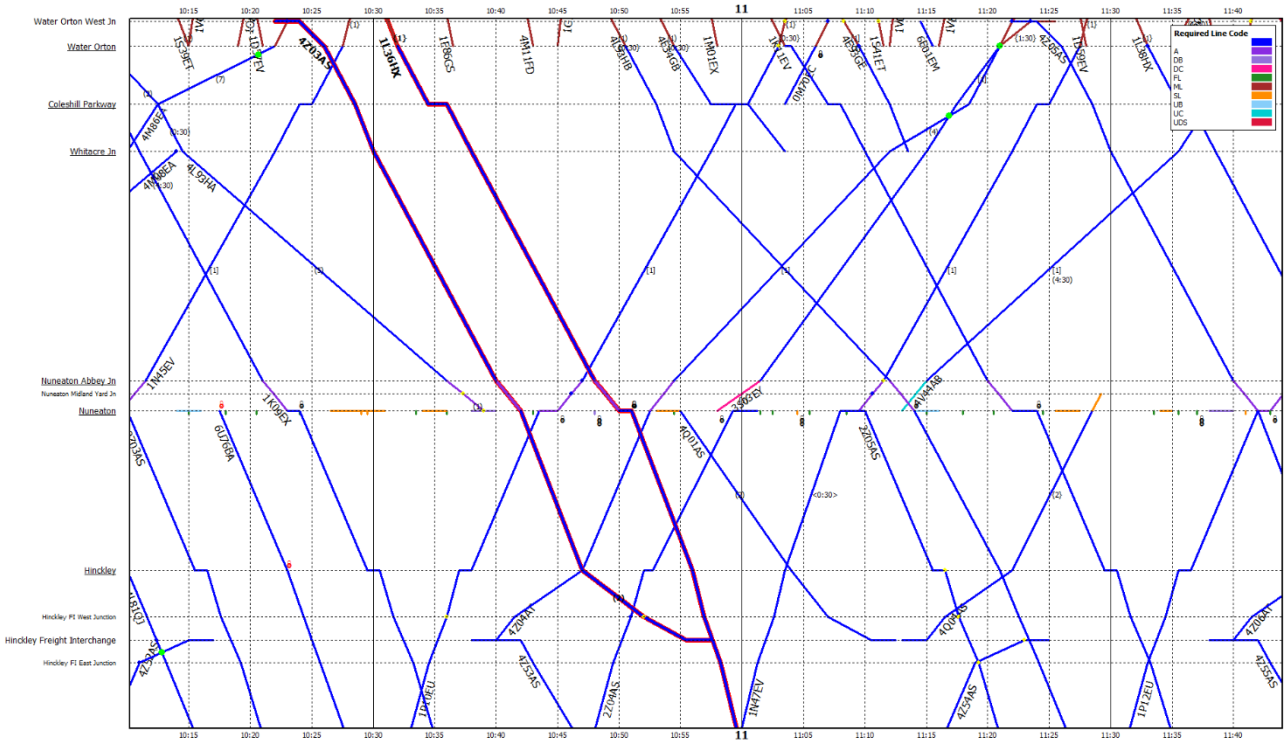
4.2.7. Other passenger / freight services can be flexed to accommodate additional paths, using part D of the Network Code and Decision Criteria as a guide. Any flexing of services must take place within the timetable study area and all services must be able to return to their May 2020 WTT paths before leaving the study area.

4.3 STUDY FINDINGS – WATER ORTON – HINCKLEY

4.3.1. With CrossCountry services running at roughly half hourly intervals, and typically one through freight an hour in the route in each direction, there are significant opportunities for trains to arrive / depart the railport between through trains, even with the assumed third passenger service between Leicester and Nuneaton (Coventry).

4.3.2. From Water Orton there is an opportunity within the standard hour to depart Water Orton at xx23 and arrive into Hinckley NRFI at xx55. This generates a minor conflict on arrival into the railport with the assumed Leicester – Nuneaton (Coventry) Midlands Connect service, which can be resolved by adding 2 minutes pathing time into the arriving freight service. However, this then means the Birmingham New Street – Stansted Airport Cross-country service is on minimum headway behind and in some cases had to have some pathing time moved from approaching Wigston North Junction to approaching Hinckley, although this doesn't impact on the overall path. This can be seen on the graph below.

Figure 4-1 - Train graph showing arriving train from Water Orton and relationship with Birmingham NS – Stansted service



4.3.3. There is also a path available in the standard hour departing Hinckley FLT at xx40 and passing Water Orton at xx23. It must be noted that, if both arriving and departing trains occurred in the same hour, they would be passing each other around Hinckley station. With no regulation facility for an arriving train after Water Orton, the railport would need careful management and close liaison with NR Running Control to minimise the risk of the incoming train being delayed on the mainline and delaying the Birmingham – Stansted service behind, if the departing train was late leaving the facility.

4.3.4. It must also be noted that these paths are not available every hour in the May 2020 timetable or potentially every day of the week and, in particular, there are limited opportunities for additional paths in the afternoons and evenings due to the volume of existing freight traffic.

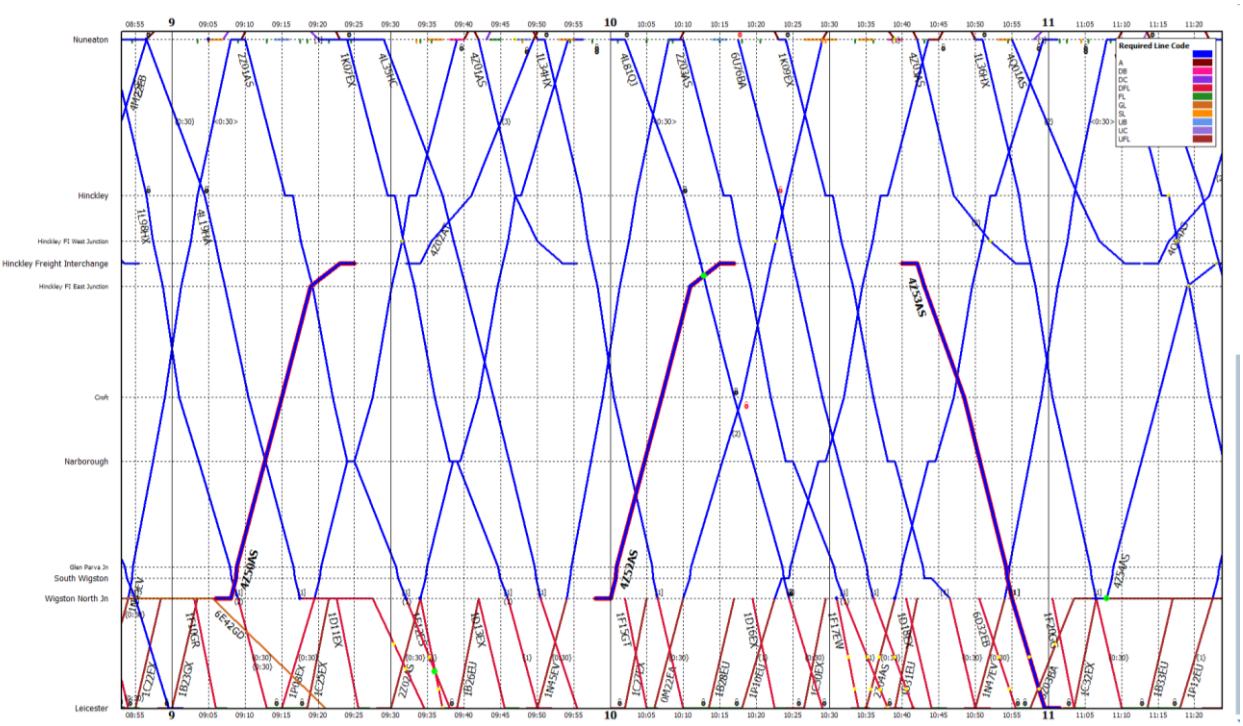
4.3.5. With departures the limiting factor it is concluded that there are opportunities for 9 incoming trains and 6 departures between Hinckley and Water Orton between 0530 and 2300.

4.4 STUDY FINDINGS – LEICESTER - HINCKLEY

4.4.1. Assuming that Wigston North Junction is not a constraint (noting that it is close to capacity today and to achieve significant extra capacity on this route the grade separation of the Nuneaton line and MML between Wigston North Junction and Glen Parva Junction as identified in the Leicester Capacity development proposals would be required) there is generally up to two opportunities an hour to arrive and depart HNRFI. This does also assume that any infrastructure upgrade / re-modelling in the Leicester area will retain the facility to regulate freight and therefore match a path on the wider network to one arriving / departing HNRFI.

4.4.2. This provides freedom for services to be timed to depart Hinckley around slots into Leicester and reduces the risk of incoming and departing services being timed close to each other and therefore avoids creating the risk of trains being held on the mainline awaiting access into the railport, delaying other passenger services.

Figure 4-2 - rain graph showing opportunities for paths to / from Leicester



4.4.3. The study suggests there are up to 10 incoming paths and 10 departing paths a day in this direction

4.5 STUDY FINDINGS – STAFFORD - HINCKLEY

4.5.1. One of the key constraints with pathing on the WCML is the lack of regulation facility long enough to hold anything over a container train in the up direction (from Crewe). The only places it can be regulated is Stafford (maximum length approx. 300 metres) and Nuneaton (maximum length approx. 490 metres). Therefore, any train over this length, must be able to keep moving once it has left Crewe Basford Hall Yard. In additional to this just east of Stafford the route becomes two track for a short section through Shugborough Tunnel and trains through Stafford on the Up Slow must then cross the Down Fast to access the Up Fast. There is then a conflicting move at Colwich Junction where the route once again becomes four track, with services to / from Manchester via Stoke. The slow lines between Colwich and Nuneaton are also used by the hourly stopping service, which must use these lines to serve the intermediate stations of Rugeley, Lichfield, Tamworth and Atherstone.

4.5.2. With the WCML running close to maximum capacity and with the constraints outlined above there were only have limited opportunities in a day to find additional paths that linked a slot through Stafford, path on the Up Slow and path and slot into HNRFI from Nuneaton.

4.5.3. Finding a departing path on the WCML is slightly less challenging, as there is the ability to hold a 775 metre train on the Nuneaton North Chord, matching a slot out of HNRFI, with one of the WCML and there are less conflicting moves at Colwich and Stafford.

4.5.4. In total there are currently 2 paths incoming from the WCML north and 5 departing for the WCML north.

4.5.5. It must be noted that post the opening of HS2 Phase 2a, there is expected to be a significant reduction in the number of passenger services on the WCML south of Crewe to Nuneaton, so this may generate more opportunities for additional freight traffic in the longer term.

4.6 STUDY FINDINGS – TOTAL NUMBER OF PATHS

4.6.1. The total number of additional paths available in a typical weekday using the May 2020 base can be summarised below. As can be seen the bulk of the paths are in the morning / early afternoon. Overnight pathing hasn't been actively considered at this juncture due to possession issues (see section below). It is expected, however, depending on future possession strategy, there would be opportunities for overnight paths in additional to those identified below

Table 4-1 - Summary of train paths for HNRFI

	0600 - 1430		1430 - 2230		2230 - 0600		TOTAL
	Incoming	Departing	Incoming	Departing	Incoming	Departing	
Water Orton and the West	7	3	2	3	TBC	TBC	**15**
Leicester and the East	7	6	3	4	TBC	TBC	**20**
WCML and the North west	1	3	1	2	TBC	TBC	**7**
TOTAL	**15**	**12**	**6**	**9**	TBC	TBC	**42**

4.6.2. The study therefore concludes that there are sufficient opportunities for train paths to meet the expected demand for trains of a maximum of 16 trains per day departing the railport, 10 from the west and 6 from the west.

4.6.3. There is a slight misbalance in the number of departing / incoming paths between Water Orton and WCML north, although it is expected that there would likely be timetable solutions for the 3 WCML north paths to also be used for traffic towards Water Orton and the west, depending on final destination etc.

4.6.4. These additional paths have at this stage only been timed to Water Orton, Wigston and Stafford. These form the natural network dispersal points for traffic to/from HNRFI to:

a. The deep sea container ports at Southampton, Felixstowe and London Gateway,

b. UK regional distribution clusters in the North West, North East, Central Scotland

c. The Channel Tunnel via the London orbital rail network

4.6.5. Detailed analysis of paths beyond these points has not been undertaken at this juncture. This is a consistent approach with any SRFI proposal at this stage in the development life cycle as the demand for traffic to/from the above points is currently unknown and will only become clear once the site goes live and end user requirements are clear. At that juncture freight operating companies will identify end to end paths to meet end user requirements and bid for these in line with standard rail industry processes.

4.6.6. Sensitivity tests were also carried out on a number of existing container paths operating through Hinckley and all paths could be diverted into HNRFI if required.

4.6.7. It is recommended that, as development and design work progresses, and a more detailed freight TSS is available, together with a clearer passenger base timetable being established post COVID recovery, then this study is refreshed.

4.7 STUDY FINDINGS – GENERAL OPERATION PRINCIPLES

4.7.1. One of the key operational challenges with HNRFI is the lack of freight regulation facilities close to the site. Having such a facility bring advantages in that it enables a freight train to be held out of the way of main line traffic in the event the railport is not in a position to accept the train.

4.7.2. The nearest facilities for regulating a train of 775 metres in length are

Table 4-2 - Nearest regulation points to HNRFI

Direction	Nearest Regulation Point	Approx. distance	Approx. running times
From the West	Water Orton	22 miles	30 minutes *
From the East	Wigston / Leicester **	8-12 miles	15-20 minutes
From the North-West	Crewe Basford Hall	68 miles	110 minutes

** Ability to hold a train at Nuneaton within platform 7 but requires traffic in both directions to use platform 6) with risk of substantial delays.*

*** Depends on Leicester Capacity scheme, but a regulation facility at either Wigston or Leicester is assumed*

4.7.3. Ordinarily therefore, there would be an operational risk if a train has proceeded past these points and an issue within the railport means it can't be accepted and will therefore need to be held on the mainline, potentially delaying other traffic. For this reason Network Rail has proposed a method of operation for HNRFI that requires the railport operator to both set up the berthing slot on the railport for an arriving train and confirm this has been done to the Network Rail signaller before an arriving train passes the relevant regulating point above. This therefore will allow the arriving train to be signalled off the network and onto the railport without any risk of the train needing to be held on the network waiting to access the railport.

4.7.4. As traffic levels grow at the railport the likelihood increases that, to maximise the use of gaps between passenger trains on the main line the railport may have to deal with up to three train movements in quick succession in some hours. This is likely to consist of a departure towards Nuneaton / Water Orton, a departure towards Leicester and an arrival from Nuneaton / Water Orton, within the space of 10-15 minutes. It is therefore important that the railport is set up in such a way to facilitate this and the method of working takes this requirement into account.

4.7.5. The study has only examined paths between 0600 and 2300. The route between Hinckley and Nuneaton is currently blocked 16 weeks a year from 2325 to 0540 Monday – Friday for cyclical maintenance (as well as the section 4 block every Saturday night between 2315 and 1015). During this time there would be no access to HNRFI, which could impact on the ability to serve the railport 24 hours a day. It is recommended during the next stages of development that options for changes to the planned engineering access strategy are explored with Network Rail to examine the feasibility of maintaining the ability to serve the railport overnight from either direction.

4.7.6. The operational study concluded that with the assumed design that sufficient paths could be found on and off the railport onto the Leicester and Nuneaton Line to support the maximum number of freight trains, however it is recognised that beyond the study area there are other infrastructure constraints that may require upgrades to achieve the full potential of the site.

5 DEVELOPMENT, OPERATION & EXPANSION.

5.1.1. The experience of the existing SRFIs indicate that it will take several years for each site to achieve a mature level of rail freight traffic. The capacity of the interchange facilities on site will grow in line with the traffic demand.

Phase 1 – Initial Operation

5.1.2. The initial build will be based on four 775 intermodal trains a day which are diesel hauled.

5.1.3. To achieve this a secure site with space for the completed railport will be created. The railport would be fenced for security and would incorporate ancillary office, maintenance, mess room accommodation and car parking for railport staff. It would be lit to enable 24-hour operation, using lighting designed to minimise light pollution.

5.1.4. The initial build intermodal freight yard will be operated by a reach stacker, which will enable the unloading of the two closest sidings to the temporary stockpile

5.1.5. The rail infrastructure to support this will require the construction of intermodal siding 2 see Figure 4 this will act as the run around for locos and the reception lane, Intermodal sidings 3 and 4 (where the containers are unloaded), the fuel and cripple sidings and both connections to the main line. 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 main line and the possibility of impeding other services.

5.1.6. The loco run round allows a train to arrive in either direction be uncoupled and depart in the direction it came from to work on other duties.

5.1.7. The container loading slab comprises a level area of concrete approximately 750m x 45m 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.

5.1.8. Empty containers will be stacked in a separate area using reach stackers there will be floor space for 1304 No 20’ (6.01m) long containers spread between the “empties” storage area and the handling area parallel to the sidings. In reality there will be a mix of 40’ and 20’ containers handled by the Railport

Figure 5-1 - Reachstacker operating in a railport

Figure 5-2 - Gantry Cranes Operating in a Uk Railport

Phase 2 – Railport Expansion

5.1.9. Rail Infrastructure can be added incrementally, intermodal siding 1 , a reception siding and a specific run around loop. The headshunt track will facilitate the splitting up of a 775m to release a failed wagon without using the intermodal sidings.

5.1.10. The addition of gantry cranes increases the productivity of the Railport which will be required to handle the maximum planned capacity of 16 No 775m 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, the latter up to 29metres in height and with spans of up to 70 metres.

5.1.11. The container loading slab will be extended to run along most of the length of the sidings 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 metres, empty containers would be tiered and stacked to a maximum of 7 high, being a maximum of 20.3 metres in a dedicated empty container yard.

5.1.12.

Phase 3 – Provision for Electrification with Express Rail Freight Facility

5.1.13. Space has been allowed in the initial phases for the installation of infrastructure to transition towards electric hauled freight already present on the WCML and tied into the planned electrification of the MML. A total of three reception lines, runaround line and headshunt will together facilitaterelease of electrified locomotives, as these are unable to operate beneath the gantry cranes local shunting of trains will remain diesel hauled. The locomotive release line will enable shunters / locos to run around to both ends of a 775m train to facilitate pulling from reception line to intermodal siding and vice versa.

5.1.14. The final element that can be added into the Railport complex are some rail served warehouses, there are two possibilities with this:- tracks may be alongside a platform with level access into a warehouse to serve for express freight services or the sidings may be physically inside the

warehouse for handling materials requiring shelter from the weather. This also raises the opportunity for packing or unpacking containers.

Figure 5-3 **- Indoor packing / unpacking of containers**

6 EXISTING SITE

6.1.1. Online consultation of the historical maps covering the site shows that the area has been subject to agricultural development since late 19th century, when the first historical Ordnance Survey map became available. The 1886 map already shows the current railway and a number of culverts crossing the railway.

6.1.2. Geological map no.169 (Coventry, Solid and Drift, 1:50,000) covers the site. This shows the majority of the site likely to be underlain by Wolston Clay and Thrussington Member (Quaternary Glacial Till). The Glacial Till comprises grey stoneless clay, silt and pebbly clay. Locally alluvium is present - the high mileage stretch of the railway appears to be sitting on alluvial deposits. Bedrock is recorded to comprise Triassic Mercia Mudstone, described as red, less commonly green-grey, mudstones and subordinate siltstones with thick halite-bearing units in some basinal areas.

6.1.3. The available LIDAR and online OS mapping show that the site levels slope down from West to East, from approximately 99m AOD to 83m AOD. The existing railway line is in an approximately 5m high cutting from Burbage Common Road to the start of the sidings becoming parallel, where the topography progressively changes into at grade then shallow embankment (approximately 3m in height), moving towards the high mileage.

6.1.4. Following a detailed GI and topographical survey, consideration will be given to re-use of material from the cutting slopes to widen the existing corridor. Bulk excavation of approximately 4-4.5m depth is anticipated along the low mileage end pf the site, however exact volumes are not available at this stage. Subject to in-situ and laboratory geotechnical/chemical testing, site-won Mercia Mudstone may be suitable for re-use as earthworks material.

6.1.5. Earthworks operations (excavation, movement and placement) within Mercia Mudstone can be difficult due to the tendency of Mercia Mudstone to slurry when wet. Groundwater control is typically important and construction, trafficability and handling during periods of wet weather can be problematic. Care will be required in programming and carrying out construction.

6.2 LEVEL CROSSINGS

6.2.1. The DCO Order Limits include five public footpaths that cross the railway. Introduction of the new Rail Freight Interchange will require the closure of Barwell Foot Path (FP) and Earl Shilton FP crossings. Additionally, consideration will be given towards The Outwoods FP, Elmesthorpe FP and Thorneyfields FP crossings all of which will require either closure or conversion to Miniature Stop Light operation crossings.

6.3 PEDESTRIAN LEVEL CROSSINGS

6.3.1. The existing Leicester to Hinckley railway features a series of uncontrolled gated pedestrian level crossings serving local PROW rotes. These include level crossings at the following locations, shown in Figure 3. and listed in Table 6-1.

6.3.2. There is the potential for freight trains to be held at signals on their approaches to the HNRFI. Where this happens, trains might temporarily restrict the views at level crossings, creating a risk that pedestrians might be confused when assessing the safety of the crossings, as they would have less time to see a train coming in the opposite direction. Following discussion with Network Rail, TSH proposes the following measures at these crossings with the aim of maintaining public safety.

Table 6-1 - Level Crossing Modifications

Level crossing	Works proposed	Access and limitations proposed in the draft DCO
Thorney Fields Farm No 2: Grid Ref: SP480959 Footpath No. XXX, 1 km NW of Sapcote	Public right of way diversion with pedestrian traffic rerouted to an existing bridge over the railway south of Thorney Fields Farm.	Access not limited, diversion proposed.
Elmesthorpe: Public Footpath Crossing with Whisteboard between Bostock Close and the B581 Station Road, opposite the Wentworth Arms public house	Public right of way diversion with pedestrian traffic rerouted to an existing bridge over the railway at Station Road	Level crossing proposed to be closed and diversion put in place over the existing bridge along the public highway.
Earl Shilton: Public Footpath Crossing with Whisteboard	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.	Permanent closure
Barwell: Public Footpath Crossing with Whisteboard	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.	Permanent closure
The Outwoods: Public Footpath connecting Burbage and the Hinckley Academy and John Cleveland Sixth Form Centre in Hinckley.	Replacement of the level crossing with a pedestrian footbridge, with associated public rights of way diversions.	Access not limited, diversion proposed.

7 CIVILS WORKS

Table 7-1 - Proposed Structures

Proposed Structure	Description
Footbridge	Potential overline footbridge to be provided to allow alternative pedestrian rail crossing due to the decommissioned Outwood level crossing. Location is proposed to the NW of the development with the exact position to be explored at a later design stage.
Replacement Overbridge	New steel concrete composite multi-girder or ladder-deck highway bridge structure to replace Hill Ingle Overbridge 13. To be built close to the original location. The proposed 3-span structure will measure approx. 54m between abutment faces. The structure will carry single carriage highway traffic over the existing tracks of the WNS line, the proposed road within the compound and a bridle way running along the north abutment. The solution includes provisions for future expansion of the main rail line from 2 to 4 tracks. Minimum clearance under the bridge will be maintained at a minimum of 5.8m to enable provisions for future track electrification equipment (OLE).
Retaining wall	New retaining wall is required between. Due to the proximity between the run-around track and the existing track at these locations, a stable slope cannot be achieved without the means of retainment. This shall consist of either a gravity wall or a sheet pile retaining wall in accordance with the NR standard details. The maximum retained height for this structure is approximately 2.5m – 3.0m.
Acoustic Fence	This is provided to reduce the level of sound pollution coming out of the compound and avoid disturbing the adjacent receptors. Maintenance access is to be provided along both sides of the fence.
Access	Access to track, S&C and underside the new overbridge is proposed via the new roundabout off the carpark adjacent to the tracks.

8 OPERATIONS AND MAINTENANCE ACCESS

Segregated vehicular and pedestrian access is provided across the railport as follows:

8.1.1. A controlled route for LGV to access the site, load/unload containers and depart to connecting link roads.

8.1.2. Vehicular access is also provided to the western mainline connection via a turning head off the roundabout located west of Burbage Common Road and to the eastern mainline connection via an access road and turning head provided alongside the balancing pond, this access road also provides vehicular access to the cripple siding where wagons isolated for maintenance are located.

8.1.3. The intermodal sidings are spaced at 4.005m between track centrelines to facilitate train examination by train crews.

8.1.4. Reception No. 1 track has a driver platform provided specifically for the use of drivers to change ends for express freight.

8.1.5. Cess walkways and designated safe walking routes (on paved areas) are provided to gain access to all infrastructure across the site to facilitate periodic inspection and maintenance.

9 CONCLUSION

9.1.1. The Hinckley Strategic Rail Freight Interchange represents an opportunity to expand the very small network of existing SRFI's, to significantly enhance access to the rail network for local businesses, fully in line with the objectives of the government through the NPS and those of business in seeking additional transport options for their goods and moving towards reduced carbon emissions.

9.1.2. The Hinckley railport is situated on the South Leicestershire main line with connection to M69 and M6, allowing for connectivity across the trunk road network, over which the majority of intermodal rail freight is currently moved through the UK. From the outset the railport users would benefit from access to a mainline route with W10 loading gauge and capable of handling 775m length freight trains, a key criterion for SRFI site.

9.1.3. The site would also provide a geographically distinct location relative to other existing and proposed SRFI in Merseyside and Manchester to the North, or those South of Birmingham in the West and East Midlands.

9.1.4. The on-site rail layout is designed to facilitate turnaround of freight trains within the railport. The interchange design brings trains and trucks directly alongside each other, with one-way flow for HGVs through the railport, again to promote the fast and efficient transfer of freight.

9.1.5. Additional sidings would then be provided to permit direct rail access to warehouse units on site, as well as additional stabling and the ability to handle electrically hauled freight trains in future.

9.1.6. Engineering and timetable assessment work undertaken with Network Rail through its in-house "GRIP" development programme has confirmed the ability to achieve the main line connections on which to commence operations, along with capacity within the timetable to accommodate the rail freight services associated with those operations. The site has capacity to handle 16 trains per day at a mature level of operation, growth being determined by end user demand within available network capacity.

9.1.7. As an open access SRFI, it is completely in line with National Policy Statement of National Networks, produced by the department of transport in 2014. The proposed Hinckley railport will expand the small number of existing SRFI into a much larger interconnected network of facilities, assisting with modal shift of freight as evidenced by the existing SFI and the associated benefits.

Appendix A

RAIL DRAWINGS

Appendix B

SECTIONAL RUNNING TIMES

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wsp.com