Rail Central
Northamptonshire

The Rail Central Rail Freight Interchange

Northampton Gateway Examination

Rail Central Response to Updated Comparative Analysis of Northampton Gateway and Rail Central Appendix 2.4 to Environmental Statement (Document 5.2) on behalf of Ashfield Management Limited and Gazeley GLP Northampton s.à.r.l.

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Rail Central Response to Updated Comparative Analysis of Northampton Gateway and Rail Central Appendix 2.4 to Environmental Statement (Document 5.2)

Rail Central & Northampton Gateway SRFI

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Turley

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1. Introduction

1.1 This document sets out the response of the Rail Central Applicant to Northampton Gateway's Updated Comparative Analysis of Northampton Gateway and Rail Central (Appendix 2.4 to Environmental Statement (Document 5.2)) ("the Updated Comparative Analysis" / UCA) [REP4-008].

1.2 The structure of this document mirrors that the UCA and the remainder of it is set out as follows:

- Section 2: Good Design & Site Characteristics
- Section 3: Operational and Functional Aspects
- Section 4: Environmental Impacts
- Section 5: Conclusion

2. Good Design & Site Characteristics [Section 3, UCA]

2.1 This Section considers matters relating to 'Good Design' and site characteristics as set out at Section 3 of the UCA.

Response to National Policy Statement for National Networks (NN NPS)

2.2 At paragraph 3.1 of the UCA, the Northampton Gateway Applicant cites the NN NPS's requirement for applicants to include design as an integral consideration from the outset of a proposal and references paragraphs 4.29 and 4.34 specifically, which focus on the visual appearance of such proposals.

2.3 These paragraphs form part of a wider section of the NN NPS which provides design criteria for national networks[1]. In this context, the NN NPS clearly recognises that given the nature of much national networks infrastructure development, particularly SRFIs, there may be a limit to which it can contribute to the enhancement of the quality of the area.

2.4 The Rail Central Design and Access Statement (Document Ref: 7.2) sets out the design rationale and key principles behind the scheme, including explaining the design process and how the scheme has evolved. Rail Central has been designed in direct response to the requirements of this policy context and carefully formulated in response to the site's context, market demand and commercial considerations. This has been a continual iterative process of consultation and engagement with statutory consultees. It has been informed by a comprehensive evidence base which is included in the Environmental Impact Assessment (EIA) which accompanies the application and a range of technical studies that have informed the design response in respect of rail, market demand, and sustainability.

Response to Comparative Analysis of Good Design

2.5 The key assertion in Section 3 of the UCA is that the Northampton Gateway site is a materially superior location and its development will have less adverse environmental effects than Rail Central (UCA paragraph 3.7).

2.6 The reasoning behind this assertion by the Northampton Gateway Applicant is set out at paragraphs 3.3-3.6 of the UCA and is summarised as follows:

(a) Northampton Gateway has a particular context, namely a favourable topography and the benefit of containment by a number of physical features, which mean that it can be mitigated through consideration of scheme layout which utilises the existing landform and is supplemented by significant proposed landscaped bunds.

(b) Rail Central has comparatively inferior physical containment, in the context of the elevated position of Blisworth village and the separation of the site by Northampton Road / Towcester Road. The effect of Rail Central on the existing

[1] Paragraphs 4.28 – 4.35, NN NPS

landscape, the character of the area and surrounding villages, views and local communities, will be far greater and cannot be mitigated to the same degree.

2.7 The Rail Central Applicant does not agree with the above assertions.

2.8 The following deals with the principal assertion made by the Northampton Gateway Applicant that the Northampton Gateway site is a materially superior location for an SRFI development. Paragraphs 4.20-4.35 of Section 4 of this Response deal with points (a) and (b) above and provide a response to the comparative environmental effects of both proposed developments.

Superiority of location

2.9 In terms of SRFI locations, the NN NPS identifies clear locational criteria to ensure SRFIs are viable and successful, and notes that due to requirements (access to road and rail being essential) it may be that countryside locations are required for SRFIs.

2.10 As the Northampton Gateway Applicant rightly points out, each site has its own particular context and it is within that context that specific design principles are formed and appropriate mitigation is proposed. The submitted Rail Central Design and Access Statement (Document 7.2) details a flexible and adaptable approach to the design of Rail Central, which responds to the site's existing economic, environmental and social context.

2.11 The Rail Central Alternative Sites Assessment (Document 7.3), however, provides an assessment of alternative sites and their individual characteristics, which have been considered in selecting the Rail Central site. Chapter nine of the Rail Central Alternative Sites Assessment provides a detailed analysis of the five shortlisted sites, which includes the Northampton Gateway site, and compares them to Rail Central.

2.12 Paragraphs 9.140 - 9.146 of the Rail Central Alternative Sites Assessment (Document 7.3) provides a detailed comparative analysis of Rail Central and Northampton Gateway.

2.13 In respect of environmental impacts, the Rail Central Alternative Sites Assessment (Document 7.3) concludes that despite Rail Central delivering significantly more floorspace, both SRFI schemes have environmental impacts of a similar scale, albeit with different types of effects at different receptors. In addition, both of the proposals seek to mitigate environmental impacts to ensure they are reduced to an acceptable level. As set out at paragraph 4.25of Section 4 of this Response, it is our view however that the Rail Central package of mitigation in relation to green infrastructure (the focus of Section 3 of the UCA) is more comprehensive than that of Northampton Gateway.

2.14 In respect of operational characteristics, the Rail Central Alternative Sites Assessment (Document 7.3) concludes that Rail Central offers significantly more commercial floorspace than Northampton Gateway, it is also anticipated to generate more jobs (over 8,000) and generates greater economic benefits. Rail Central also provides direct access to two W10 railway lines and full connectivity between them. This enhanced flexibility and resilience in its infrastructure puts Rail Central at a distinct advantage. The Rail Central Express Freight Interchange will allow direct and quick access as opposed to Northampton Gateway which requires more time due to the need to shunt

freight within the site. This will make other operations within the Northampton Gateway scheme less efficient than Rail Central. Rail Central also provides a range of additional facilities which aid the attractiveness of the SRFI as well as providing positive consequences to the efficiency of the rail network. It is also relevant to consider both schemes in respect of the operational and technical aspects being proposed within each SRFI proposal. These aspects are considered further in Section 3, in response to NG's comparison of the operational and functional aspects of the schemes.

2.15 In summary, the Rail Central Alternative Sites Assessment (Document 7.3) concludes that bringing all the analysis together, Rail Central is larger than Northampton Gateway in commercial terms and has the ability to connect to the West Coast Main Line (WCML), as well as the Northampton Loop Line (NLL). Along with additional facilities such as the Train Maintenance Deport, this presents additional market, operational and technical advantages over Northampton Gateway which makes Rail Central more resilient, flexible and more adaptable to the changing rail freight market. Therefore, it is concluded that the Rail Central site is the better performing SRFI site.

2.16 In light of the above, it is our view that the Northampton Gateway Applicant's assertion that the Northampton Gateway site is a materially superior location is flawed.

2.17 To aid the Examining Authority, both the Rail Central Design and Access Statement (Document 7.2) and the Rail Central Alternative Sites Assessment (Document 7.3) have been appended to this response and submitted to the Northampton Gateway Examination (Appendices 1 and 2).

3. Operational and Functional Aspects (Section 4, UCA)

3.1 This section considers the operational and functional aspects of NG and RC as sets out in the UCA, in terms of road and rail connectivity and facilities.

Road

Access to the Strategic Road Network

3.2 In relation to access to the Strategic Road Network, The Northampton Gateway Applicant considers at paragraph 3 of its Executive Summary that the Northampton Gateway SRFI benefits from superior access to the M1.

3.3 The Rail Central Applicant does not agree with this conclusion and would highlight Paragraph 9.145 of Document 7.3 (Alternative Sites Assessment), which confirms that whilst Northampton Gateway is closer to J15 than Rail Central is to J15a, the differences in distance are very limited (J15 is located directly adjacent to the Northampton Gateway site and Rail Central is within 2km from Junction 15a) and in practical terms both sites have good connections to the strategic road network. Both routes are on higher class roads and will not involve passing through residential communities. However, Rail Central is positioned on the A43 (T) and therefore benefits from significant highway resilience offering alternative access arrangements if necessary and is superior to Northampton Gateway in this regard.

Rail

Access to the Strategic Rail Network

3.4 We note that the Northampton Gateway Applicant considers at Paragraph 2 of the UCA Executive Summary that there is no material difference between the Rail Central and Northampton Gateway SRFI schemes in respect of access to the Strategic Rail Network.

3.5 The Rail Central Applicant does not agree with this conclusion and notes that the Northampton Gateway Applicant fails to mention Rail Central's connection to the West Coast Main Line Fast Lines. Table 9.2 of Document 7.3 (Alternative Sites Assessment) sets out that Rail Central has 4 main line access points onto two separate branches of the West Coast Main Line (Fast and Slow Lines), whilst Northampton Gateway only provides 2 main line access points onto one branch of the West Coast Main Line (Slow Lines).

3.1 Having access to the Fast Lines provides three clear points of distinction:

- **A greater quantum of main line capacity**: providing access to both the Fast and Slow Lines maximises the level of main line capacity available to trains travelling to and from the SRFI, compared to having access only to the Slow Lines. Whilst DIRFT, Northampton Gateway and Rail Central would all draw on available capacity on the Slow Lines, Rail Central will uniquely be able to directly access the Fast Lines as well;

- **A wider window of access to the main line**: as Network Rail will tend to close either the Fast Lines or the Slow Lines for maintenance at night, with all services diverted to the remaining open route, providing access to both the Fast Lines and Slow Lines means that main line access to Rail Central is maintained throughout these periods. This then maximises the window for access to and from the main line.

- **Faster express freight trains**: such trains, operating at or in excess of 100mph, can arrive and depart from the Fast Lines at speeds in excess of that which could otherwise be achieved on the Slow Lines. The proposed loop off the Fast Lines passing through the Express Freight Terminal will enable multi-stop express freight services (similar to those operated for the Royal Mail) to quickly enter the SRFI, discharge and reload and continue in the same direction (or the reverse direction) with no intermediate shunting required. This then enables the speed (and hence time-saving) potential of such services to be maximised.

3.2 This is a clear distinction between the two sites which suggests that Rail Central is more adaptable to anticipated future changes in the rail freight market. It is clearly superior to NG in this regard.

3.3 Table 9.2 of Document 7.3 (Alternative Sites Assessment) also provides an overall comparison of operational factors, principally relating to rail. It is the Rail Central Applicant's view that whilst it recognises that both schemes could contribute towards creating a network of SRFIs and the clustering of such infrastructure in this particular location, the Rail Central site is the better performing SRFI site. The reasoning is set out above at paragraphs 2.14 – 2.15. Along with additional facilities such as the Train Maintenance Depot (considered further below), this presents additional market, operational and technical advantages over Northampton Gateway which makes Rail Central more resilient, flexible and more adaptable to the changing rail freight market.

3.4 These points are addressed in the remainder of this section of this document.

Percentage of rail connected warehousing

3.5 Paragraph 4.4 of the UCA deals with the provision of rail-connected warehousing.

3.6 The table below summarises the rail position across facilities which are operational / under construction, together with those proposed. This demonstrates that the percentage of warehousing which is directly rail-connected (i.e. has a siding which runs into or alongside the warehouse) varies considerably between SRFI.

SRFI	Warehouses with direct rail access	Number receiving trains direct to warehouse	Total floorspace sq m	Floorspace with direct rail access sq m	% Floorspace with direct rail access
Operational / under construction					
Mossend	1	0	254,000	28,700	11%

3MG	0	0	200,000	-	0%
Wakefield Europort	0	0	190,000	-	0%
iPort Doncaster	0	0	557,400	-	0%
Birch Coppice	1	0	371,600	66,888	18%
Hams Hall	0	0	510,600	-	0%
DIRFT I & II	6	3	561,000	276,690	49%
DIRFT III	4	N/A	731,000	299,710	41%
Port Salford	0	N/A	150,000	-	0%
East Midlands Gateway	0	N/A	557,400	-	0%
Mossend International Rail Freight Park	1	N/A	200,000	20,000	10%
Proposed					
West Midlands Interchange	1	N/A	743,200	94,326	13%
East Midlands Intermodal Park	3	N/A	484,500	311,760	64%
Northampton Gateway	4	N/A	464,500	306,570	66%
Rail Central	3	N/A	681,300	204,390	30%
Hinckley National RFI	0	N/A	371,600	-	0%
Radlett	3	N/A	331,665	165,833	50%
Howbury Park	0	N/A	183,187	-	0%

3.7 The average percentage of floorspace with direct rail access is 12% for existing / developing SRFI, 32% for proposed SRFI and 20% for all SRFI.

3.8 This demonstrates that Rail Central is comparable to other SRFI's in terms of the average number, percentage and amount of rail-connected floorspace as well as the overall level of rail-served floorspace.

3.9 It is clear that, by providing warehousing with direct rail access, the RC and NG sites are superior to a number of facilities which do not. Whilst the amount and proportion to

be provided within NG is greater than that at RC both comprise a significant amount of floorspace.

Feasibility of layout

3.10 Paragraph 4.4 of the UCA considers the feasibility of RC's rail connections, in terms of gradients and curves.

3.11 The Network Rail Track Design Handbook (NR/L2/TRK/2049) states that the normal minimum radius on sidings shall be 150m and the exceptional minimum radius shall be 125m. The connections to the three rail-connected buildings on the RC site, over which trains would operate at no more than 5mph, are all in excess of 157m radius. The rail sidings alongside the units are all level, with gradients along the rail connections to the reception sidings being no more than 1%, the same as applies at NG. The track geometry can therefore neither be regarded as tight or steep as claimed in the UCA.

Feasibility of West Coast Mainline Fast Lines connections and Available Capacity

3.12 This is considered at paragraph 4.10 of the UCA. NG suggests that there are '*no details provided within the application documentation sufficient to show that the arrangements are technically acceptable having regard to track geometry or vertical alignment'.* It goes on to question the capacity and therefore the usefulness of such a connection.

3.13 The feasibility of the WCML Fast Lines connections formed part of the GRIP2 study undertaken entirely by Network Rail for RC. The study confirmed the feasibility of achieving these main line connections. The initial timetable study undertaken by specialist timetable planners PRA on the WCML Fast Lines identified the availability of capacity on the WCML Fast Lines as set out in the RC Rail Operations Report section 3.3.9. The claims by NG in the UCA around capacity are therefore incorrect.

3.14 It should also be noted that the RC Planning Statement confirms (paragraph 4.38) that RC has committed to delivering the WCML Fast Lines connections as part of the second phase, in liaison with Network Rail to identify the earliest possible opportunity to implement the second phase of works. This commitment is written into the RC dDCO (see paragraph 3.21 below). NG provides no direct main line access to the Fast Lines. This point is considered in more detail below, at paragraphs 3.23 and 3.24) The RC Planning Statement (paragraph 11.9 (2)) confirms that should an interim solution be required for handling express freight services, this could be achieved using the intermodal terminal facility, with direct cross docking between trains and HGVs. The RC applicant is therefore committing to the delivery of such a facility, and has identified interim provision, contrary to the claim made by NG in the UCA.

3.15 As such it is considered that there is no question over the feasibility of such connections either in terms of the technical merits or delivery. As such, and in the absence of any Fast Line connection proposed as part of the NG scheme the RC proposals are considered to be materially superior in this regard.

Train Maintenance Depot & Aggregates Terminal

3.16 Para 4.11 of the UCA seems to question the inclusion of a Train Maintenance Depot within the RC scheme.

3.17 The benefit of providing a Train Maintenance Depot is to reduce the need for locomotives and wagons to have to move to and from off-site depots for servicing and maintenance. It would similarly reduce the need for traincrew to have to sign on and off at remote locations for trains starting or finishing at RC. This in turn would reduce the number of unproductive empty train movements to, from and along the main line, maximising use of available main line capacity for passenger and freight services. Its provision is therefore directly related to the rail-connected warehousing proposed within the RC scheme, contrary to the claim made by NG at paragraph 4.11 of the UCA. Importantly, it is considered to be an advantage of the RC scheme for the reasons set out above.

3.18 NG proposes a unique aggregates facility for an SRFI which will have no relationship to the warehousing on site. Furthermore, accommodation of aggregates trains on site would necessitate operation of additional slower and heavier trains through the SRFI, reducing capacity to accommodate the primary source of anticipated traffic directly relevant to the warehousing on site. The absence of such a facility within the RC scheme is therefore considered advantageous.

3.19 With regard to the reasoning for RC not making specific provision for an aggregates terminal on site, this is reflective of the focus for RC on non-bulk traffic (principally consumer goods) as moved in intermodal, conventional wagon and express services) and the importance to avoid constraints on the efficient movement of rail traffic within the site, as referenced in the preceding paragraph.

Fast lines/Express Freight commitment

3.20 At paragraph 4.9 of the UCA, the Northampton Gateway Applicant outlines its view on the varying approaches of the two schemes to the proposed delivery of Rapid Rail Freight facilities. It suggests that there are pros and cons to both approaches and that the only perceived benefit to Rail Central's approach is the reliance on providing a connection to the West Coast Main Line Fast Lines. The Northampton Gateway Applicant suggests that there is no commitment by the Rail Central Applicant to provide such a connection to the West Coast Main Line Fast Lines.

3.21 The delivery of the Express Freight Cross Dock Terminal and new railway line is clearly set out within the Works Description (Works 3). Requirement 3(4) of the dDCO is also clear that whilst Rail Central is committed to deliver the Express Freight Cross Dock Terminal, the timing of its delivery is and must be led by Network Rail. It states:

"Development of Work No. 3 (express freight dock platform and railway from WCML) may only commence once details of capacity and timing of delivery have been submitted to and approved in writing by Network Rail."

3.22 The Northampton Gateway Applicant also questions, at paragraph 4.9 of the UCA, the market for Rapid Rail Freight, suggesting that it is untested and uncertain. In fact, the express freight market is already proven by the Royal Mail which operates 100mph rail services linking London with the North West, North East and Scotland, and by InterCity Rail Freight which moves parcels on 125mph scheduled rail services between London, the East Midlands and the South West. GB Railfreight stated in the national media in 2017 proposals to convert 125mph high-speed passenger trains for freight, and in 2019

Rail Operations Group entered into an agreement with leasing company Porterbrook to operate 100mph bimodal trains for moving freight[2].

3.23 In comparison, it should be noted that the domestic intermodal market did not exist on any scale prior to the construction of SRFI. Both Network Rail (Freight Market Study 2013 and Freight Network Study 2018) and the Department for Transport (Rail Freight Strategy 2016) refer to the express freight market opportunity. Further information is set out in the RC Rail Operations Report (Regulation 5(2)(q)) section 2.5. The construction of the RC Express Freight terminal as part of phase 2 would benefit from direct access onto the WCML Fast Lines to be delivered at the same time, but note that these additional WCML connections would be available for all services using RC, particularly during periods when the WCML Slow Lines are closed due to engineering works or perturbation. The business case for the RC Express Freight Terminal is therefore not solely predicated on the WCML Fast Line connections.

3.24 The RC Express Freight Terminal is designed to allow direct access for express freight trains to and from the WCML Fast Lines in both directions, on connections with 50mph entry / exit speeds, hauled by diesel or electric traction and rolling stock, allowing the fastest possible arrival and departure of express freight trains carrying time-sensitive goods. No intermediate shunting would therefore be required between the WCML Fast Lines and the Express Freight Terminal. During any periods when access would not be possible to the WCML Fast Lines, access will be maintained via the WCML Slow Lines, allowing express freight services to and from the north to run directly into and out of the Terminal via the internal interconnecting chord lines, with trains to and from the south accessing the Terminal via the Slow Lines reception sidings and a single run-round manoeuvre.

The NG rapid rail freight terminal has no direct access to the main line and is not electrified, with all express freight trains therefore requiring shunting to and from the main line via the headshunt facility with a diesel locomotive. This is considered to be a significantly inferior configuration to that proposed by RC as it constrains the efficient operation of such a facility and rail services operating through it.

Other aspects

3.25 The UCA inaccurately outlines RC's proposals. For example, it claims an absence of provision of mezzanine space (para 4.2 of the UCA) despite paragraphs 4.19 – 4.19 of the RC Planning Statement providing a full summary of the approach taken in relation to mezzanine floors). It also ignores the greater floor space provided by the RC project which means the greater contribution that the RC scheme can make to providing a network of rail-connected SFRIs and meeting the need for national and regional distribution facilities (as set out in the NN NPS) is not acknowledged.

[2] https://www.thetimes.co.uk/article/intercity-125s-reborn-as-freight-trains-to-deliver-amazon-parcels-whpvwcc5v

Conclusion on Operational and Functional Aspects

3.26 The UCA is considered to present a flawed assessment of operational and functional aspects of the two schemes.

3.27 It fails to recognise a number of factors which make the RC scheme superior to NG in operational and functional terms including:

- The additional resilience offered by the RC scheme in terms of alternative strategic transport network access arrangements (i.e. to the A43(T)) and in terms of rail access via the WCML Fast Lines;
- The superior configuration of RC's Express Freight provision; and
- The provision of a Train Maintenance Facility as part of the RC scheme which will present operational advantages and contribute to RC being a more-efficient SRFI facility than NG.

3.28 It also claims shortcomings in aspects of the RC scheme which are demonstrated above and within the RC application to simply be without basis, including:

- The availability of capacity on the WCML Fast Lines connections as demonstrated through the work undertaken by both NR and specialist timetable planners in respect of the RC scheme.
- The commitment by the RC applicant to deliver the Express Freight facility as early as possible (and reflecting this in the dDCO) cognisant of the constraint of the timing being dictated by NR.

3.29 Finally, the Northampton Gateway Applicant claims that there are aspects of its own scheme which make it superior to the RC scheme – notably the provision of an aggregates facility within the NG scheme. In fact, this will hinder the operation and offer of the NG facility, with slower, heavier trains running through the SFRI.

4. Environmental Impacts (Section 5, UCA)

4.1 This section summarises findings of a review of the environmental aspects of Northampton Gateway's comparative analysis (Section 4 UCA) in relation to environmental impacts and also other considerations of the comparison between Rail Central and Northampton Gateway, wherever they occur in the examination documents. For example, the Revised Northampton Gateway Cumulative Impact Assessment (CIA) (Doc 8.13) also contains a consideration of the perceived relative merits of Northampton Gateway and Rail Central – which would be more properly contained in a comparative assessment as they do not address cumulative issues.

Approach to the Review

4.2 The Rail Central team notes the Northampton Gateway team's concerns in relation to the transport information supplied within the RC application, including the transport modelling. The RC team is currently undertaking a review of its highways mitigation package. This review will extend beyond the end of the Northampton Gateway examination. Highways and Transportation and other traffic related residual effects arising from Rail Central alone and Rail Central and Northampton Gateway cumulatively (i.e. Air Quality and Noise and Vibration (save for Northampton Gateway comparative noise and air quality effects resulting from construction and operation of other aspects of the SRFI) will be considered at the RC examination.

4.3 However, the UCA does not consider associated development including the Roade Bypass (paragraph 1.3 of Doc 5.2) whereas many environmental impacts of the Northampton Gateway project are associated with that part of the scheme. It is therefore not appropriate to exclude this, as it is an integral part of the Northampton Gateway development.

4.4 Northampton Gateway has not provided comparative assessments of waste or climate change, so these cannot be reviewed. As a result of the latter omission the UCA does not consider the greater potential for modal shift offered by the larger site at Rail Central compared to Northampton Gateway, and the target of a 20% reduction in CO_2 emissions compared to Building Regulations standards, compared to a 9% reduction at Northampton Gateway for example (see Appendix 11 to RC's Written Representations at Deadline 1).

4.5 Rail Central has no fundamental disagreements with the comparative conclusions reached by the Applicant in relation to Air Quality, Agricultural Land and Archaeology so these topics are not specifically addressed herein.

Summary of Rail Central Environmental Impacts and Green Infrastructure Proposals

This section of the UCA provides a fair summary of the environmental impacts and the green infrastructure associated with the Rail Central project alone (paragraphs 5.1.23 – 5.1.29). The following sections then provide a comparative analysis with the Northampton Gateway project.

Environmental Impacts

4.6 For the vast majority of environmental topics assessed in the Environmental Statement (ES) (Document 6.1), it is not anticipated that Rail Central will give rise to any residual adverse effects that are considered as being significant. However, it is inevitable that some local adverse significant impacts are anticipated to occur. These are as follows:

- Moderate adverse impacts associated with the permanent loss of agricultural land including the loss of a small proportion of land (approximately one quarter) identified as Best and Most Versatile Agricultural Land (BMV);

- Some significant visual effects at a small number of local visual receptors (including a limited number of residential properties and recreation routes and PROW) during the construction and operation phases of Rail Central. The majority of these visual effects will reduce as the new planting is managed and matures. At year 15, the significant adverse visual effects will be generally limited to local users of recreational routes and PRoW from elevated ground and in close proximity to the Site;

- The construction and operation of the Main SRFI Site will give rise to significant adverse effects to local landscape character although these will be mitigated as the vegetation associated with the landscaping matures;

- There are a number of moderate residual effects that remain during the construction and operational phases for 3 out of the 203 heritage assets assessed. These include Mortimers, Milton Malsor Conservation Area and the Grand Union Canal Conservation Area. These effects are considered to be moderate adverse and thereby significant. However, are all assessed to constitute 'less than substantial' harm to the setting and thereby significance of built heritage assets.

- The loss of veteran trees which are protected by policy but their loss cannot be avoided and have been mitigated as much as possible in accordance with the NN NPS.

Green Infrastructure and Ecological Mitigation

4.7 Whilst the Rail Central Applicant acknowledges the local adverse significant impacts outlined above, Rail Central will prevent significant environmental impacts arising, through the overall site design principles which have been embedded. Any residual effects are further reduced through the implementation of detailed adaptive mitigation measures and more than counterbalanced by benefits from green infrastructure and ecological mitigation areas, in accordance with the NN NPS.

4.8 Since the Preliminary Environmental Information Report (PEIR) informing Rail Central's Section 42 consultation, Rail Central has sought to refine the Green Infrastructure, ecological and landscape & visual mitigation proposals and has:

- increased the height and extent of earth bunding, and reduced the maximum height of buildings within Zone 3a, to reduce the visual effects of the site.

- sensitively designed screen bunding with maximum 1:5 gradients to outer facing slopes which takes consideration of existing land form and contouring and avoids an overly engineered appearance.

- refined its substantial Green Infrastructure, ecological, and landscape & visual mitigation proposals to further respond to local landscape character through the introduction of more regular planting blocks, particularly to the east of the site.

- Provided internal estate roads which will have ecological corridors that seek to replicate field edge vegetation with a ditch line and banked hedgerow.

- Allowed for retention of existing trees and field edge vegetation where possible, and using predominantly native and locally occurring species throughout the scheme;

- Provided for a fund available to certain residents affected by the Rail Central development, to enable the purchase and planting of trees, or management of existing hedgerows at affected properties. This fund will be secured through a section 106 obligation as part of the DCO application.

- Contributed to the strategic biodiversity network habitat reservoirs through the creation of neutral grassland, woodland and calcareous grassland.

4.9 The provision of over 116ha of accessible green corridors landscaped areas, ecological mitigation and pocket parks on the Main SRFI Site, as outlined in the Green Infrastructure Plan, are positive benefits to the scheme and generate a net gain in biodiversity. In particular, significant green buffers between the development area and the Grand Union Canal and around the periphery of the Main SRFI Site will provide a continuous area of mixed habitat which comprise:

- Northampton Road Greenway – Provision of a green corridor along the Northampton Road protecting the existing hedgerows.

- Renovated Barns – Renovation of disused barns in the north of the site into a permanent roost site for barn owls and bats. In addition bat boxes will be used throughout the site to provide roosting opportunities.

- Grand Union Canal Ecological Corridor – A buffer zone will be created in the south west of the site and managed to include woodland, grassland and scrub species.

- West Coast Mainline Corridor - This landscape buffer will include structural planting combined with species rich grassland.

- The A43 Ecological Corridor – Will include new native planting and managed as a dark area, including an underpass designed to facilitate the passage of wildlife including bats.

- Milton Malsor Brook Ecological Corridor – The brook will be enhanced through new planting.

- Attenuation Ponds – The site attenuation ponds will be designed to enhance biodiversity with a range of native species providing opportunities for smooth newts, birds, invertebrates and amphibians.

4.10 The areas would be positively managed to deliver a mosaic of woodland, species rich grassland, scrubland and amenity landscape, with c 7.2km of new green corridors, c. 39ha of woodland planting and c. 2,300 large stature trees, including oak and field maple. Arm Farm Pocket Park will also comprise the creation of a pocket park to the west of the A43 to include native trees and grassland to provide foraging habitat for bats.

4.11 Furthermore, as part of a 32ha devoted to landscape and ecological mitigation, approximately 26ha of the land which is currently in agricultural use, located to the south of J15a of the M1, with close links to the canal and adjacent wildlife sites, will be enhanced within the Ecology Mitigation Area, with additional species-rich hedgerows, scrub areas, field edge ponds, habitat provision for ground nesting birds and grazed wildflower areas.

4.12 Additionally, deadwood from felled trees on the main SRFI site, the attenuation ponds and the diversion of the Milton Malsor Brook corridor would be specifically controlled to create additional habitat and to maximise their wildlife benefit, including for invertebrates, birds and bats. Further adaptive mitigation measures which will be incorporated within the Habitat Management Plan, also include the proposed renovation and repair of barns 1 and 2, alongside further nest boxes, which could provide long-term roosting opportunities for a number of bat species.

4.13 The Biodiversity Offsetting Report (Document 7.14) confirms that a net gain and positive change in biodiversity value arises from Rail Central.

4.14 A range of further additional environmental and economic benefits are outlined in Chapter 26 of Document 7.1 (Planning Statement), which demonstrates that the significant benefits that Rail Central would deliver would far outweigh the adverse effects.

4.15 Paragraph 9.141 of Document 7.3 (Alternative Sites Assessment) explains some key specific impacts and/or differences between Rail Central and Northampton Gateway within certain topic areas.

Comparative Analysis

Key Points of Disagreement

4.16 Detailed comments on the individual topics are provided below. This section contains the main points of disagreement with the Northampton Gateway UCA.

4.17 As Rail Central has previously outlined, the Northampton Gateway Environmental Statement (ES) Northampton Gateway underestimates the environmental impact caused by Northampton Gateway, and therefore overestimate the comparative impact caused by Rail Central compared to Northampton Gateway. For example, the Northampton Gateway scheme has not allowed for acoustic fencing, stated as a comparative benefit of their scheme (because it avoids the visual impact of such

fencing). However, the Rail Central team considers omission of such fencing is an error in the Northampton Gateway scheme as it will be required to limit noise at Noise Sensitive Receptors (NSRs) to acceptable levels. Therefore, the UCA is wrong to claim, at paragraph 5.4.6 a comparative benefit because of the exclusion of screening from the Northampton Gateway scheme. As outlined in paragraph 4.21 below, it is also important to note that Northampton Gateway has not explained the principles by which bund height may vary relative to any change in height of the buildings the bunds screen - nor what parameters have been used in Northampton Gateway's LVIA. This results in an assessment which automatically benefits Northampton Gateway, as the limits of deviation do not allow for a "realistic worst case" to be assessed.

4.18 Northampton Gateway also inaccurately characterises the Rail Central development, resulting in comparatively a more stringent assessment made of Rail Central than Northampton Gateway. For example, the landscape assessment does not provide a thorough analysis of the impact of proposed bunding and landscaping in minimising the visual impact of the Rail Central scheme. The impact of Northampton Gateway is itself mitigated by "significant landscaped bunds" which will themselves create an environmental impact, for example, on the setting of built heritage assets. In practice, as described in the Green Infrastructure section below, Rail Central has incorporated "softer and shallower slopes" (paragraph 5.1.27 of Doc 5.2) with a less overly engineered appearance.

4.19 Generally, comments on the comparative proposals do not allow for the fact that the Rail Central proposal is larger than Northampton Gateway and therefore with a greater potential for economic benefits and potential for modal shift over time with which inevitably comes a proportionately greater potential for environmental impacts. The assessment must be made in the round. Nevertheless, the Rail Central application, including its ES, demonstrates that these impacts can be managed acceptably, and the identified residual significant environmental effects are balanced by the benefits that will result. This is addressed in Rail Central's Planning Statement submitted as part of its representation to Northampton Gateway's examination (Appendix 3 to Rail Central's submission at Deadline 1 - WR.6.11.18).

Landscape and Visual

Landscape Design and Green Infrastructure

4.20 Both schemes propose areas of earth bunding and planting for landscape and visual mitigation. The UCA makes comments on the Rail Central landscaping/ green infrastructure in section 3 and section 5 (e.g. paragraph 3.6 and 5.1.26). However, this fails to acknowledge the significant and effective integral landscaped bunding that Rail Central is proposing to screen the development from Milton Malsor and other key receptors.

4.21 Rail Central's proposed bunding is supported by a robust cut / fill analysis to allow a commitment to the size and height of the bund as shown. As Rail Central raised in ISH2 (and written summary of the oral submissions presented thereafter (document REP4-019)), the bunding proposed by Northampton Gateway could vary depending on final building heights measured at AOD levels. As no explanation of the principles by which bund height may vary relative to any change in height of the buildings they screen is

provided by the Applicant, it is unclear how certainty on the height of bunds is provided – nor what parameters have been used in Northampton Gateway's LVIA.

4.22 The UCA (paragraph 5.1.27) indicates that Northampton Gateway relies on steeper earth bunds that Rail Central. Northampton Gateway's bunds have "largely circa 1:3" gradients, which are engineered in appearance and therefore appear incongruous with the existing topography of the site. Rail Central's bunding is designed to create a max incline of 1 in 5 on external slopes of the bund and to follow the existing contours (rather than develop the maximum potential development footprint)

4.23 The photomontages presented in Rail Central's ES show views from the edge of Milton Malsor (e.g. RC VP1, VP17 and VP18), to demonstrate this soft landscaping. The bunds proposed by Northampton Gateway in comparison (eg Northampton Gateway VP16 from Milton Malsor) have a much more engineered appearance.

4.24 The UCA states at paragraph 5.1.8 that Rail Central's landscape strategy has 'awkward pinch points'– yet mentions only one part of the site with a lesser depth of green infrastructure than the rest of the site. No other examples are provided.

4.25 Overall, Rail Central has a much more comprehensive green infrastructure package than Northampton Gateway. For example, development of a linear country park (rather than re-routing footpaths on screening bunds as Northampton Gateway is proposing), creation of bespoke wildlife corridors and farmland bird mitigation at J15a.

4.26 As Rail Central has a much more extensive area of landscape, there is no requirement to cover it all with woodland as Northampton Gateway is proposing, but provide a more varied mixture of habitats (as per the illustrative plan). This does not imply woodland/ structural planting is "sporadic" (as claimed at paragraph 5.1.9 in the UCA) – rather it has been designed to better reflect landscaping in the surrounding area. The Rail Central proposals seek to tie back to the Northamptonshire habitat networks (ref. Northamptonshire's Environmental Character and Green Infrastructure Suite). This has led to the inclusion of areas of Neutral and Calcareous grassland in addition to woodland planting for example (paragraph 5.1.26 in the UCA).

4.27 Northampton Gateway's UCA implies that Rail Central will be seen from the whole of Blisworth not just from Courteenhall Road (e.g. paragraph 3.6 and 5.1.20 of the UCA), and fails to reference the offsite landscape fund (which is a commitment within the Rail Central DCO) to bolster existing field edge vegetation. Overall, the Rail Central green infrastructure ensures that the built parts of the site are deliberately set back from Northampton Road to allow a significant buffer from the road.

4.28 Comparatively – and also cumulatively – Northampton Gateway has omitted to consider the effect of matured planting, and how this will affect the comparative effect of both projects (for example, para 2.40 of the Revised CIA – Doc 8.13). Although the current planting layout may create separation between the two sites, this ignores the proposed interrelationship, where there is potential for a combined landscaping scheme to ensure a coherent landscaping strategy.

Landscape and Visual Assessment

4.29 The Revised Northampton Gateway CIA (Doc 8.13) claims there are "a number of matters in relation to the methodology and subsequent judgements that are not considered to be correct or justifiable" in the Rail Central chapter (paragraph 2.28 of Doc 8.13) and suggests Rail Central has underestimated effects for some receptors (paragraph 2.34 of Doc 8.13). However, these are not outlined with no explanation or justification here, or elsewhere within the CIA document.

The Northampton Gateway applicant is also critical of changes made in the Rail Central assessment between the Section 42 consultation stage and application (e.g. paragraph 2.30 of Doc 8.13). Explanation was provided within Rail Central responses to the Examining Authority Questions; which also questioned Northampton Gateway's failure to address their own site as an "Area of Important Local Gap" in saved local policy, hence potentially underestimating the landscape value of their own site in comparative terms. Rail Central is only partly located in this area (east of the Northampton Loop Line (NLL), in an area used for green infrastructure only), and so maintains the "Area of Important Local Gap". Northampton Gateway's site is recognised as currently providing a "gap" in surrounding urbanising influences.

4.30 Rail Central is larger and in a slightly more open rural landscape than Northampton Gateway, though the local landscape of Rail Central does have urbanising influences including the Northampton/Towcester Road, JBJ Business Park, and the Milton Business Park, and transport routes with noticeable traffic movement and noise from the rail lines to the south and east, and A43 to the west. The Rail Central site does benefit from some containment being in a slight bowl of land with a ridgeline and the embankments of the West Coast Mainline to the south, rising land to the south east and east and the embankments of the NLL and Milton Malsor to the north, rising land and Gayton Road to the northeast and the A43 to the West.

4.31 In terms of impacts, both schemes will have significant effects on their respective sites and immediate surroundings (including Local Landscape Character) during construction, at year 1 and year 15, but the respective effects would be limited and localised and are partly mitigated through the respective proposed green infrastructure. The Applicant assesses that the Northampton Gateway development will not give rise to significant landscape effects at year 15 (paragraph 2.31 of Doc 8.13). However, Rail Central would dispute this assessment given the nature and scale of the proposal and the permanent change arising to the landscape of the Northampton Gateway site and its immediate surroundings (as assessed for Rail Central).

4.32 Both schemes will have limited and localised effects to County Landscape Character Areas (The Tove Catchment, and Bugbrooke and Daventry) though neither scheme's assessment identifies significant effects to these County Landscape Character Areas (LCA's) during construction or operation.

4.33 The relative effects of each scheme on the local landscape and landscape character are therefore similar in level and extent (limited and localised), and are comparable. However, it should be noted that the Roade Bypass element of Northampton Gateway will add to the landscape and visual effects of this scheme, extending the overall

effects of the scheme over a wider area in the vicinity of Roade and Stoke Bruerne in the south. The Northampton Gateway ES Appendix 4.4 Landscape Effects Table, and Appendix 4.5 Visual Effects Table identifies that the Roade bypass scheme will give rise to significant landscape and visual effects during construction and operation to a number of sensitive receptors including the local landscape character, residential receptors and public rights of way. Although Rail Central's package of highways mitigation is being reviewed, the works at J15a and other minor highway works comprise works to existing junctions and will not result in landscape and visual effects other than to limited and localised receptors as no new road requires to be constructed where there is not currently highway infrastructure in the vicinity.

4.34 The visual effects of both sites are limited and localised. Significant visual effects during the construction and operational phases are anticipated to be experienced by a relatively small number of receptors overall, the majority of which are in close proximity to each site or where views may be gained from limited elevated locations overlooking each respective site. In some cases, the Northampton Gateway site would create a larger impact at a particular receptor (for example, at Collingtree and Courteenhall/West Lodge (paragraph 2.47 of Doc 8.13, which is relevant comparatively as well as cumulatively)) and in some cases Rail Central would create a larger impact (such as at Willow Lodge (paragraph 2.48-49 of Doc 8.13). In practice it is evident that some receptors will be closer to one development than another, so that development will impact the receptor more than the other development.

4.35 A number of these affected receptors are in close proximity to one another including a number of Public Rights of Way on elevated land overlooking the sites to the south, and to the east of Blisworth, so the geographical extent of visual effects is limited and localised. Paragraph 2.52 of Doc 8.13 states that the visual effects on the Public Right of Way (RoW) would arise almost entirely from Rail Central. Although this statement is made from a cumulative point of view (i.e. views of Rail Central would be the prominent view from the diverted RoW rather than views of Northampton Gateway), it is also relevant comparatively. Taken alone, Northampton Gateway proposes to raise the footpath onto a bund on the eastern side of the NLL. Therefore views will be affected by the Northampton Gateway development by bringing users of the RoW onto an artificial, engineered landscape bund. Were Rail Central and not Northampton Gateway to go ahead, the footpath would be diverted through the "softer" landscaping proposed by Rail Central. The Rail Central site has created a setting for diverted footpaths, rather than running them along the side of a screening bund.

Noise and Vibration

4.36 Comments on the Rail Central noise assessment made within the UCA (section 5.4) and Doc 8.13 (paragraph 2.106 onwards) appear to have been made in reaction to Rail Central's comments on the Northampton Gateway's assessment at earlier Deadlines, which identified three key weaknesses, which still stand:

(a) use of inappropriate and elevated assessment thresholds (LOAEL/SOAEL),

(b) omission of significant noise sources (e.g. warehouse mechanical ventilation plant; HGV trailer mounted chillers), and

(c) underestimation of noise output from other significant sources (e.g. Rail Mounted Gantry Cranes and their alarms)).

4.37 Paragraph 5.4.1 in the UCA states that there are weaknesses in Rail Central's approach, but does not provide detail as to why the approach used is inappropriate. Similar issues are raised in Doc 8.13. Evidently the Rail Central team does not accept the criticisms, and consider the assessment methodologies and thresholds to be robust and in accordance with current guidance, and have been scoped with the EHO. Consideration of these criticisms is provided in Appendix 3 of this document (as they are not directly relevant to the comparative assessment.

4.38 Paragraph 5.4.6 in the UCA highlights Rail Central's use of acoustic screens in yards and by on-site rail lines, in addition to bunds. Northampton Gateway has only proposed bunds as mitigation, and implies screening is only effective if screens are very high. This is incorrect, as the proximity of screening to a noise source is also relevant (it is more effective to locate screening as close as possible to the noise source). Rail Central has fully considered screening in the overall design strategy in seeking to balance both noise and visual impacts. Northampton Gateway's argument that mechanical ventilation plant is a key (and potentially significant) noise source in Rail Central's assessment is surprising, as their own assessment did not include it. If the source is mitigated by Northampton Gateway's proposed bunding, the model requires to include it to demonstrate its success at such mitigation.

4.39 Paragraph 5.4.7 in the UCA (Doc 5.2) states that the Rail Central scheme will, overall, have a greater adverse impact as a result of noise and vibration than Northampton Gateway at the two shared receptors. However, the assumptions for the prediction of operational sound made by Northampton Gateway are significantly different to those made by Rail Central, and Northampton Gateway have completely omitted to include a number of significant noise sources from their noise model and significantly underestimated the sound power output of a number of other significant sources as indicated above. Therefore Northampton Gateway are significantly under-predicting operational noise at receptors so Northampton Gateway's conclusion that Rail Central would have a greater adverse impact cannot be relied on.

4.40 In addition, the background noise used in Northampton Gateways assessment is substantially lower than used for Rail Central. Reasons for this are discussed in Appendix 3 of this document. However, overall it is considered that this was a result of data processing and the measurements quoted in the assessment. It is considered that the "mean" values used in the Rail Central assessment are the most appropriate indicator of typical background sound levels in this case.

4.41 Evidently comments made on noise arising from highways mitigation are no longer relevant in terms of comparative assessment. However, it is noted that at one receptor on the proposed Roade bypass, a minor adverse impact rises to a moderate adverse impact as a result of Rail Central - though this cannot be confirmed or explained as no data is provided (paragraph 2.141 of Doc 8.13). It is assumed that the absolute noise level remains below the threshold of significant effect.

Lighting

4.42 Northampton Gateway indicates that construction impacts from the Rail Central project would be “major adverse” (para 5.5.9 of the UCA in Doc 5.2 and in the Revised CIA (Doc 8.13) at Table 1 (p51 - construction) and Table 2 (p54 - operation)) whereas the Rail Central ES lighting assessment (Ch 19 of the Rail Central ES) indicates residual effects from construction and operation would be negligible. Rail Central disputes this potential "significance of effect" as addressed in detail in Appendix 3.

4.43 In summary, the Northampton Gateway UCA (and the CIA in Doc 8.13) fails to properly addresses the three elements of light pollution – namely light trespass/ encroachment, glare and sky glow, focussing instead only on sky glow, which is only a potential issue during some climatic conditions, and acknowledged as such in Rail Central’s assessment. Rail Central’s assessment is based on baseline measurements of light, and uses an objective and recognised assessment methodology (Lighting Impact Assessment (Institute of Lighting Professionals ILP Guidance Notes for the Reduction of Obtrusive Light (2011)).

4.44 Embedded mitigation in Rail Central's project would result in a negligible or minor impact at the shared receptors, which would be reduced to negligible by the proposed adaptive mitigation. Northampton Gateway however, have increased the perceived magnitude and receptor sensitivity of the Rail Central assessment at Table 1 and 2, so have unsurprisingly identified a higher pre-mitigation cumulative impact from both developments. These assumptions are unqualified and therefore just conjecture.

Biodiversity

4.45 Comments made in the UCA (e.g. paragraph 5.6.1) imply that there are gaps in the Rail Central Biodiversity ES Chapter, with a number of protected species surveys being incomplete or inadequate. Rail Central do not agree with this statement, and the detailed criticisms (only made in the Revised CIA in Doc 8.13) are addressed in Appendix 3 as they are not relevant to this comparative assessment. Overall Rail Central has ensured that the assessment has been carried out appropriately, and the surveys scoped with the relevant stakeholders. Therefore, without further information, no weight can be placed on Northampton Gateway’s comments.

4.46 The baseline ecological conditions are similar for both Rail Central and Northampton Gateway, as are the predicted impacts (paragraph 2.71 of Doc 8.13). Surveys for similar species were undertaken, including bats, great crested newt (GCN), badgers and farmland birds.

4.47 Both schemes consider that their impacts can largely be mitigated, leaving only a few residual minor adverse impacts as well as offering beneficial impacts. The majority of adverse effects will be off-set in the mid- to long-term by the creation and favourable management of ecological habitat.

4.48 It is acknowledged that the loss of arable fields as a result of both Northampton Gateway and Rail Central will lead to the unavoidable displacement of some protected farmland birds (the species involved differ – for example the Northampton Gateway site is used by Golden Plovers, whereas the Rail Central site is not). Both schemes will have potential to affect bats, with Northampton Gateway likely to have an effect on badgers and GCN, and the Rail Central scheme having a greater effect on barn owl

roosts and mature/veteran trees. Rail Central will deliver more green infrastructure and biodiversity gains than Northampton Gateway.

4.49 Rail Central has undertaken a specific Biodiversity Assessment using the Warwickshire, Coventry and Solihull Biodiversity calculator and following the methods set out in Defra's biodiversity offsetting pilot which confirms that Rail Central delivers a net gain in biodiversity. No such assessment appears to have been undertaken by Northampton Gateway, though their assessment claims a net gain in biodiversity (included as Appendix 4).

4.50 Overall, Rail Central's biodiversity provision is more extensive than Northampton Gateway's, and designed to enhance retained vegetation, and to buffer features that are important for ecology, including the Grand Union Canal to the south. It will be augmented by specific adaptive mitigation that requires collaboration with ecological consultants to design the habitat identified in the Illustrative Landscape Plan, so that it complements and reflects the existing local habitats. In addition Rail Central proposes a dedicated 26ha area for ecology mitigation located at J15a which Northampton Gateway does not provide. (Northampton Gateway misrepresents this proposal by describing it as "on-site mitigation for farmland birds" similar to what Northampton Gateway are themselves providing). Northampton Gateway's provision is not specifically designed for ecological benefit, as it is frequently required to fulfil landscape/screening/productive agricultural roles in addition to biodiversity. This is evidently not as beneficial as dedicated ecological mitigation areas, as there is not necessarily priority given to the relevant biodiversity interests over the agricultural or screening benefits.

Built Heritage

4.51 Comments on Rail Central's heritage assessment in the UCA suggest that Rail Central will affect more assets than Northampton Gateway (Section 5.9 of the UCA - Doc 5.2). Rail Central is larger, so will inevitably affect more assets given its size and coverage. However, Northampton Gateway's comparative assessment makes no comparison as to what each scheme offers.

4.52 It is also relevant that the Northampton Gateway assessment methodology potentially underestimates the level of effect (particularly the impact of the bunding etc). This means that Northampton Gateway may have concluded there is no significant effect on assets where there could be one. This issue was raised in Rail Central's Deadline 1 submissions (paragraph 13.23 of Rail Centrals Deadline 1 Written Representation) and at Deadline 4 in Rail Central's comments made at the ISH2 oral submissions, in relation to the landscape implications of bunding.

4.53 Reference to there being fewer assets within the order limits are irrelevant (paragraph 5.9.2 in Doc 5.2), as the issue is the level of effect at these assets. Northampton Gateway has not recognised this critical issue.

Hydrology, Geology and Contamination

4.54 Northampton Gateway's UCA addresses drainage only (paragraph 5.10.1 and 5.10.2 of Doc 5.2). This misrepresents Rail Central's drainage proposals, which are not heavily reliant on underground storage in attenuation tanks – but include attenuation ponds and other drainage features within the landscaping on site. In particular, the Milton

Malsor Brook will be diverted, which has substantial proposed biodiversity benefits, as well as reducing flood risk downstream.

4.55 Comment on flood risk and the hydrological assessment is also provided in the Revised CIA. However, Northampton Gateway have apparently misunderstood the assessment of flood risk undertaken by Rail Central. At paragraph 2.101/102 (Revised CIA at Doc 8.13) copied below:

"The Rail Central application (ES paragraph 13.214) identifies 'moderate beneficial' effects with regard to flood risk and foul water drainage … However, the NGW application assesses the magnitude of the impact as Low, with a receptor sensitivity of Medium, leading to an assessment of the effect as minor, beneficial. To achieve a moderate beneficial outcome would require the impact to be of medium magnitude and in the view of the NGW Team further justification would be required by the Rail Central promotors as to why this is so".

4.56 The assessment is described in paragraph 13.195 of the Rail Central ES chapter - i.e. the receptor (land in flood Zone 3) is considered to be high sensitivity, and the impact (reduction of likelihood of flooding of this land) is low magnitude - resulting in a moderate beneficial effect (direct in nature, on a local scale and a permanent basis). This effect is caused by Rail Central alone. Rail Centrals compliance with the WFD (claimed missing at paragraph 2.104 of Doc 8.13) is contained within the Rail Central ES chapter (paragraph 13.13).

4.57 However, overall it is accepted that both schemes attenuate runoff to pre-development greenfield rates. In addition, as stated in the Revised CIA (paragraph 2.105 of Doc 8.13) both developments have "*potential to offer at least a minor, beneficial impact across the wider drainage catchment areas they sit within. This is due to increased proportions of these catchments having sustainable drainage systems designed to restrict runoff and delivering a betterment on the peak runoff rates seen currently for rainfall events which generate high volumes of surface water*".

4.58 Detailed geotechnical design to be carried out for both schemes will ensure the works are stable and therefore will not impact upon neighbouring lands, infrastructure or adjacent proposed developments. No significant soil gas has been identified beneath either the Northampton Gateway or Rail Central sites.

4.59 Comparatively, therefore, both sites are agreed as being similar in terms of hydrology, geology and potential for contamination despite differences in the assessment methodologies.

Cumulative Assessment: Summary

4.60 In summary Rail Central disagrees with Northampton Gateway's assessment that:

- *The Northampton Gateway site is more visually contained and…will encompass a more effective visual mitigation approach... (paragraph 5.1.7)* – Both sites include effective mitigation to screen them within their surrounding landscape context, and both sites are located in a topographic "bowl" which limits landscape effects to relatively short distances. The bunding proposed by Rail

Central is more reliable in terms of the proposed Limits of Deviation and how the bunds will relate to the buildings they are supposed to screen. The bunding proposed by Rail Central also has a less engineered appearance.

- *The Rail Central site contains a number of "awkward pinch points" where the green infrastructure appears too narrow (paragraph 5.1.8) and the proposed structure planting is limited and sporadic (paragraph 5.1.9)* – Rail Central has a much more comprehensive green infrastructure package than Northampton Gateway. For example, it includes development of a linear country park (rather than re-routing footpaths on screening bunds as Northampton Gateway is proposing), creation of bespoke wildlife corridors and farmland bird mitigation at J15a. As Rail Central has a much more extensive area of landscape, a varied mixture of habitats is proposed that reflect landscaping in the surrounding area and tie into the strategy for Northamptonshire habitat networks.

- *The Rail Central site occupies a more open and rural landscape, more removed from existing urbanising influences (paragraph 5.1.13)* - There are urban influences adjacent to both schemes, including the transport infrastructure network including the M1, A43 and rail network, and small industrial developments (such as those off Northampton Road in the case of Rail Central) which detract from the "rural" nature of both sites.

- *The Northampton Gateway site is more effectively mitigated than Rail Central in landscape terms (paragraph 5.1.14)* – As indicated above, the mitigation embedded into the Rail Central site is not less effective than that proposed by Northampton Gateway. Rail Central is also proposing a landscape fund (which is a commitment within the Rail Central DCO) to bolster existing field edge vegetation. Northampton Gateway has also omitted to consider the effect of matured planting, and how this will affect the comparative effect of both projects.

- *The level of visual effects will be materially greater overall for the Rail Central Scheme (paragraph 5.1.20)* – This comment fails to recognise that both schemes will have significant effects on their respective sites and immediate surroundings (including Local Landscape Character) during construction, at year 1 and year 15, but the respective effects would be limited and localised and are partly mitigated through the respective proposed green infrastructure. However, the Roade Bypass element of Northampton Gateway will add to the landscape and visual effects of this scheme, extending the overall effects of the scheme over a wider area in the vicinity of Roade and Stoke Bruerne in the south. Significant visual effects during the construction and operational phases are anticipated to be experienced by a relatively small number of receptors overall. In some cases, the Northampton Gateway site would create a larger impact at a particular receptor (for example, at Collingtree and Courteenhall/ West Lodge) and in some cases Rail Central would create a larger impact (such as at Willow Lodge).

- *The Green Infrastructure proposals for Rail Central are less extensive and robust (paragraph 5.1.26) and the earthworks proposals are less connected and extensive and significantly less effective (paragraph 5.1.27)* – As indicated above,

the green infrastructure proposed by Rail Central is more extensive and designed with greater consideration for biodiversity and landscape benefit, with more reliance placed on the efficiency of the proposed bunds at screening the development. The proposals for footpaths provide a greater benefit by providing a structured landscape for the paths to pass through, rather than routeing them along the side of screening bunding as proposed within Northampton Gateway's scheme.

- *The Rail Central proposed planting and habitats are out of character with the existing and broader landscape of the site (paragraph 5.1.29)* – The proposed planting has been developed to tie into existing habitat networks and reflect existing habitats present in the area and wider region.

- *Operational sound from Northampton Gateway will be better attenuated by bunding than screening (paragraph 5.4.5)* - This is incorrect, as the proximity of screening to a noise source is also relevant (it is more effective to locate screening as close as possible to the noise source). Rail Central has fully considered screening in the overall design strategy in seeking to balance both noise and visual impacts. Northampton Gateway is considered to have underestimated noise sources from within their site, so it is likely than acoustic screening will indeed be required to reduce noise at NSRs to acceptable levels.

- *Higher levels of operational sound will occur from SRFI activities on the Rail Central site and the Rail Central Scheme will, overall have a greater adverse impact (paragraph 5.4.7)* – As indicated above, Northampton Gateway have completely omitted to include a number of significant noise sources from their noise model and significantly underestimated the sound power output of a number of other significant sources. Therefore Northampton Gateway are significantly under-predicting operational noise at receptors so Northampton Gateway's conclusion that Rail Central would have a greater adverse impact cannot be relied on.

- *Night time lighting effects from construction activities at the Rail Central scheme will be "major adverse" whereas for Northampton Gateway, effects would be at most moderate adverse until bunding is constructed (paragraph 5.5.9)* - Embedded mitigation in Rail Central's project would result in a negligible or minor impact at the shared receptors, which would be reduced to negligible by the proposed adaptive mitigation. Northampton Gateway however, have increased the perceived magnitude and receptor sensitivity of the Rail Central assessment so have identified a higher pre-mitigation impact.

- *Lighting effects during operation would be significantly greater from the Rail Central scheme than the Northampton Gateway scheme, due to light presence and sky glow, caused by the topography and proximity to receptors (including the canal and ecological receptors) (paragraph 5.5.10-13)* - Northampton Gateway fails to properly addresses the three elements of light pollution - namely light trespass/ encroachment, glare and sky glow. Rail Central's assessment is based on baseline measurements of light, and uses an objective and recognised assessment methodology.

- *The conclusion of the Rail Central site that there would be not significant residual effects related to loss of veteran trees, important hedgerow features and bats is premature and may be misleading (paragraph 5.6.1)* - Rail Central has ensured that the assessment has been carried out appropriately, and the surveys scoped with the relevant stakeholders.

- *Both schemes are likely to have an impact on bats, GCN, farmland birds and badgers (paragraph 6.6.6)* – Although surveys for these species were undertaken for both projects, and the background ecological interest is largely similar, there are differences in the effects at both sites. For example, the Northampton Gateway site is used by Golden Plovers, whereas the Rail Central site is not. Both schemes will have potential to affect bats, with Northampton Gateway likely to have an effect on badgers and GCN, and the Rail Central scheme having a greater effect on barn owl roosts and mature/veteran trees. Rail Central will deliver more green infrastructure and biodiversity gains than Northampton Gateway.

- *The Rail Central scheme is more harmful in built heritage terms than Northampton Gateway (paragraph 5.9.1)* - Rail Central is larger, so will inevitably affect more assets given its size and coverage. However, the Northampton Gateway assessment methodology potentially underestimates the level of effect (particularly the impact of the bunding etc). This means that Northampton Gateway may have concluded there is no significant effect on assets where there could be one.

- The Rail Central drainage strategy relies heavily on below-ground storage in attenuation tanks (paragraph 5.10.1) – this is a misrepresentation of Rail Central's proposals, which include attenuation ponds and other drainage features within the landscaping on site. In particular, the Milton Malsor Brook will be diverted, which has substantial proposed biodiversity benefits, as well as reducing flood risk downstream.

4.61 Several of the comparative assessments undertaken by Northampton Gateway are flawed, resulting in an underestimation of their own effect, and therefore imply there would be a lesser effect in comparison to Rail Central than there would in fact be. In addition, the assessments do not correctly recognise the extent of mitigation embedded into the Rail Central project, again resulting in an overestimation of Rail Central's environmental impact in comparison to Northampton Gateway's.

4.62 Nevertheless, in general, Rail Central accepts that environmental impacts from both sites can be mitigated to reduce them to acceptable levels, although some significant environmental effects will remain for both projects. However, these will be balanced by the benefits provided in terms of socioeconomic and modal shift benefits on a regional and national scale. Comparatively, Rail Central is considered to provide the greater of these benefits, being the larger and better located site operationally, which is not recognised in the Northampton Gateway UCA.

5. Conclusions

5.1 This document sets out the response of the Rail Central Applicant to Northampton Gateway's Updated Comparative Analysis of Northampton Gateway and Rail Central (Appendix 2.4 to Environmental Statement (Document 5.2)) ("the Updated Comparative Analysis" / UCA) [REP-4-008].

5.2 It can be demonstrated, by reference to evidence provided as part of the RC application that the RC scheme achieves good design in the context of the NN NPS. The environmental impacts, particularly in regard to landscape and visual impact cannot be regarded as 'far greater' and unable to be mitigated, as claimed in the UCA.

5.3 In terms of operational and functional aspects, the response above demonstrates that the RC scheme is superior in in terms of the available access to the A43(T). The ability to connect to the West Coast Main Line, as well as the Northampton Loop Line, along with additional facilities such as the Train Maintenance Deport (considered further below), this presents additional market, operational and technical advantages over Northampton Gateway which makes Rail Central more resilient, flexible and more adaptable to the changing rail freight market.

5.4 In terms of environmental aspects, the Rail Central team has no fundamental disagreements with the comparative conclusions reached by Northampton Gateway in relation to Air Quality, Agricultural Land and Archaeology. For these areas, it is accepted that both projects would create environmental impacts of a similar magnitude, that can be mitigated. However, the comparative assessment of other topics by Northampton Gateway suffer from errors and omissions in Northampton Gateway's environmental assessments, which underestimate their own effect, and therefore imply there would be a lesser effect in comparison to Rail Central than there would in fact be. In addition, the assessments do not correctly recognise the extent of mitigation embedded into the Rail Central project, again resulting in an overestimation of Rail Central's environmental impact in comparison to Northampton Gateway's. There is also a failure to recognise that the Rail Central proposal is larger than Northampton Gateway, so with a greater potential for economic benefits and inevitable environmental impacts arising from it. It is considered that these failures make the comparative assessment offered by Northampton Gateway to be incomplete and incorrect in places, and that the benefits offered by Rail Central over Northampton Gateway appropriately balance the residual significant environmental impacts.

Appendix 1: Document 7.2 (Design and Access Statement)

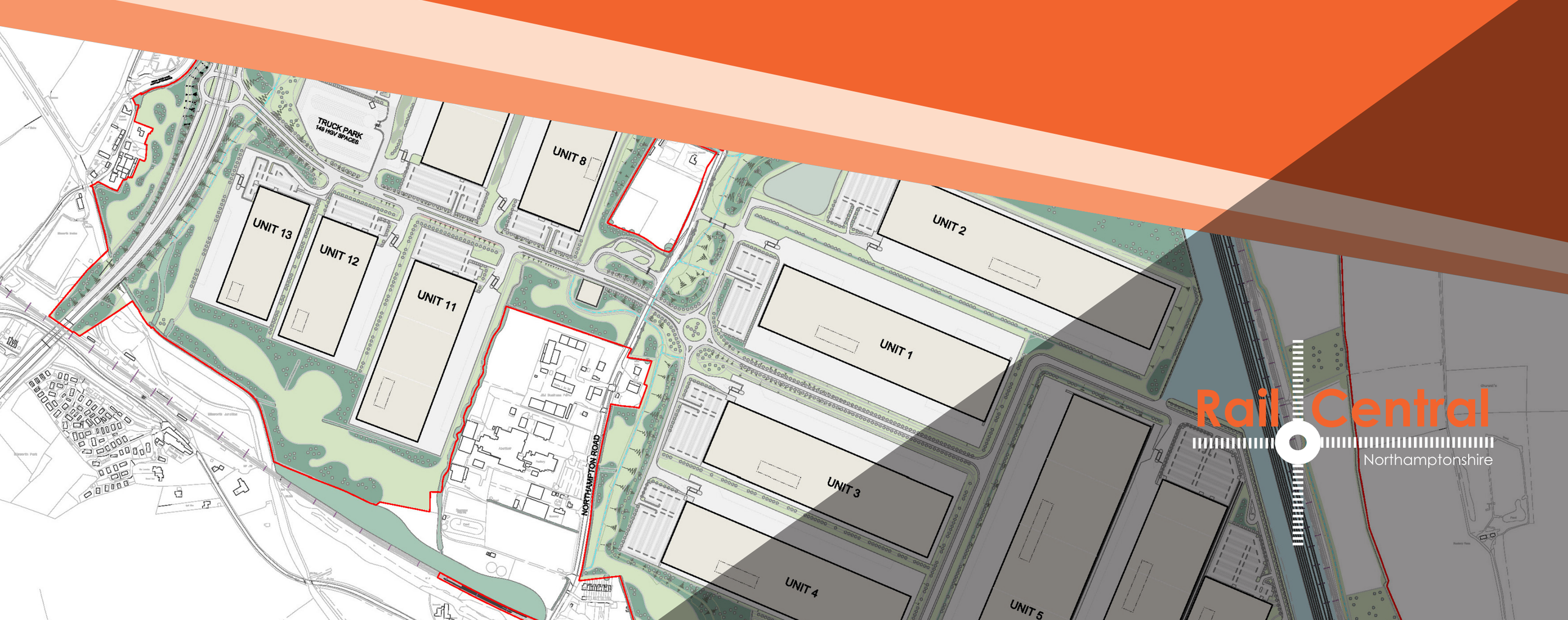
Rail Central

Design and access statement

SEPTEMBER
2018

Document Ref: 7.2

Regulation 5 (2) (Q)



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1 INTRODUCTION

This Design and Access Statement has been prepared to support an application to the Secretary of State (SoS) via the Planning Inspectorate (PINS) for a DCO under the Planning Act 2008 for the development of Rail Central - a new Strategic Rail Freight Interchange (SRFI) (which includes warehousing) on land at Arm Farm, Milton Malsor, Northamptonshire.

The DCO application includes associated development and also includes associated highway works. A specific element of those highways works relating to Junction 15A of the M1 motorway (J15A) constitutes a NSIP in its own right. Where a scheme involves development which meets the criteria for more than one type of NSIP, then such a scheme can be pursued in a single application for a DCO. For completeness it has therefore been determined that there are two NSIPs forming the proposed development, namely:

- The Main SRFI Site; and
- Works to J15A of the M1.

The elements of the proposed development that are not encompassed within either NSIP are characterised within the draft DCO as associated development.

The statement sets out the design rationale that has influenced the proposals. It seeks to demonstrate how the design process was conducted; how the design response evolved; how the proposals were shaped through consultation; and a deep understanding of the site's prevailing context.

The statement reflects the sequence of key stages in the design process:

- project vison
- policy context
- strategic context
- local context and site analysis
- towards a design response
- the proposals

The Logistics Sector

Logistics is one of the most important and fastest growing sectors in the UK. Moving freight quickly and cheaply has never been so important for businesses to meet their customer's expectations. Continuous innovation in the sector is essential to maintain competitive advantage in the most environmentally acceptable way. In this context, networks are the conduit for freight movement and the growing needs of the logistics industry are such that road congestion imposes economic and social cost. Faster and more efficient transportation of freight is required supported by SRFI between nodes – these will increase speed of transfer, reduce costs and contribute lower carbon than road options.

SRFI Development

A SRFI is a large rail-served distribution park linked into both rail and the strategic highways network, capable of accommodating the large warehousing necessary for the storage, processing and movement of goods for manufacturers, retailers and end consumers. The aim of 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 (final delivery) 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. SRFIs form a key part of the Government's vision to achieve a low carbon sustainable transport system to act as an engine for economic growth, that is safer, and improves quality of life in our communities.

The transfer of freight from road to rail has an important part to play in a low carbon economy, therefore helping to address climate change.

In order to address the on-going government policy objectives and satisfy new market demand, a network of SRFIs is needed across the regions to provide capacity and flexibility. The existing network of SRFIs will only have a finite capacity to expand floorspace and/or rail freight interchange facilities. Therefore, further SRFIs such as Rail Central are needed to increase both the capacity and the wider network, bringing rail access closer to more local companies than is possible from these existing sites alone.

Development of Rail Central will therefore help to ensure greater opportunities to achieve further "modal shift" of long-distance freight from road to rail, with the associated environmental benefits, over the medium to long term. This site is therefore targeting a longer term provision of space to ensure continuity of supply in the market it serves.

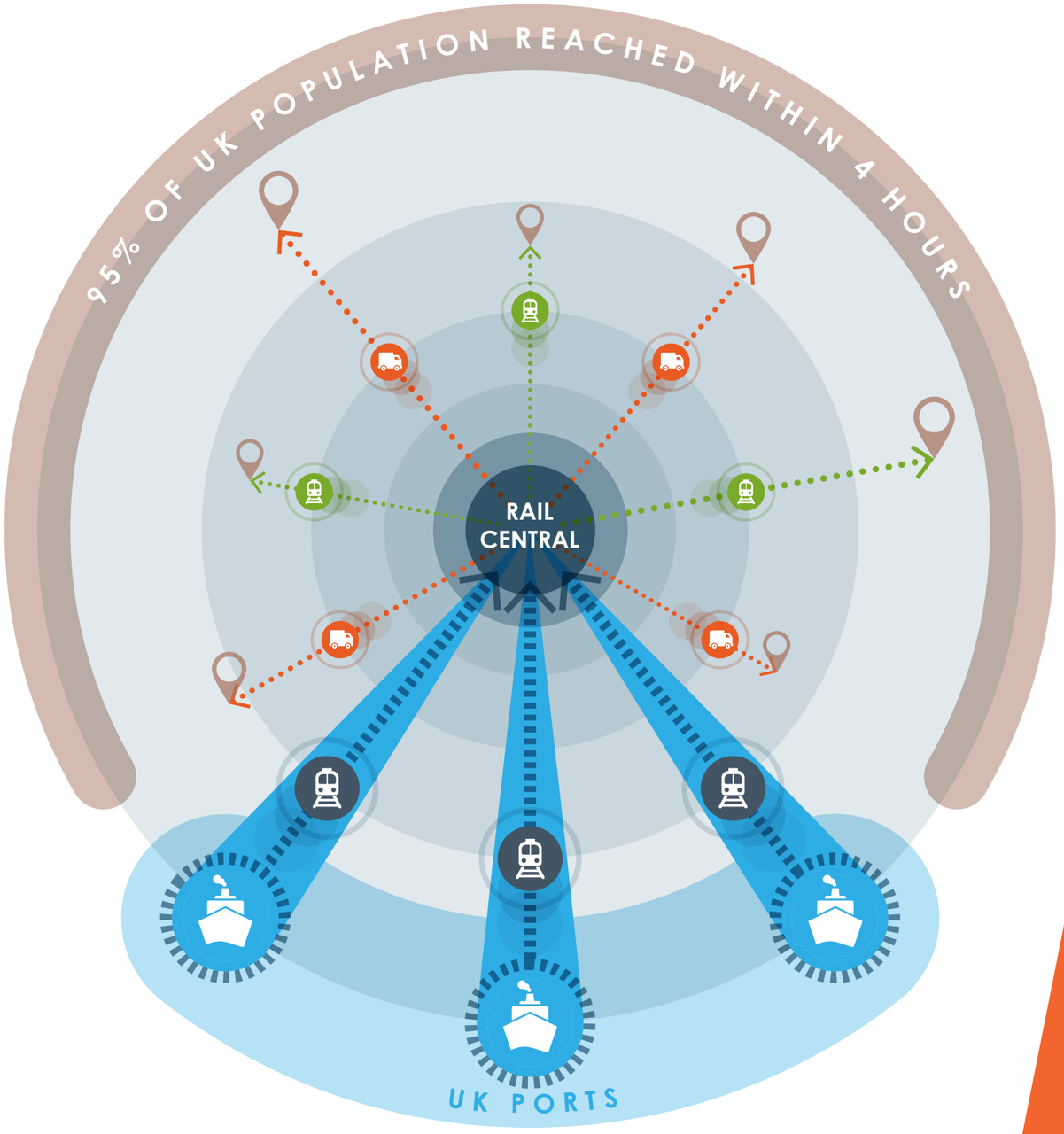
Logistics - a crucial element of the UK economy

Freight - from road to rail - delivering infrastructure for the 21st century in a nationally significant region

Competitive advantage for UK Plc

Engine of growth for South Northamptonshire

Contribution to a **low carbon economy** by achieving modal shift from road to rail as required by National Policy



The Key Ingredients

The proposed development includes the following elements;

An **intermodal** freight terminal with direct connections to the Northampton Loop Line, capable of accommodating trains of up to 775m long, including up to 3 gantry cranes, container storage, a train maintenance depot and facilities to transfer containers to Heavy Goods Vehicles (HGV);

An **express freight** terminal with direct connections to the West Coast Main Line, capable of accommodating trains of up to 240m long, a freight platform with associated loading and unloading facilities;

Up to **702,097 sq m** (Gross External Area) of rail connected and rail served warehousing and ancillary service buildings including a lorry park, terminal control building and bus terminal;

New road infrastructure including a new separated access point on the A43 (T), an internal site underpass (under Northampton Road) and necessary utilities infrastructure;

Strategic landscaping and open space including alterations to public rights of way, the creation of new ecological enhancement areas and publicly accessible open areas, flood attenuation, and the partial diversion of the Milton Malsor brook;

Improvements to J15A of the M1, including pre-development works, widening and signalisation of the existing northern roundabout and approaches, reconfiguration of the existing southern roundabout to provide a signalised T-Junction, providing a new two lane free flow slip on the A43 (south bound) and providing a new link road between the southern junction to M1 northbound on and off slips.

Landscape and ecological mitigation to the south-west of J15a, to mitigate habitat loss at the Main SRFI Site, and landscaping around the junction

Minor highways works at 9 identified junctions and improvements to a cycleway and footpath between Blisworth, south of the Main SRFI Site and Milton Malsor north of the main site. These works are generally within existing highways land and works would include widening of carriageways, signalisation works and signage improvements.

Demolition of existing buildings and structures.

2 VISION

Rail Central will be a national asset, a leading next generation SRFI ideally placed within the heart of the country, the destination of choice for logistics and industry occupiers. It will be a state of the art SRFI which is well connected to the principal routes for freight (road and rail) in the country, a great place to work and an exemplar of sustainability.

Ambitions

There are a number of ambitions which underpin the overall vision:

A next generation SRFI

- The operational experiences of existing SRFI/RFI, along with the continually evolving needs of the logistics and freight market have informed the proposals. Rail Central builds on this experience and upon its unusual ability to connect to two railway lines to deliver a next generation SRFI which is future-proofed in terms of warehouse flexibility and enhanced in terms of operational and technical infrastructure and connectivity to the rail network. These advantages not only benefit the future occupiers and users of Rail Central but also the wider strategic rail network.
- Rail Central facilitates not only a state of the art intermodal terminal but recognises the evolving and expanding market needs in respect to freight delivery. This is acknowledged through the provision and delivery of an express freight terminal. These market needs have been acknowledged by government and network rail.
- Rail Central therefore aims to offer the widest possible range of rail-based services for occupiers and users, maximising the potential for a modal shift to arise in line with government objectives.

A sustainable SRFI

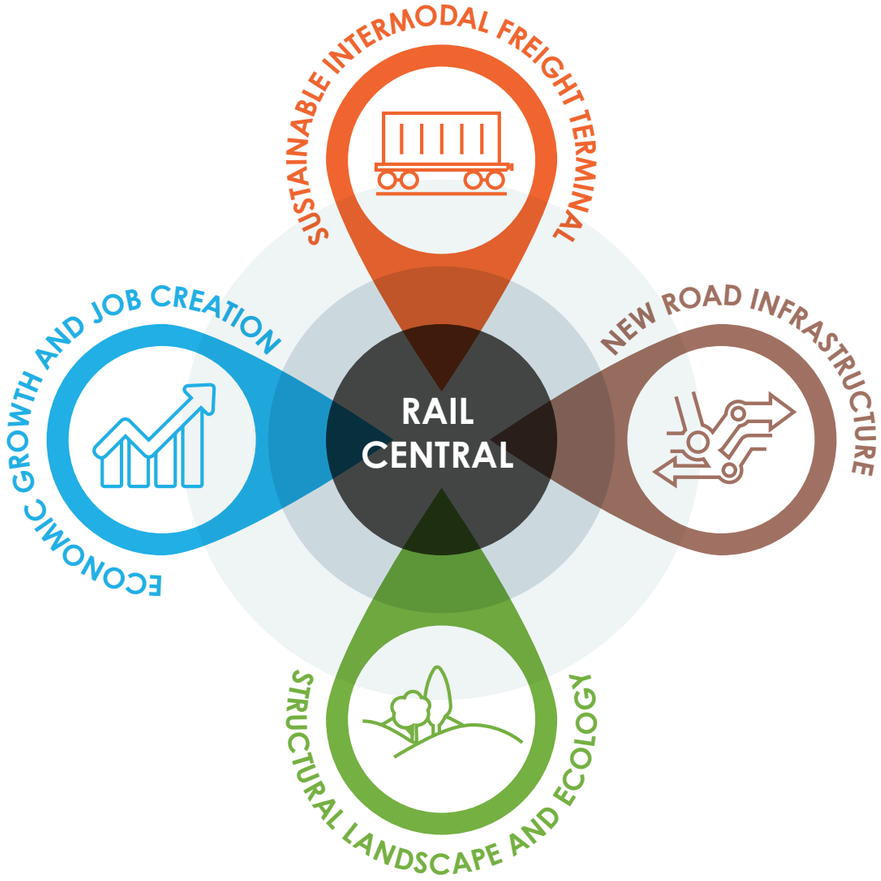
- Rail Central will integrate multi-modal transport connections to create an accessible business environment that facilitates sustainable movements of goods across national, regional and local markets.
- Rail Central will deliver significant carbon savings through modal shift and will ultimately make a significant contribution towards the UK's carbon budgets which is a key requirement of National Planning Policy.

A SRFI delivering economic growth

- Rail Central will contribute significantly to the local and national economy through the creation of skilled jobs, attracting new businesses to the region.
- Rail Central will contribute towards the creation of a network of SRFIs to support a prosperous and competitive UK economy.

A mitigated SRFI delivering benefits

- Balancing commercial and market demand requirements, Rail Central is to be sensitively designed providing green and ecological infrastructure and new high quality landscaping.
- Rail Central will deliver significant improvements on the road network; facilitating a beneficial improvement to the operation of the road network with benefit to all.



AERIAL VIEW OF THE PROPOSED DEVELOPMENT FROM THE SOUTHEAST

3 SCOPE AND STRUCTURE

Scope

Whilst there is no legal requirement for a Design and Access Statement (DAS) or design guidance to accompany an application for a DCO, regulation 5(2)(q) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 requires that the application must be accompanied by the submission of 'any other documents necessary to support the application'.

This DAS is such a document to describe the design approach that supports the proposal.

The DAS details a flexible and adaptable approach to the future development of the area, which responds to its existing economic, environmental and social context.

Structure

The structure of this document is broken down into a number of topic areas:

Section 4 - Strategic Context places the proposed development within the physical, economic and planning strategic context of the wider area. It sets Rail Central within the context of regional urban centres, as well as the 'Golden Triangle of Logistics'. It also provides a broad overview of the rationale for Rail Central as a suitable location for a SRFI.

Section 5 - Local Context considers the local context and influences that have shaped the proposals for Rail Central.

Section 6 - Site Context provides a visual analysis of the site's immediate context.

Section 7 - Opportunities and Constraints distils the technical conditions of Rail Central into a series of constraints and opportunities for the proposed development.

Section 8 - Design Principles breaks down the vision for Rail Central into a series of development principles, which then inform and guide the masterplan for the scheme's development.

Section 9 - Design Evolution looks at how the scheme's design has evolved through various iterations, which have been informed by a series public consultations.

Section 10 - Scheme Parameters details a breakdown of the scheme parameters that have structured the deign proposals for the Rail Central site.

Sections 11 - The Masterplan introduces the proposed masteplan which has been informed by the previous chapters in this DAS.

Section 12 - The Proposition in Detail articulates the various proposal elements which make up the overall development.

Section 13 - Summary and Conclusions provides a review of the key findings established through this DAS, summarising key elements which make up the proposed development.

AERIAL VIEW OF THE SITE

4 STRATEGIC CONTEXT

The geographical location of Rail Central and its surrounding economic context provide its competitive advantage in response to the increasing need and market demand for SRFI in the UK and to the strength of the distribution and logistics sector in the Midlands and in Northampton in particular.

The Rail Central site has attributes to be one of the highest performing SRFI locations in the Midlands; an area which has long been the UK's 'centre of gravity' for the distribution and logistics. It benefits from:

- a central strategic location within the UK in terms of its access to key population centres – this makes it especially attractive to companies needing large scale National Distribution Centres (NDCs) and Regional Distribution Centres (RDCs);
- significant transport infrastructure including the M1 and M6 motorway, the West Coast Main Line (WCML) and Northampton Loop Line (NLL) and has good access to other infrastructure outside the region including the Port of Felixstowe, the UK's largest container port;
- a good supply of available labour; and
- a large population and economic base, which generate requirements for logistics property.

How a Strategic Rail Freight Interchange (SRFI) Works

Within the non-bulk sector of the rail freight market most relevant to SRFI (ie excluding bulk commodities such as coal, aggregates, steel and petrochemicals), three main types of rail-based distribution service are used:

- Movement between rail-served production and/or distribution sites;
- Movement of containers between ports and inland interchanges;
- Movement of goods between non rail-served premises, using rail transport for the primary 'trunk' haul.

The range of activities associated with SRFI typically include:

- Road and rail haulage services;
- Road / rail interchange facilities;
- Storage of goods for later processing / distribution;
- Processing of goods (e.g. re-labelling, repackaging);
- Despatching of loads from warehousing;
- Management and planning of distribution activities up and down the supply chain, as well as various other services.

SRFI provide rail freight interchange facilities for both on-site and off-site users, moving freight to and from the site by rail and road. The three main types of rail service which SRFI such as Rail Central can cater for include:

- Intermodal services, moving containers of goods across multiple modes of transport;
- Conventional wagon services, containing goods moved between production and distribution facilities with no intermediate use of road haulage;
- Express freight services, moving time-sensitive goods at high speeds between distribution hubs and satellite terminals serving urban areas.

Rationale for Rail Central

The rationale for Rail Central is driven by this strategic context and the following characteristics which befit a good location to site the SRFI:

Direct connections to the national rail network

- Rail Central is directly located off the existing rail network being bound to the west by the WCML "fast lines" and to the east by the NLL "slow lines". Both lines link London and the South East with the Midlands, North West and Scotland and is the principle route for movement of north-south inter-modal (containerised) and conventional wagon rail traffic. It has potential to handle the longest freight trains using diesel or electric traction and carry containers for deep sea traffic.
- All four existing lines are electrified and cleared to W10 loading gauge. This would provide onward access at W10 gauge to the principal deep-sea ports of Felixstowe, Southampton and London Gateway, as well as other ports and (S)RFI at W10 gauge in London, the Midlands, North West, Yorkshire & Humberside, North East and the Scottish Central Belt.

Direct connections to the strategic road network

- Rail Central offers direct access to the A43(T) dual-carriageway and lies in close proximity to the M1 Motorway which serves as the key north-south motorway link in the UK and a core part of the strategic highway network. This provides access to a large proportion of the national population while the A43(T) offers alternative access to the M4 motorway.

Central location in the UK & close to markets

- Northamptonshire is part the Golden Triangle which is the UK's 'centre of gravity' for the distribution and logistics sector, with excellent access to national, regional and local markets.
- This area is known for its high concentration of existing large-scale and major logistics operators. It has been attractive due to the large conurbations it can serve – both on the doorstep (such as the East and West Midlands) but also further afield. Circa 90% of the national population can be reached within a four hour drive. The area is also an important location for existing National Distribution Centres (NDCs) and Regional Distribution Centres (RDCs). Rail Central is at the southern tip of the "Golden Triangle". This facilitates the ability to extend the existing SRFI network further southwards and enable the service of markets south of DIRFT that are underprovided for in terms of SRFI.
- In addition to serving proposed on-site occupiers, SRFIs provide the opportunity for existing warehousing occupiers within the vicinity to utilise the rail connectivity available. The Rail Central site has a strong external catchment area identifying 371 large-scale modern logistics buildings totalling 8.19 million sq m (88.18 million sq ft) within a 50 km radius of the site. These facilities are occupied by more than 200 different companies, including many which are already using rail or which, based on their products and supply chains, might reasonably be considered as potential rail freight users. The Market Assessment Report concludes that the proposed development would have a large base of companies within its wider catchment area from which to attract demand.
- Without such SRFI provision, these large clusters of existing logistic operations will continue to be dominated by road based distribution.

Accessibility to labour supply

- Rail Central has accessibility to a broad catchment area of labour supply. It is anticipated that the majority of jobs at Rail Central will be occupied by people residing across six local authority areas comprising South Northamptonshire, Northampton, Milton Keynes, Coventry, Wellingborough and Daventry.

LIVERPOOL
MANCHESTER
SHEFFIELD
EAST MIDLANDS
STOKE-ON-TRENT
NOTTINGHAM
Strategic rail connections - West Coast Main Line
M6
M1
GOLDEN TRIANGLE
LEICESTER
BIRMINGHAM
M6
M1
COVENTRY
NORTHAMPTON
M5
Rail Central
Northamptonshire
Strategic highway connections
WEST MIDLANDS
MILTON KEYNES
to the
South West
to London

5 LOCAL CONTEXT

Immediate Context

Northamptonshire is a predominantly rural county situated in the heart of England.

The site is within the administrative boundary of South Northamptonshire Council.

The main SRFI site is approximately 294 hectares in size and is largely comprised of large-scale arable farmland, with some smaller scale pastoral fields located within its north-eastern extent, just to the south of the village of Milton Malsor.

Nearly three-quarters of the land is classified as moderate quality Subgrade 3b, with the remaining one-quarter classified as Best and Most Versatile land in Grades 1, 2 and 3a.

The site is intersected by a watercourse which flows in a predominantly northerly direction through the approximate centre of the site before draining into a watercourse a short distance to the north. It is understood that the watercourse is referred to locally as the Shoal Creek.

North

To the north, the site is bound principally by the village of Milton Malsor, part of which is designated as a Conservation Area. There are a number of Grade II Listed Buildings and one Grade II* Listed Building in the village, and those closest to the site include The Old Rectory and Mortimers on Rectory Lane.

Gayton Road runs from east to west along the northern boundary of the site and intersects with Towcester Road/ Northampton Road, where it then becomes Rectory Lane for the remainder of the site's northern boundary.

Milton Business Park abuts the site's north-western corner, which includes, amongst other uses, a vehicle service and parts centre. The residential dwellings of Gaytonway, Copper Beeches, Woodbury, Parley Pole and Spring Gardens run from north to south along Towcester Road at the intersection with Gayton Road/Rectory Lane.

A parcel of agricultural land, which is bisected by Barn Lane running from north to south, and Milton Football club complete the site's northern boundary to the north-east.

The County Town of Northampton (Population c. 212,000, in 2011) lies approximately 6km to the north of the site.

East

The NLL defines the site's eastern boundary, although some land to the east of the NLL is included in the Order Limits to facilitate a footpath diversion. The remaining farmland within the red line to the east of the railway will be left as is. Beyond the NLL lies agricultural land and Junction 15 of the M1 Motorway.

The villages of Collingtree and Courteenhall lie approximately 1.9km to the north-west and 3km to the south-west respectively.

South

The WCML directly abuts the length of the southern boundary of the site running from east to west. Beyond the WCML lies the village of Blisworth, which like Milton Malsor, is designated in part as a Conservation Area. There are a total of thirty-seven Grade II Listed Buildings and one Grade II* Listed Building in the village, with the closest to the site being the Railway Bridge over Northampton Road and No.25 and No.27 Grafton Villas.

Station Road runs from west to east and terminates at a T-Junction with Northampton Road, which runs from north to south through the site. At the junction of Northampton Road and Station Road lie a number of residential dwellings, including Sumach, Glendale, Cartref and Traquair.

The Grand Union Canal (originally named the Grand Junction Canal) runs from north to south and forms the south-west boundary of the site. The canal was constructed between 1793 and 1805 to provide a more convenient trade route between London and the Midlands than the existing Oxford Canal and is a designated Conservation Area.

Towcester lies approximately 7km to the south of the site, whilst the village of Roade lies approximately 3km to the south-west.

West

The A43 is adjacent to and within the proposed development area and defines the entire western boundary of the site. Beyond the A43 to the west lies Arm Farm, a spur/branch of the Grand Union Canal known as 'the Northampton Arm', and Gayton Marina.

As set out above, the Grand Union Canal is a designated Conservation Area. The Milepost alongside the towpath and Bridge no.47 is Grade II Listed.

The town of Daventry (population c. 80,000) lies approximately 18km to the north-west of the site, whilst the villages of Gayton and Rothersthorpe lie approximately 2.7km to the south-west and 2.3km to the north-west respectively.

Meadows

Swan Valley Business Park

Brackmills Industrial Estate

Roadchef Northampton

Rothersthorpe

Wootton

A45

M1

A43

Gayton Road

Milton Malsor

Collingtree

Northampton Loop Line (Slow Line)

Towcester Rd

Gayton Village

Business Park

Northampton Commercial Park

A508

West Coast Main Line (Fast Line)

Blisworth

LOCAL CONTEXT

NATURAL ENVIRONMENT

Landscape Designations

There are no national, regional or local designations within the site. Furthermore, there is no visual interaction between the site and surrounding landscape designations. However within the wider area there are Conservation Areas at both Blisworth and Milton Malsor with the potential to interact with the site. While these are primarily heritage designations, their setting is of relevance to the landscape design within the site. In addition to this there are several public rights of way that cross the site providing footpath links between adjacent villages.

Landscape Character

The site lies within the National Character Area 89: Northamptonshire Vales. In addition to this national character designation, the landscape is also considered at a county level where the majority of the site falls within Landscape Character Type 13: Undulating Hills and Valleys and specifically its character sub-division 13b: Bugbrooke and Daventry. The remaining south eastern part of the site falls within Landscape Character Type 6: Undulating Claylands and specifically its character sub-division 6a: Tove Catchment. The site's landscape character can be summarised in the following points:

- The site has a gently undulating landscape varying between approximately 80m to 90m AOD with land rising to the east including the NLL (approximately 90m to 95m AOD). The highest point at approximately 102m AOD is located beyond the site boundary near rectory Farm, with the south-eastern corner of the site towards the junction between the NLL and the WCML rising to approximately 95m AOD. Views are more open to the north and north-west, however landform and vegetation frequently limit more extensive, panoramic views. In addition, some man-made landforms, such as road and rail embankments, provide an effective visual barrier;
- Land cover, particularly within the site, is a combination of both arable and pastoral farmland in fields of medium to large size. A noticeable variation in character within the site relates to changes in field types, which is evident in the north-eastern part of the site, just to the south of Milton Malsor. The majority of the site consists of large-scale, open arable fields, however the north-eastern part of the site includes smaller scale fields which have stronger field boundaries and are more commonly used for grazing;
- Woodland cover is relatively limited and consists mainly of small, predominantly broadleaved woodland copses sparsely scattered throughout. Field boundaries have intermittent tree and hedgerow cover, particularly within the site itself, with more extensive areas of planting being located adjacent to villages within the area and adjacent to infrastructure such as roads, railway and canals. Individual mature hedgerow trees are in evidence within hedgerows;
- The study area is largely rural and consists of small villages, the closest of which to the site are Milton Malsor, Blisworth and Gayton. However, part of the northern extent of the study area includes the urban form of Northampton, circa 2 km north of the site;
- There are large industrial estates within the study area, which have an influence on landscape character, i.e. Grange Park, which is located approximately 1.3 km east of the site, and the Swan Valley Estate, which is located 1.5 km north north-west of the site;
- The site is located directly adjacent to some large scale transport routes which have an urbanising influence on it. These are:
  - The west coast mainline, which is located directly adjacent to the southern boundary of the site, part of which is on embankment, raising it above the site level;
  - The NLL which is located adjacent to the eastern boundary of the site and which is also located on an embankment. This line spurs off from the WCML, approximately 0.5 km south-east of the site;
  - The A43(T), which is located adjacent to the western boundary of the site and is also on an embankment;
  - The M1 motorway, which is located approximately 2.0 km north of the site, however it does have less influence on the site and study area as it is within cutting and surrounded by woodland for long parts of its length; and
  - The Grand Union Canal, which is located directly adjacent to the western boundary of the site.

VIEW OF THE FARMLAND SURROUNDING THE SITE

- Woodland Area
- Ancient Woodland Area
- Sites of Special Scientific Interest (SSSI)
- Scheduled Monument
- Conservation areas
- Waterbody
- Floodzone 2
- Floodzone 3

Meadows

Roadchef Northampton

Rothersthorpe

A43

M1

Wootton

A45

Collingtree

Milton Malsor

Gayton Road

Northampton Loop Line (Slow Line)

Towcester Rd

A508

Gayton Village

Blisworth

West Coast Main Line (Fast Line)

NATURAL ENVIRONMENT CONTEXT

ACCESS AND MOVEMENT

Access

Current access to the site is via Towcester Road via Milton Malsor and Northampton Road via Blisworth, although this route (Towcester Road-Northampton Road axis) is not intended to be used as the main access but will be used for emergency/bus access for the development.

Road access to the main SRFI site will be taken from a new "grade separated" junction on the A43. This will provide access to a central spine road which will serve the proposed development. A truck park facility will be provided which will remove the potential for drivers arriving early from parking on the wider local road network.

Movement

Additional highway works to other junctions are required to ensure that impacts are mitigated elsewhere on the highway network. The western half of the County benefits from good north-south links, being on the spine of the M1/M6 motorway and West Coast Main Line, giving the County good access to the UK's two biggest cities, London and Birmingham.

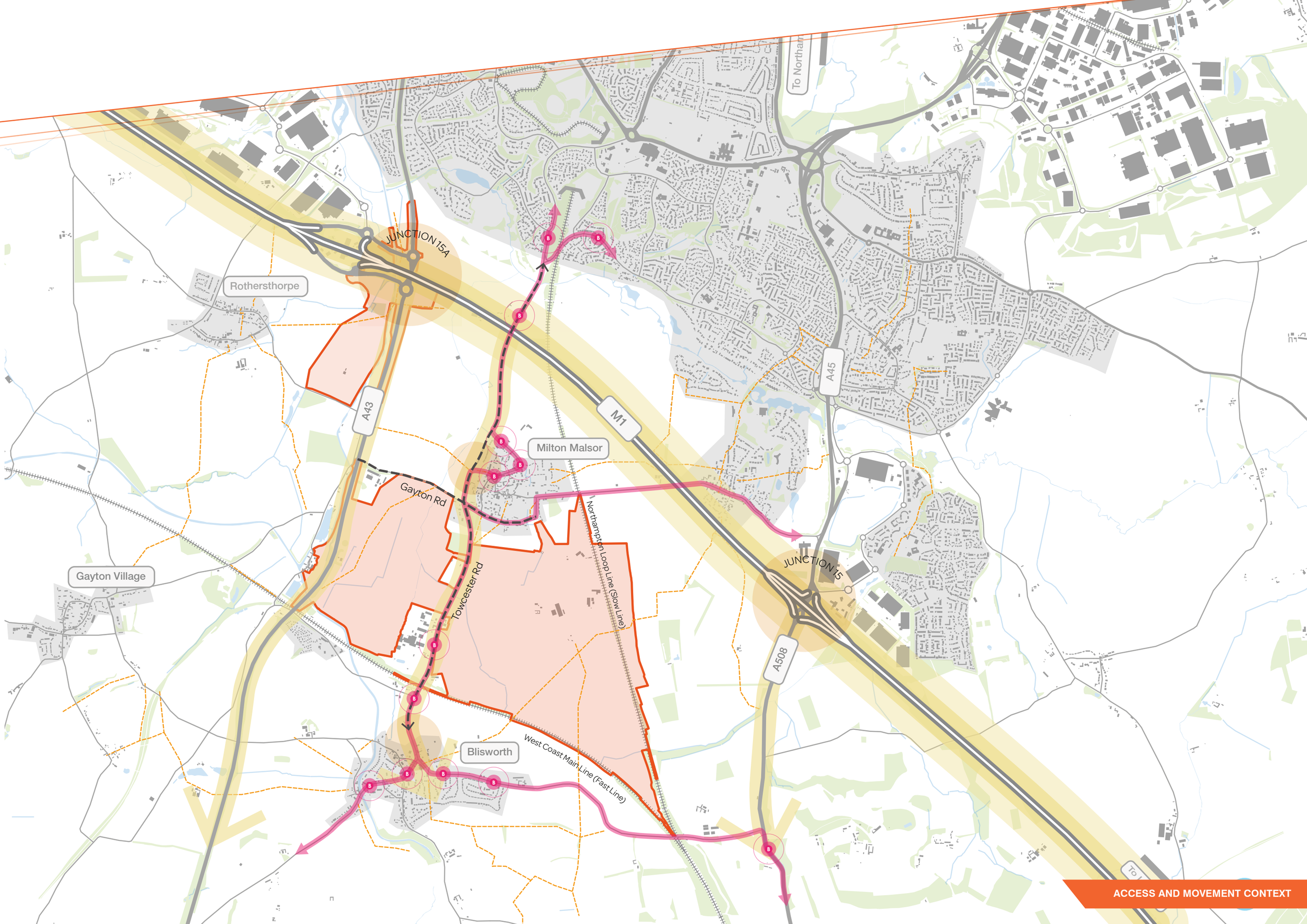
The site is bounded to the east by the NLL "slow lines" (also referred to as the Roade and Rugby New Line or the Northampton Loop) and to the west by the WCML "fast lines" (also referred to as the London to Rugby Line). Both the WCML and NLL are electrified with overhead 25kV AC catenary and cleared to W10 loading gauge (loading guage is the maximum permitted cross-sectional profile of a rail vehicle and its load, and varies across the UK). The WCML split into two separate routes south of the main SRFI site at Roade Cutting, with the WCML "fast line" slpitting to the west whilst the NLL splits off to the east, re-joining as a single route at Hilmorton Junction south of Rugby to the north of the site.

The WCML and NLL links London and the South East with the Midlands, North West and Scotland, and is the principal route for movement of north-south intermodal (containerised) and conventional wagon rail traffic of relevance to the small network of existing SRFI. The WCML forms a core part of the Trans-European Network (TEN-T), and south of Crewe to London is one of the few sections of the national network already cleared for 775m length trains (this being extended south to Southampton by the end of 'Control Period 5' (i.e. 2019).

There is a comprehensive network of Public Rights of Way (PROWs) that exist both within the site and within its vicinity; these are identified on the plan overleaf. Segregated cycling infrastructure is limited within the immediate vicinity of the site but the local road network is considered to be generally flat or at shallow gradient and therefore is considered suitable for cyclists.

VIEW OF THE A43
TO THE WEST OF THE SITE

- Motorway (M1)
- Primary roads
- Minor roads
- Railway
- Congestion overflow
- Public Rights of Way
- Key congestion pressure point
- Bus route and stops



ACCESS AND MOVEMENT CONTEXT

6 SITE CONTEXT

Visual presentation of the immediate context

The following site photographs were taken at the approximate locations illustrated on the adjacent page.

These photographs are provided to give an overview of the site and its context.

Views

The Main SRFI Site is relatively visually contained due to a combination of: natural undulations in the landform; man-made landforms, such as road and railway embankments; and intermittent vegetation cover. A visual feature of the Main SRFI Site is that its main body is located to the east of the A43 and a separate, relatively small extent is located directly to the west of the A43. The A43 provides a visual barrier between the two parts of the Main SRFI Site. Directly adjacent to the south-western boundary of the Main SRFI Site, the WCML is on embankment and provides a visual barrier.

Slightly further south, beyond the WCML, the landform rises to a ridgeline, upon which the village of Blisworth is located. Views from Blisworth are limited due to: landform undulations; the screening effect of buildings within Blisworth itself; and the screening effect of vegetation located at its northern extent. However, views of the Main SRFI Site are possible from the easternmost extent of Blisworth, and in particular, from properties on Courteenhall Road which face north and where gaps in the roadside hedgerows and trees and other vegetation beyond allow filtered or partial views. Views of the Main SRFI Site are also possible from the existing network of PROWs.

To the north, views of the site are possible from several locations within and around Milton Malsor including from the rear of properties to the south of Rectory Lane and oblique views from properties along Barn Lane and Collingtree Road. There are a number of PRoWs to the south of the village and on higher ground to the east and west of the village which have views of the Main SRFI Site. Beyond Milton Malsor to the north and north-east of the Main SRFI Site, views are screened by a combination of landform undulations and vegetation cover together with vegetation along the M1 motorway which restricts views of the Main SRFI site from Collingtree and Grange Park.

To the west of the Main SRFI Site, the embankment upon which the A43 road is located provides a partial screen to views of the majority of the Main SRFI Site. On higher ground further west from the A43, in the vicinity of Gayton there are potential views of the Main SRFI Site, however a combination of the built form and intervening vegetation provide an effective visual screen to views of the Main SRFI Site from the village itself, with limited potential for views from the roads leading from the village towards the site.

The Grand Union Canal forms the south-western corner of the main body of the Main SRFI Site and for users of the canal and its towpath, including the Grand Union Canal Walk, a combination of mature hedgerow cover and road and rail embankments provide an effective screen to views. Users of the canal and towpath would have glimpsed winter time views of the Main SRFI Site from a relatively short extent of approximately 0.6 km to the east of the A43 and 0.2 km to the west of the A43 through intermittent gaps in the intervening outgrown hedgerow.

The Northampton / Towcester Road runs through the middle of the Main SRFI site. Views of the site are possible over and through gaps in the road side hedgerows.

There are a number of residential and commercial properties within the Main SRFI Site, including Manor Farmhouse, Rathvilly Farm, Lodge Farm, and Roseacre. These properties will be lost to the construction of the Main SRFI Site and therefore are not considered further within this assessment.

SITE CONTEXT - VISUAL PRESENTATION REFERENCE PLAN

01. VIEW OF THE A43 AND THE SITE BEYOND FROM GAYTON MARINA

02. VIEW OF THE SITE FROM MILTON BUSINESS PARK

03. VIEW OF THE SITE FROM GAYTON ROAD

04. VIEW OF THE SITE FROM RECTORY LANE

05. VIEW ACROSS THE MAIN SITE FROM BARN LANE

06. VIEW TOWARDS THE WEST COAST MAINLINE FROM BARN LANE

07. VIEW OF NORTHAMPTON ROAD AND THE NORTHAMPTON LOOP RAIL LINE

08. VIEW OF THE SITE FROM NORTHAMPTON ROAD

09. VIEW OF THE SITE FROM NORTHAMPTON ROAD

7 OPPORTUNITIES AND CONSTRAINTS

Opportunities

The site benefits from a number of opportunities:

- The site will be accessed from the A43 and is approximately 1.9km away from Junction 15A of the M1 Motorway. This proximity provides direct and easy access for transferring goods and freight from the proposed Intermodal terminal on to the wider national road infrastructure;
- The new road junction access on the A43 will provide the site with exclusive access and egress for vehicles within the Rail Central development. This gives the opportunity for transport to avoid the small local roads network and therefore avoid traffic flow to the site through the nearby villages of Milton Malsor and Blisworth;
- The site has the rare opportunity to directly access both the WCML, a major part of the fast moving countrywide rail network, and the NLL, a rail line that allows slower moving rail freight. In addition to these direct connections (onto both the fast and slow lines), Rail Central enables further connections between these two lines within the SRFI itself. These connections, infrastructure and direct interchange capabilities provides advantages to the rail network and enables customers to utilise either fast or slow lines to transfer inter-modal and wagon freight traffic directly and efficiently;
- The main site is 294 hectares in size; this provides the opportunity to develop a SRFI, which is required (by legislation) to include an intermodal terminal (capable of handling at least four trains per day) and warehouses of sufficient scale to which goods can be delivered from the railway network either directly or by means of another form of transport. The SRFI concept therefore combines an interchange and warehousing activities on the same site. They also should not be seen simply as locations for freight to access the railway but also sites for the accommodation of businesses capable now or in the future of supporting their commercial activities by rail. The delivery of such a facility provides the opportunity to successfully facilitate the transfer of freight from road and subsequently reduce carbon emissions;
- The site is mainly made up of large undulating open fields, providing the opportunity to accommodate large plateaus, upon which storage and distribution facilities can be built that are big enough to service the adjacent intermodal terminal;
- The site has boundaries alongside and parallel to both the national and local rail infrastructure, providing an opportunity to filter trains to and from the intermodal platforms with minimal amounts of connecting track. Whilst the site offers great potential it is understood that there are a number of constraints that will need to be addressed and appropriate mitigation put in place; and
- The site has significant potential to contribute positively to the local landscape and ecological network.

Constraints

The plan shows the various constraints that have been identified including:

- There are a number of viewpoints towards the site from key locations nearby that could be affected by the visual impact of the development;
- There are number of Public Rights of way that traverse the site and which will need be diverted or changed as part of the future development;
- There are areas along Milton Malsor beck corridor that are prone to flooding and therefore the new development will need to be address this issue;
- Road Cutting SSSI at the southern most point of the site, which will require mitigation measures within the strategy for the new development;
- A number of listed buildings and conservation areas within the villages of Blisworth and Milton Malsor which will need to be considered when designing and constructing the development; and
- Two multi-fuel pipelines are currently located along the southern boundary.

Opportunity for a Structural and Buffer Planting Belt

Public Right of Way

Floodzone 02

Floodzone 03

Sites of Special Scientific Interest (SSSI)

Woodland

Existing Local Roads

Spine Road

Existing Railway

Listed Buildings

Main Connection

Oil Pipeline and Easement

Rothersthorpe

A43

M1

Milton Malsor

New Junction

Internal Developable Area

Internal Developable Area

Gayton Village

Express Freight Terminal

Intermodal Terminal

A508

Blisworth

OPPORTUNITIES AND CONSTRAINTS

8 DESIGN PRINCIPLES

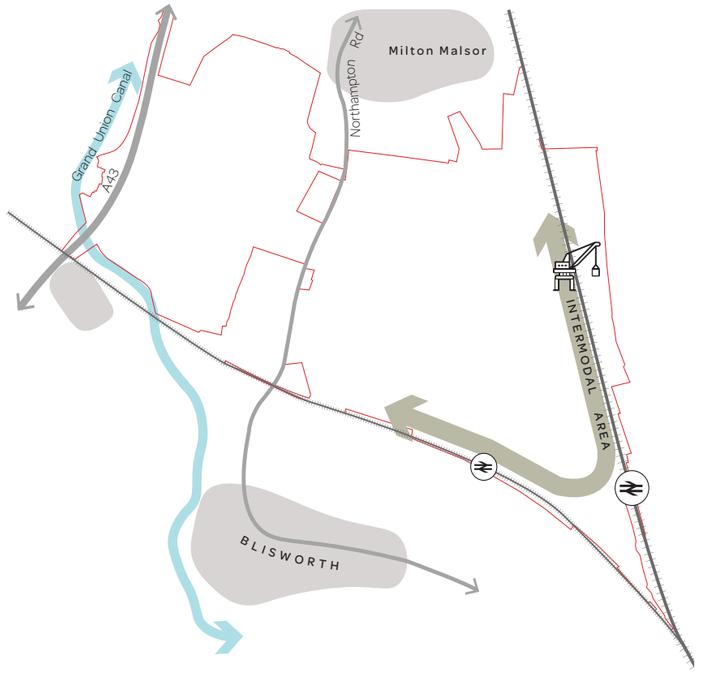
This section translates the vision for Rail Central into a series of 'high-order' development principles. These principles inform the scheme development that shapes the parameters and masterplan for Rail Central.

The vision for Rail Central is based on a flexible approach to the form of development with a firm commitment to delivering a quality working environment.

Rail Central aims to be:

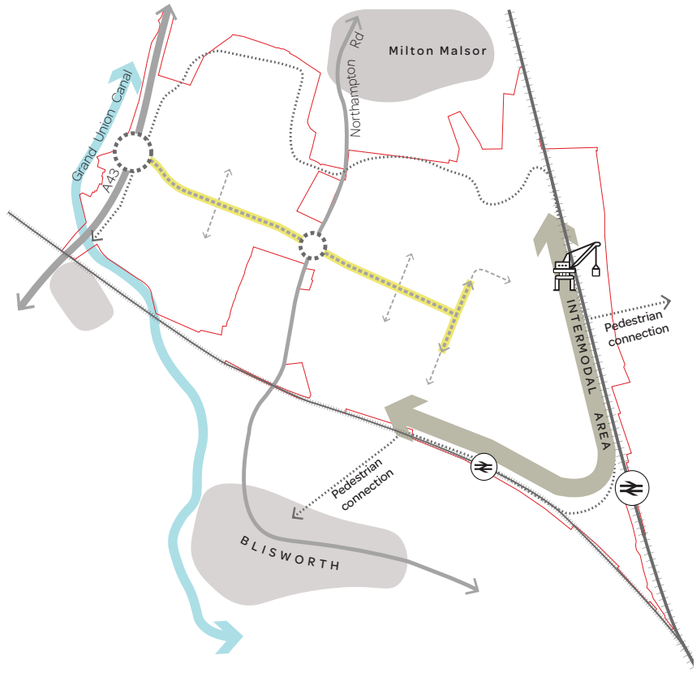
- **the next generation SRFI** – Rail Central seeks to provide for a wider range of rail freight opportunities than previous SRFI. It therefore not only caters for established conventional and intermodal services but also makes separate and dedicated provision for express freight services. It also provides unparalleled connectivity with the rail network thereby adding resilience and flexibility and modern facilities such as a Train Maintenance Depot to optimise customer and service convenience. The Rail Central SRFI has been designed to ensure it caters as far as possible for the various opportunities for rail freight, maximising the potential for modal shift;
- **a well integrated development** – a contextually sensitive proposal that recognises and protects local factors as much as possible such as neighbouring uses and environments whilst capturing the economic potential of the strategic location; and
- **a sustainable place** - a balance of social economic and environmental factors that combine to create a truly sustainable environment.
- **a connected and legible place** – linking rail central to existing modes of transport and ensuring safety for all users.
- **respectful to residential amenity** – respecting the local residential areas of Blisworth and Milton Malsor.
- **respectful to the landscape** – aiming to strengthen and diversify the identity and structure of the landscape.
- **beneficial to local recreation and ecology** – mitigating the impacts of the development and enhancement of recreational opportunities and ecological diversity.

The following design principle diagrams explain the rationale on which the masterplan is based. These principles strengthen the design proposition of the proposed development and help it succeed in its vision.



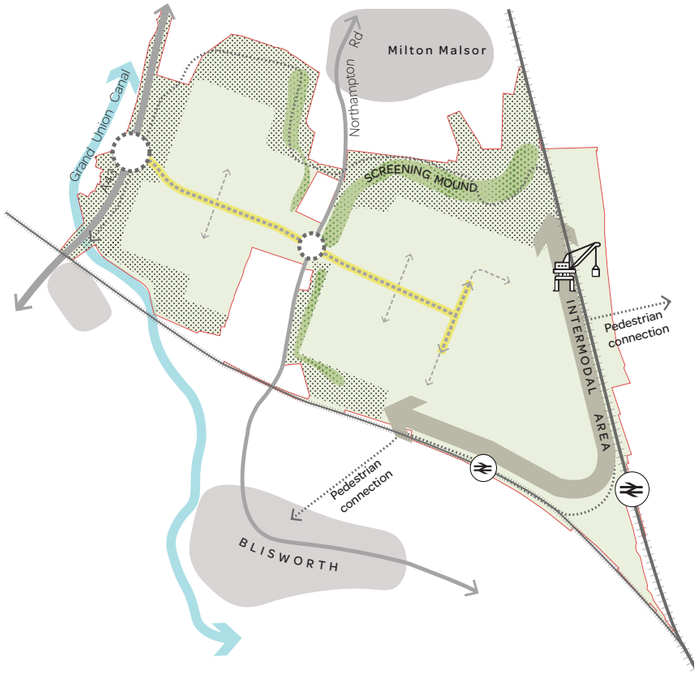
1. Intermodal infrastructure

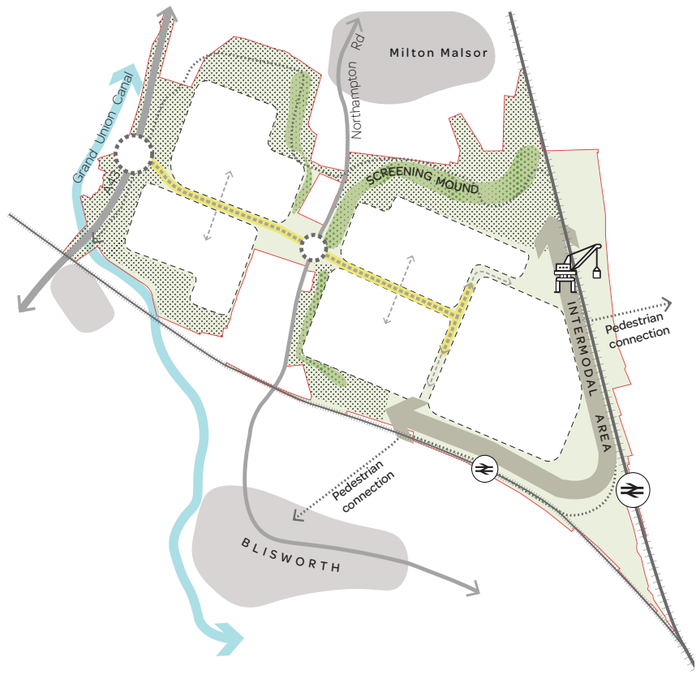
- **Welcoming intermodality** - The development sits in a strategic location along a key axis of rail and road infrastructure. The design intends to utilise these characteristics, particularly in respect of the site benefiting from direct access to two railway lines, enabling maximum use and flexibility in customer choice and movement of freight.

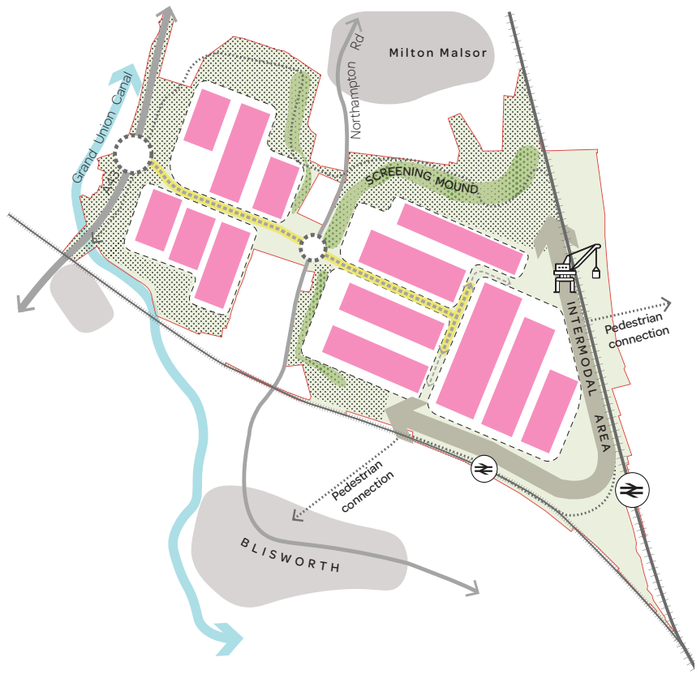


2. Access and movement

- **Connected and legible** – The movement structure is designed to link to existing routes for pedestrians / cyclists / road & rail passengers, ensuring convenience, integration and safety for all users of the development.







3. Landscape strategy

- **Respecting the landscape** – the site is mainly undeveloped, undulating open land within a range of natural farmland and landscape features. The layout is designed to strengthen and diversify the structure of the landscape and minimise any adverse effects.
- **Recreation and ecological enhancements** – The guiding principle is to mitigate impacts and to facilitate an enhancement of recreational opportunities and ecological diversity.

4. Development framework and parcels

- **Enabling the vision and maximising functionality** - The development parcels which allow for Rail Central facilities to be structured within the site need to follow a flexible and robust approach, which will allow Rail Central to fulfil its full potential but enclosed by a network of landscaped areas and mitigation features.
- **Development parcels** - These have been carefully considered to ensure building lines are sufficiently set back at key locations to minimise visual impact and to protect residential amenity.

5. Securing design qualities

- **Delivering sustainable built form designed to the highest qualities** - In setting high quality design standards covering all buildings on site, Rail Central will not only set a benchmark in the next generation of SRFI's, but will also ensure that all buildings are design with the highest design and sustainability credentials to ensure they respond sensitively to their surrounding context with minimal impact on their environment.

9 DESIGN EVOLUTION

After the design principles were established, several masterplan options were considered.

Pre-Consultation

The scheme development has evolved over a period of three years. Initial feasibilities were produced at conception to show how the site could be developed with access to the rail network. Various iterations were created with input from various specialist and technical disciplines. The diagrams on the adjacent page illustrate [in yellow] the elements of the masterplan that were amended at each stage.

1. An initial design was based on a proposed rail layout that positioned the intermodal area and rail access centrally in the eastern part of the site. Landscaped buffer zones were indicated approximately to the north and south for visual screening from the nearby villages and for ecological mitigation and flood mitigation.

   Access from the A43 was taken through the western site but it was not developed with building layout at this stage.

   A new road layout proposed by the highways consultant incorporated a spine road to serve the development which enabled the Western part of the site to be added to the masterplan.

2. The next iteration took into account the topography of the land. It informed the redesign of the rail layout and intermodal area. The new layout considered potential earthworks and rail gradients to develop large rail-served warehouses in the central part of the eastern site. The western site was relatively unchanged at this stage.

3. Further iterations were generated to look at options for the rail layout, intermodal area and building positions. Various rudimentary layouts were considered with the topography, landscaping and visual impact as design constraints. These constraints were informed by the work being carried out for the environmental assessment. An option was considered to reposition the intermodal area so that it could be adjacent to the West Coast Main Line.

   Changes were made to reduce the unit size on the eastern part of the development in response to the land having a higher elevation and steeper topography, therefore smaller sizes being more economical to construct and having less visual impact.

   The development of the Grand Junction Site (parcel of land to the west of the A43) was also incorporated into the masterplan and a truck park and hotel facilities were added to serve the potential requirements from the park.

   The need to improve the rail connections led to a reconsideration of the Rail Access and Intermodal Area. This facility was moved to the eastern edge of the site adjacent to the NLL, to facilitate faster access of trains between the main line and the Intermodal Area, affording reduced gradients and less visual impact. A Train Maintenance Depot (TMD) was included adjacent to the Intermodal area to encapsulate as much of the rail-related activities on site as possible, to minimise off-site movements of trains to and from other maintenance facilities.

   Landscaped bunding was also incorporated between Milton Malsor village and the development to create a visual screen.

4. The next iteration added a truck park facility at the site entrance close to the A43 junction. This was a response to public concerns that HGVs may park on local roads. The rail layout was further updated to include sidings to three of the warehouse units that were closest to the intermodal area.

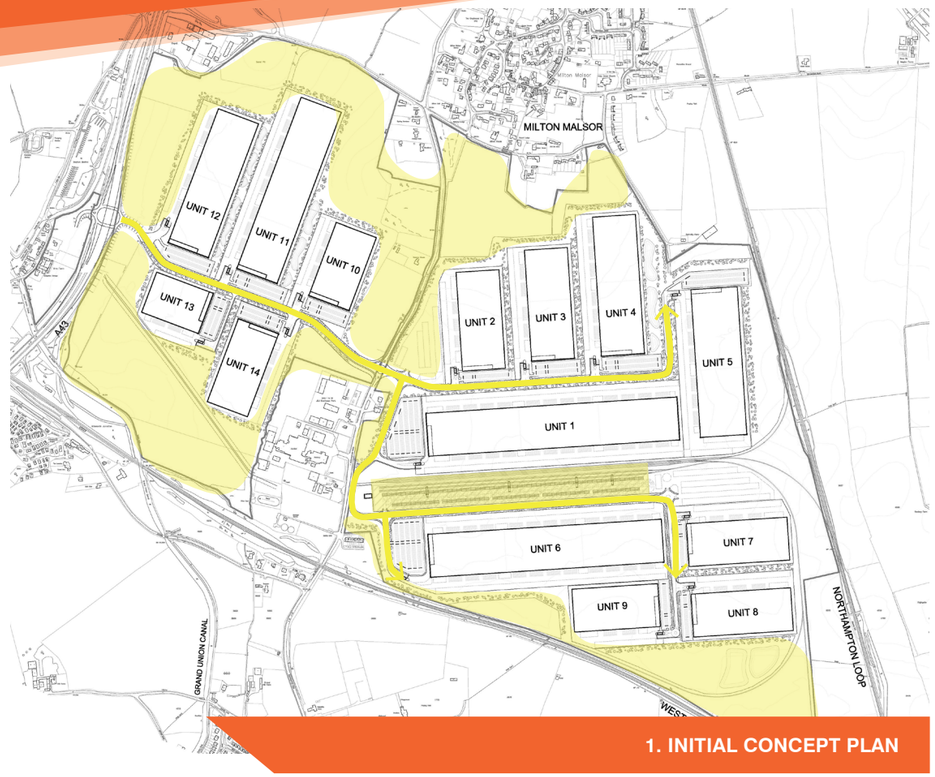
   An express freight platform was included in the masterplan as an extra facility for loading/ unloading express freight trains, expediting direct horizontal transfer of roll cages and palletised goods between trains and waiting HGVs. This was positioned on the western edge of the site and linked directly to the WCML fast lines at each end. The rail layout to the east was updated to access units from the south; this layout provided shallower gradients and longer lengths of track suitable for shunting freight trains. Units 8 & 9 were reoriented to reduce noise transmission from the service yards to Milton Malsor village and landscape bunding between the proposed development and Milton Malsor was enhanced for better visual screening. Milton Malsor Brook was diverted around unit 8 to allow for an optimum sized development plateau.

   Attenuation ponds were relocated close to the Grand Union Canal to contain surface water volumes.

   Units 3 & 4 were reduced in size to create an alternative layout. Alternative permutations of unit sizes were also considered throughout the site to accommodate potential market requirements.

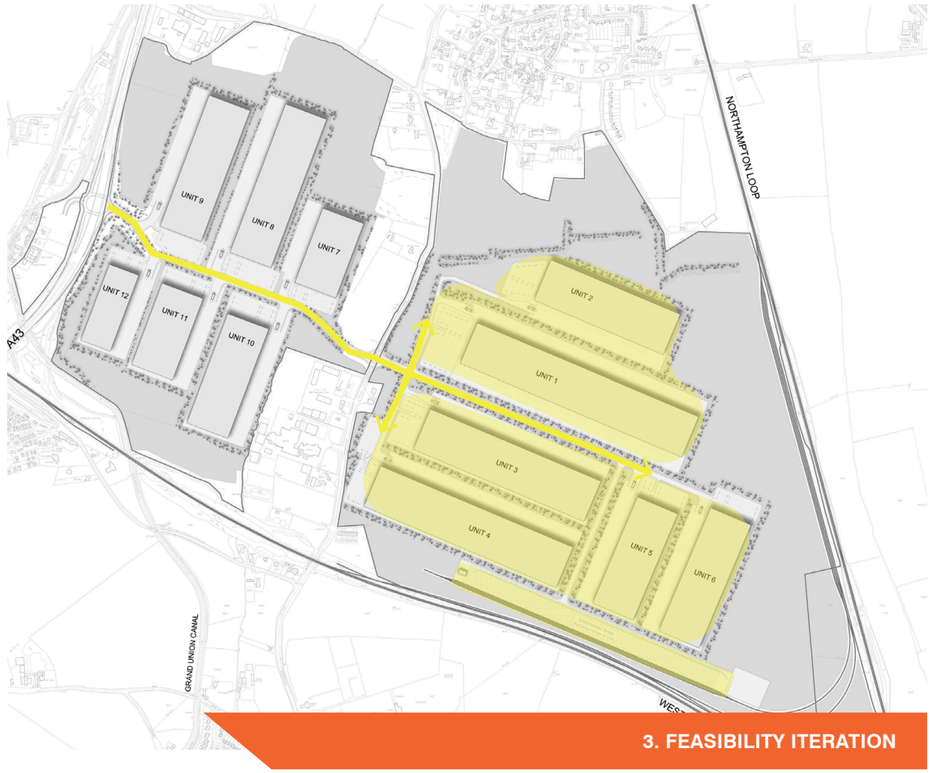
   Conference facilities were included in the Grand Junction site to the west of the A43 to accommodate potential business uses related to Rail Central. An underpass crossing beneath Northampton Road replaced the previously indicated roundabout, its purpose to connect the east and west sites and prevent disruption to traffic flowing north and south.

   The flood attenuation was relocated to the northern part of the western site in accordance with the drainage strategy and the attenuation capacity was increased to achieve the necessary capacity required to contain surface water run-off.

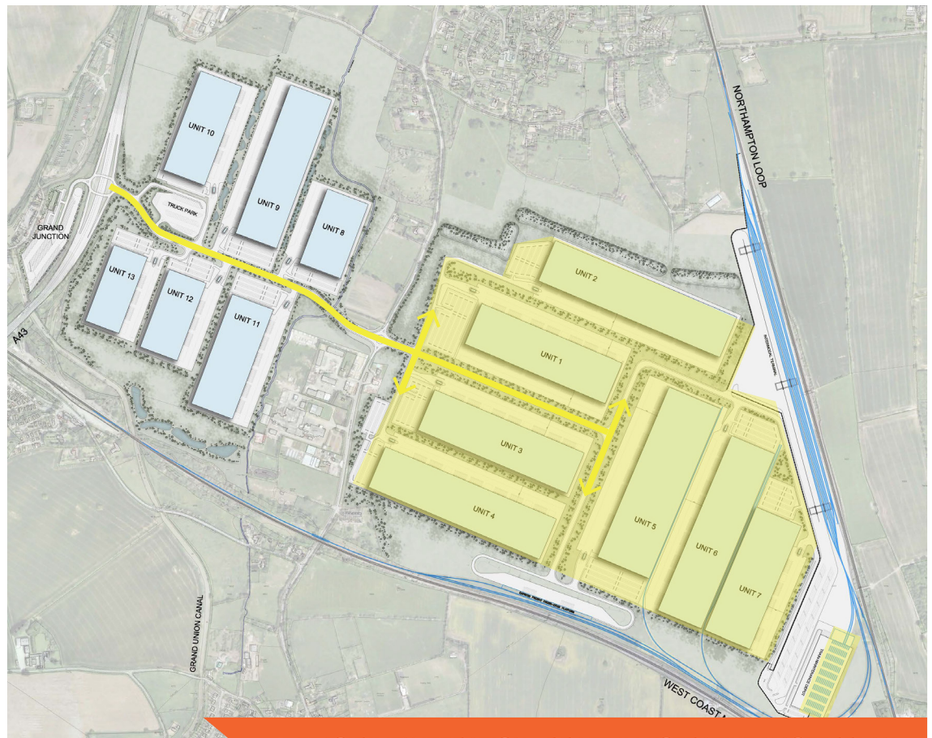


1. INITIAL CONCEPT PLAN

2. FEASIBILITY ITERATION



3. FEASIBILITY ITERATION



4. FEASIBILITY ITERATION - DRAFT ILLUSTRATIVE MASTERPLAN

POST-CONSULTATION DESIGN

Phase 1 Consultation

Following Stage 1 Consultation, which included eight public exhibitions in Blisworth, Milton Malsor, Roade, Collingtree and Towcester, a number of changes were made to the draft illustrative masterplan in response to the comments received.

Northampton Road Greenway (A)

Northampton Road links Milton Malsor to Blisworth.

A green corridor parallel to Northampton Road was enhanced to create a landscaped walking route linking the villages of Blisworth and Milton Malsor.

The existing route is defined with strong highway hedges broken up by intermittent areas of commercial and residential development.

The proposed development was set back from the existing road to provide a landscape buffer that would reduce the potential impact on landscape character between the two villages. Mitigation mounding would wrap around the edge of the development zones to the east of Northampton Road to aid with screening to views towards the proposed units and associated infrastructure. Existing hedgerows and hedgerow trees along Northampton Road would be protected and retained where feasible and reinforced with small pockets of new woodland planting. The bridge over the underpass linking the two development zones to the east and west of Northampton Road is wide enough to accommodate a grass verge between the road and footpath and also a native hedgerow to aid with screening views back towards the development and to provide continuation for pedestrians and road users. The footpath link between the two villages would be upgraded to a combined cycleway / footpath providing an 'off road' cycle link between the two villages and into the proposed development.

Arm Farm Pocket Park (B)

A number of concerns were raised about the prospect of providing any built development on the parcel of land to the west of the A43 (the Grand Junction site) and consequently, the applicant confirmed that it would not be redeveloped for possible hotel and public house/ restaurant, or training and innovation centre. The site will instead be safeguarded to provide landscaping and ecological mitigation and an informal pocket park for use by local residents. The proximity of this land parcel to the canal makes it of particular importance for bat mitigation with the potential to construct purpose made features. The proposed park will be low key and kept informal with native planting. The Northamptonshire Green Infrastructure Plan aspires to create a corridor of calcareous grassland along either side of the A43.

Reduction in Floorspace

In an effort to increase levels of landscape and buffer planting, there was a reduction in development extent and overall floorspace from around 8.0m Sqft to 7.4m Sqft.

Lorry Park (C)

The capacity of the lorry park to the south of Unit 10 was increased from 89 spaces to 149 spaces to further alleviate concerns over HGVs parking on local roads as they waited to gain access to the Rail Central site.

Reorientation of Warehouse Units (D)

In an effort to reduce the visual impact on the Railway cottages and Northampton Road, the distance between the closest buildings (Units 3 and 4) and these receptors was increased. Unit 4, which is closest to the Railway Cottages was also reduced in size.

Public Rights of Way

A number of concerns were raised about the impact of Rail Central on local Public Rights of Way (PROW) and Bridle Paths. The project team has taken great care to ensure that any diversion or rerouting of PROWs or Bridle Paths preserves their accessibility and character. Indeed, the Applicant's approach to PROWs and Bridle Paths has been influenced by consultation with Natural England, Northamptonshire Ramblers and the Ramblers Association, as well as local residents.

The rerouting of elements of the existing PROW will ensure that the Project is able to provide a continuous route around the development. Indeed, approximately 66.2 hectares, or just over half of the structural landscape around the periphery of the site, will become publicly accessible amenity land.

Landscaping Bunds and Buffer Planting

Concerns were raised about the visual impact on the surrounding villages of Milton Malsor and Blisworth. In response to these concerns, the size and amount of landscaped bunds and extent of buffers have been increased in an effort to further screen the development visually from Milton Malsor and Blisworth.

Barn Lane Bus Stops

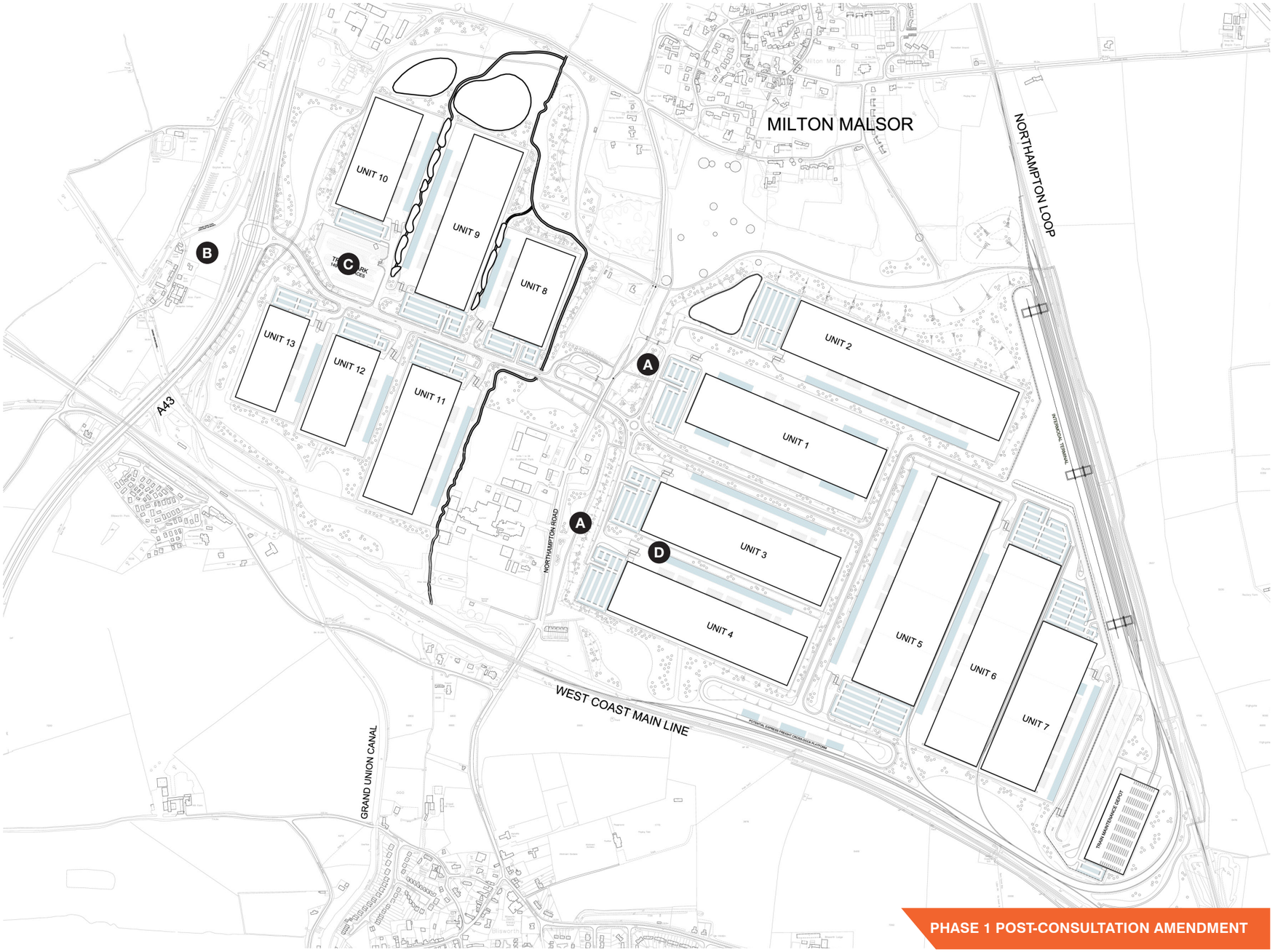
In May 2017, members of the Rail Central Local Liaison Group raised concerns that unmarked bus stops are situated at a location at Barn Lane where the sheltered parking for the Project was initially proposed. As a result of this dialogue, the scheme design has been revised to result in the re-location of the proposed parking at Barn Lane so that the current position of the bus stops remains.

Additional Changes

In addition to those changes described above that were brought about following comments received at Stage 1 Consultation, a number of other changes have been made to the Illustrative Masterplan as the scheme has developed and further environmental survey work has been completed. These changes are outlined below:

- Elements of green colour shades and gradations to the proposed warehouse buildings were considered to give the effect of blending in with natural surroundings;
- The masterplan was updated in response to traffic engineering. The main gatehouse into the development was removed to allow a free flow of traffic. The central spine road was widened to ensure it could accommodate the traffic. The cycleway/footway running along Northampton Road was extended to link the eastern site into the cycle network;
- A shuttle bus service and bus turning area were added to facilitate people using the site;
- Parking numbers were updated to provide a ratio of spaces that accord with Local Authority Standards. The bus facility on the western site was redesigned to take up less land to allow for a landscape screen to the north. Emergency access points from Northampton Road were created solely to provide access in the event of an emergency;
- A further iteration included provision for a future High Output Operating Base (HOOB) for Network Rail. It is a facility to stable and service specialist equipment needed to maintain the rail network;
- Having proven the capability of the site to accommodate a HOOB facility if required in future, the masterplan and track layout was returned to its previous configuration;

- Units 11 & 13 were updated to allow for the gradients required to achieve safe access from the spine road for HGVs. Unit 10 was reduced in size to allow the public right of way more space to navigate around the western side of the unit;
- An update to the Intermodal Area and Train Maintenance Depot were considered to allow for a longer intermodal area and rail accessibility and an electricity substation was added to the development to serve the power needs of the site.



PHASE 1 POST-CONSULTATION AMENDMENT

POST-CONSULTATION DESIGN

Phase 2 and Phase 2A Consultation

The Phase 2 consultation was undertaken between the 15 March and 23 April 2018. Alongside consultation with the local community, the consultation was also undertaken with the local community. A number of public exhibitions were also held in the local area in March 2018.

Feedback received during the consultation was considered and a number of amendments to the proposed development have been included. In addition, some amendments were introduced to improve flexibility and support the overall deliverability of the proposed development. All of these amendments were the subject of an additional localised consultation, referred to as Phase 2A. The Phase 2A consultation was undertaken from 25 June to 23 July 2018. The amendments proposed as part of the Phase 2A consultation are confirmed below:

Amendments to the parameter plan

A minor amendment to the development zones as shown in the parameters plan, which now enable the zones to directly abuts the proposed internal estate roads, providing flexibility for access to the individual units;

Minor road realignment

A minor realignment of the main access from the A43(T) into the site;

Breakup and reorientation of development blocks (A)

Zone 3 as previously shown on the Parameters Plan has now been split in to Zones 3a and 3b. The maximum building heights within Zone 3a (to the north) has been reduced from 18.5m to 15m. This is a direct response to concerns raised at Phase Two Consultation regarding visual impact;

The relocation of the "building limit" line within Zone 3a. This has been moved 48m to the west, to allow additional flexibility as to the future detailed design of the proposed warehousing;

Amendments to landscape bunds and ground levels (B)

An amendment to the landscape bunds in a direct response to concerns raised at Stage Two Consultation regarding visual impact. The amendments sought to:

- Raise the bund to the north of Zone 1 by 2m and extending it to the north;
- Raise the bund to the north of Zone 3a by 2m, excluding at the northern tip where it remains as before;
- Reduce the ground levels in Zone 3a and 3b by 0.5m, and in Zone 4 by 0.35m;

Updates to accommodate detailed access proposals (C)

Introducing a zone of flexibility on sections of the main site spine road, both to the east and west of Northampton Road. This zone extends to 20m either side of the current central alignment of the spine road within the site and will provide the necessary flexibility for delivering an alternative alignment at detailed design stage;

Inclusion of health facilities (D)

Introduction of on-site occupational health provision within the planned lorry park amenity facilities. This is a direct response to the comments of the Northamptonshire County Council Public Health Team;

Additional landscaping (E)

Introduction of woodland blocks to the east of the Northampton Loop in keeping with wider landscape character. This is a direct response to concerns raised by South Northamptonshire Council;

Changes to the site boundary

Minor extensions to the 'red line' main site boundary (known as the Order Limits) for the A43 access in both a northerly and southerly direction prompted as a result of detailed technical design work;

Minor alterations to the red line boundary (known as the Order Limits) highway junctions:

- A43(T) / Northampton Rd (Safety Scheme): this change is simply the introduction of additional safety signage to the south of the junction. It was prompted by Highways England, which requested that proposed signage should be replicated on both directions;
- A5076 / Upton Way: this extension will allow for the approach road and left turn slip lane to be realigned, avoiding any impact on the bridge. The extension will be entirely within existing highway land, owned by Highways England.

A43
MILTON MALSOR
NORTHAMPTON LOOP
M1 (MOTORWAY)
UNIT 10
UNIT 9
UNIT 8
UNIT 13
UNIT 12
UNIT 11
UNIT 2
UNIT 1
UNIT 3
UNIT 4
UNIT 5
UNIT 6
UNIT 7
B
C
D
E
A
NORTHAMPTON ROAD
GRAND UNION CANAL
WEST COAST MAIN LINE
BLISWORTH
PHASE 2 & 2A POST-CONSULTATION AMENDMENT

10 SCHEME PARAMETERS

The proposed development for which development consent is sought is defined by a series of parameters.

These parameters identify those elements of the main SRFI site which are to be fixed or controlled. The plans which set out the design parameters are as follows:

- **Built Parameters Plan** - sets out the extent of maximum development that can be achieved on site and embeds controls/restrictions on floorsapce, building heights and building units lines.
- **Green Infrastructure Plan** - sets out the framework of green infrastructure and embedded mitigation including landscape strategy, maximum bund heights, retained vegetation, proposed attenuation features, retained farmland and proposed footpath routes.

Built Parameters

The extent of the proposed development for which consent is being sought is defined by a series of parameters as shown on the Parameters Plan.

The illustrative masterplan which has been prepared for the application illustrates one way in which the Proposed Development could be delivered within those parameters.

Construction of the proposed development will be phased over a number of years. Within the framework of the parameters, flexibility is required to enable floor space to be delivered that meets specific occupier requirements that will only be known after Development Consent has been granted.

Development zones

The Parameters Plan indicates the following areas for future development; Development Zones to cater for buildings, associated servicing areas and parking and the Intermodal Area to cater for the rail interchange and associated buildings.

Zones 1 & 2

Located adjacent to the A43 this area of the site will be bounded by structured landscaping to screen the proposed development. Access will be via the internal spine road that serves the entire development.

A "Building Line" is proposed across the A43 frontage to prevent buildings from being constructed along this boundary. This was informed following a detailed LVIA to ensure the proposed development does not impact on the surrounding areas.

The orientation of future buildings will need to consider the estate road and therefore offices should be located facing the estate road to provide a consistent streetscape creating a park style environment.

Car and HGV access to the development zones will be directly from the estate road with access into each plot being designed to provide separate access and safe ingress/egress.

Landscaping on either side of the estate road provides screening to the individual plots should be considered and implemented. Attenuation ponds will also be located to the north of Zone 1 set within the landscaping.

Zones 3A, 3B & 4

Located in the centre of the site and fronting Towcester Road these zones will follow the same principles as 1 & 2.

Landscaping will be provided adjacent to the Towcester Road creating a natural setback for development. As with Zones 1 & 2 a "Building Line" has been proposed across the frontage to prevent development extending beyond this line.

Access will be via the internal spine road that serves the entire development. A new roundabout will be in place to allow the estate road to serve both plots and final zones.

The orientation of future buildings will consider the villages of Milton Malsor and Blisworth and therefore the proposed units will need to be positioned to screen activity. The offices should be located fronting Towcester Road for prominence and to maintain a consistent streetscape following Zones 1 & 2.

Car and HGV access to the development zones will again be directly from the estate road with access into each plot being designed to ensure separate access and safe ingress/egress.

Structured landscaping along Towcester Road will be implemented whilst strategic planting will be considered to provide additional screening to the individual plots.

An attenuation pond is also proposed to be located to the west of Zone 3A set within the landscaping.

Zones 5A & 5B

Located in the southeast corner of the overall site these zones are integral to the rail Intermodal Area and dictate the layout of the plots and the estate road.

Structured landscaping will be provided to the perimeter of the zones creating a natural setback for development. Strategic planting should be considered and implemented within each zone to provide additional screening.

Car and HGV access to the development zones will be via the internal spine road that will serve both zones and the Intermodal Area for the entire development. Access into each plot will be designed to ensure separate access and safe ingress/egress.

As the estate road will serve the Intermodal Area, it is imperative that access into the plots does not have any impact on traffic movement directed to and from the Intermodal Area.

The orientation of future buildings will be dictated by the proposed rail links into each plot. The proposed estate road is likely to determine where the offices will be located for ease of access and visibility of rail infrastructure.

Zones 6, 6A & 7

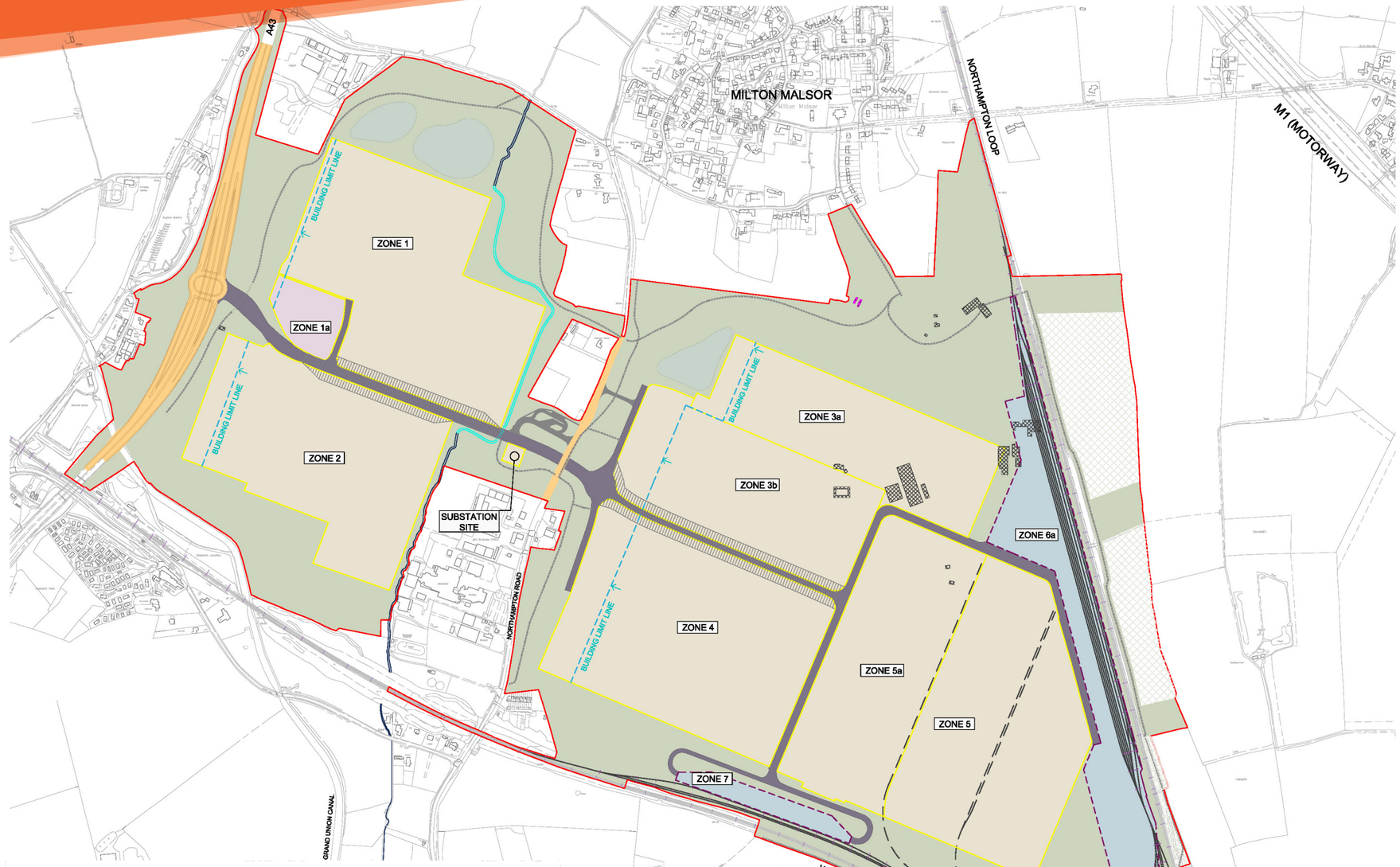
These Zones are specific to the Intermodal operations and are located adjacent to the NLL and the WCML.

Structured landscaping will be provided to the perimeter of the zones to follow the landscape strategy for the whole site.

Access will be via two spurs off the internal spine road to serve each zone.

HGV access to the development zones will be designed to ensure safe ingress/egress and prevent impact onto the estate road.

Zone 6 will cater for a Train Maintenance Depot which will be designed to cater for the necessary operations. The built form will consider the rest of the Project including elevational treatment and external finishes.



PARAMETERS SCHEDULE

Zone	Number of Units	Maximum Development Floorspace (in m2)	Maximum Plateau level (metres above Ordnance	Maximum Building Height to ridge (metres above finished floor
1	2 to 4		77.540	18.5
1a - Truck Parking and Health Provision	1 to 3		77.540	6.5
2	1 to 3		80.300	18.5
Substation Site	1		77.120	8
3a	1 to 2		82.000	15
3b	1 to 2		82.000	18.5
4	1 to 3		83.900	18.5
5	2 to 3		90.700	18.5
5a	1 to 2		88.550	18.5
6	1		92.500	18.5
6a- Gantry crane	3		91.300	27
7-Express Freight	1		94.330	4
TOTAL	12 TO 23	TOTAL **702,097**		

AOD: " ABOVE ORDNANCE DATUM" ORDNANCE DATUM (0.000m) = AVERAGE SEA LEVEL

SRFI BUILT PARAMETERS PLAN

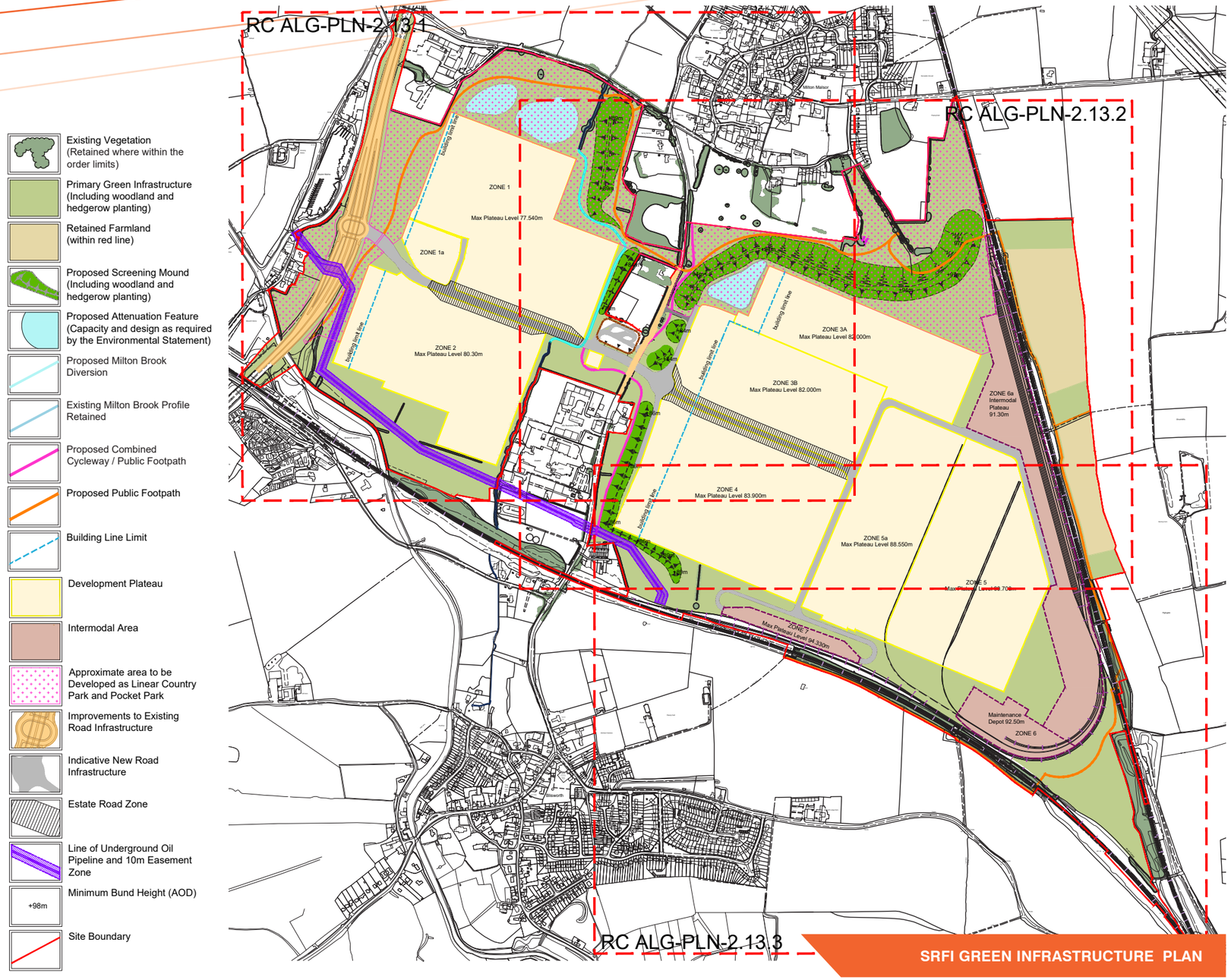
SCHEME PARAMETERS

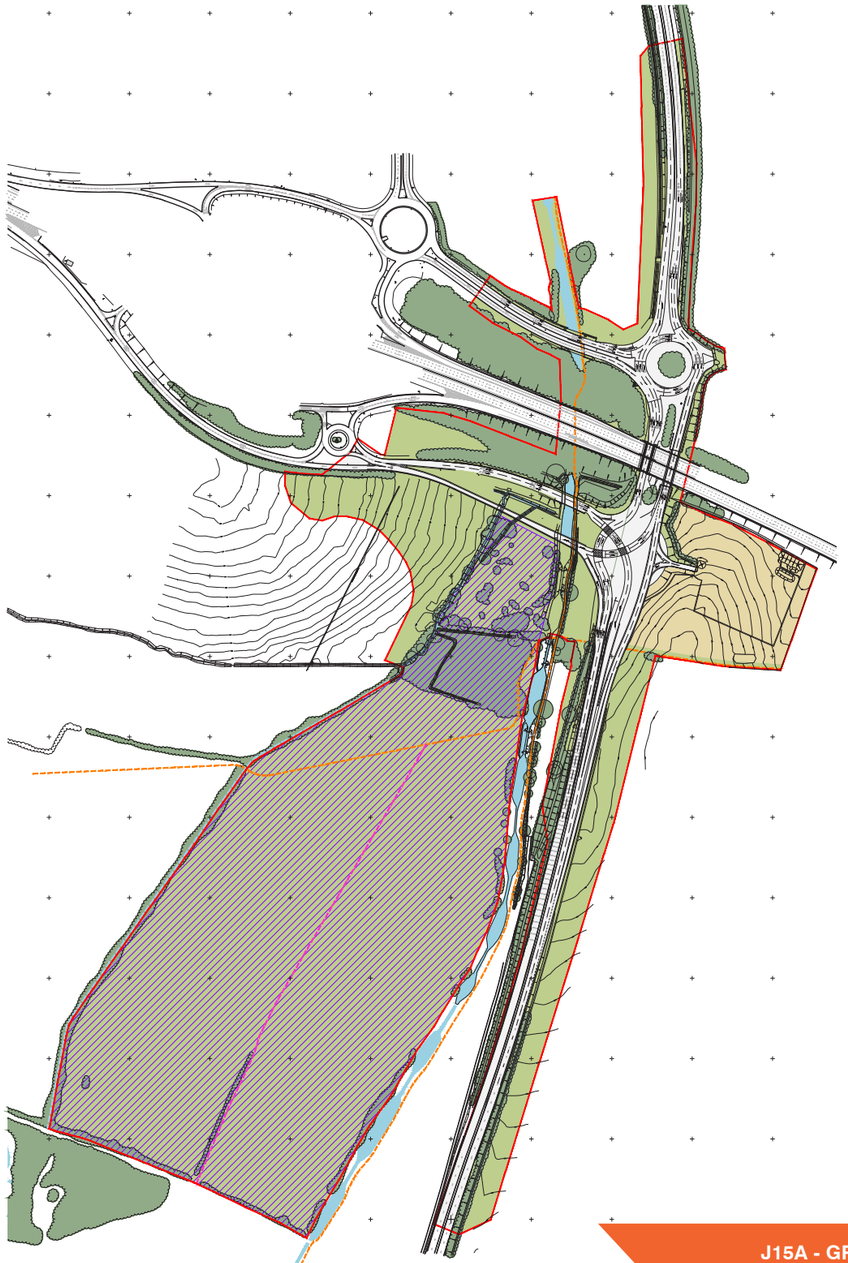
Green Infrastructure Plan

The Proposed Development of the Main SFRI Site will inevitably result in the loss of farmland and associated field edge vegetation. It is proposed to offset this through the development of a series of biodiverse and ecologically rich landscape zones to provide a net gain in area of woodland habitat, species rich grassland habitat, wetland habitat and increasing overall length of hedgerow. The aim of landscaping is to minimise the effect of Rail Central on the adjacent landscape character and on views, to integrate drainage and acoustic mitigation into the site, to maximise the ecological mitigation within the landscape zones through the retention and enhancement of the existing vegetation framework where feasible, to provide connectivity for wildlife through the creation of a matrix of different habitats and to incorporate a number of diverted footpaths along with new footpath links.

Landscaping provided within the site will form boundaries between development zones and break up areas of car parking, as well as providing larger areas for public access on the northern and western periphery of the site. It will also provide landscape benefit in terms of creation of tree blocks, including legacy woodland from veteran trees to be removed as part of the development, and new hedgerows and green corridors.

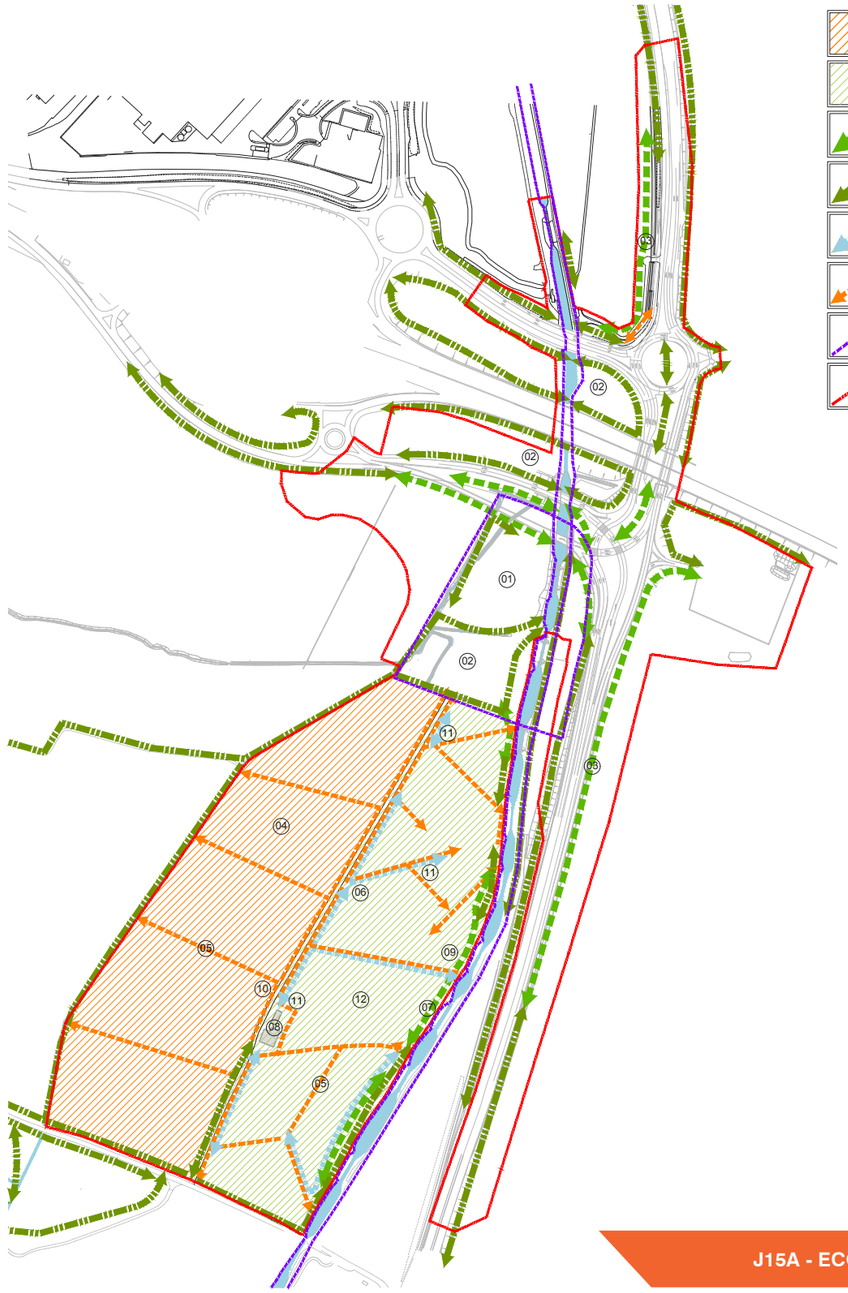
The landscaped areas incorporate opportunities for habitat creation and enhancement, as well as leisure opportunities including walks. Distinct areas as shown on the Green Infrastructure plan in include publicly accessible structural landscape Zones (for example the Linear Country Park in the north and Pocket Park around Arm Farm to the west) and structural landscape zones (around the development zones). In addition, landscaping along the haul road corridor will create "eco-corridors" between the carriageway and Zone edges, with tree and hedge planting and oversized culverts under the carriageway and Zone access roads to allow passage of animals around the site.





- Existing Vegetation (retained where within order limits)
- Primary Green Infrastructure (Ecological Mitigation Zone)
- Primary Green Infrastructure (Other Soft Landscape Areas)
- Grand Union Canal
- Existing Retained Ditchline
- Existing Retained Public Footpath
- Proposed Public Footpath
- Highways Works Including New Road Infrastructure and Improvements to Existing Road Infrastructure
- Construction Compound (To be reinstated as existing upon completion)
- Site Boundary

J15A - GREEN INFRASTUCTURE PLAN



- Area Suitable for Ecological Mitigation (Arable)
- Area Suitable for Ecological Mitigation (Grazed)
- Proposed Woodland Link
- Existing Hedgerow or Woodland Planting
- Proposed Blueway Link
- Proposed Wildlife Hedgerow Link
- Non-statutory designated sites boundaries supplied by NBRC January 2018
- Site Boundary

01 Existing marshland (Potential Wildlife Site) to be retained

02 Existing woodland block to be retained - bat and bird boxes to be installed.

03 Proposed native tree and shrub planting alongside highway to connect existing vegetation creating wildlife corridors

04 Arable farmland with a mixture of overwinter stubble and winter bird crops/cover

05 Planted hedges to provide connectivity and habitat features for farmland birds

06 Proposed ditches alongside hedgerows to create blueway link and enhance habitat value

07 Proposed native tree and shrub planting alongside boundary to connect exsting vegetation creating wildlife corridors

08 Existing barns to be restored to be used as both barn owl and bat mitigation.

09 Newly created marsh areas

10 Newly created wildflower/grassland boundaries along hedgerows

11 Newly created ponds

12 Grassland/wildflower areas (low level grazing)

J15A - ECOLOGICAL MITIGATION PLAN

11 THE MASTERPLAN

The proposed masterplan (refer to image) illustrates the way in which the development could be delivered within the defined parameters

Key elements

The Project can be broken down into the following key elements:

- The Main SRFI Site (NSIP 1);
- Works to Junction 15a of the M1 (J15a) (NSIP 2); and
- Associated development.

A detailed breakdown of proposals covers the following:

- A Rail to Road intermodal facility, including connections to the NLL, new rail sidings, up to 3 gantry cranes, a container storage area, a Train Maintenance Depot (TMD) and facilities to transfer containers to Heavy Goods Vehicles (HGV);
- An Express Freight Terminal, including connections to the WCML, a freight platform with associated loading and unloading facilities;
- Up to 702,097 sqm (Gross Extermal Area) of rail connected and/or rail served warehousing and ancillary service buildings, including a lorry park and health facility, terminal control building and bus terminal;
- A new grade separated access point on the A43;
- Improvements to J15A of the M1 and creation of an Ecological Mitigation Area;
- Other off site highways works;
- Strategic open space and landscaping;
- Infrastructure to serve the development, including roads, an underpass and utilities.

SRFI ILLUSTRATIVE MASTERPLAN

J15a Masterplan

In addition to the proposed highway works, landscape and ecological mitigation is proposed primarily to the south of the junction and to the west of the Grand Union Canal. The proposals also comprise the retention of existing landscape and vegetation (such as around and within the northern roundabout, and south of the M1 and along the edges of the road) and additional soft landscaping to the east of the A43 and south of the new slip road. This is shown in the J15a Green Infrastructure Plan. The retained vegetation will be protected during highway works, and new landscaping will be established as soon as possible after works. The areas will incorporate opportunities for habitat creation and enhancement, as well as leisure opportunities including extended pathways to link with a right of way.

An area for ecological mitigation has been identified to the south-west of the junction, covering approximately 26 Ha and will provide arable fields, additional hedgerow planting, woodland and scrub areas, field edge ponds, habitat provision for ground nesting birds and grazed wildflower areas with existing farm buildings being retained and restored to maximise their potential for barn owls and bats.

J15A ILLUSTRATIVE MASTERPLAN

12 THE PROPOSITION IN DETAIL

Amount

The Parameters Schedule identifies the minimum and maximum number of units that will be provided within each of the development zones. It also includes information on the maximum plateau levels and building heights from finished floor level. The maximum quantum of floor area has also been noted which has been determined from the illustrative masterplan.

Height and Levels

Generally, the maximum height of the proposed buildings will be 18.5 metres above finished floor level. The maximum height of other structures (such as gantry cranes) on the site will be 27 metres above ground level.

The maximum building height and resultant internal haunch height of approximately 15 metres enables the accommodation of modern racking systems, product handling equipment and high level sprinklers.

To provide some certainty to project stakeholders, the following minimum finished floor levels and maximum building heights are set for each zone, defining levels within which buildings can be developed.

The visual impact of the development on the adjoining villages and adjacent countryside has also been considered when setting the proposed heights relative to proposed site levels. Heights, massing and orientation of the buildings will influence this and therefore proper regard has been given to establishing the main parameters of the development.

Land use

The majority of the Project would take place on agricultural land mainly in arable production.
The Order Limits includes the land-holdings included in the table to the right:

Agricultural land grading

Table 9.12 of the ES - Area of Agricultural Land Required Within the Main SRFI Site (replicated bottom right) states that overall, approximately 75% (200ha) of the main SRFI site is moderate quality agricultural land in sub-grade 3b, with the remainder in sub-grade 3a (36ha), 2 (28ha) and 1 (2ha).

Farm name	Farm type	Tenure	Area farmed	Other enterprises
Arm Farm	*Arable/Grass*	*Tenanted*	*65.8ha*	
Manor Farm	*Arable*	*Share farmed*	*32.4ha*	
Hill Farm	*Arable*	*Tenanted*	*197.9ha*	
Lodge Farm	*Mixed Arable / Livestock*	*Owner Occupied*	*85.0ha*	
Rathvilly Farm	*Grazing*	*Owner Occupied*	*6.3ha*	*Buildings let to marquee hire company*
Corteenhall Estate	*Arable*	*Owner Occupied*	*850.0ha*	*Large estate with a variety of other enterprises including wedding and events venue*

ALC Grade	Hectares	% of agricultural land
Grade 1	*2*	*<1*
Grade 2	*28*	*11*
Subgrade 3a	*40*	*15*
Subgrade 3b	*203*	*74*
TOTAL	*274*	*100*

AERIAL VIEW OF THE PROPOSED DEVELOPMENT FROM THE SOUTHEAST

THE PROPOSITION: TECHNICAL SUMMARY

Movement and Accessibility

Rail Central will form an integral part of the growing distribution chain facilitating the storage and distribution of material and goods. The intermodal terminal will, via rail, dispatch and receive goods to and from mainland Europe alongside ports and other inland terminals.

Due to the nature of rail and road movements careful consideration is required to ensure there is minimal conflict between both transport modes. Because of the nature of rail transport, any informal exchange between it and other movement modes is not feasible. Rail is therefore segregated from all other movement corridors, except at the freight terminal where it is necessary.

Aside from this, all other forms of movement will function within a hierarchy. Pedestrians and cyclists must receive the greatest priority, followed in order by public transport, cars and HGVs. Additionally, emergency and refuse vehicles with their own specific requirements will be accommodated.

Inclusive access throughout the site will be achieved, with footways leading pedestrians from the car parks to the main office entrances. Cycle lanes will be provided from access routes to cycle shelters located near to offices.

A shuttle bus service within the development will be accommodated within the internal estate road. However, the positioning of bus stops and shelters will not obstruct the continuity of footway and cycle path routes.

Bus stops will be located, through consultation with the bus service providers, at suitable locations throughout the site in order to provide good access to all development zones. The potential for providing real time information to both bus shelters and offices via the internet will be explored.

Car park areas, where practicable, will be screened through the use of fencing and/or planting. Soft landscaping will be integrated into the car parking areas to enhance the visual appearance. Car parking, motorcycle and cycling provisions will be provided in accordance with local authority standards. The position of bicycle storage areas will be located in close proximity to the office accommodation entrances to encourage use as well as to enhance security. Showers, changing facilities and lockers will be provided to encourage non-car travel.

It is proposed that the site access will be located on the A43 to facilitate access to the site from the west. This location was chosen as the A43 is an existing principle route used by HGVs which provides a direct link to the M1 motorway to the north of the development site. Two emergency access points will be provided onto Northampton Road and Towcester Road between the two villages. These access points will be controlled only by the emergency services with barriers and used by vehicles only in the event of an emergency at the discretion of the emergency services.

The emergency access points on Northampton Road and Towcester Road will be open to pedestrians and cyclists facilitating access to both sections of the site either side of Northampton Road and the bus terminal located within the site. This will ensure that there is sufficient opportunity for trips to be made by walking and cycling, rather than by private car.

A number of Public Rights of Way (PROWs) currently cross the site. These will be diverted to retain connections between Blisworth, Milton Malsor, Collingtree and the Grand Union Canal. Blisworth and Milton Malsor will be linked by a new footpath and cycleway that will provide an off-road link through landscaped areas adjacent to Northampton Road.

The route between Collingtree and Blisworth will be diverted around the eastern edges of the site, whilst the link between the canal and Milton Malsor will run around the western edge within a landscaped corridor. This footpath will form a new link into a diverted footpath running between Milton Malsor and Collingtree.

Rail Central will also invest in off-site pedestrian and cycle routes to improve connectivity and access between the main SRFI site, the surrounding villages and the southern edges of Northampton. These include:

- widening of existing footways and provision of new infrastructure to provide a combined footpath and cycleway along Towcester Road to the north of the site;
- a new footpath on the corner of Towcester Road/ Rectory Lane with a dropped crossing point; and
- the widening of the footpath along Barn Lane to the Collingtree Road Junction.

SNAPSHOT FROM THE 3D MODEL OF THE PROPOSAL

Approximate Main SRFI Site Boundary

Approximate M1 Junction 15a Site Boundary

Proposed Main Vehicular Access

Proposed Emergency Vehicular Access

Proposed Emergency Vehicular and Bus Access

Proposed Temporary Vehicular Access

Proposed Temporary Vehicular Crossing Of Northampton Road

Existing Public Rights Of Way

Proposed New Public Rights Of Way

Proposed Public Rights Of Way Diversion

Existing Public Rights Of Way to be Extinguished

M1

GAYTON ROAD

RECTORY LANE

NORTHAMPTON ROAD

A43

HIGH STREET

COURTEENHALL ROAD

NORTHAMPTON ROAD

Rothersthorpe

Merefield

Blacky More

Milton Malsor

Collingtree

Gayton

Blisworth Park

Britain

Blisworth

Courteenhall

Junction 15a

Junction 15

Grand Union Canal

Disused Railway

PROPOSED ACCESS PLAN

THE PROPOSITION: TECHNICAL SUMMARY

Drainage

Surface Water

The area currently largely comprises agricultural fields which are served by a number of watercourses which cross the site, including the Milton Malsor Brook. At present, rain falling on the land will naturally infiltrate the ground until the capacity of the underlying soil is reached, after which runoff will shed off into the local ditches and watercourses.

Whilst the scheme will result in an increase in the number of hardstanding areas, highways and buildings on the site, the Proposed Development has been carefully designed to ensure post development peak run-off rates will not increase from the existing conditions and as such will result in no increase of flooding to Main SRFI Site or surrounding settlements. In particular, a new surface water drainage system will be constructed which will include embedded mitigation measures, comprising new easements, additional watercourse crossings and culverts.

In addition, two of the watercourses will be culverted to avoid the proposed built development. The realignment modelling of these routes has confirmed a betterment in flood levels for the main SRFI site and also to third party land downstream, including when assessed for extreme 1 in 1,000 year flood events.

Each building unit and its associated hardstanding areas will contain storage features which will deal with their own attenuation requirements with restricted discharge rates. In the majority of cases, because of the land use, the storage will be a combination of surface water lagoons, ditches, oversized pipes and underground tanks.

An assessment has been undertaken to determine the magnitude of surface water storage volumes that will be required in order to limit post-development runoff rates to values that are no greater than the existing greenfield situation.

In a number of locations there should be the opportunity to include attenuation ponds/basins which will be able to provide additional storage and deliver the ability to improve water quality before discharging to the existing watercourses within the site. It is also intended to include swales or similar features as conveyance systems and to provide water treatment benefits where there are appropriate areas within the layout.

It is proposed that any discharge from the site be restricted to mimic the existing greenfield QBAR runoff rate with attenuation being provided to cater for the 1 in 200 year plus 40% allowance for climate change storm event. This ensures that the proposal meets the criteria set out by Northamptonshire County Council in their role as the LLFA.

Due to the scale of the development, a number of watercourses will need to be diverted. The proposed scheme will include the rerouting of such watercourses in order to maintain the current flows from one side of the site to the other.

Foul Water

There is one public foul water drainage system present within the Main SRFI Site, a 300mm diameter sewer that crosses the site in a south to north direction parallel to the Milton Malsor Brook. Discussions with Anglian Water have confirmed that there are existing capacity issues with the current Sewage Treatment Works which are located to the immediate south of the Main SRFI Site.

The Proposed Development will generate new foul flows, though the existing Treatment Works cannot receive the anticipated foul discharge from the Site without necessary reinforcement upgrade works. To address this, and in consultation with Anglian Water, a final drainage system design has been prepared which will include the provision of an additional 102m3 storage volume provided within the Order Limit boundary, with the proposed embedded mitigation works to be undertaken prior to the occupation of the Site.

The assessment works have confirmed that the operation of the Site will not adversely affect capacity within the receiving foul water network, indeed it will result in a moderate beneficial effect to improve system capacity compared to the baseline situation, based on the additional attenuation storage to be provided.

Highway works

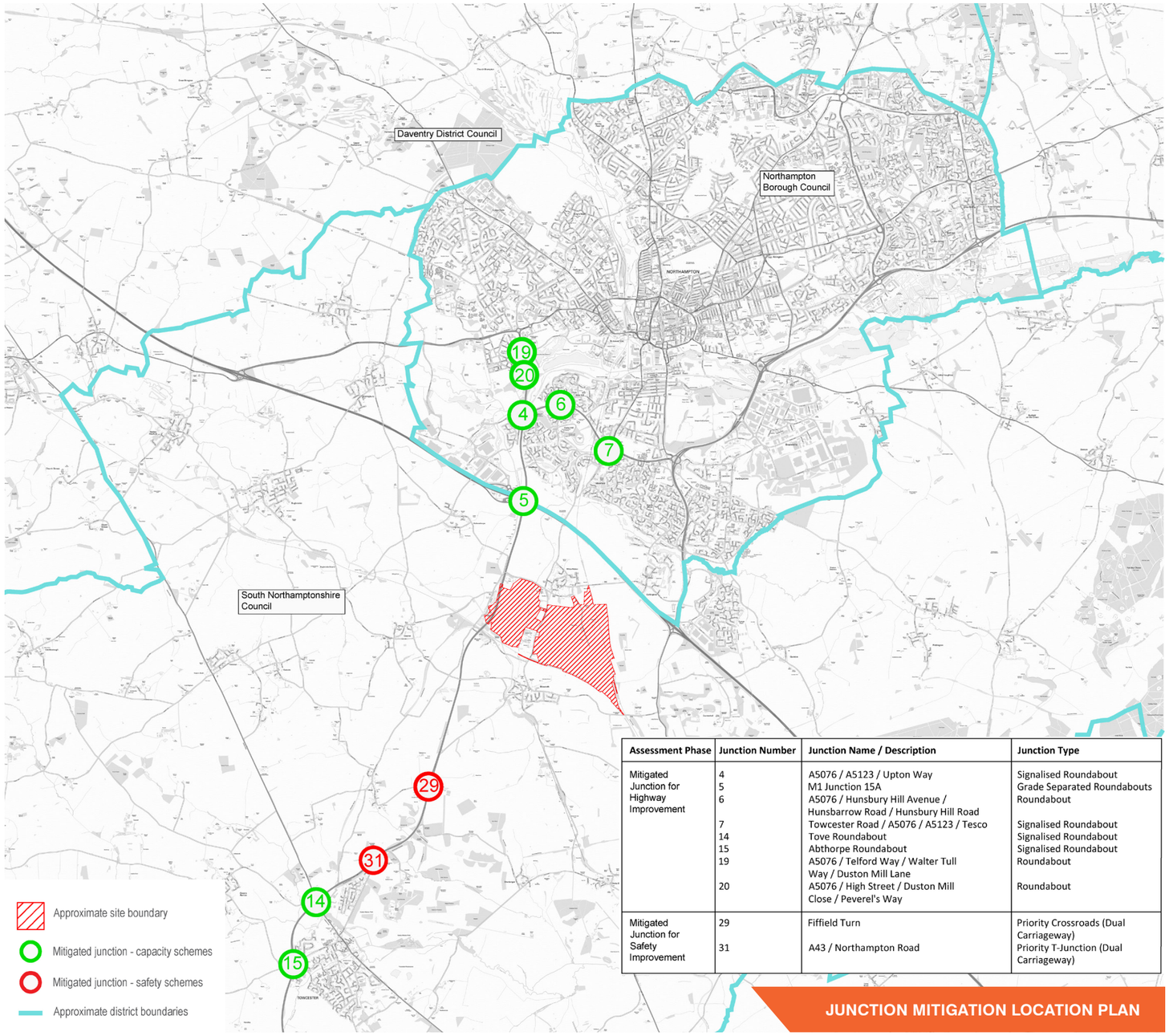
As part of the development proposals, it is anticipated that highway mitigation works (as shown on the plan) will be required at a range of on and off-site locations.

These proposed works are described in detail in the Transport Assessment.

The proposed junction mitigation schemes to be implemented are as follows;

1. Junction 4 – A5076 / A5123 / Upton Way
2. Junction 5 – M1 Junction 15A
3. Junction 6 – A5076 / Hunsbury Hill Avenue / Hunsbarrow Road / Hunsbury Hill Road
4. Junction 7 – Towcester Road / A5076 / A5123 / Tesco
5. Junction 14 – Tove Roundabout
6. Junction 15 – Abthorpe Roundabout
7. Junction 19 – A5076 / Telford Way / Walter Tull Way / Duston Mill Lane
8. Junction 20 – A5076 / High Street / Duston Mill
9. Junction 29 – A43 / St John's Road
10. Junction 31 – A43 / Northampton Road

As the highways evidence shows, the scale of highway interventions proposed are such that the development delivers a net benefit to the local highway network.



Assessment Phase	Junction Number	Junction Name / Description	Junction Type
Mitigated Junction for Highway Improvement	4	A5076 / A5123 / Upton Way	Signalised Roundabout
	5	M1 Junction 15A	Grade Separated Roundabouts
	6	A5076 / Hunsbury Hill Avenue / Hunsbarrow Road / Hunsbury Hill Road	Roundabout
	7	Towcester Road / A5076 / A5123 / Tesco	Signalised Roundabout
	14	Tove Roundabout	Signalised Roundabout
	15	Abthorpe Roundabout	Signalised Roundabout
	19	A5076 / Telford Way / Walter Tull Way / Duston Mill Lane	Roundabout
	20	A5076 / High Street / Duston Mill Close / Peverel's Way	Roundabout
Mitigated Junction for Safety Improvement	29	Fiffield Turn	Priority Crossroads (Dual Carriageway)
	31	A43 / Northampton Road	Priority T-Junction (Dual Carriageway)

JUNCTION MITIGATION LOCATION PLAN

THE PROPOSITION: TECHNICAL SUMMARY

Noise

The nearest residential properties to the development are the Railway Cottages on Northampton Road, which are around 80m from the nearest service yard. Other nearby residential properties within 100m from proposed yards are also located on Northampton Road, which runs centrally through the proposed site.

Nearby communities include Milton Malsor, around 100m north of the proposed site boundary, Blisworth, around 400m to the south, and the residential area behind the Walnut Tree Inn, off Station Road, Blisworth, which is around 150m south of the site boundary. There are also some residential properties around 100m to the west of the proposed site boundary, on the Blisworth Arm, by the canal, and also Gayton Marina and the canal itself, where there is significant noise from existing road traffic on the A43.

On-site operational noise mitigation will be provided in the form of earth bunding around the boundary of the proposed site, particularly to provide screening to Milton Malsor to the north and to the nearby residential properties on Northampton Road.

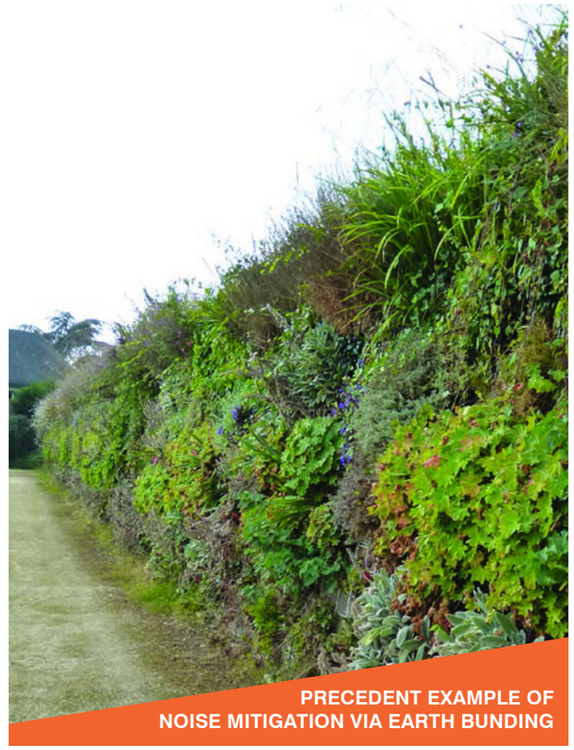
Additional screening of yards to nearby recreational receptors will be provided by considering the orientation of the warehouses. However, where warehouses are orientated such that there is direct line of sight between yards and nearby recreational receptors, acoustic screens would be installed.

Personal safety

Consideration has been given to the layout of the development to ensure personal safety and site security as whole. This relates not only to ensuring that the layout of the development does not create an environment conducive to crime, but also to how occupiers and visitors to the estate can move freely without risk of injury.

In particular, the intermodal terminal will be operated as a Restricted Zone (RZ) in line with strict Government standards governing the security of movement of freight via the Channel Tunnel; once operational, Government officials will make random inspections to check these security arrangements, which would limit access to the RZ to approved personnel only.

Such considerations are given to the design of public areas to ensure that they are overlooked by occupied premises; that the layout removes the risks posed by concealed entrances; that the development is secured; that comprehensive management measures are installed to ensure road and public routes are carefully monitored; and, that highway design and the layout of footpaths ensure that the risk to injury to road users is reduced to a minimum.



PRECEDENT EXAMPLE OF
NOISE MITIGATION VIA EARTH BUNDING

Landscape and Ecology

The Illustrative Landscape Masterplan on the adjacent page has been produced to demonstrate how the site may be developed and how the various design principles would be applied to a typical development layout. This more detailed scheme increases the total area of soft landscape on the main site to approximately 128.8 hectares

1. Publicly Accessible Structural Landscape Zones

Approximately just over half of the structural landscape around the periphery of the site will become publicly accessible amenity land. In order to fully explain this provision, these zones have been further split down into specific areas and described below.

1A. Arm Farm Pocket Park

The area of land to the west of A43 will be safeguarded to provide visual mitigation for the proposed development and A43 junction through the use of native shrub and tree planting to screen views from the Blisworth Arm. In addition to the mitigation planting, the land will be developed as an informal pocket park for use by adjacent residents and also utilised for ecological mitigation. This part of the sites proximity to the canal makes it of particular importance for bat mitigation with the potential to construct purpose made features. The proposed park will be low key and kept informal with native planting. The Northamptonshire Green Infrastructure Plan aspires to create a corridor of calcareous grassland along either side of the A43. The scheme will look to utilise the areas of grassland within this pocket park for development as calcareous grassland through the incorporation of chalk debris or limestone chipping within the soil mix.

1B. Northampton Road Greenway

The existing route is defined with strong highway hedges broken up by intermittent areas of commercial and residential development. The proposed development has been set back from the existing road to provide a landscape buffer that will reduce the potential impact on landscape character between the two villages. Mitigation mounding will wrap around the edge of the development zones to the east of Northampton Road which will aid with screening views across towards the proposed units and associated infrastructure.

Existing hedgerows and hedgerow trees along Northampton Road will be protected and retained where feasible and reinforced with small pockets of new natuve woodland planting to help support local habitats. The bridge over the underpass linking the two development zones to the east and west of Northampton Road will be wide enough to accommodate a grass verge between the road and footpath and also a native hedgerow to aid with screening views back towards the development and to provide continuation for pedestrians and road users. The footpath link between the two villages will be upgraded to a combined cycleway / footpath providing an 'off road' cycle link between the two villages and into the proposed development.

The new Greenway route along Northampton Road will therefore provide a key ecological corridor running north-south through the site allowing for the safe movement of local wildlife and habitats through the site following the delivery of the development.

1C. Milton Malsor Ecological Corridor

The landscape between the proposed development and Milton Malsor will provide a strong screen to views back towards the development through the combination of earth mounding and structural landscape. The site topography will also allow this area to be utilised for attenuation ponds which will be designed to provide additional ecological and amenity benefit. To the north of the proposed earth mounding the existing field structure and vegetation will be retained to protect the existing village edge character with the existing fields developed as species rich neutral grassland in line with the Northamptonshire Green Infrastructure Plan.

The existing barns to the west of Barn Lane will be retained and utilised for both barn owl and bat mitigation. The possibility of providing an interpretation facility for the local community will also be explored within this ecological corridor with any proposed facility located to avoid disturbance to wildlife. This could be utilised by local community groups and by schools looking to explore the 'Forest Schools' learning initiative. There is also the possibility of working with the Wildlife Trust to provide interpretation boards at key points within the landscape zones to explain different elements such as bat and barn owl mitigation, pond creation, habitat creation and canal heritage.

1D. Blisworth to Collingtree Footpath Diversion

The proposed development will require the diversion of the existing Blisworth to Collingtree footpath around the eastern edge of the development. The proposed re-routed footpath will run adjacent to the existing West Coast and Northampton Loop train lines along the existing field edge. It will cut across the site in the south eastern corner to minimise the additional distance of the diversion. Where the footpath runs adjacent to the railway, new hedgerow planting will be planted between the footpath and the railway to provide an increasingly effective screen to views towards the development and encourage views out to surrounding countryside. Where the footpath cuts across the corner of the site, the surrounding landscape will be developed as woodland habitat in line with the Northamptonshire Green Infrastructure Plan.

1E. A43 Ecological Corridor

The existing footpath linking the Grand Union Canal to Milton Malsor will need to be diverted to facilitate the development. It will be re-routed around the western edge of the development linking though an underpass under the proposed site access road. Existing and proposed native tree planting will provide a setting for this diverted footpath with mounding providing some additional screening of views towards the development. The Northamptonshire Biodiversity Action Plan shows this area of land as being within the Calcareous Grassland Habitat Reservoir so the masterplan will look to develop areas of calcareous grassland where ground conditions and soil type permit. This area will also be managed as a dark zone to minimise light spillage from the development into the landscape zone.

The design of the proposed A43 junction has aimed to retain the maximum amount of existing roadside vegetation. Where vegetation has been removed to facilitate the construction of the slip roads to the new junction it will be re-instated with robust new native planting belts.

THE PROPOSITION: TECHNICAL SUMMARY

2. Structural Landscaping Zones

In addition to the publicly accessible areas listed above there are also a number of other landscape zones that can be utilised for mitigation around the periphery of the site. These are summarised below.

2A. Milton Malsor Brook Ecological Corridor

The existing Milton Malsor Brook will need to be diverted around the proposed development. It is proposed to minimise the length of brook that is diverted in order to retain and protect the maximum amount of existing watercourse and associated vegetation and local habitats. Where the watercourse is diverted it will be profiled to reflect the requirements of the Environment Agency with a suitable width for maintenance access provided. Where appropriate the watercourse profile will be varied to create a naturalised appearance to provide a variety of flow rates, depths and widths to maximise ecological potential.

2B. West Coast Mainline Ecological Corridor

To the east of Northampton Road, there is a significant band of soft landscape proposed between the west coast mainline and the proposed development. Access to these areas is relatively restricted due to the proposed rail access to the development and the express platform. The emphasis for the landscape in these areas will be to provide strong bands of native structure planting that will begin to soften views from Courteenhall Road towards the proposed development. This structure planting will be complemented with species rich neutral grassland areas and scrub areas to provide a matrix of interconnecting habitats linked together using oversized culverts crossing any road or rail infrastructure.

2C. Grand Union Canal Ecological Corridor

To the west of Northampton Road the development borders the Grand Union Canal which is designated as a local wildlife site and is considered an important ecological feature within the county. Adjacent to the canal there two further sites that are identified as potential wildlife sites, one between the West Coast Mainline and Station Road and one sited between the A43, West Coast Mainline and the Grand Union Canal. Both of these sites have a mixed habitat of woodland, scrub and species rich grassland. The landscape buffer between the canal and the proposed development will be established with the aim of complementing and expanding these potential wildlife sites by linking them both to provide a continuous strip of mixed habitat on both sides of the canal. The intention is that this segment of land will not be generally accessible to the public in order to maximise its ecological potential. This area will also be managed as a dark zone to minimise light spillage into the landscape zone.

The Grand Union Canal Ecological Corridor will also provide mitigation from landscape and visual impacts when viewing the development from the canal and surrounding PRoW. Native tree and shrub planting will provider layers of screening creating a sense of separation from the canal and proposed buildings.

3. Estate Road Landscaping

In addition to the structural landscape around the periphery there will be wide landscape strips running adjacent to proposed estate roads. This internal landscape will follow a graded level of formality. The central estate road will have an avenue of trees running on both sides of the road within semi native and ornamental planting. Behind this native structure planting will provide a buffer to the development. Radiating out from the main estate road the landscape will become gradually more naturalised with the emphasis increasingly on the use of native species and habitat creation. This will link back to the peripheral landscape described above that will provide a robust setting for the development and tie it back to the surrounding landscape. Connectivity through the site will be maintained for invertebrates and small mammals through the creation of new native hedgerows and ditch lines running through the site. These will be connected together through a series of oversized culverts running under the proposed road and rail infrastructure.

While the proposed development will inevitably result in the loss of a large area of farmland and associated field edge vegetation the proposals look to offset this through the development of a series of biodiverse ecologically rich landscape zones that will look to provide a net gain in area of woodland habitat, species rich grassland habitat, wetland habitat and overall length of hedgerow. The loss of farmland will be partially offset by the retention and biodiversity enhancement of an area of farmland to the east the Northampton Loop.

The proposed landscape scheme will provide a setting for the development with an expansive area of publicly accessible land to provide a landscape structure for the diverted footpath routes and additional footpath links. It will also provide an ‘off road’ cycleway connection between Blisworth to Milton Malsor. The publicly accessible land will feature numerous interpretation boards that explain local heritage features and also provide opportunities for use as an educational and recreational resource for the local community. An illustrative landscape masterplan has been produced to demonstrate the various principles described above and how they would be applied to a typical development layout.

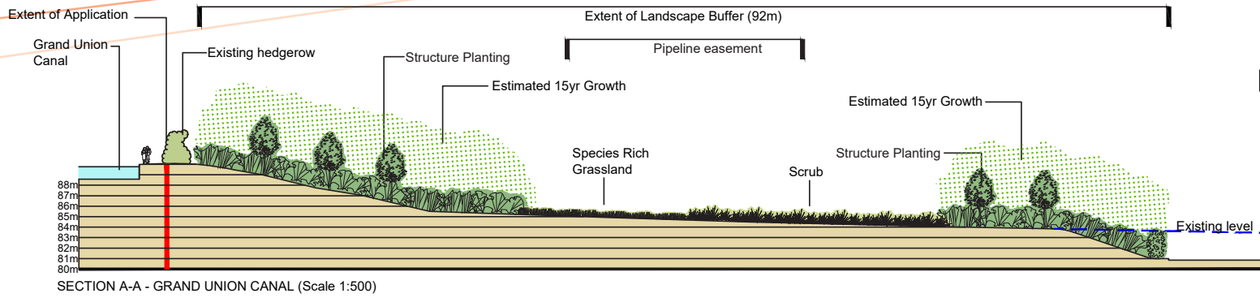
- Existing Vegetation Retained
- Proposed Blocks of Native Tree and Shrub Planting
- Proposed Scrub Areas
- Proposed Formal Planting
- Highway Planting to be Retained or Re-instated
- Proposed Hedgerow
- Proposed Grass and Wildflower Areas
- Retained Farmland (Within Red Line)
- Existing Footpath
- Section Line
- Existing Footpath (Removed)
- Proposed Footpath
- Proposed Cycleway / Footpath
- Proposed Screening Mound
- Proposed Water Body
- Existing Retained Water Body
- Order Limits
- Oversized Culvert Habitat link
- Proposed Acoustic Barrier

SRFI ILLUSTRATIVE LANDSCAPE MASTERPLAN

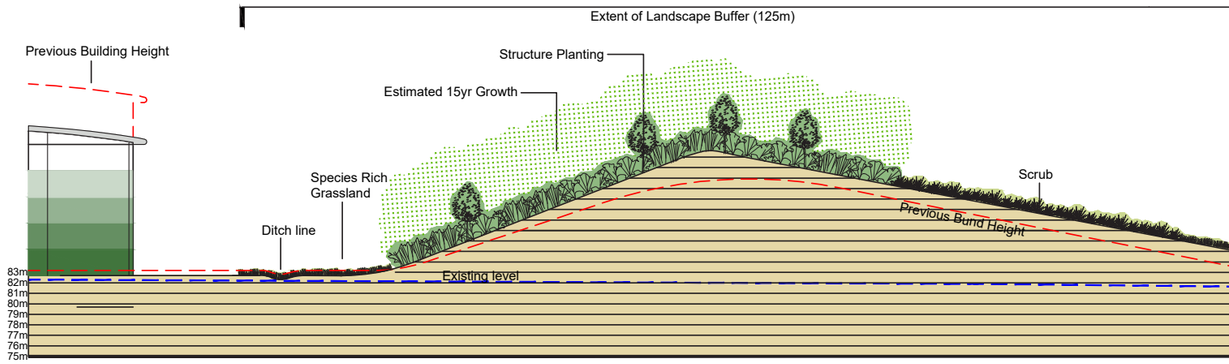
THE PROPOSITION: TECHNICAL SUMMARY

Sample Landscape Mitigation Works Cross-sections

For more detail and a comprehensive package of all landscape mitigation works proposed, please refer to the drawing pack that accompanies this application.

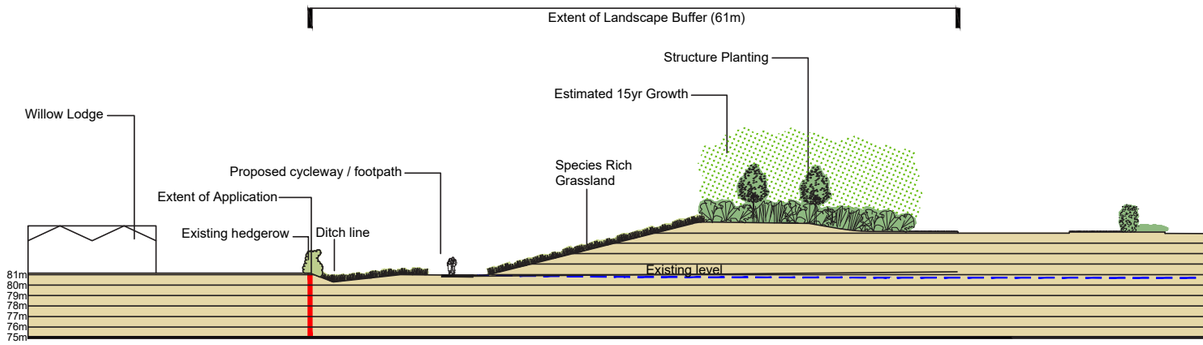


SECTION A-A - GRAND UNION CANAL (Scale 1:500)

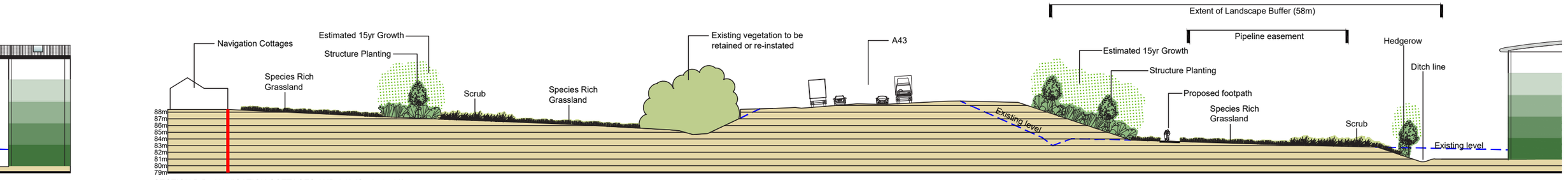


SECTION J-J - PROPERTIES ON RECTORY LANE (Scale 1:500)

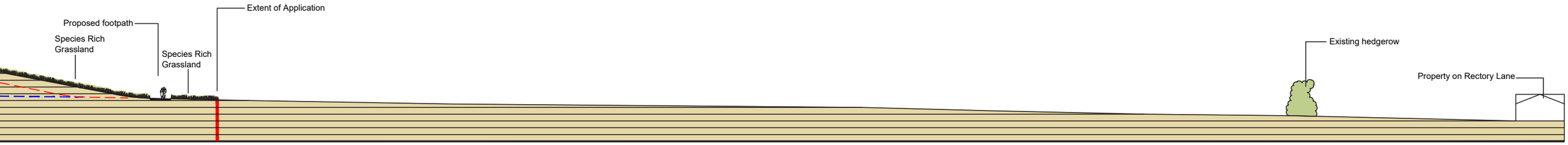
CROSS SECTION KEY PLAN

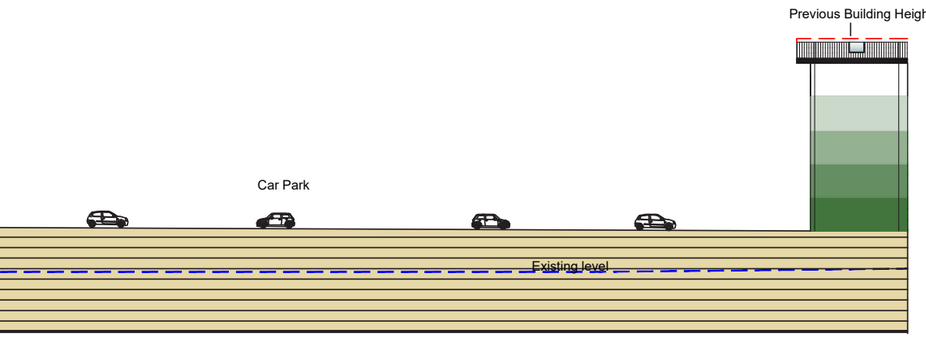


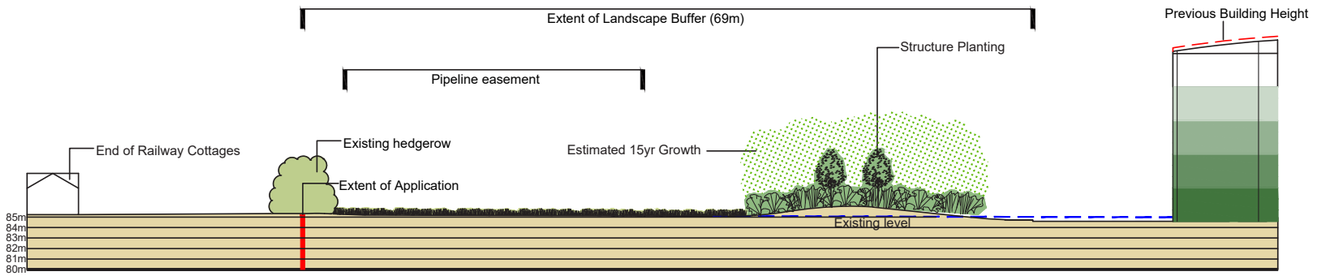
SECTION K-K - PROPERTY ADJACENT TO JAMES KING GARAGE (Scale 1:500)



SECTION B-B - NAVIGATION COTTAGES AND A43 (Scale 1:500)







SECTION L-L - RAILWAY COTTAGES (Scale 1:500)

THE PROPOSITION: TECHNICAL SUMMARY

Phasing

It is currently anticipated that the first stage of works will take an initial construction access from the A43. This will use the former petrol filling station left in/left out access point. This will allow the establishment of a construction compound to the east of the access point. Thereafter a new left in/left out construction access point will be implemented to the north of the existing access. Works will then start with the creation of the main site access from the A43, which will facilitate the main road based access for the construction phase.

A central haul road will then be created to Northampton Road, to allow works on the underpass to begin. Once complete, this will allow access to the eastern area of the main SRFI site.

Construction access will then be taken to the eastern boundary and another construction compound will be created. This will allow works to begin on creating the rail infrastructure for the intermodal terminal. The intermodal terminal will be built out in phases with sufficient rail and freight handling infrastructure being constructed prior to any occupation of development to ensure the terminal can handle at least four train movements per day (in both directions) in accordance with the NPS. Further additional reception and handling sidings will be delivered in line with further demand. Subject to Network Rail agreement regarding timing/phasing of delivery, the express freight platform will be constructed as soon as possible.

The creation of development plateau and perimeter bunds will require bulk earth works. These will also be undertaken on a phased basis, although it is likely that this will be limited to one or two main earth work phases, providing levelled and profiled areas for the eastern and western parts of the site. Once each phase is complete, it is proposed that advance landscaping will be provided where possible to maximise maturing time. Precise details of landscaping and timing of delivery will be confirmed after consent has been granted.

The anticipated phasing of development is shown on the illustrative Construction Phasing Plan and is listed below;

Phase 1	New junction on A43 to provide access into the site	Required prior to first occupation.
Phase 2	Haul road from site access to serve the construction of an underpass beneath the Northampton Road (old A43)	
Phase 3	Underpass Construction	
Phase 4	Haul road from under pass to Rail Freight Area	
Phase 5	Rail freight terminal and maintenance depot (Phased)	
Phase 6	Units 6 & 7 adjacent to rail freight terminal	Will be delivered as soon as possible in agreement with Network Rail.
Phase 7	Units 10, 11 & 12 to site frontage adjacent to A43	Phasing to be determined by user/occupier requirements.
Phase 8	Unit 5 rail served unit	
Phase 9	Units 3 &4	
Phase 10	Units 8, 9 & 11	
Phase 11	Units 1 & 2	

1. A43 Highway Access and Site Compound
2. Haul Road to Underpass
3. Underpass
4. Haul Roads to Rail Freight Areas
5a. Rail Freight Terminal
5b. Express Freight Terminal*
6. Units 6 & 7 (Rail)**
7. Units 10,12 & 13 (Frontage)**
8. Unit 5 (Rail)**
9. Units 3 & 4**
10. Units 8, 9 & 11**
11. Units 1 & 2**

** To be delivered as soon as possible subject to agreement with Network Rail*

*** To be delivered according to user/ occupier requirements*

INDICATIVE SRFI PHASING PLAN

THE PROPOSITION: TECHNICAL SUMMARY

Design code

The proposals will take account of the development form, layout and orientation. In establishing this code, the following will need to be taken into account:

- The operational and commercial aspects of the brief so that buildings and transport infrastructure suit the needs of modern business, and allow flexibility for changes in building use and management by future occupiers;
- Commercial advice provided to the applicant in respect of individual building sizes and layouts. It is required that the development should be capable of accommodating buildings both large and small, to cater for a variety of national, regional and local business needs;
- The existing public right of way that crosses the site, and the its connections with the wider network;
- Sensitivities in respect of the development's impact on the adjacent villages, countryside; and
- Views out of the development to neighbouring uses.

Design principles

Industrial and distribution buildings are often perceived as monolithic boxes or sheds that pay little attention to location or orientation. Due to the nature of their form architectural articulation can also be neglected. It is intended that the buildings at Rail Central will attempt to redress this perception.

To create a consistency and unity between the buildings, scale and layout will need to be considered carefully. The form, size and height of the buildings will generally be informed by the functional and operational requirements of end-users. Where units are to be developed speculatively, the design team will deliver appropriate buildings based upon the market needs within the logistics sector.

It is the ambition of the client and the design team to achieve a strong and consistent design identity and language across the whole development. This will include all aspects, from hard and soft landscaping, through to street furniture and building design.

The building design will provide robust and high quality structures that will give future occupiers flexibility whilst creating a strong identity throughout the development.

It is the intention to utilise a high degree of standardisation throughout the design to ensure very high standards are achieved both in specification and building performance.

Design standards

The following criteria will be used to inform how each of the zones will be developed to accommodate the design principles. These standards are considered institutional based on what is currently used for this type of development and what occupiers expect. Where a tenant is known and a building becomes bespoke the standards may change to suit their operational needs.

Typical Building Grids:

- Portal spacing generally between 28m and 40m; sub-grid typically of 8m
- Typical Haunch Height: (the clear internal height of the building)
- 12.5m (consider for units up to 300,000ft²)
- 15.0m (consider for units over 300,000ft²)

Typical Offices:

- Generally, 5% of warehouse floor area which may include hub offices
- Office design and floor layout to maximise open plan

Typical Dock Leveller Provision:

- Generally: 1 per 10,000ft²/929m²

Typical Level Access Door Provision:

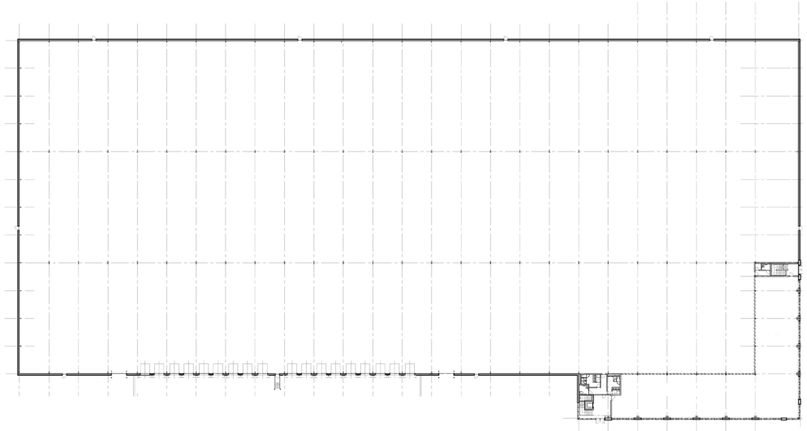
- Generally, 1 per 75,000ft²
- Usually, minimum 2 per side; 1 positioned either side of dock doors

Typical Gatehouse:

- A base for future provision usually provided for all units

Typical Service Yards:

- Single Sided Unit: Typically 50m depth
- Cross dock Unit: Typically 50m depth to long sides with 35m yard to second (short) side where applicable
- Where external dock pods are incorporated: Typically 50m depth



TYPICAL GROUND FLOOR LAYOUT

Building form and appearance

Due to the size of the development zones it is clear that buildings of substantial volume and mass can be accommodated.

Market demands have changed with many occupiers requiring larger buildings to satisfy storage requirements to fully automated services.

The proposed heights, scale and floor areas for each zone have been selected to provide the flexibility to cope with market demands within the parameter controls.

Large spans are necessary to minimise the number of columns in a warehouse space in order to provide institutional standard, flexible industrial accommodation for future occupier requirements. To achieve this a lightweight structure and envelope is required to reduce dead loads, which is therefore best provided by structural steelwork and larger roofing and wall components such as metal cladding and decking products.

The footprint of each unit will be based on maximising the servicing capability. Typically the loading docks and level access doors are located on the long elevations giving access to most of the internal areas.

External servicing areas will be sized to provide sufficient vehicular access and movement along with parking and external storage if required.

The height of a building is generally dictated by the overall size/footprint of the building. The internal height is key to enabling an occupier to fit out the space to suit their operations and provide mezzanines if required. Clear internal heights will be 15m.

The roof type for most warehouse buildings tends to be a 6 degree roof pitch to provide the necessary structural spans. Whilst this is the most common roof style curved roofs should be considered where appropriate and applicable. The roofs should also be capable of accommodating roof mounted solar technologies depending on the sustainable design strategy of the building which, in turn, is influenced by the end-user.

Typically the design of the ancillary offices tends to have different architectural language to the main body of the building. This offers the opportunity to provide a focal point for each building and create an identity to connect all the buildings together.

The offices should be at least two storeys for smaller sized buildings and up to four storeys for the largest buildings. As noted earlier the position of offices should create a prominent feature and ideally front onto the access road.

Office floor depths must be sufficiently shallow to maximise natural daylight penetration and where appropriate, natural ventilation. Footprints may vary between 7.5m and 15m overall depth depending on the size of the overall building.

Office entrances should address key views into the site and provide a strong visual cue for visitors. They should be designed so that they are also located to overlook public routes, car parking areas and entrance spaces to create interest and thus contribute to designing-out crime. Careful positioning of offices could also provide an opportunity to form appropriate screening to service yards.

SNAPSHOT FROM THE 3D MODEL OF THE PROPOSAL - OFFICE UNIT FACADE OVERLOOKING THE STREET

THE PROPOSITION: TECHNICAL SUMMARY

Development Components

Access Roads

The main estate roads that run through the site will be designed and constructed to accommodate the types of vehicles that will use this development. Access off the estate roads will be designed to ensure vehicles can turn on and off without detriment to other road users. Whilst the development will operate 24/7, during the construction, traffic will operate to limited times.

Service Yards

Service yard areas are typically areas of concrete to cater for vehicular operational use. This can create unattractive views and there screening where possible should be considered. The use of landscaping and building orientation can assist with screening. Consideration has be given to the location of service areas to ensure that both noise and light do not impact on the local area outside of the development.

Service yards are generally set out to a depth of 50m to accommodate the full turning circle of a HGV within the parking and circulation zones while allowing vehicles to carry on loading at the adjacent loading docks along with lorry parking.

Access to service yard areas will be via a dedicated access off the estate road to prevent and discourage public access. This access point is likely to be managed by a gatehouse to help ensure no unauthorised access is permitted.

Car Parking Areas

Car parking areas will be located in close proximity to the office areas. Footpaths will be designed to create 'pedestrian-friendly' areas through car parks leading pedestrians to the offices.

Where practicable soft landscaping will be integrated into the car parking areas to enhance the visual appearance and assist with screening.

Car parking will be provided in accordance with local authority standards unless agreed otherwise. The provision of disabled parking bays will be provided to a minimum of 5% of the total car parking number and be positioned in close proximity to the office entrance.

The position of bicycle storage areas will be located in close proximity to the office accommodation entrances to encourage use as well as enhance security. Changing facilities will be provided to encourage non-car travel to the extent required by BREEAM and the sustainable transportation strategy.

Pedestrian Access

Each building and their immediate surroundings, including car park areas and building approaches, will be designed to be accessible by all staff and visitors. These spaces will meet all current UK Building Regulations and respond to the latest version and provisions of the Disability Discrimination Act.

Best practice design ensures that access is available to all regardless of any special mobility problems or restrictions. Level thresholds, gentle slopes or ramps and ambulant disabled stairs will be designed in as standard.

There are to be no physical barriers to users of the development or to those that serve the development such as the emergency services. There will be no special access points for wheelchair users who will be able to use the same front doors as everyone else.

Storage & Refuse

The provision of refuse and re-cycling facilities will be tailored to future occupier's operational requirements. Typically this would include dedicated skips and compactors located in the service yards.

External Lighting

It is anticipated that the development will be occupied by a range of businesses that do not work typical hours of 9am to 5pm. The development therefore needs to be fit for purpose and be capable of operation 24 hours a day, seven days a week.

The detailed lighting design should consider best practice standards and technology, as appropriate. The external lighting specification(s) and design(s) for the Project should be prepared by a specialist lighting engineer with due regard to the sensitivities of surrounding receptors.

The lighting specification should include the appropriate selection of column heights, light fittings and luminaire design to ensure that the intensity and direction of the lighting is controlled through retaining tilting angles close to the horizontal to ensure that the effects of light spill, glare and sky glow are minimised.

All lighting will comply with the latest British Standards and CIBSE Guidance to ensure the appropriate lighting levels are provided, ensuring that the required levels of illumination are delivered to achieve the required task and avoid any unnecessary over lighting.

Consideration should be given to best practice guidance and standards to ensure the prevention of obtrusive light impacts, such as the Institution of Lighting Professional: Guidance Notes for the Reduction of Obtrusive Light GN01:2011.

EXAMPLE OF BIKE STORAGE

EXAMPLE OF EXTERNAL LIGHTING

Sustainable Design and Construction

In accordance with the EIA (2017) Regulations, the Environmental Statement (ES) accompanying this DCP application contains a chapter demonstrating how Rail Central has been designed to accommodate future climate change (adaptation) and how it will impact future climate change in terms of its carbon emissions (mitigation).

The National Policy Statement for National Networks clearly states that one of the principal functions of a SRFI is to encourage modal shift from road to rail which should be a key part of creating a low carbon economy. As communicated in the ES and summarised within this Design and Access Statement, it is considered that Rail Central will have a significant environmental benefit with regards to the Greenhouse Gas (GHG) savings secured from modal shift which, by 2050, is anticipated to make a positive contribution to the UKs carbon budgets and result in a significant environmental benefit with respect to climate change mitigation. Key to this benefit is the GHG savings resulting from the movement of freight from road to rail as a result of rail central which is estimated to result in a 47% reduction compared to the road only scenario.

With regards to climate change adaptation, a Climate Change Risk Assessment (CCRA) has been undertaken and is included within the ES. The CCRA has identified a number of risks to the construction and operation of Rail Central from future climate change which includes:

- risk to species and building users from higher temperatures;
- potential damage to electrical and physical infrastructure;
- A greater risk of flooding due to higher rainfall.

These risks have been addressed through the a number of mitigation measures which include:

- The selection of climate tolerant species;
- The use of building modelling to assess the impact of higher temperatures;
- The selection of equipment and design of infrastructure that can tolerant higher temperatures;
- The development of a drainage strategy with an allowance for climate change.

Whilst future Climate Change does present a number of risks, there are also a number of potential benefits from a warming climate that have also been identified which include:

- A reduced Health and Safety risk from lower occurrences of severe ice and snow in the winter months;
- A biodiversity benefit to some species from a warming climate;
- A reduction in carbon emissions from a reduced use of fossil fuels for heating.

Ultimately the CCRA concluded that with the mitigation measures proposed, RC would have a high resilience to the future effects of climate change.

In addition to the substantial benefits resulting from the carbon savings secured via modal shift, Rail Central will also make a strong commitment to the construction of sustainable buildings by committing to a BREEAM Excellent (2014) rating for all distribution buildings.

In meeting the BREEAM Excellent requirement a number of sustainability measures will be integrated into the buildings which include:

- An energy strategy that targets carbon savings approximately 20% higher than the current (2013) building regulations requirements;
- Optimised use of natural lighting and minimise use of artificial lighting in daylight hours;
- Roof lights to equate to 10- 15% of the floor area within the warehouse, reducing reliance on artificial lighting;
- Achieving higher level of thermal insulation than the requirements in the Building Regulations;
- Use of highly efficient LED lighting throughout with automatic sensors;
- Achieving high levels of air tightness in the building in excess of Building Regulations;
- Reduction of solar gain by specification of solar shading and tinted glass on other elevations;
- Adaptation to the impacts of climate change, including consideration of potential overheating;
- The use a range of measures to reduce water consumption;
- The selection of more sustainable materials for the main building fabric and structural components;
- Measures to reduce waste during the construction and operational phases of the development;
- A review of all feasible low and zero carbon technologies for use in the buildings where they are able to reduce carbon emissions effectively;
- Measures to improve biodiversity;
- Commitment to the promotion of sustainable transportation measures such as the provision of EV charging points and, cycle storage and associated infrastructure and a site wide travel plan.

Given the construction period of Rail Central and the rapidly changing market with regards to issues such as renewable energy and battery technology, the sustainability strategy will review and respond to these changes to ensure the buildings are fit for purpose and contribute to the low carbon economy.

Whilst the final strategy for each of the buildings will be confirmed during the detailed design phase it is clear that Rail Central will make a significant contribution to the UK's low carbon economy.

THE PROPOSITION: TECHNICAL SUMMARY

Building materials

External materials will be of metal cladding with a consistent and common palette of colours and cladding types. Elevational design will be kept to a minimum and will be of modern appearance. The concept is to keep the building simple and clean, with uncluttered elevations giving it a modern and high tech appearance, using colours to provide emphasis where necessary.

In most cases, each unit will have ancillary offices located in a prominent part of building to provide a sense of arrival. The office elevation will offer the opportunity to use glazing and windows to counterbalance areas of solid wall used on the main body of the building.

The external appearance of the offices will be designed in a way to integrate this use class with other building types, in order to complement the aesthetic vision of the development.

Offices will normally be located with frontages overlooking main estate roads to provide a strong visual reference point for visitors. The offices will be located to screen car parking and/or service areas where practicable.

These design principles will be followed as part of the detailed design for offices; Elevational designs will clearly address the public face of the building on any edge that abuts the public domain.

- Where possible, areas of glazing will be combined to counterbalance the areas of solid walls;
- Glazing will be used to provide a high standard of natural light within the internal office areas and quality of appearance to the external elevations. High performance coated glass may be used to reduce solar gain;
- Entrance areas will be clearly defined by the use of canopies and architectural elements, such as full height glazing;
- Forms of solar shading, such as brise soleil or canopies, will be considered on the south, east and west facing elevations, in order to reduce solar gain in to buildings. This can also be used as an architectural device to add quality and interest to cladding and glazing.

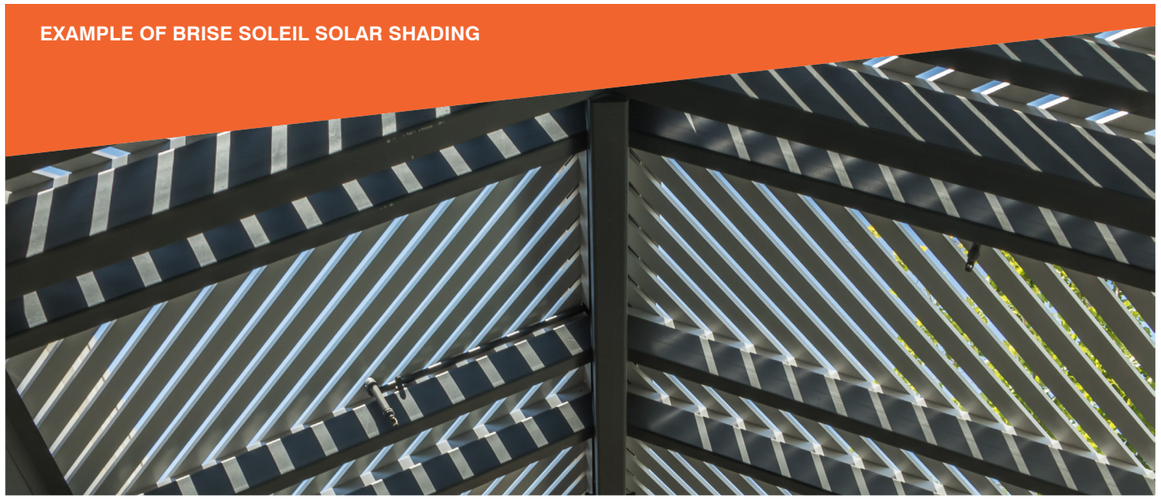
The external presentation of office buildings will normally consist of a combination of finishes. Thought will be given to the treatment of prominent facades to ensure an appropriate level of visual interest and quality of presentation.

The entrance area for an office, similar to the industrial units, is expected to be treated separately to provide distinctiveness to the main elevations.

This will be achieved by using a combination of finishes such as glazing, rain screen cladding of different colours or metal cladding with varying profiles and texture.

EXAMPLE OF CLADDING STYLE

EXAMPLE OF BRISE SOLEIL SOLAR SHADING



External Materials

Car Parking Areas

Car parking areas and roadways will be surfaced with 80mm thick coloured concrete block paving laid in herringbone pattern.

Parking bays will be surfaced in macadam and will be defined by white thermoplastic lines and precast concrete kerbs will be used with dropped kerbs at pedestrian cross-overs and at intersections with cycle routes.

Pedestrian footpaths will be surfaced using contrast coloured concrete block paving and brushed concrete will be used for ancillary paths and margins around the warehouse.

Cycle Shelters

Covered cycle shelters will be provided in close proximity to the office entrance areas. The shelters will be constructed from galvanised steel with a polycarbonate panels.

The cycle racks will also be galvanised steel with the type and size to be provided to meet the requirements of the BREEAM and local authority standards.

Bus Terminus

The bus terminus will be provided to encourage and cater for passengers using the bus network.

A shelter will be provided with internal lighting and timetable casing, signage and notice boards with the capability for real-time display.

Boundary Treatment

Security fencing will be provided for each building to secure the service yard areas. Typically security fencing is c.2.4m high and in welded mesh.

Soft landscape boundary treatment will be used to other areas to provide a natural buffer from the estate road.

Landscaping will be used where possible adjacent to the fencing to add further screening however consideration should be given to avoid security risks.

600mm high timber posts should be used in areas where light security may be required and secure fencing is deemed unnecessary.

Site Security

The security of each building will eventually depend upon the requirements of the occupier.

It is anticipated that most occupiers will require CCTV coverage and the use of camera masts where required should be integrated with landscape features in order to minimise their visual impact.

The layout of car park areas and other pedestrian routes will be designed to ensure that soft landscaping in these areas do not obscure visibility and that there are no hiding places particularly in landscaped areas adjacent to footpaths and car parking.

Offices should overlook car park areas to provide passive surveillance. The proposed lighting scheme will be designed to avoid glare to adjacent plots and particularly to distant residential areas. The lighting scheme should also provide good colour rendition to complement any CCTV scheme.

The Intermodal Areas will be totally secure for safety and security purposes and will include 2.4m high weldmesh fencing as a minimum.

Building and Site Signage

It is anticipated that future tenants will want to install signage as part of their fit out. Signage should enhance and not detract from the quality of the development and setting as a whole. Whilst tenant signage will be subject to Advertisement Consent, all proposals will require approval from the development team prior to submission.

An on-site directional signage scheme will be prepared across the site to manage vehicle movements.

Pedestrian and cycle routes will also be a part of this scheme to ensuring separation and safety. Signage will be kept to minimum and will be clear in location and type to avoid confusion.

It is likely a large totem style sign will be installed at the site entrance to identify the occupiers on site.

EXAMPLE OF CCTV CAMERAS

EXAMPLE OF WELDED MESH SECURITY FENCING

THE PROPOSITION: TECHNICAL SUMMARY

Intermodal Terminal Parameters

The Intermodal Terminal will be connected to the NLL (Slow Lines)) at either end, allowing direct access for trains from either direction of travel, as well as from the WCML (Fast Lines) using the internal access chord. Diesel-hauled trains (and bimodal-hauled trains operating in diesel traction mode) could operate directly between the main line and any one of the Terminal sidings. Electrically-hauled trains would operate into any of the four electrified arrival / departure sidings located adjacent to the WCML on either side of the site, before shunting into the Terminal sidings via the internal chord lines linking both sides of the site.

From the main line connections (Northampton Loop), the single track formation splits into 6 handling sidings within the Intermodal Terminal itself (all at least 800m in length), together with 2 electrified arrival / departure sidings. Additional electrified tracks then connect the Intermodal Terminal and arrival / departure sidings to the TMD, Rail-Linked Warehousing, Express Freight Terminal and the Fast Line arrival / departure sidings and main line connections. Each of the sidings is spaced to facilitate access by ground staff to the trains to unlock or secure containers as required, or to carry out train pre-departure inspection. Provision is made for shunt necks and/or cripple sidings at either end of the intermodal terminal, where defective (known in the industry as 'crippled') wagons can be stored pending attention either within the sidings, or within the TMD.

Once a train has berthed inside the Intermodal Terminal on one of the handling sidings, the main line locomotive will either detach and "run round" from one end of the train to the other via the points at each end of the Terminal, using one of the parallel handling or arrival / departure sidings (in the case of trains operating to and from the same offsite origin/destination). Alternatively, the locomotive may stay with the train (in the case of a train stopping at Rail Central en route to its final destination), detach and move onto another train ready for departure, or move to the TMD for servicing / berthing / crew change.

Within the Intermodal Terminal, containers will be lifted on and off the trains by rail mounted gantry cranes (RMGs), augmented by reach stackers (RS) as required. Containers will be stored in 5 lanes under the gantry cranes up to 5 containers high, together with an additional storage area operated with RS located to the west of the gantry crane area. Storage capacity is estimated at around 4,200 Twenty-foot Equivalent Unit (TEU).

Rail Linked Warehousing

The Rail-Linked Warehousing will be connected to the rest of the on-site trackwork by a single-track chord, each unit having a dedicated handling siding running parallel to the longest face of the building. Trains would be propelled into the units by main line or on-site diesel locomotives as required. The handling sidings would either enter the buildings or run alongside the outside yard, housed under a canopy projected off the building if required.

Train/Traction Maintenance Depot

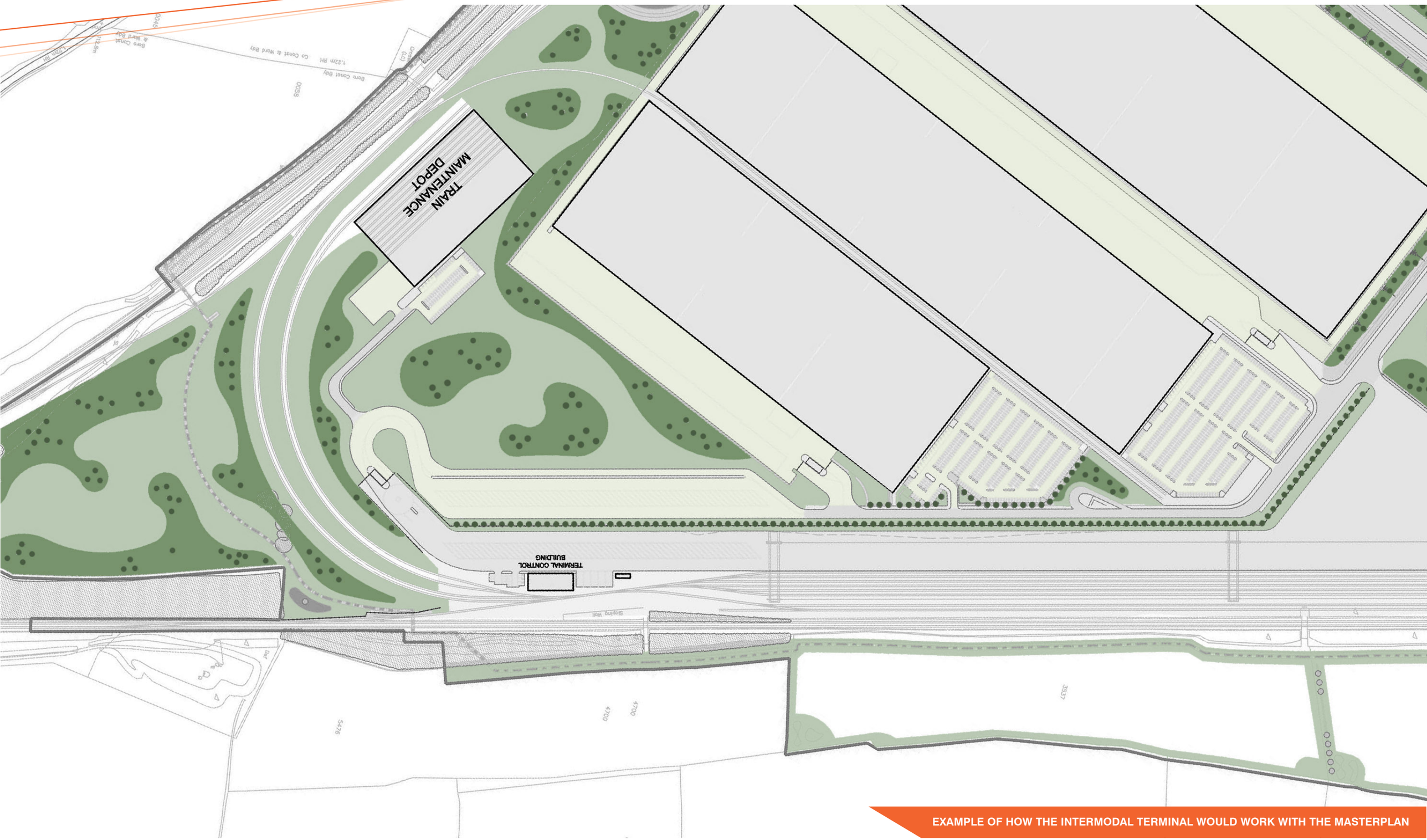
The TMD will be connected to the rest of the on-site trackwork by a double-track chord, with locomotives and rolling stock being stabled either longitudinally alongside the TMD or moved sideways in and out of the TMD internal sidings via a Traverser. The TMD is anticipated to be equipped with facilities for refuelling, maintenance and train crew sign-on / sign-off.

Express Freight Terminal

The Express Freight Terminal (EFT) will be connected directly to the main line via the WCML Fast Lines arrival / departure sidings, as well as the NLL arrival / departure sidings via the internal access chords. The siding serving the EFT will be electrified. The EFT will comprise a covered platform level with the internal floor height of the trains, allowing roll cages and pallet trucks level access for quick movement of goods on and off the trains, the opposite face of the platform allowing goods vehicles to dock onto the EFT to similarly achieve quick movement of goods. A one-way internal access road layout would allow goods vehicles access to the rest of the site.

Private Road Network

The network of roads within the site will remain private. This will provide the economic benefit of enabling occupiers to employ IMVs operating on "red diesel".



EXAMPLE OF HOW THE INTERMODAL TERMINAL WOULD WORK WITH THE MASTERPLAN

13 SUMMARY AND CONCLUSIONS

Summary

Rail Central will provide a flexible approach to the form of development with a firm commitment to delivering a quality working environment that will take advantage of the opportunities the site presents whilst addressing the key constraints. In doing so, the scheme will seek to provide:

- a well-integrated development;
- a sustainable place;
- connectivity;
- protection of residential amenity;
- respect to the landscape;
- recreation and ecological enhancements.

The landscape design will be key to the success of the proposed development's integration into the surrounding area. The following key objectives will be implemented:

- add to the woodland, calcareous grassland and neutral grassland habitat reservoirs;
- mitigate the loss of existing field edge vegetation by the creation of interlinked habitat corridors;
- utilise the Grand Union Canal Blueway to provide additional complementary habitat and transient wildlife;
- diversion of footpath links to ensure continued connectivity within the surrounding landscape;
- creation of new publicly accessible space within the site adjacent to re-routed footpaths connecting into the key green infrastructure links surrounding the site;
- creation of a new ecological mitigation area.

The proposed scheme will also look to include attenuation ponds/basins to provide additional storage and deliver the ability to improve water quality. It is also intended to include swales or similar features as conveyance systems and to provide water treatment benefits. A number of watercourses will need to be diverted to maintain the current flows from one side of the site to the other to maintain connectivity.

Key works to the existing highway will be undertaken to ensure deliverability of the scheme whilst improving the current road network. Mitigation measures to several junctions within the wider context of the site have been identified and will be agreed with the relevant authorities to support the application.

In terms of the design of the future development of Rail Central, the details set out in the DAS provide a clear framework for further details to be submitted and outline to fulfil the Requirements of the DCO.

These details provide certainty for the local authority, people living nearby, owners of existing buildings and incoming occupiers as to the eventual form of the completed development.

SNAPSHOT FROM THE 3D MODEL OF THE PROPOSAL

Conclusions

We believe Rail Central is capable of becoming a major asset to Northamponshire and the surrounding areas. A SRFI of this scale and quality would not only create over 8,000 jobs but would generate enormous investment in the local area.

The development would provide a major shift in the movement of goods from road to rail which is fast becoming a vital component in a more sustainable future.

It can be seen from other SRFI's in the country that there is a high demand from the supply chains within the logistics industry for quick and efficient methods to move goods. Rail Central would offer this provision and therefore assist in meeting the demand.

There are clear benefits to the scheme due its strategic location to both the major road networks, rail links and the nature of the site, an important factor for accommodating a new intermodal terminal.

Rail Central would provide efficient and state-of-the-art intermodal facilities, and importantly, would enable logistic operators and local businesses to take advantage of the benefits of a rail served logistics park.

Whilst the scale of this development will have an effect and impact upon the local community, our proposal demonstrates how it has been thoroughly considered as part of the Environmental Impact Assessment and then carefully mitigated.

The vision and design principles that have been set out will ensure Rail Central will become an exemplar SRFI facility for the local area, wider region and the UK as a whole.

Rail Central

Northamptonshire

Appendix 2: Document 7.3 (Alternative Site (Assessment

Rail Central
Northamptonshire

The Rail Central Rail Freight Interchange and Highway Order 201[x]

Alternative Sites Assessment

PINS Reference Number:
TR050004

Document Reference: 7.3

Regulation Number: Reg 5(2)(q)

September 2018

Version 1.0

Planning Act 2008 | Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

The Rail Central Rail Freight Interchange and Highway Order 201[x]

Document 7.3: Alternative Site Assessment

Ashfield Land Management Limited and
Gazeley GLP Northampton s.à.r.l.

Regulation: 5(2)(q)

Turley

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1. Introduction

1.1 Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l. (the applicant) have submitted an application for a Development Consent Order (DCO) for a Strategic Rail Freight Interchange (SRFI), referred to as Rail Central at land at Arm Farm, Milton Malsor in South Northamptonshire (the Rail Central site).

1.2 This Alternative Site Assessment (ASA) provides an assessment of alternative sites that have been considered in selecting the Rail Central site. This ASA establishes an area in which it is appropriate to search for an alternative site, sets out the search criteria to assess potential sites and assesses the suitability of alternative sites.

1.3 A SRFI is a large rail served distribution park linked into both the rail and strategic road systems, capable of accommodating the large warehouses necessary for the storage, processing and movement of goods for manufacturers, retailers and end consumers. The aim of a 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 journey by road, through co-location of other distribution and freight activities and by adopting locations close to centres of demand. Thus, a SRFI has specific locational requirements.

1.4 It is not, however, the purpose of this ASA to seek to justify the detailed suitability of the proposed development in its own right. The suitability of the proposed site from a planning and environmental perspective is assessed in detail within the Planning Statement (Document 7.1), Environmental Statement (ES) (Document 6.1) and Design and Access Statement (DAS) (Document 7.2).

1.5 In addition, further information on the design evolution and alternative iterations of the proposed development is provided in the DAS. There is no formally prescribed process or methodology for undertaking an ASA, and the process should be adapted to the characteristics of different projects. The method used in this assessment reflects the national planning policy requirements set out in the following section and the specific operational and locational needs of a SRFI.

Purpose of the Assessment

1.6 This Chapter sets out the process undertaken by the Applicant in considering potential alternatives for the proposed development. The EIA Regulations[1] require the ES to outline the main alternatives studied by the applicant and to give an indication of the main reasons for the applicant's choice, taking into account the environmental effects. Although the project benefits from a scoping opinion issued under the 2011 Regulations, notice has been formally served on the Planning Inspectorate (PINS) to confirm that the Rail Central Development Consent application will follow the 2017 Regulations.

[1] The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 as amended by the Infrastructure Planning (Environmental Impact Assessment) (Amendment) Regulations 2012 and the Consequential Amendments Regulations 2012

1.7 The approach required by the 2017 Regulations[2] differs slightly from the 2011 Regulations, in that it asks for a description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment. An assessment of reasonable alternatives is provided within Chapter 3 of the Environmental Statement.

1.8 The policy requirements to consider alternatives as confirmed within the National Policy Statement for National Networks (December 2014) (NN NPS)[3] do not apply to the Proposed Development. Furthermore, the Proposed Development site is not located within an area of flood risk nor is it located within a National Park, the Broads or an Area of Outstanding Natural Beauty.

Background and General Approach

1.9 The assessment of alternatives has been undertaken in two main phases. These stages link directly to the consultation process undertaken for the proposed Application.

1.10 For the Phase 1 consultation, an Assessment of Alternatives was included in the first phase Preliminary Environmental Information Report (PEIR). The methodology adopted was simple and focussed on considering sites that local interest groups, stakeholders and the public had suggested could be possible alternatives.

1.11 It also included sites that had been shortlisted in the assessment undertaken for Daventry International Rail Freight Terminal III (DIRFT), as these are potential rail freight sites already identified within relatively close proximity to the Rail Central proposal.

1.12 A more thorough ASA was prepared as part of the Phase 2 consultation. This assessment was undertaken to supplement that earlier Phase 1 exercise. It adopted a more rigorous but consistent approach, using a defined methodology.

1.13 The Phase 2 ASA was based on a GIS mapping exercise, including mapping proximity to road and rail infrastructure and constraints mapping. Potential sites were identified and scored against a common matrix.

1.14 This final ASA submitted in support of the DCO application is consistent with the Phase 2 ASA. Albeit, the various alternative sites have been reviewed again, and updates to the document have been made where new information is available.

[2] The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017
[3] NN NPS Paragraphs 4.26 and 4.27

2. Need

2.1 The starting point for an assessment of alternatives is to understand the need that the proposed development is seeking to meet. This helps to frame the extent of the exercise, in terms of both geography and the opportunities available to satisfy that need.

2.2 The NN NPS sets the context for consideration of need in this case. It notes that need for SRFI's is driven by a combination of[4]:

- The changing needs of the logistics industry
- Rail freight growth
- Environmental factors, primarily reducing carbon emissions and removing freight from the UK's roads
- Economic benefits, including job growth

2.3 The Government's vision is to achieve a low carbon sustainable transport system that is an engine for economic growth that is safer and improves quality of life in our communities. The transfer of freight from road to rail has an important part to play in a low carbon economy and therefore helping to address climate change[5].

2.4 In order to achieve the transfer of freight from road to rail, a network of SRFIs is needed across the regions[6]. The alternative options to address the drivers of need set out in the NN NPS at Table 4 are considered to be neither viable nor desirable[7]. There is considered to be a compelling need for an expanded network of SRFIs[8].

2.5 Whilst it is recognised that capacity for SRFIs needs to be provided at a wide range of locations to provide flexibility to match the changing demands of the market,[9] it is also recognised that given the locational requirements of SRFIs the number of locations suitable will be limited, which restricts the scope to identify viable alternative sites[10].

2.6 The NN NPS recognises that SRFIs need to be located alongside major rail routes, close to major trunk roads and close to the urban areas that consume the goods being moved[11].

2.7 It is clear that National Policy establishes the need for a network of SRFI's across the Country in locations which have access to road and rail infrastructure and the markets they are intended to serve. This means that different regional geographies need to be served and there is no policy based restriction on the number of SRFIs required.

[4] NN NPS See paragraphs 2.47 to 2.52
[5] NN NPS Paragraph 2.5
[6] NN NPS Paragraph 2.54
[7] NN NPS Paragraph 2.55
[8] NN NPS Paragraph 2.56
[9] NN NPS Paragraph 2.58
[10] NN NPS Paragraph 2.56
[11] NN NPS Paragraph 2.45 and 2.54

2.8 The need context set out above provides important context for any consideration of alternative sites as clearly the delivery of a single SRFI will not meet the objectives of government policy (as set out in the NN NPS) or meet existing and emerging demand. It follows therefore that the NN NPS does not require applicants to demonstrate that their sites are the best of the available alternatives. Provided that other sites are capable of meeting the requirements of the NN NPS, this report does not seek to "discount" or "reject" such alternatives.

2.9 The key issue for this, or any SRFI site which is subject to an application, is whether the Proposed Development complies with the NN NPS.

3. Options Appraisal

3.1 The NN NPS requires all projects to be subject to an options appraisal[12], but makes clear that it is not necessary for the examining authority to reconsider this process, as opposed to satisfying them that this assessment has been undertaken. Footnote 61 of the NN NPS acknowledges that investment decisions on SRFIs will be made in the context of a commercial framework. This SRFI project is privately funded and is not subject to any funding bid or process that requires a formal Options Appraisal Report to be prepared as part of the business case to secure public funding.

3.2 Notwithstanding this, the DCO application comprises two Nationally Significant Infrastructure Projects (NSIPs); one of which relates to a major highway scheme (J15A of the M1). In addition, associated development also contains a large number of other highway works. The two respective NSIPs are fully integrated and each will not proceed without the other. In essence, the highway proposals at J15A of the M1 are a NSIP simply as a consequence of exceeding the thresholds in the Planning Act 2008 (PA2008). As such, the Proposed Development is assessed as one single project. However, in practice the Transport Assessment and the analysis of impacts on highways in the ES, both submitted in support of the Rail Central DCO, provide a significant amount of information to assess adverse impacts and have been prepared in accordance with WebTAG guidance[13] in any event.

3.3 The NN NPS notes that the appraisal should consider viable modal alternatives.

3.4 A number of potential options have been considered to meet the need for a network of SRFI's. These are:

(a) The no development scenario;

(b) Focussing on road only distribution schemes;

(c) Relying on existing SRFIs

(d) Relying on more, smaller rail freight interchanges (RFI)

(e) Alternative sites as considered in the remainder of this assessment, and;

(f) Alternative forms of development on this site.

3.5 These are considered further below.

(a) The no development scenario

3.6 This is not an option. The NN NPS confirms that the overriding government objective is to shift freight from road to rail to help reduce transport's carbon emissions and provide economic benefits[14]. The NN NPS establishes there is a compelling need for an

[12] NN NPS Paragraph 4.27
[13] The WebTAG documents consist of a collection of advice and guidance on modelling and appraisal of transport projects
[14] NN NPS Paragraph 2.40

expanded network of SRFIs throughout the country and that "SRFI capacity needs to be provided at a wide range of locations, to provide the flexibility needed to match the changing demands of the market." A no development scenario would also not meet the identified need for a network of SRFIs across the UK, and would leave freight movements on the strategic road network, with the associated greater level of emissions and cost of delays caused by congestion.

3.7 In terms of Rail Central, this option would not result in any environmental change and would leave the Rail Central site in productive agricultural use. However, it would have major opportunity costs in the form of unrealised economic and job growth opportunities.

(b) Focussing on road only distribution schemes

3.8 This option has similar disadvantages to the no development scenario. The economic benefits of growth in the logistics industry would be secured, but this would be in a manner which is, relatively speaking, less environmentally acceptable. The NN NPS recognises[15] that even with significant road infrastructure investment, forecast freight levels would lead to increasing congestion at ports and on the road network, and lead to increased transport related carbon emissions. It recognises that a modal shift to rail needs to be encouraged and that this will require investment in the rail network and having suitable freight terminals to serve the growing need.

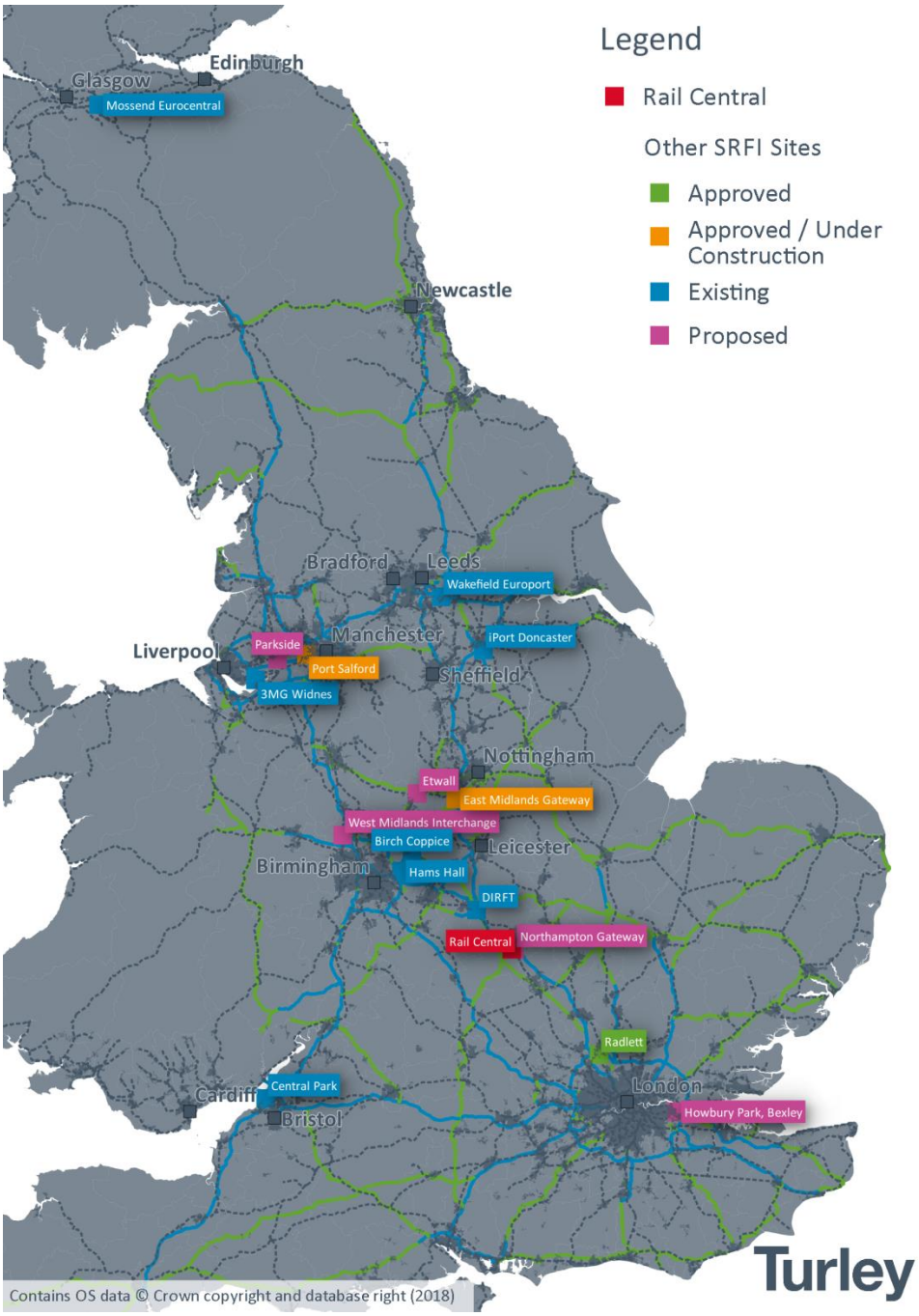
3.9 This option is not considered to be an acceptable option as it would not meet policy objectives and would result in a less environmentally acceptable alternative being adopted.

(c) Relying on existing SRFIs

3.10 The NN NPS recognises that while small parts of the country are served by existing SRFIs, relying on the existing network of RFI to manage demand is neither a viable nor desirable option, concluding: "perpetuating the status quo…is simply not a viable option"[16]. Road congestion would increase, ports would have increasing difficulties moving goods inland causing congestion and both costs and delays for shippers. This would constrain economic growth, investment and job creation.

[15] NN NPS Table 4: Options to address need, paragraph 2.55
[16] NN NPS Table 4: Options to address need, paragraph 2.55

Figure 3.1: Proposed and Operational SRFI Sites



3.11 This option is not considered to be an acceptable option as it would not meet policy objectives, would have significant economic opportunity costs and would result in a less environmentally acceptable alternative being adopted.

Relying on more, smaller rail freight interchanges

3.12 Whist this would achieve a modal shift to rail, smaller Rail Freight Interchanges (RFIs) would not have the capacity or efficiency to deal with forecast levels of freight growth. The NN NPS recognises that smaller RFIs have a place in the network of RFIs, but that

they cannot provide the scale, efficiencies and the related business facilities and linkages offered by SRFIs[17].

3.13 In order for the rail network to operate efficiently, larger SRFIs are required in addition to smaller RFIs or single rail served warehouses. Each of these has a role to play in removing traffic from the road network and can deliver economic opportunities and environmental benefits compared to a road only solution. However, to be efficient, these types of rail freight facilities must operate together and the SRFIs have a key role to play in bulk handling of goods and clearing port capacity.

3.14 This option is a partial solution but would still have economic dis benefits in terms of port congestion and effects on costs to shippers. This option is not considered to be acceptable as it only deals with part of the reason for the policy requirement for a network of rail freight facilities, and therefore does not meet the policy need in full.

Alternative sites

3.15 Within the identified assessment area, there are a small number of alternative sites for a SRFI which are considered later in this report. The methodology adopted shows that Rail Central is amongst the best locations in the East and West Midlands for a SRFI.

3.16 However, there is an identified need to secure a modal shift to rail and there is a need for more SRFIs and other rail served developments to be delivered in order to achieve a network of rail freight infrastructure. This has potential to encourage greater use of rail for distribution activity across the UK, through greater accessibility to rail freight services and markets.

3.17 There is no limit to the number of rail freight sites that can be given development consent in policy terms and it is expected that the delivery of new SRFI and the identification of suitable sites is to be led by the market. In market terms, operator requirements are the key driver, against a wider market where the vast majority of the current warehousing stock has no prospect of rail access. A greater availability of space and improved connectivity between rail infrastructure and its markets will serve to encourage operators to make more use of these facilities, with the commensurate environmental benefits compared to a road only option. Indeed, at a national level, newer SRFI facilities are emerging to fill identified gaps in the national network and clusters are beginning to form. Examples of SRFI emerging to deliver a network of sites include:

- iPort Doncaster, serving the east of Yorkshire and Humberside, with Wakefield Europort serving the west of the region;
- Port Salford, serving the Greater Manchester conurbation of the North West, between Widnes 3MG serving the Liverpool conurbation to the west and Wakefield Europort to the east;
- East Midlands Gateway (EMG) to serve the area north of DIRFT and south of iPort/Wakefield Europort;

[17] Table 4: Options to address need, paragraph 2.55 of the NN NPS

- Mossend International Railfreight Park strengthening existing provision with a mirror image development to Mossend Eurocentral immediately opposite;
- East Midlands Intermodal Park, serving the area between East Midlands Gateway, the North West, Yorkshire & Humberside;
- West Midlands Interchange, serving the Black Country, mid-Wales and the rest of the area between the Midlands and North West;
- Radlett and Howbury Park, serving London and the South East; and
- Rail Central and/or Northampton Gateway serving the area south of DIRFT and Northamptonshire.

3.18 The emergence of clustering reflects the experience of continental Europe, the scale of demand for SRFI in specific locations and major markets reflecting the success of the concept, as confirmed below:

(i) Hams Hall SRFI and Birch Coppice SRFI – less than 10km apart collaborating on rail services (some Felixstowe trains to and from Birch Coppice use the facilities at Hams Hall to change direction. Hams Hall is in turn less than 11km from the established Lawley Street Rail Freight Interchange (RFI) in the centre of Birmingham;

(ii) East Midlands Gateway SRFI and East Midlands Distribution Centre RFI – less than 3km apart;

(iii) Wakefield Europort SRFI and Leeds Stourton RFI – less than 3km apart;

(iv) 3MG Widnes SRFI and Garston RFI – less than 9km apart;

(v) Port Salford SRFI and Trafford Park RFI – less than 6km apart;

(vi) iPort Doncaster SRFI and Doncaster Railport RFI – less than 3km apart; and

(vii) DIRFT I, II and III (within which 4 separate RFI facilities effectively compete for business), to be supported by an emerging cluster of Rail Central and/or Northampton Gateway

3.19 The success of these co-located SRFIs is not accidental; it is a direct response to meeting demand and growth in rail freight accessibility in the markets they intend to serve. It also echoes the pattern of road-served distribution parks which also exist in clusters around major highway intersections (e.g. motorway junctions).

3.20 This is largely being achieved by new occupiers and businesses within those markets utilising rail freight (which is fully consistent with the policy objectives of the NN NPS) rather than diverting rail freight traffic from elsewhere. Indeed, it would be impractical, and against the grain of the NN NPS, for customers to rely upon remote facilities elsewhere to meet its own freight requirements.

Alternative forms of development

3.21 There are other potential development scenarios for the Rail Central site. These include:

- A rail freight terminal of lesser extent;
- A non- rail connected / served logistics development; and
- Residential or other non-employment related development.

3.22 The non-rail related development options have not been pursued, primarily because they will not meet the established need for a network of SRFIs across the UK. Whilst there is strong residential demand, this need is addressed elsewhere through local policies and a release of the Rail Central site for residential development would not maximise the functional and locational benefits of this site.

3.23 In the case of a reduced scale of development on this site, this option would not maximise the opportunity from creating such a development. Furthermore, the position of the railway infrastructure relative to the strategic highway access means that creating a smaller development should naturally occur around the rail infrastructure. This would create the need to provide significant new access infrastructure without providing the development associated with that infrastructure which would provide its funding. This option therefore represents an opportunity cost and creates a potential project viability issue.

3.24 Consideration has also been given to alternative layouts of the selected form of development. These were considered as part of the iterative process of site design and environmental assessment and are included in the Design and Access Statement. These early iterations of the masterplan are not presented in detail in this report as they add little to the consideration of options and represent the fine detail of the evolution of the current scheme[18].

3.25 However, there are key factors which have guided the general form of the development. These fixed parameters are:

- The locations at which rail connections can be achieved, both on the main line and the Northampton Loop Line (NLL);
- The location at which access to the strategic road network can be achieved, on the A43; and
- The need to cross Northampton Road.

3.26 These elements of the development are fixed and are all essential elements of the proposed scheme. These dictate the general extent of the development as well as factors such as the location of the intermodal and express freight facilities and the positioning of the directly rail connected units to the eastern side of the site. The difficulties of securing a rail link to the western side of the site, past the old

[18] Site masterplan options can be viewed in the Design and Access Statement

Northampton Road also dictates the positon of the rail served units to the western side of the site. These parameters have therefore heavily influenced the general form and nature of the proposed development and each of the alternatives has had to work within these limits.

Options appraisal conclusion

3.27 This options appraisal has considered high level alternatives to pursuing the type of development proposed in the application. Many of these options are discounted in the NN NPS as they will not contribute towards meeting the policy need for a network of SRFIs.

3.28 The reasoning that sits behind discounting those options that there are fundamental and strategic difficulties with not seeking to meet the need for a network of SRFIs as established in the NN NPS. These are essentially environmental and economic costs, which suggest that significantly enhanced rail freight provision in the UK is the best solution to ensuring continued economic prosperity and reducing the environmental burden of society's current need to move bulk freight to the UK and around the UK.

3.29 The Rail Central site is considered to be an excellent opportunity to provide a high quality, 'next generation' rail freight development that will contribute to the UK's ultimate aim of securing a network of rail freight infrastructure. In this context, and as explained within the Rail Operations Report (Document 7.5) submitted in support of this DCO application, its potential has been recognised by Network Rail which maintains a programme (in parallel with developments such as HS2) which focuses on seeking to respond to forecast growth in passenger and freight traffic through capacity enhancement.

3.30 Network Rail forecasts reflect the assumed delivery of new SRFI in Northampton. Rail Central is included in the quantum of floorspace and sites on which the aggregate forecast is based[19]. It is these forecasts which underpin the NN NPS which states that these forecasts should be accepted for planning purposes[20]. As the NN NPS explains[21], SRFI capacity is needed at a wide range of locations to match the changing demands of business. If this is not achieved, the NN NPS forecasts will not be met and wider government policy objectives on the economy, mobility and sustainability will be hindered.

[19] Page 15, Network Rail Freight Market Study, October 2013
[20] NN NPS Paragraph 2.49
[21] NN NPS Paragraph 2.58

4. Methodology

Assessment Area

4.1 The national policy solution to successfully deliver the transfer of freight from road onto rail is the creation of a network of SRFIs which can provide distribution floorspace within the same site as a RFI. A SRFI requires (by legislation[22]) an intermodal terminal (capable of handling at least four trains per day); it must also include warehouses to which goods can be delivered from the railway network either directly or by means of another form of transport. Indeed this is considered necessary to attract customers and to generate returns sufficient to justify the rail infrastructure investment costs. SRFIs must also be of significant scale (at least 60 ha in size). The SRFI concept therefore combines an interchange and warehousing activities on the same site. SRFIs should not be seen simply as locations for freight to access the railway but also sites for the accommodation of businesses capable now or in the future of supporting their commercial activities by rail[23].

4.2 The rail terminal facilities at a SRFI are used by the occupiers of the on-site warehousing at the SRFI and by companies located off-site in the surrounding catchment area of the SRFI. On-site occupiers of existing SRFI development floorspace have traditionally been in the form of National and Regional Distribution Centres (NDCs and RDCs) which, by their scale and nature, receive, store and distribute freight in the greatest volume and over longer distances thereby making rail use more competitive.

4.3 In addition to any rail connection, demand for NDCs and RDCs is strongly governed by certain locational requirements. In particular, for NDCs especially, the attractiveness of an area relative to another area is governed by the following intrinsic characteristics:

- A location in the UK which provides access to major population centres in all parts of the UK within a reasonable drive time. Drive time connections are crucial to the logistics industry as road is the predominant mode for moving freight and because of statutory limits on a driver's working (driving) hours
- A location convenient and central to the major container ports, key manufacturers and other suppliers of goods
- A location with convenient access to the country's two most significant motorways – the M1 and M6 - and trunk roads which provide supporting connections to the UK's main urban centres
- A location which provides a good supply of appropriately skilled labour as NDCs and other large warehouses offer significant employment opportunities

4.4 These inherent characteristics are displayed in the Midlands where the demand for large scale logistics remains strongest at locations with good access to the strategic motorway network where occupiers can serve a large proportion of the UK population,

[22] Section 26, Planning Act 2008

[23] NN NPS paragraph 4.88

as well as major ports and the Channel Tunnel, within appropriate drive times and with a ready supply of labour.

4.5 Therefore, in order to be successful in attracting occupiers and rail freight services, the location of SRFI will need to meet these key location considerations. In reality, therefore, most major NDC and RDCs are concentrated in the Midlands, therefore a concentration of SRFI developments in the region can be expected. The Midlands is also at the heart of the UK rail freight network.

4.6 It is therefore considered appropriate for any assessment area, considering sites for SRFI in the Midlands, to cover both the West and East Midlands for the purposes of a robust assessment.

4.7 As noted above, SRFIs provide rail access not only for on-site occupiers but also for other companies located offsite in the hinterland on non-rail-served sites. For SRFI, operational evidence indicates that in the case of the latter, the size of the road-based hinterland for traffic arriving or departing from the SRFI by rail is primarily within a 15km radius of the SRFI, although it can extend beyond this to a secondary catchment area potentially up to 50km. However it is the locational requirements of on-site warehousing to serve as NDCs or RDCs (along with a suitable connection on the Strategic Road Network (SRN)) which is a principal consideration in the location for a SRFI.

4.8 Therefore any assessment of alternative locations should be considered against where the demand for NDC's and RDC's is the highest, reflective of the locational characteristics that attract these type of occupiers. The Market Assessment Report submitted in support of the Rail Central DCO application demonstrates that the demand for large scale logistics is strongest in the Midlands and given the economics of rail freight and dynamics of the logistics market, SRFI's will inevitably need to be concentrated, albeit not exclusively, in the centre of the UK where locations have the greatest access to UK markets and where a large number of NDC and major RDC's are located and will continue to be located. Therefore the assessment area for alternative sites of the East and West Midlands is considered to be an appropriate one.

4.9 The catchment area for the assessment is shown on Plan 1 at Appendix 1

Approach

4.10 This assessment has adopted a methodology based on the locational criteria for SRFIs which are described in the NN NPS[24]. The locational criteria described include the following key factors:

- Proximity to major urban centres and supply chain routes;
- Good road access;
- Adequate links to the rail network;
- Loading gauge of W8 or more;

[24] NN NPS Paragraphs 4.84 to 4.89

- Capability to accommodate longer trains of 775 metres in length in one manoeuvre to and from the main line without intermediate splitting or shunting;

- Avoiding environmentally sensitive areas, defined as being residential areas or National Parks, the Broads and AONBs, taking into account the possibility of mitigation;

- Other environmental considerations such as flooding and agricultural land; and

- Availability of a workforce.

4.11 The methodology is based on a defined area of search, availability of key infrastructure and mapping constraints. Ultimately, the methodology follows a map based constraints "sieving" exercise over the East and West Midlands, which is the core of logistics activity in the UK and a strong central location where the majority of the UK can be served within the driver working limits set by the Working Time Directive.

4.12 The exercise focusses on many of the key constraints confirmed in the NN NPS and reiterated above, including proximity to motorway junctions, rail gauge, train length and environmental and key policy constraints. The "sieving" identifies any areas of land that are considered to be environmentally sensitive. These areas were subsequently removed from the process and hence the scoring mechanism used (see below) does not focus on the environmental constraints and instead focusses on the constraints of proximity to sensitive uses and the potential to mitigate adverse effects.

4.13 Once areas of search based on these criteria were identified, further elements of suitability were introduced and the sites compared for appropriateness as a SRFI.

4.14 This methodology is considered to be an appropriate means of standardising the approach to site assessment, and to ensure that a consistent outcome for each site is achieved. However, as it is a tool designed to standardise, it naturally has limitations in its ability to be used for fine grained comparison. For this reason the assessment is also supplemented by a qualitative review once a shortlist of sites has been selected.

4.15 The approach to each stage of the process is outlined below.

Stage 1: Sieving

4.16 Having defined a suitable assessment area, the "sieving" exercise was undertaken.

4.17 This sieving exercise focussed on a GIS based approach to mapping key infrastructure and environmental constraints. The following factors were mapped using data from data.gov, Historic England, Natural England, Environment Agency and GIS software:

(i) 5km distance from Motorway Junctions[25].

This ensures that the sites selected for review accord with the NN NPS criteria of having good road access and being capable of accessing the supply chain routes

[25] Defined as being motorway standard through DfT Circular 02/2013

and major urban areas which are likely to be the ultimate destination of many of the goods handled by the development. The 5km threshold has also been used in previous alternative site assessments undertaken for previous/existing SRFI proposals including Howbury, Radlett, DIRFT and West Midlands Interchange.

It is not considered appropriate to consider the potential to create new motorway junctions, owing to both the cost associated with such an intervention rendering SRFI projects unviable. There is also significant delivery times associated with new motorway junctions and, unless a motorway junction is expressly identified in Local Plans to facilitate strategic growth or is programmed by Highways England, the Department for Transport (DfT) has a presumption against the construction of new junctions[26]. No new motorway junctions are currently proposed in the search area.

(ii) 5km distance from railway lines.

This ensures that the sites selected can accord with the NN NPS criteria for having adequate access to the rail network. While a 5km threshold has been adopted, it is acknowledged that that this is a conservative approach as it is likely that identified sites towards the fringe of this range are unlikely to pose realistic and viable alternatives for the market to exploit. The 5km threshold has also been used in previous alternative site assessments undertaken for previous/existing SRFI proposals including Howbury, Radlett, DIRFT and West Midlands Interchange.

(iii) Rail Gauge of W8 and above[27] and contiguous track able to accommodate a 775m train.

This ensures that the sites selected can accord with the NN NPS criteria for having a suitable loading gauge and the ability to accommodate longer trains.

(iv) Environmental designations based on www.magic.gov.uk datasets.

This ensures that the sites selected can accord with the NN NPS criteria for avoiding environmentally sensitive areas.

4.18 These datasets were used to identify locations where there is a combination of good access to the strategic road and rail networks, with no or limited environmental constraints. This included the removal of nationally designated areas (i.e. Areas of Outstanding Natural Beauty and European Sites). This stage also included a review of existing Green Belt boundaries. It is recognised that the national need for development weighs in favour of NSIPs, even if this would result in the loss of existing designations, including Green Belt land. However, in bringing forward development on the Green Belt, the NN NPS[28] is clear that the Secretary of State would have to be convinced and promoters would need to demonstrate very special circumstances to justify planning consent for inappropriate development in the Green Belt. The NN NPS[29] also confirms that the Secretary of State will attach substantial weight to the harm to the Green Belt,

[26] See DfT Circular 02/2013
[27] Based on manual logging of the routes using Network Rail information
[28] NN NPS Paragraph 5.172
[29] NN NPS Paragraph 5.178

when considering any application for such development. Furthermore, it is recognised that there are alternative sites that would not require the loss of Green Belt land. Therefore, land identified as being within the Green Belt was sieved out in the early stages, identified as being more sensitive, in policy terms, to non-Green Belt designated land.

4.19 The outputs were used to further reduce the area of search. The next stage was to review the more detailed mapping to determine site boundaries which had the potential to offer train access with limited effects based on the physical infrastructure in the area, including roads, housing and other sensitive uses, canals, etc. This exercise was based on the professional judgement of the Applicants' team.

4.20 Once the sites had been identified, topographical data, flooding data, agricultural land classification and environmental constraints data was used to inform the site specific assessment.

4.21 Following this, workforce availability data, in the form of jobseeker's allowance (JSA) applicants and economically inactive people looking for a job[30], was obtained for the local authority area in which the site sits, and the immediately adjoining local authority areas. These were added to the qualitative discussion of the site scoring as a measure of whether labour availability would be likely to be a constraint to achieving a successful SRFI.

Stage 2: Site Assessment

4.22 Sites identified through the sieving process were combined with the sites identified in the initial alternatives assessment in April 2016. These sites were then subject to a qualitative analysis, focussing on the following factors:

- Proximity to a motorway junction;
- Access to rail network;
- Vehicle access routes;
- Site size;
- Site shape;
- Topography[31]; and
- Proximity to and potential effects on residential or other sensitive land uses.

[30] Both taken from ONS data (Appendix 9)

[31] Site size, shape and topography were included because in addition to the factors set out in the NN NPS they are practical issues which affect service; whether a site can accommodate a SRFI, which has a defined minimum size in the Planning Act; whether a critical mass of development can be achieved which is both viable and likely to generate the economic benefits of clustering similar uses together around a common rail facility; whether the site can accommodate large floorplate buildings which for both practical and institutional investment purposes need to be large, rectangular and have large yard areas; and finally topography is important as a level access needs to be achieved for the rail connection.

4.23 For each identified site, local plan and land use designations were identified and each was scored using a scale of -2 to +2. This scale was considered appropriate given the level of information available relating to potential sites and the specific NN NPS and NSIP thresholds which influence individual banding. Addressing the sites with a more finely grained scale would have required additional assumptions to be made, bringing in potential inaccuracies in grading and ranking. The scale utilised therefore allows for an accurate assessment, without ensuring the need to make unfounded assumptions. The utilised scale is presented at Table 4.1 below:

Table 4.1: Scoring Scale

Score	Performance
2	Very High
1	High
0	Neutral
-1	Low
-2	Very low

4.24 The scoring criteria for each of the factors noted above is set out in Table 4.2 below:

Table 4.2: Scoring Matrix

Score	Performance	Proximity to Motorway Junction	Access to Rail	Vehicle Access Routes	Site Size	Site Shape	Topography	Sensitive User Residential Amenity[32]
2	Very High	Up to 1km from junction	Access to more than one W10 gauge route section	Access to motorway all on A Class Road, no need to pass through residential areas	200Ha+ [33]	Large regular blocks of land capable of accommodating multiple large floorplate buildings. Long straight areas adjacent to rail line to allow multi-modal access	Largely flat site with little or no earth working required to achieve level rail access for intermodal facility	No sensitive properties nearby
1	High	1-2 km from junction	Access to W10 gauge route section	Access to motorway largely on A Class Road, but some using lower class roads	100-199Ha [34]	Fairly regular site, with long straight areas adjacent to rail line	Largely flat site with ability to achieve level rail access for intermodal facility with limited earth working	Physical development distant from sensitive properties, with potential for visual and noise screening

[32] Sensitive users have been defined as housing, care homes, hospitals, residential institutions. Sensitive areas were screened out by the sieving methodology.
[33] Meeting NSIP threshold and broadly comparable to successful SRFI DCO applications, e.g. DIRFT III and EMG
[34] Meeting minimum NSIP threshold, but with limited numbers of units and smaller than recent successful SRFI DCO applications, e.g. DIRFT III and EMG

Score	Performance	Proximity to Motorway Junction	Access to Rail	Vehicle Access Routes	Site Size	Site Shape	Topography	Sensitive User Residential Amenity[32]
0	Neutral	2-3 km from junction	Access to W8/9 route section, but close to W10 with no bridge structures between site and W10 route	Access to motorway mostly on lower class roads	60-99 Ha[35]	Fairly regular site ability to secure suitable rail access to provide intermodal facility	Sloping or hilly site but retains ability to achieve suitable rail access subject to moderate/ large scale earth works	Physical development close to sensitive properties but adequate opportunities to screen for significant noise and visual effects
-1	Low	3-4 km from junction	Access to W8/9 route section, with distant access to W10 gauge with no bridge structures between site and W10 gauge route	Access to motorway mostly on lower class roads, including the need to pass through residential areas	40-59 Ha[36]	Irregular site with ability to accommodate intermodal facility	Sloping or hilly site with levels difference between site and rail infrastructure that requires major earth works to achieve rail access	Physical development close to sensitive properties and limited opportunities to screen for significant noise and visual effects
-2[37]	Very low	4-5 km from junction	Access to W8/9 gauge route,	Access to motorway	Under 40 Ha[38]	Irregular site with no ability	Sloping or hilly site, with major	Physical development close

[35] Meeting minimum NSIP threshold, but with limited numbers of units and significantly smaller than recent successful SRFI DCO applications, e.g. DIRFT III and EMG.
[36] Not an NSIP, but meeting minimum size criteria set out in Strategic Rail Authority RFI Policy document (March 2004)
[37] Any sites that are identified as scoring Very Low in the matrix have been sieved out of the process and are not considered any further as they are subject to an absolute constraint that would curtail their operation as a SRFI

Score	Performance	Proximity to Motorway Junction	Access to Rail	Vehicle Access Routes	Site Size	Site Shape	Topography	Sensitive User Residential Amenity[32]
			with bridge structures between site and W10 gauge route	mostly on lower class roads, including the need to pass through significant residential areas, or more than one community		to accommodate multimodal access	levels difference between site and rail infrastructure that will not allow suitable rail access to be achieved	to sensitive properties with no opportunities to screen for significant noise and visual effects

[38] Not an NSIP, only capable of accommodating 1 large unit

4.25 The rankings used in the scoring matrix have been devised as follows:

- Proximity to a motorway junction
  - The distances selected are banded to reflect the desirability of logistics operators to be very close to motorway junctions. Most modern logistics developments aim to be almost directly on junctions. Further distance adds costs in mileage and emissions. The distance bandings are designed to reflect this general principle.
- Access to Rail
  - This is designed to directly reflect the requirement in the NN NPS to have access to W8 or greater rail infrastructure. However, W10 is the ideal gauge as this gives the best flexibility to accommodate all container sizes with no obstacles. This scoring includes provision for exceptional sites, like Rail Central, where access to more than one W10 line is available. It also provides for different scenarios where lower grade access is available with differing levels of ease of access to the W10 network, including obstacles such as bridges which may impede container size and / or ability to upgrade the line in the future. The "sieving" exercise has allowed the longlist sites to be limited to only those sites which can accommodate full length trains.
- Vehicle access routes
  - The scoring used allows for a subjective assessment of the route taking into account factors such as the class of the road and whether the best access route would need to pass through a more sensitive community. This approach takes into account the NN NPS requirement to demonstrate good road access.
- Site size
  - The site size criteria are based on whether the site could accommodate a NSIP scale SRFI project or would only be suitable for a smaller RFI. The scoring favours larger scale sites, which are equivalent to recent SRFI NSIP projects, as this scale of development is being actively pursued by commercial developers and thus demonstrates viability. This scale of development also offers the best opportunity to maximise the economic benefits and economies of scale of the development, compared to the associated costs of creating new rail connections and providing the necessary infrastructure to deliver a SRFI. The scoring reflects the lesser efficiencies and economic contribution of smaller NSIP SRFI projects and favours larger scale strategic options as these would be the sites that would offer a reasonable alternative to the application site.
- Site shape

- The scoring reflects the physical nature of large scale rail freight development, including the need to be able to accommodate multiple large scale rectangular buildings and with the availability of straight sections of railway suitable to accommodate an intermodal area.

- Topography

  - The scoring reflects the nature of the site and the effect of topography on the ability of the site to achieve a rail connection. The scoring favours those sites which are relatively flat and have flat areas adjacent to the railway. Sites which have topographical constraints which inhibit their ability to achieve a rail connection attract the lowest scores.

- Proximity to and potential effects on residential or other sensitive users

  - The effects on residential amenity and other sensitive users have been considered on the basis of general proximity and the potential for the development to introduce screening against the effects of a large scale SRFI development.

4.26 Each of the identified sites was scored using the performance matrix. Each identified site was scored against each of the criteria and a total score calculated.

4.27 At this stage, analysis of available workforce was included in the qualitative section. This data was included as an indication of whether there is likely to be a shortage of labour that such a SRFI would not be able to be supported by local labour. This was measured on a relative basis. Using the site area, the amount of development that could be supported on the site was calculated and then the number of employees that this would generate was calculated. This requirement was compared to the number of economically active people looking for work. If the number of employees generated by the development would exceed the available labour force, this was highlighted as being an additional issue to be taken into account alongside the scoring.

4.28 It is recognised that this local available workforce calculation has limitations. The labour need for a SRFI site will grow over the lifecycle of the development, and the total workforce provision will not be required immediately from the outset of the development. Furthermore, it is likely that the jobs available may be accommodated outside of the established catchment area. Notwithstanding its limitations, the assessment still offers a measured means of differentiating between the sites.

4.29 The available local workforce was calculated using the following formula:

- 40% of site area in Hectares (representing a 40% development density, common in large scale logistics schemes), multiplied by 10,000 (to convert to sqm), divided by 95[39]; or

- 0.4 x Ha x 10,000 / 95 = job generation; or

[39] Lower end of employment densities typically seen at distribution centres, which range from 70 – 95sqm per employee in the Homes and Communities Agency Employment Density Guide, 3rd edition November 2015

- Specific information/data has been used if available (e.g. for the proposed Northampton Gateway SRFI).

4.30 This method provides an estimate of job generation which allows comparison to the local labour pool.

4.31 Following this, further qualitative analysis was used to check rankings using professional judgement. The purpose of this was to ensure that the scorings had produced a reasonable reflection of whether the scheme was suitable for use as a SRFI. Any adjustments made to the overall ranking of the site as a result of this stage is clearly differentiated in the analysis section which provides a finer grained consideration of specific sites.

Stage 3: Assessment of previously short listed sites

4.32 This stage involved a review of the initial alternatives assessment work undertaken and scoring the sites identified as having rail access potential. This was undertaken to ensure that every site considered by the Applicant has been scored against a consistent framework.

4.33 Sites which have no direct rail connection have been discounted and are not analysed further. However, sites which are capable of gaining rail access have been scored.

Stage 4: Assessment of Rail Central

4.34 This stage scored Rail Central against the common scoring matrix, to allow comparative analysis to sites considered in Stage 3.

Stage 5: Comparative Assessment

4.35 Once each site had been allocated a total score, the site scores were tabulated and ranked.

4.36 All the sites were then considered qualitatively to address any limitations inherent in the scoring approach, alongside the Rail Central site. A professional judgement was made on the performance of each site and an overall comparative assessment made with the Rail Central site against the site selection criteria.

Overview and Conclusions

4.37 This methodology was devised to locate potential SRFI sites in the East and West Midlands, which is the target market for the proposed development and the focus of logistics activity in the UK. The methodology also allowed for the inclusion of sites which were suggested by local residents.

4.38 The methodology sieves out sites which do not meet key access requirements. It also sieves out sites which have high level environmental constraints, in the form of national and regional designations.

4.39 The sites were identified with the objective of finding larger scale SRFI sites. Each stretch of suitable rail infrastructure was considered and the best sites identified.

4.40 These were assessed against common scoring criteria seeking to achieve objective and impartial rankings. These were subject to a further stage of pure qualitative analysis in order to “sense check” the results and ensure strong sites were not being unfairly disadvantaged by the methodology.

4.41 The sites were then ranked and comparatively assessed.

5. Stage 1: Sieving Results

5.1 Stage 1 was primarily GIS based, with the mapped outputs provided at Appendices 1 to 8.

5.2 Plan 1 (Appendix 1) shows the catchment area for this preliminary assessment, comprising the East and West Midlands Regions.

5.3 Given the importance of motorway access to all modern logistic operations, Plan 2 (Appendix 2) shows the location of motorway junctions within these Regions and maps a 5km area of search around these.

5.4 Plan 3 (Appendix 3) overlays railway lines within this area of search. This has a limited effect on the area of search. However, rail freight uses need a loading gauge of at least W8 to function. Ideally, they will have access to W10 or W12 standard railways. These higher rail gauges offer better clearances and faster routes so that a variety of wagons can be utilised.

5.5 Plan 4 (Appendix 4) limits the area of search to those areas with stretches of W8 railway or above. This further reduces the area of search.

5.6 Plan 5 (Appendix 5) overlays key environmental designations taken from published government datasets[40] on the area of search. As this data is very detailed, Plan 5 is also shown across 6 sub-plans, Plans 5a to 5f.

5.7 Plan 6 (Appendix 6) shows the area of search further reduced by excluding the land constrained by environmental designations. It is also important to note that an ability to accommodate full length trains is also a key feature of a SRFI. A full length train is 775m long and SRFI should be capable, where possible, of handling 775m trains with on-site infrastructure configured accordingly. Plan 6 therefore highlights sections of rail track which are 775m long (including contiguous sections) which are both within the area of search and outside the environmental constraints. Sections of railway which are not long enough to handle a full length train have been excluded as sub optimal.

5.8 Plan 6 has then been split into 6 sub-plans, Plans 6a to 6f (Appendix 7), which show in more detail topographical constraints[41] and Flood Zones. Similarly, Plans 7-1 to 7-25 (Appendix 8) detail the agricultural land classification for each alternative site. In respect of agricultural land classifications, information has been derived from Natural England resources and therefore only provides a broad interpretation of the classification. More detailed analysis specific to the site may indicate variations in this classification.

5.9 All of these plans have been used to identify sites for assessment as described in Section 2.

[40] A full list of designations is provided at Appendix 5
[41] Using LIDAR data from the Environment Agency dataset, where this is available

5.10 A series of site plans has then been produced which show each of the selected sites in their local context with all relevant constraints shown.

5.11 For each site, a commentary of the existing environmental designations or land-use allocation (if appropriate) is set out along with any identified planning permission and/or consent that have been identified.

6. Stage 2: Site Assessment

Sites identified through Stage 1 Sieving

Figure 6.1: Site 1: Wadborough Park Farm, near Stoulton, Worcestershire

6.2 This site is located approximately 6km to the south east of Worcester. It is 258Ha and has the following constraints noted in the sieving analysis:

- Cooksholme Meadows SSSI located adjacent to the north west boundary; and
- The majority of the central area of the site is identified as Grade 2 agricultural land, whilst some areas in the north are Grade 3.

6.3 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	0	Access from B4084 to J7 of M5 is approximately 2.5km
Access to Rail	0	W8 rail gauge rail route
Vehicle access routes	-1	Most suitable access route from B4084 north west to J7 of M5. Route passes through 2 small Hamlets on Whittington Road.

Factor	Score	Notes
Site size	2	258Ha
Site shape	2	Large site of a regular shape
Topography	2	The site is flat by the rail line and slopes only around 10m across the width of the site. Capable of accommodating rail with little earth moving required.
Proximity to and potential effects on residential or other sensitive land uses	0	Site close to Littleworth (300m), Stoulton (200m) and Hawbridge (280m), but opportunities exist to provide visual and noise screening.
Total	**5**	

6.4 In terms of labour force availability, the site is 258Ha, applying the formula at paragraph 4.29, the site could generate in the region of 10,863 jobs. There are currently 22,900 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.5 In relation to local policy designations and planning status, the site has a number of Green Infrastructure policies, which seek to protect and enhance the landscape. A mineral safeguarding designation also covers much of the central area of the site. It is anticipated that these designations would not unduly restrict the development of a SRFI on the site. Furthermore, there are no relevant extant or current planning applications on the site.

6.6 This site scores well on size, shape and topography. However, it suffers from access to a lower gauge rail line, access via a “B” road and the need to drive past two small hamlets close to the motorway junction.

Figure 6.2: Site 2: Dairy House Farm, Grendon, near Tamworth

6.7 This site is located some 8km to the south east of Tamworth. It is 153Ha and has the following constraints noted in the sieving analysis:

- Small block of ancient woodland within the site boundary;
- The entirety of the site is categorised as being Grade 3 agricultural land;
- Area of Flood Zone 2 at northern edge of site, partly adjacent to rail sidings; and
- Scheduled Ancient Monument (Merevale Abbey) and Registered Park & Garden (Merevale Hall).

6.8 In addition there are two listed locks / basins on the canal which forms the northern boundary of the site, and a listed bridge which runs over the canal.

6.9 The scoring matrix has been utilised to produce the following results for this site:

Factor	Score	Notes
Proximity to a motorway junction	-2	4.8km to J10 of M42 from a potential grade separated access point on dual carriageway section of A5. 4km to second potential access point on Spon Lane (NE of site) which reduces the number of residential properties passed.

Factor	Score	Notes
Access to Rail	1	The site is bisected by the 4-track W10 gauge West Coast Main Line (WCML) route section, likely to require grade-separation of main line connections to avoid the need for flat crossings of up to 3 main line tracks by freight trains to/from the site.
Vehicle access routes	1	A5 access point all on A roads, but passes a number of residential properties. These are already likely to be heavily influenced by traffic effects on A5. Alternative route via Spon Lane involves B road access, but reduces the number of properties passed.
Site size	1	153Ha
Site shape	2	Regular shape with potential for long railway sidings and larger footprint buildings.
Topography	1	Relatively flat site, gradients cross rail line, but likely to be capable of being levelled.
Proximity to and potential effects on residential or other sensitive land uses	-1	Southern and western boundaries partially formed by residential properties. Immediately adjacent to Grendon. Potential for mitigation to be included but this is likely to be extensive to be effective and would significantly reduce development area.
Total	**3**	

6.10 In terms of labour force availability, the site is 153Ha, applying the formula at paragraph 4.29, the site could generate in the region of 6,442 jobs. There are currently 61,900 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.11 In relation to local policy designations and planning status, a small area within the centre of the site is designated as an Ancient Woodland. This could potentially curtail the developable area of the site. However, there are no policies that would entirely restrict the future development of the site. No relevant extant planning permissions or current planning applications have been identified.

6.12 This site scores well for its shape, but poorly for highways access and proximity and likely effects on residential properties. The 4-track nature of the WCML at this point

(from west to east being northbound Slow Line, bi-directional Fast Line, bi-directional Fast Line, southbound Slow Line) would make at-grade access to the main line difficult to achieve (a similar arrangement at the proposed Radlett SRFI requires full grade-separation).

Figure 6.3: Site 3: Land adjacent to Birch Coppice, near Tamworth

6.13 This site is located some 5km to the south east of Tamworth. It is located adjacent to the existing Birch Coppice RFI. It is 165Ha and has the following constraints noted in the sieving analysis:

- Blocks of ancient woodland to the south and south west;
- The site is predominantly categorised as being Grade 3 agricultural land, aside from a small area within the north east of the site which is Grade 4 agricultural land; and
- Kettlebrook Local Nature Reserve to the north east.

6.14 In addition there are 4 listed buildings in Freasley, around Freasley Hall, and a further listed building at Hall End Farm, which adjoin the site.

6.15 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	2	Access could be taken off a new junction on the A5 within around 500m of J10 of

Factor	Score	Notes
		M42. Alternatively, it may be feasible to make use of the existing Birch Coppice Business Park junction, just less than 1km from J10.
Access to Rail	1	The site is adjacent to a W10 gauge route. As noted below, topographical constraints limit the accessibility of the site to most of the available length of rail line.
Vehicle access routes	2	The site is adjacent to the A5, very close to the M42 with no need to pass through local communities.
Site size	1	165Ha
Site shape	-1	The site is irregular in shape owing to the location of the settlement of Freasley in respect of the site. Based on this, the available length of rail frontage, as well as the size of the site, it would appear difficult to accommodate a significant number of larger floorplate buildings as well as an intermodal facility.
Topography	1	The site is relatively flat at its southern end and it may be possible to achieve rail access at this point. However, the eastern boundary is dominated by the spoil mound, and so would need a very significant tip relocation exercise to gain access to rail at this point. This is unlikely to be economic, so reliance would need to be made on the southern area to gain access to the rail line.
Proximity to and potential effects on residential or other sensitive land uses	-1	The site is immediately adjacent to the settlement of Freasley. With extensive screening, it may be possible to reduce the impacts of development on the settlement, although this would significantly reduce the available development area of the site, which is already not an ideal shape for this type of use.
Total	**5**	

6.16 In terms of labour force availability, the site is 165Ha, applying the formula at paragraph 4.29, the site could generate in the region of 6,947 jobs. There are currently

61,900 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.17 In relation to local policy designations and planning status, the eastern and brownfield element of the site is designated as an 'Existing Industrial Estate' in the North Warwickshire Core Strategy. The area of land directly to the south east of Junction 10 of the M42 (northern area of the identified site) benefits from an extant outline planning permission, which consents the development of land within Use Class B1(c) (light industry), Use Class B2 (general industry), and Use Class B8 (storage and distribution) and demolition and removal of existing structures (North Warwickshire ref. PAP/2014/0648). Following the granting of this planning permission at appeal, a series of subsequent applications have been submitted to discharge conditions and seek approval for reserved matters.

6.18 This area of land within the north of the identified site is therefore considered to be committed. However, the uses permitted are consistent with the development of a SRFI, albeit this area of the site does not have direct access to the existing railway. To facilitate the development of a SRFI on this site, it would also require the southern and central elements to also be built out.

6.19 This site benefits from excellent road access and good rail access. However, it suffers due to the shape of the site and its proximity to a residential settlement, the necessary configuration of the site would be sub-optimal for a SRFI and would not offer the same advantages as other potential sites compared in this assessment.

Figure 6.4: Site 4: Land between Hinckley and Nuneaton

6.20 This site is located some 2km to the east of Nuneaton and 3km south west of Hinckley. It is 345Ha and has the following constraints noted in the sieving analysis:

- Areas of Flood Zones 2 and 3 along Sketchley Brook, Harrow Brook and River Anker; and
- The site is predominantly categorised as Grade 3 agricultural land, with an area in the west of the site categorised as being Grade 2. Of the Grade 3 land, some of the northern area is sub-categorised with small areas being Grade 3a.

6.21 In addition, it is in the Rugby Green Belt and thus will plays an important role in separating the two settlements.

6.22 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	-1	Access could be taken off the existing A5 / A47 / B4666 roundabout. This junction is 3.9km from J1 of M69.
Access to Rail	1	The site has a long straight stretch of W10 gauge route within the site.
Vehicle access routes	2	The site could take direct access off the A5, without the need to pass through communities. It would pass adjacent to properties on the southern side of Hinckley, although are already likely to be highly influenced by traffic on the A5.
Site size	2	345Ha
Site shape	2	The site is regular with good opportunities to accommodate large floor plate buildings.
Topography	1	The site is relatively flat with gradients crossing the railway line. Suitable access should be achievable with limited earthworks.
Proximity to and potential effects on residential or other sensitive land uses	0	The site is located directly to the east of Nuneaton and to the south of Hinckley. As a result, the site has a number of residential properties along its north western and western boundaries; although given the size of the site it should be feasible to provide a good level of mitigation for noise and visual effects.
Total	**7**	

6.23 In terms of labour force availability, the site is 345Ha, applying the formula at paragraph 4.29, the site could generate in the region of 14,526 jobs. There are currently 35,200 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.24 In relation to local policy designations and planning status, positioned across two local authority areas, the majority of the site is designated as Green Belt whilst a central area is regarded as at high risk of flooding. The site therefore has some policy and fluvial constraints. No relevant extant planning permissions or current planning applications have been identified on the site.

6.25 This site has good vehicle access options and is of a suitable scale and shape to accommodate a SRFI. However, it is quite distant from the Motorway and would need considerable mitigation to ensure there were no effects on residential amenity.

6.26 In addition to the scoring undertaken in accordance with the set methodology, the site is in the Green Belt, which is a major policy constraint which must also be weighted in the balance of considering this site. As the site plays a significant role in maintaining the separation between Nuneaton and Hinckley, it is likely to be an important area of Green Belt which should not be lost unless there are no other alternatives available.

Figure 6.5: Site 5: Land at Burbage Common, Hinckley

6.27 This site is located some 3km to the north east of Hinckley. It is 222Ha and has the following constraints noted in the sieving analysis:

- Adjacent to Burbage Wood and Aston Firs SSSI to the south;
- Adjacent to Burbage Common and Woods Local Nature Reserve to the south;
- The entirety of the site is categorised as being Grade 3 agricultural land; and
- Area of Flood Zone 2 at the northern end of the site.

6.28 In addition, there are several listed buildings to the north of the site.

6.29 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	2 *(see note)*	The site is immediately adjacent to J2 of the M69. However, the best access route which doesn't involve a longer trip through either the urban area of Hinckley (c 10k) or Stoney Stanton (c 5km) would necessitate travel past two permanent residential caravan sites on Smithy Lane. This would involve a major upgrade at the B4469 junction. This location is very close to the Motorway roundabout and the area is highly constrained by woodland and residential caravan sites. Alternative access routes (c.5-10km to access J2) could be achieved at the north of the site although this area is similarly constrained by motorway embankments and a number of residential and commercial properties.
Access to Rail	1	Access to W10 gauge route. Part of the main line frontage is blocked by Burbage Common Road which bisects the site. Adequate length can be accessed at the northern side of the site.
Vehicle access routes	2	Vehicle access routes to the site are outlined above. Information presented to PINS indicates the provision of a direct access onto the M69 junction.
Site size	2	222Ha
Site shape	2	The site is regularly shaped. There will be a need to cross Burbage Common Road, although it should still be possible to accommodate large floorplate buildings.

Factor	Score	Notes
Topography	2	The site is relatively flat and gently sloping by the rail line. Suitable access should be achievable with little earth working.
Proximity to and potential effects on residential or other sensitive land uses	0	There are a number of properties at the northern end of Burbage Common Road, that form the northern boundary of the site, as well as permanent residential caravans and lodges at the southern end. Both would be directly affected by any potential access solution with little scope for appropriate mitigation.
Total	**11**	

6.30 In terms of labour force availability, the site is 222Ha, applying the formula at paragraph 4.29, the site could generate in the region of 9,347 jobs. There are currently 38,100 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.31 This site scores well on scale, topography, proximity to motorway (see below) and rail access.

6.32 Whilst this site is adjacent to a motorway junction, no immediate access is currently available onto it and any SRFI proposals would need to undertake a major upgrade either at the northern or southern ends of the site.

6.33 In relation to local policy designations and planning status, no relevant extant planning permissions or current planning applications have been identified. However the intention to submit a DCO application for a SRFI has been registered with PINS by DB Symmetry (Hinckley) Limited. At the time of writing, the independent project website[42] confirms that informal consultation will take place during summer 2018. Furthermore, the website confirms that statutory consultation will subsequently follow this in winter 2018. On the dedicated PINS National Infrastructure Planning website for the proposed development at Hinckley it is timetabled that the DCO application will be submitted to PINS in Q2 of 2019.

6.34 Information presented on the PINS website states that the proposals are to include railway sidings and a freight transfer area alongside the two-track railway between Hinckley and Leicester and a dedicated road access directly from junction 2 of the M69 motorway comprising the addition of a northbound off-slip and a southbound on-slip to this junction, which currently caters only for motorway traffic heading to and from the north.

[42] http://www.hinckleynrfi.co.uk/

6.35 Assuming the proposed vehicular access arrangements from the M69 are achievable and viable, the site scores well in the assessment.

Figure 6.6: Site 6: Land at Potters Marston

6.36 This site is located some 6km to the north east of Hinckley. It is 114Ha and is partially occupied by a Calor installation. It has the following constraints noted in the sieving analysis:

- Flood Zone 2 and 3 running in a corridor across the northern part of the site; and
- The entirety of the site is categorised as being Grade 3 agricultural land.

6.37 In addition there are a number of listed buildings in Potters Marston to the east.

6.38 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	-2	The site is some 4.8km from J2 of the M69 motorway.
Access to Rail	1	There is a long stretch of W10 gauge route running along the southern boundary of the site.
Vehicle access routes	-2	Vehicle access to get to J2 would mean a circuitous route through Stoney Stanton passing a large number of residential

Factor	Score	Notes
		properties before eventually accessing the B4669.
Site size	1	114 Ha
Site shape	1	The site is triangular but should be able to achieve an intermodal facility and some larger floorplate buildings.
Topography	2	The site is relatively flat with flat land adjacent to the railway.
Proximity to and potential effects on residential or other sensitive land uses	0	The nearest properties are c.140m to the south of the site. Albeit the sensitive receptors are separated from the site by the existing railway line. There are reasonable prospects of implementing suitable mitigation against noise and visual effects.
Total	**1**	

6.39 In terms of labour force availability, the site is 114Ha, applying the formula at paragraph 4.29, the site could generate in the region of 4,800 jobs. There are currently 38,100 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.40 In relation to local policy designations and planning status, the site is designated as being in the countryside and is located within a Hazard Consultation Zone for Gas and the Calor Site. No relevant extant planning permissions or current planning applications have been identified.

6.41 This site has good access to rail and a relatively flat topography. However, road access is limited and there is potential for road access to cause significant amenity harm with limited opportunities to mitigate.

Figure 6.7: Site 7: Land between Ladbroke and Bishops Itchington

6.42 This site is located some 9.5km to the south east of Royal Leamington Spa. It is 391Ha and has the following constraints noted in the sieving analysis:

- Area of ancient woodland in the centre of the site; and
- The site is predominantly categorised as being Grade 3 agricultural land, aside from a small area within the north west of the site, which is confirmed as being Grade 4.

6.43 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	-2	This site is approximately 3.8km from J12 of the M40. However, that is a straight line distance. The most direct route is via Hambridge Road, a single lane country road that passes under a railway bridge with a height restriction of 13ft 3inches. That route is approximately 5.2km. An alternative route exists via Deppers Bridge, and south through Bishops Itchington. This route is 7.1km and involves the use of the B4451 and some single track country lane.

Factor	Score	Notes
Access to Rail	1	The site has access to a long stretch of W10 gauge route.
Vehicle access routes	-2	As noted above, site access by vehicle is by B roads and lower, passing through two residential communities
Site size	2	391 Ha
Site shape	2	The site is large and broadly rectangular with the ability to accommodate multiple large floorplate buildings and long flat areas adjacent to the railway line.
Topography	1	The site is generally flat, although Weddington Hill is located within the central area. However, this is unlikely to affect the ability to get suitable rail access.
Proximity to and potential effects on residential or other sensitive land uses	0	The nearest properties are in the settlement of Ladbroke, c.120m to the west of the site boundary. Furthermore, the settlement of Bishop's Itchington is located c.450m to the west. Given the size of the site, it should be possible to mitigate significant amenity effects. The site access routes would however create concerns regarding impacts on amenity with little opportunity to mitigate traffic effects.
Total	**2**	

6.44 In terms of labour force availability, the site is 391Ha, applying the formula at paragraph 4.29, the site could generate in the region of 16,463 jobs. There are currently 22,400 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.45 In relation to local policy designations and planning status, the site has no specific designations, however the settlement of Ladbroke, which is located directly adjacent to the north east is designated as a conservation area. Through high quality design, it is envisaged that the conservation area of Ladbroke will not be impacted by the proposals. No extant planning permissions or current planning applications are present on the site.

6.46 This site scores well on scale, shape and topography. However, there are major issues with site access and proximity to the motorway network.

Figure 6.8: Site 8: Land between Knightcote and Fenny Compton

6.47 This site is located some 14km to the north west of Banbury. It is 276Ha and has the following constraints noted in the sieving analysis:

- Area of Flood Zone 2 and 3 on the northern boundary; and
- The site is predominantly categorised as being Grade 3 agricultural land, aside from a small area in the north of the site, which is Grade 4.

6.48 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	-1	The nearest motorway junction is J12 of the M40, which is 3.7km away using Knightcote Bottoms (a single lane country road) for the majority of the distance and the B4451.
Access to Rail	1	The site has access to a straight section of W10 gauge route.
Vehicle access routes	0 *(See note below)*	The access route is via a single track country lane for around 3km that does not pass any houses.
Site size	2	276 Ha

Factor	Score	Notes
Site shape	2	The site is roughly triangular, but is large enough to accommodate multiple large floor plate buildings and has straight lines adjacent to the railway.
Topography	2	The site is flat and has level ground adjacent to the railway line.
Proximity to and potential effects on residential or other sensitive land uses	0	The site is c.130m from the settlement of Knightcote. However, the site is large enough to accommodate suitable mitigation to ensure there are no significant effects on amenity. Development of a major warehousing and logistics site in close proximity to a major ammunition storage facility could raise mutually exclusive safety and security constraints.
Total	**6**	

6.49 In terms of labour force availability, the site is 276Ha, applying the formula at paragraph 4.29, the site could generate in the region of 11,621 jobs. There are currently 22,400 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.50 Whilst this site has been scored 0 (against the vehicle access route factor) as it accords with this definition in the scoring matrix, it is notable that a 3km access on a single lane country road is clearly not adequate for the main entrance route to a SRFI. To adequately serve a SRFI, significant improvement works would be required to this route.

6.51 There are also the potential security implications of the nearby ammunition storage facility. In relation to local policy designations and planning status, the site has no specific designations. There are no extant planning permissions or current planning applications on the site.

6.52 This site scores well on topography, scale, shape and rail but its performance in practical terms will be significantly limited by site access considerations.

Figure 6.9: Site 9: Kilsby North

6.53 This site is located some 5km to the south east of Rugby. It was also identified in the DIRFT III Alternative Site Assessment as site 6 Kilsby North. It is approximately 238 Ha.

6.54 The site is predominantly categorised as being Grade 3 agricultural land, except for two small areas within the north of the site, which are confirmed as being Grade 4 and urban land.

6.55 The DIRFT assessment concluded that the southern area of the site would have limited capacity for new trains as freight trains would need to use the WCML Fast Lines which carry faster moving trains and would be less suitable for standard freight trains, other than at night. It was discounted at short list stage from the DIRFT Assessment[43].

6.56 The northern section was considered to be capable of accommodating a limited form of rail freight development and was considered further in the assessment. It was however, concluded that the shape of the site created limitations on rail layout which would affect path availability for other passenger and freight trains, and left little site capacity to accommodate warehousing as well as an intermodal facility.

6.57 The scoring matrix has been utilised to produce the following results for this site

[43] This would be the case for slower-moving freight trains (i.e. 75mph intermodal and 60mph conventional wagon services. Rail Central includes specific facilities to accommodate faster express freight trains (100-110 mph) which are more compatible with services on the WCML Fast Lines.

Factor	Score	Notes
Proximity to a motorway junction	0	The site is approximately 2.2km to J18 of M1. Access would be via the A5 and A428.
Access to Rail	2	The site has access to two separate W10 gauge routes.
Vehicle access routes	2	Access is all via A roads, with no need to pass through residential areas.
Site size	2 *(see note).*	The site is 238 Ha, although as noted in the DIRFT III assessment, the site is bisected by the WCML which creates two smaller areas of land.
Site shape	1	The site is regular in shape with straight edges adjacent to the rail lines.
Topography	2	The site is relatively flat with the ability to achieve level access for rail access.
Proximity to and potential effects on residential or other sensitive land uses	0	The southern area of the site would adjoin houses on the northern boundary of Kilsby; whist the northern boundary is adjacent to residential properties in the settlement of Hillmorton. However, due to the extent of the site and the narrow areas by which the site adjoins the settlements, it would be possible to screen the sensitive receptors from significant visual and noise effects.
Total	**9**	

6.58 In terms of labour force availability, the site is 238Ha, applying the formula at paragraph 4.29, the site could generate in the region of 10,021 jobs. There are currently 22,800 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.59 In relation to local policy designations and planning status, the site and immediate surrounding area are not subject to any specific designations.

6.60 No relevant extant planning permissions or current planning applications have been identified. However, the Council refused an application for 99 dwellings on the southern area of the identified site in November 2015 (Daventry District Council ref. DA/2015/0830). The application was refused for being outside the settlement boundary, consisting of unsustainable development, design grounds and for its impact to surrounding landscape and heritage assets.

6.61 This site has scored well, particularly in relation to rail and road access, scale and topography. However, it is noted that the more detailed assessment carried out in the DIRFT III assessment discounted both areas of this site due to technical rail issues related to the type of trains associated with DIRFT. This finding will be considered further in the comparative assessment.

Figure 6.10: Site 10: Part of Rugby Radio Station West

6.62 This site is located some 3.5km to the east of Rugby. It is 226Ha and has the following constraints noted in the sieving analysis:

- Areas of Flood Zone 2 and 3 to the north eastern boundary; and
- The site is predominantly categorised as being Grade 4 agricultural land, except for areas within the east of the site confirmed as being Grade 3a and 3b and a small area in the south confirmed as being Grade 3.

6.63 This site was also one of the alternatives considered in the DIRFT III Assessment, as Site 1 Rugby Radio Station (West). That study found that due to separation between the site and the NLL, with the A428 in between, a rail connection could be achieved by extending the rail line serving DIRFT II.

6.64 The DIRFT III assessment notes that the site is allocated as an urban extension, and that a planning application had been submitted for 6,200 homes and other uses. That assessment found that the site was a SRFI opportunity when considered against its assessment criteria, but that it was unlikely to be available for a SRFI. The DIRFT III assessment also noted a concern that proposing a SRFI here could prejudice the

delivery of a strategically important development for Rugby. The site was discounted from further consideration.

6.65 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	1	The site is 1.8 km to J18 of the M1 via the A5, and 1.9km via the A428.
Access to Rail	1	The site does not have direct access to the mainline, but access could be achieved through extending the existing DIRFT II rail line to the north.
Vehicle access routes	2	Access to the motorway is all via A roads, with no residential communities affected.
Site size	2	The site is 226 ha.
Site shape	2	The site is regularly shaped. There is no current rail access, but this could be achieved whilst still allowing space for multiple large floorplate buildings.
Topography	2	The site is relatively flat and appropriately graded access can be created to any new rail infrastructure.
Proximity to and potential effects on residential or other sensitive land uses	0	A detached residential property is positioned on the south western boundary of the site. The settlement of Hillmorton is c.150m to the south west of the site boundary. However, given the size of the site, it is considered that sufficient mitigation can be implemented.
Total	**10**	

6.66 In terms of labour force availability, the site is 226Ha, applying the formula at paragraph 4.29, the site could generate in the region of 9,516 jobs. There are currently 35,200 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.67 In relation to local policy designations and planning status, the site and immediate surrounding area are not subject to any specific designations.

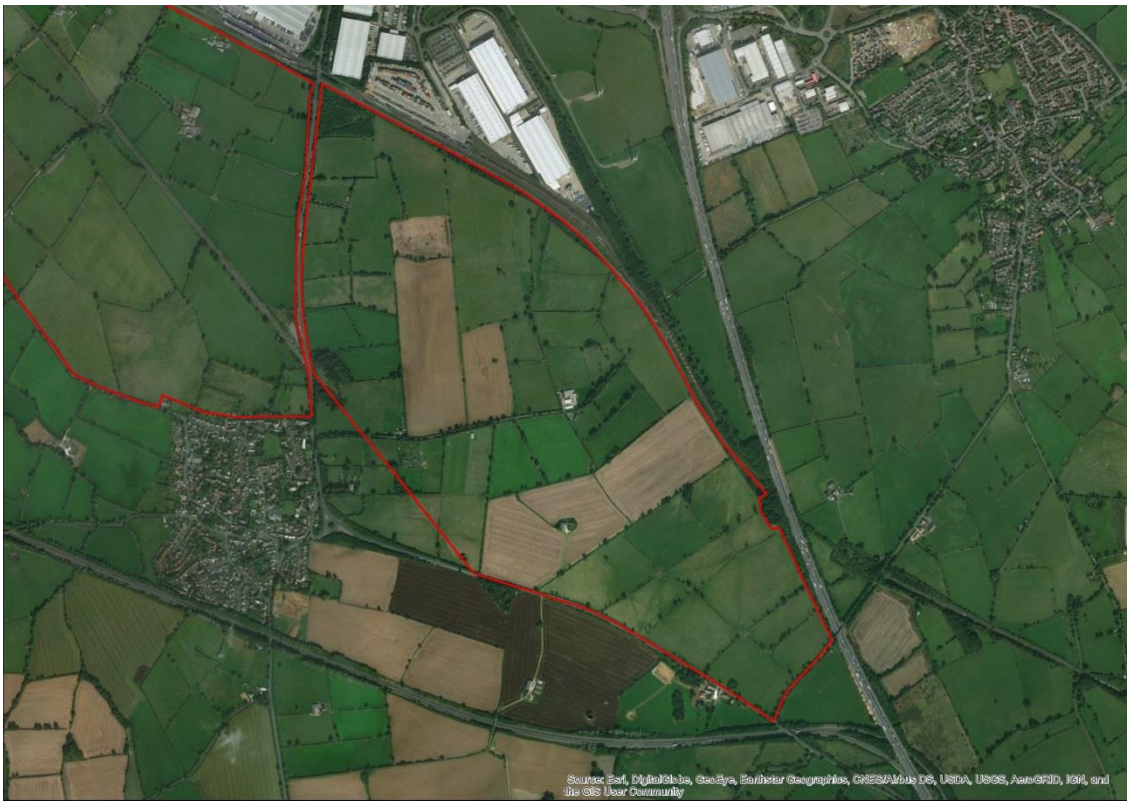
6.68 However, the site was allocated in the Local Plan as a urban extension and outline development was granted in May 2014 (Rugby Borough Council ref. R11/0699) (limited to 3 years for the submission of the first reserved matters) for the development of Use

Classes A1, A2, A3-A5, C1, C3, D1, D2 and B1, B2 and B8 (up to 106,000sqm). A Section 73 application to amend the previous permission was approved in June 2017 (LPA ref. R17/0022).

6.69 A series of subsequent reserved matters and discharge of conditions have been submitted. Some of these have been approved and a number are awaiting determination. Some works to the south of the site have also commenced.

6.70 This site scores well on a number of indicators. However, it is recognised that this site is to perform strategically important roles in the local area and is not available for development as a RFI.

Figure 6.11: Site 11: Kilsby East



6.71 This site is located some 6km to the south east of Rugby. It is 215Ha. The entirety of the site is categorised as being Grade 3 agricultural land.

6.72 This site was considered in the DIRFT III assessment, as Site 5 Kilsby East. This site was discounted as it was not capable of accommodating 750m rail sidings as much of the rail line is in a cutting, and the site slopes steeply up from the rail line to the south west.

6.73 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	0	The site is 2.3km from J18 of the M1

Factor	Score	Notes
Access to Rail	1	The site has access to a W10 gauge route (WCML slow lines), although achieving suitable access was considered not to be feasible in the DIRFT III assessment. Access to the WCML fast lines would not be possible as the route is in tunnel on this section of network.
Vehicle access routes	2	Access could be taken via the A5 directly to J18 with no need to pass through residential properties.
Site size	2	215Ha
Site shape	2	The site is a regular shape with relatively straight boundaries to the rail line.
Topography	-2	The rail sidings are in cutting for much of the boundary of the site and the site slopes up by around 40m to the south west.
Proximity to and potential effects on residential or other sensitive land uses	0	The site is c.270m from the eastern boundary of Kilsby, furthermore, a small cluster of residential properties are located directly to the south of the site, albeit they are separated from the site by the A5. Despite this, given the scale of the site, there are opportunities to provide appropriate screening to limit significant noise and visual effects.
Total	**5**	

6.74 In terms of labour force availability, the site is 215Ha, applying the formula at paragraph 4.24, the site could generate in the region of 9,053 jobs. There are currently 22,800 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.75 In relation to local policy designations and planning status, the site and immediate surrounding area are not subject to any specific designations. There are no extant planning permissions or current planning applications on the site.

6.76 This site scores well on road access but very poorly on topography, which means that it is not feasible to achieve a suitable rail access to this site.

Figure 6.12: Site 12: Land North of Long Buckby Wharfe

6.77 This site is located some 5km to the north east of Daventry. It is 114Ha and has the following constraints noted in the sieving analysis:

- Areas of Flood Zone 2 and 3 running along stream corridors across the north of the site and diagonally across the south western corner; and
- The site is predominantly Grade 3 agricultural land, albeit some areas centrally are sub-categorised as being Grade 3a and 3b. Furthermore, very small areas within the north and south of the site are categorised as being Grade 2.

6.78 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	-2	As J17 of the M1 does not allow access, the nearest junction is J18, some 8km away. Access would be via the A5.
Access to Rail	1	The site has access to a W10 gauge route but only the fast lines which would restrict rai freight traffic to express freight and limited overnight intermodal and conventional wagon services.
Vehicle access routes	1	The A5 passes the eastern side of Kilsby, adjacent to residential properties, although these are already likely to be

Factor	Score	Notes
		affected by the road traffic.
Site size	1	114Ha
Site shape	0	The site is long and thin which will limit its ability to provide suitable rail sidings as well as large distribution buildings.
Topography	0	The site slopes up to 30m, peaking in the central area. Whilst there is potential to re-grade this, it may be difficult given the limited width of the site and the need to retain level rail access along one boundary.
Proximity to and potential effects on residential or other sensitive land uses	0	The site adjoins residential properties to its southern boundary, with many being separated by the Canal. There are however opportunities for screening along this boundary.
Total	**1**	

6.79 In terms of labour force availability, the site is 114Ha, applying the formula at paragraph 4.29, the site could generate in the region of 4,800 jobs. There are currently 22,800 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.80 In relation to local policy designations and planning status, the site and immediate surrounding area are not subject to any specific designations. There are no extant planning permissions or current planning applications on the site.

6.81 This site scores moderately on most of the measures, although access to the motorway network is via a convoluted and distant route as the nearest junction does not allow direct access. Rail accessibility is also severely restricted.

Figure 6.13: Site 13: Land to the North West of Long Buckby

6.82 This site is located to the north east of Long Buckby, some 8km to the north east of Daventry. It is 360Ha and has the following constraints noted in the sieving analysis:

- Areas of Zone 2 and 3 flood risk along the eastern boundary; and
- The site is predominantly Grade 3 agricultural land; however a small area within the south is categorised as being Grade 2.

6.83 In addition, there are a number of Listed Buildings on Long Buckby and Watford, and there is a Scheduled Ancient Monument (Watford Park C18 Garden) to the west of Watford. A single Grade 2 listed building sits adjacent to the southern boundary at Murcott.

6.84 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	-2	The nearest motorway is J18 of the M1. Access would need to be taken through the settlement of Watford on the B5385 and then north via the A5, past Kilsby to J18 (9.8km). Alternatively, access could be taken through West Haddon to reach the A428, via Crick (6.3km).
Access to Rail	1	The site has access to a relatively straight

Factor	Score	Notes
		section of W10 gauge route.
Vehicle access routes	-1	The vehicle access route options would both involve travelling through residential communities to access an A class road.
Site size	2	360Ha
Site shape	2	The site is relatively regular and is large enough to accommodate multiple large floorplate buildings.
Topography	0	The site slopes some 40m in height, although given the size of the site, it should be possible to regrade the land to accommodate development and a suitable rail access.
Proximity to and potential effects on residential or other sensitive land uses	0	The southern boundary of the site is directly adjacent to the settlement of Long Buckby. Furthermore, the northern boundary of the site borders the settlement of West Haddon. However, given the great extent of the site, it is anticipated that significant mitigation measures could be implemented.
Total	**2**	

6.85 In terms of labour force availability, the site is 360Ha, applying the formula at paragraph 4.24, the site could generate in the region of 15,158 jobs. There are currently 22,800 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.86 In relation to local policy designations and planning status, there are no planning designations on the site. No relevant extant planning permissions or current planning applications have been identified on the site.

6.87 This site scores well on size, shape and rail access. However, its distance from the motorway and need to pass through residential areas to get to A class roads is a major limitation.

Figure 6.14: Site 14: Land to the West of Bugbrooke and South of Nether Heyford

6.88 This site is located some 9km to the south west of Northampton. It is 133Ha and has no constraints noted in the sieving analysis. There is a listed canal bridge close to the northern boundary, and there are a number of listed buildings nearby in Nether Heyford.

6.89 A large area within the centre of the site is categorised as being Grade 2 agricultural land, whilst all remaining land is Grade 3.

6.90 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	-1	Nearest motorway is J16 of M1 (3.7km) although gaining access to this junction would necessitate travelling through the settlement of Nether Heyford and using residential streets.
Access to Rail	1	The site has access to a W10 gauge route section, but only the Fast Lines, which would restrict rail freight traffic to express freight services and limited overnight intermodal and conventional wagon services.
Vehicle access routes	-1	The nearest motorway junction would

Factor	Score	Notes
		necessitate travel through the centre of Nether Heyford with only a short stretch at the northern end of the route being on an A class road.
Site size	1	133 Ha
Site shape	2	The site is a regular shape with potential to accommodate multiple large buildings and suitable rail infrastructure.
Topography	0	The site slopes some 40m down to the rail line. However, it should be feasible to secure relatively level rail access with suitable earth working.
Proximity to and potential effects on residential or other sensitive land uses	1	The nearest sensitive receptor is a number of residential properties to the north west of the site, which are c.100m away. Furthermore, the settlement of Upper Stowe is located c.500m to the west of the site. It is however understood that some mitigation measures could be implemented on the site to lessen the impacts. Due to lack of proximity to the motorway, vehicular access to the M1 is only possible with movement through the centre of Nether Heyford.
Total	**3**	

6.91 In terms of labour force availability, the site is 133Ha, applying the formula at paragraph 4.29, the site could generate in the region of 5,600 jobs. There are currently 33,400 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.92 In relation to local policy designations and planning status, the site is designated as being in a Special Landscape Area. This has the potential to restrict the development of the site for a SRFI. However, given the overarching need for SRFIs, it is considered that this Special Landscape Area designation could be overcome to ensure that the development of a SRFI would not be restricted. No relevant extant planning permissions or current planning applications have been identified.

6.93 This site scores well on shape and rail access, although rail freight access into the WCML Fast Lines would be limited to express freight services and some overnight intermodal and conventional wagon services. It also has major limitations in terms of the routes available to secure access to the motorway and the likely effects on residential amenity of doing so.

Figure 6.15: Site 15: Land South of Bugbrooke

6.94 This site is located some 8km to the south west of Northampton. It is 278Ha and has the following constraints noted in the sieving analysis:

- Areas of Flood Zone 2 and 3 to the western boundary; and
- The entirety of the site is categorised as being Grade 3 agricultural land.

6.95 In addition, Lower Downs farm house, at the north eastern corner of the site is Grade II listed, and there is a listed canal bridge to the north east of the site. Further clusters of listed buildings exist in nearby Bugbrooke, Gayton and Pattishall.

6.96 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	-2	The nearest motorway junction is J16 M1 (3km), although J15a M1 (3.75km) is also close. Securing access to J16 would mean travelling through both Bugbrooke and Nether Heyford (6km). Access to J15a would be less disruptive but would still involve travelling through Rothersthorpe and residential areas of Hunsbury Meadows (south west Northampton) and is a 7.4km route.

Factor	Score	Notes
Access to Rail	1	The site has access to a W10 gauge route section, but only the Fast Lines, which would restrict rail freight traffic to express freight services and limited overnight intermodal and conventional wagon services.
Vehicle access routes	-2	Vehicle access routes to the motorway involve several km of route which is not on A class roads, and all options involve passing through multiple residential communities.
Site size	2	278Ha
Site shape	1	The site is a regular shape and is capable of accommodating multiple large buildings.
Topography	-1	The site has several hilly peaks with gradient changes of up to 50m. Two of these peaks are close to the railway line.
Proximity to and potential effects on residential or other sensitive land uses	1	The nearest sensitive receptors are residential properties located in the settlement of Pattishall, c.270m to the south west. Due to the distance of the site from the motorway, vehicle access routes will pass through multiple residential communities.
Total	**0**	

6.97 In terms of labour force availability, the site is 278Ha, applying the formula at paragraph 4.29, the site could generate in the region of 11,705 jobs. There are currently 33,400 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.98 In relation to local policy designations and planning status, the very northern tip of the site is designated as a Special Landscape Area, whilst this designation is also located parallel, but not adjoining the sites western boundary. A well designed scheme should be able to mitigate against impacting upon this designation. No relevant extant planning permissions or current planning applications have been identified on the site.

6.99 This site scores well on size and rail access, but has topographical limitations which would require major remodelling. Rail freight access into the WCML Fast Lines would be limited to express freight services and some overnight intermodal and conventional wagon services. Access options are both distant from the motorway and would be likely to have major residential amenity effects.

Figure 6.16: Site 16: Northampton Gateway

6.100 This site is currently being promoted as a SRFI and is located directly to the east of Rail Central. A DCO application was submitted in May 2018. This was subsequently accepted by PINS for examination in June 2018. The site is located some 5km to the south of Northampton. The site is 220ha (varying site areas are referenced within the DCO submission) in area and has the following constraints noted in the sieving analysis:

- Roade Cutting SSSI affected by the southern part of the development;
- The entirety of the site is categorised as being Grade 3 agricultural land. A small area within the west of the site is sub-categorised as being Grade 3a and 3b; and
- Adjacent to Courteenhall Registered Park and Garden.

6.101 In addition, there are a number of listed buildings at Collingtree, Roade, and within Courteenhall Gardens, including Courteenhall House.

6.102 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	2	The site adjoins J15 of M1.
Access to Rail	1	The site has access to a W10 gauge route along a straight boundary.

Factor	Score	Notes
Vehicle access routes	2	Access can be secured easily to the M1.
Site size	2	216Ha
Site shape	2	The site is a regular shape with an ability to accommodate multiple large scale buildings.
Topography	2	The site is generally flat.
Proximity to and potential effects on residential or other sensitive land uses	0	The nearest sensitive receptors are residential properties within the settlement of Collingtree, which are c.100m to the north east, albeit they are separated from the site by the M1 motorway. Further sensitive receptors are located at Lodge Farm, which is c.100m to the west of the site. It is anticipated that suitable screening opportunities are available to protect the amenities of these receptors.
Total	**11**	

6.103 In terms of labour force availability, the site is 216Ha, applying the formula at paragraph 4.29, the site could generate in the region of 9,094 jobs[44]. There are currently 33,400 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.104 In relation to local policy designations and planning status, the northern area of the site is designated as an Important Local Gap, which seeks to prevent the coalescence of settlements. Land directly adjacent to the eastern boundary of the site is designated as a Historic Park and Garden.

6.105 However, the site is currently being promoted for use as a SRFI, with a DCO application that has been accepted by PINS for examination.

6.106 This site scores well against the majority of the criteria as it has excellent motorway access and access to a rail line. It is large and relatively flat and has the ability to accommodate multiple large floorplate buildings. This site is also being promoted as a SRFI site.

[44] Phase 2 consultation information for Northampton Gateway assumes that the development will generate 7,544 FTE jobs

Figure 6.17: Site 17: Land North of Penkridge

6.107 This site is located some 6km to the south of Stafford. It is 328Ha and has the following constraints noted in the sieving analysis:

- Area of Flood Zone 2 and 3 in the northern area of the site; and
- The site is predominantly categorised as being Grade 3 agricultural land, albeit a small area in the north is Grade 2.

6.108 In addition, there are a number of listed buildings in Penkridge to the south and Dunston to the north.

6.109 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	2	The neatest motorway is J13 of the M6, which is around 1km to the north.
Access to Rail	1	The site has a straight section of W10 gauge route running through its centre.
Vehicle access routes	-1	Motorway access from the eastern part of the site could be gained via a new junction on the A449, although there are a number of residential properties which would be passed at Dunston. These properties are already likely to be

Factor	Score	Notes
		affected by traffic on the A449 which limits the effects. However, in order to access the western part of the site, it would be necessary to either bridge the railway line, which may limit the ability to provide suitable intermodal facilities, or to travel north through Dunston (School Lane) or south, via the northern part of Penkridge (Levedale Road). Both routes pass residential properties. The northern route through Dunston also passes by a school, and the southern route adds considerable distance to the motorway junction (c. 4km).
Site size	2	328Ha
Site shape	2	The site is large and regularly shaped. It is capable of accommodating multiple large buildings.
Topography	2	The site is generally flat.
Proximity to and potential effects on residential or other sensitive land uses	0	The southern boundary of the site is immediately adjacent to residential properties at the northern edge of Penkridge. However, it is anticipated that suitable measures to mitigate against the impacts of the development can be implemented.
Total	**8**	

6.110 In terms of labour force availability, the site is 328Ha, applying the formula at paragraph 4.29, the site could generate in the region of 13,811 jobs. There are currently 59,500 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.111 In relation to local policy designations and planning status, the site is located within Open Countryside. There are no relevant extant planning permissions or current planning applications on the site.

6.112 This site scores well on a number of criteria, although is ultimately limited by proximity to residential uses, including on the main route to the motorway.

Figure 6.18: Site 18: Land to the South of Stafford

6.113 This site is located some 3km to the south of Stafford. It is 282Ha and has the following constraints noted in the sieving analysis:

- Corridor of Flood Zone 2 and 3 in the eastern area of the site; and
- The site is predominantly categorised as being Grade 3 agricultural land. However, a small area within the centre and east of the site is identified as being Grade 2 agricultural land.

6.114 In addition, there are several listed buildings at Dunston to the east.

6.115 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	1	The nearest motorway is J13 of the M6. Access can be achieved through Dunston which is a 1.1km route.
Access to Rail	1	The site has a straight length of W10 gauge route on its boundary.
Vehicle access routes	-1	Vehicle access to the motorway could be achieved through Dunston, using School Lane, which is a narrow country road that passes through a small Hamlet and houses in Dunston before reaching the

Factor	Score	Notes
		A449. An alternative route is via Ash Flats Lane and Chain Lane, which runs to the north through a residential area, before reaching the A449 to the north of the motorway junction (2.4km).
Site size	2	282 ha
Site shape	2	The site is relatively regular in shape with an ability to accommodate multiple large floorplate buildings.
Topography	0	The site is relatively flat although there is a corridor of lower land that follows the route of a brook and which is subject to flooding. The brook runs parallel to the rail infrastructure and may need to be diverted and re-levelled to facilitate the development of a SRFI.
Proximity to and potential effects on residential or other sensitive land uses	0	The north western boundary of the site is boarded by residential properties at the settlement of Coppenhall. Furthermore, a number of residential properties located to the south of Stafford are c. 520m from the site boundary. Dependent upon chosen access routes, other sensitive receptors in the settlements of Dunston and Stafford may also be affected.
Total	**5**	

6.116 In terms of labour force availability, the site is 282Ha, applying the formula at paragraph 4.29, the site could generate in the region of 11,873 jobs. There are currently 59,500 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.117 In relation to local policy designations and planning status, the site is located within open countryside. There are no relevant extant planning permissions or current planning applications on the site.

6.118 This site scores well on size and shape, but has access difficulties, despite being close to a motorway junction.

Figure 6.19: Site 19: Land South of Great Bridgeford

6.119 This site is located some 4km to the north west of Stafford. It is 100Ha and has no constraints noted in the sieving analysis. There is a listed bridge in Great Bridgeford, on the route from this site to Motorway.

6.120 With regards to agricultural land classification, the site consists of a mixture of Grades 2 and 3 with a small area of Grade 4 in the north of the site.

6.121 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	0	The nearest motorway is J14 of the M6, which is 2.7km away, via Great Bridgeford, using the A5013
Access to Rail	1	The site is bounded by the 4-track W10 gauge WCML route section. At-grade access could be achieved into the Slow Lines nearest the site, but direct access to the Fast Lines would be likely to require grade-separation.
Vehicle access routes	-1	Access to the motorway would need to be taken from Newport Road (B5405) to access the A5013 running from Great Bridgeford to the Motorway junction.

Factor	Score	Notes
		Newport Road has residential properties along the length that would be used by vehicles accessing the site.
Site size	0	100 Ha
Site shape	0	The site is relatively regular in shape and should be able to accommodate a rail connection.
Topography	0	The site slopes down to the railway line, but it should be feasible to secure an access with appropriate earth moving,
Proximity to and potential effects on residential or other sensitive land uses	0	A number of residential properties are located adjacent to the northern boundary of the site, in the settlement of Great Bridgeford. However, it is anticipated that through mitigation, the impact of the development can be lessened. Gaining access to the M6 motorway from the site would however require traffic to navigate through Great Bridgeford, potentially causing an impact to the existing settlement.
Total	**0**	

6.122 In terms of labour force availability, the site is 100Ha, applying the formula at paragraph 4.29, the site could generate in the region of 4,211 jobs. There are currently 50,700 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.123 In relation to local policy designations and planning status, there are no designations on the site. There are no relevant extant planning permissions or current planning applications of relevance.

6.124 This site scores well on rail access, but the 4-track nature of the WCML at this point (from west to east being northbound Slow Line, southbound Slow Line, northbound Fast Line, southbound Fast Line) would make at-grade access to the Fast Lines difficult to achieve. The site also suffers from road access issues and proximity to a number of houses that would be affected by the development.

Figure 6.20: Site 20: Land at Baldwin's Gate

6.125 This site is located some 8.5km to the south west of Stoke on Trent. It is 65Ha and has no constraints noted in the sieving analysis. The entirety of the site is categorised as being Grade 3 agricultural land.

6.126 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	-2	The nearest motorway junction is J15 of the M6 (4.5km). However, the road distance is around 11km using the A51 to the south and west, before heading north to the junction. This involves passing a number of isolated residential properties. A shorter route (8.5km) exists, travelling via properties at Hill Chorlton, to access the A53 through Baldwin's Gate and then the A5182 east to the motorway.
Access to Rail	1	The site is bounded by the 4-track W10 gauge WCML route section. At-grade access could be achieved into the Slow Lines nearest the site, but direct access to the Fast Lines would be likely to require grade-separation.

Factor	Score	Notes
Vehicle access routes	1	The vehicle access routes are described above. Both routes are distant from the motorway and involve passing numerous isolated dwellings, or travelling through a residential community. However, the longer route can be mostly achieved using A class roads.
Site size	0	The site is 65Ha.
Site shape	0	The site a fairly regular and may be able to accommodate rail access.
Topography	0	The site slopes down to the railway line. It may be possible to achieve a rail access as well as suitable buildings.
Proximity to and potential effects on residential or other sensitive land uses	0	The nearest sensitive receptors are residential properties directly adjacent to the south eastern boundary of the site. There may however be opportunities to mitigate the main impacts of the development from these properties.
Total	**0**	

6.127 In terms of labour force availability, the site is 65Ha, applying the formula at paragraph 4.29, the site could generate in the region of 2,737 jobs. There are currently 38,400 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

6.128 In relation to local policy designations and planning status, the site is designated as an area of Landscape Restoration and Enhancement. Whilst the forest adjacent to the north of the site is designated as a Natural Asset. With considerate design and suitable mitigation, it is understood that these designations could be overcome. However, this may limit the scale of the development. There are no relevant extant planning permissions or current planning applications on the site.

6.129 This site primarily suffers from very poor highways access, although its scale is also a limitation in the context of securing a SRFI. The 4-track nature of the WCML at this point (from west to east being northbound Slow Line, southbound Slow Line, northbound Fast Line, southbound Fast Line) would make at-grade access to the Fast Lines difficult to achieve.

Figure 6.21: Site 21: Covidien, Staveley

6.130 This site is located some 6km to the north east of Chesterfield. It is 200Ha and has the following constraints noted in the sieving analysis:

- Areas of Flood Zone 2 and 3 running along the River Rother corridor; and
- The site is predominantly categorised as being urban land, with a small area of Grade 3 agricultural land in the north of the site.

6.131 This site has a history of various heavy industrial uses, including foundries, chemical works, coal mining and landfill. The land is allocated for part housing and part commercial (50Ha), with the commercial focussed around the Works Lane / Hall Road area.

6.132 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	-2	The nearest motorway junction is J29a of the M1. A new link road has been completed by the developers of Markham Vale on part of the route, which is 4.8km.
Access to Rail	1	The site has access to a W10 gauge route.

Factor	Score	Notes
Vehicle access routes	2	Access to J29a would be taken from the A6192 to J29a. The route does run past some residential properties, but it is in cutting and well screened from the houses.
Site size	2	The site is 200Ha. The site's allocation in the Core Strategy would suggest 50Ha of employment land is available, although it has been assumed that a wider area can be used for the purposes of scoring.
Site shape	1	The site is fairly regular with a relatively straight section of rail access.
Topography	0	The site is fairly flat, although there are some mounds adjacent to Barrow Hill (north of the railway line) which may need regrading. The River Rother corridor may need to be diverted and regraded to allow suitable building floorplates to be achieved.
Proximity to and potential effects on residential or other sensitive land uses	0	The northern boundary of the site is close to properties in Barrow Hill (c 100m), whilst the southern boundaries border the existing settlements of Hollingwood and Staveley. However, it is anticipated that there are opportunities to screen the sensitive receptors from any development.
Total	**4**	

6.133 In terms of labour force availability, the site is 200Ha, applying the formula at paragraph 4.29, the site could generate in the region of 8,421 jobs. There are currently 8,700 people looking for work in the surrounding local authority areas, the labour force requirement for the development can therefore only just be met in the local area. Labour availability could therefore possibly be a constraint to delivering a SRFI in this location.

6.134 In relation to local policy designations and planning status, The site has numerous designations that comprise the following:

- Staveley Regeneration Route;
- Staveley & Rother Valley Corridor Area Action Plan;
- Existing Business and Industrial Development;

- Tree Woodland Planting;
- Sports Pitches; and
- Open Countryside.

6.135 The site is allocated via the adopted Chesterfield Core Strategy (PS5) to be redeveloped for a sustainable community to deliver 2,000 homes and 50ha of employment uses. At the time of writing, the Council website confirms that an Area Action Plan (AAP) is currently in the process of being finalised and submitted to Secretary of State for examination.

6.136 There are no extant planning permissions considered relevant on the site. Notwithstanding this, a screening and subsequently a scoping opinion has been issued by the Council in respect of redeveloping the western area of the site for mixed use development. Furthermore an outline planning application for this development was submitted in September 2017 (Chesterfield Borough Council ref. CHE/17/00644/OUT). However, the application is still awaiting determination. Should development come forward in this regard, it would restrict the development and operation of the site as a SRFI.

6.137 This site performs well on access, size and shape, although it is distant from the main motorway junction. Alternative development proposals are being progressed.

Overview of Sites identified during Sieving

6.138 The following table summarises the sites identified through the sieving exercise and their associated scores, the highest scoring of these sites are considered alongside the Rail Central site (refer to Section 9):

Site Number	Site Name	Site Score
1	Wadborough Park Farm, near Stoulton, Worcestershire	5
2	Dairy House Farm, Grendon, near Tamworth	3
3	Land adjacent to Birch Coppice, near Tamworth	5
4	Land between Hinckley and Nuneaton	7
5	Land at Burbage Common, Hinckley	11
6	Land at Potters Marston	1
7	Land between Ladbroke and Bishops Itchington	2
8	Land between Knightcote and Fenny Compton	6
9	Kilsby North	9
10	Part of Rugby Radio Station West	10
11	Kilsby East	5
12	Land North of Long Buckby Wharfe	1

Site Number	Site Name	Site Score
13	Land to the North East of Long Buckby	2
14	Land to the West of Bugbrooke and South of Nether Heyford	3
15	Land South of Bugbrooke	0
16	Northampton Gateway	11
17	Land North of Penkridge	8
18	Land to the South of Stafford	5
19	Land South of Great Bridgeford	0
20	Land at Baldwin's Gate	0
21	Covidien, Staveley	4

6.139 There are four sites which stand out alongside Rail Central as scoring particularly well. These are:

- Site 5 – Land at Burbage Common, Hinckley – an emerging SRFI proposal;
- Site 9 - Kilsby North: Considered and discounted as part of the DIRFT III alternatives assessment (but considered further in the comparative assessment at Section 9 of this document);
- Site 10 - Rugby Radio Station West: Considered and discounted as it is unavailable due to other committed development; and
- Site 15 - Northampton Gateway: A current SRFI proposal.

6.140 With the exception of Site 10, these sites (Sites 5,9 and 15) are considered further in the comparative assessment at Section 9 of this report.

7. Stage 3: Sites identified by Local Representation and Other Studies

7.1 This section of the report considers those sites which were reviewed in the early alternatives assessment. It discounts those sites without rail access, but scores the remaining sites utilising the same methodology applied to the wider search area.

7.2 The following sites were identified by people living locally, who suggested that they should be considered as alternatives. The sites are listed below, alongside a note of whether they are considered further in this analysis and if not, the reason for discounting them at this stage:

- Northampton Highgate: See Site 15 Northampton Gateway;
- Pineham Extension: Discounted due to lack of rail connection potential;
- Land to the South of J15a, M1: Discounted due to lack of rail connection potential;
- Land to the East of J15a, South of M1: Discounted due to lack of rail connection potential;
- Land to the East of J15a, North of M1 (Milton Ham Business Park): Discounted due to lack of rail connection potential;
- Land to the East of NLL, North of M1 (Northampton South SUE): Considered further in the below section;
- Midway Park, J16 M1: Discounted due to lack of rail connection potential;
- Midway Park, Phases 2 & 3, J16, M1: Discounted due to lack of rail connection potential; and
- DIRFT III, J18, M1: Existing SRFI Consent, not considered further.

7.3 The following sites were considered as they were identified as possible rail freight sites in the DIRFT III Alternatives Assessment:

- Eurohub, Corby;
- Etwall Common (East Midlands Intermodal Park);
- East Midlands Distribution Centre, Castle Donington – rail terminal currently being activated but discounted as too small to qualify as a SRFI; and
- East Midlands Gateway – discounted as it forms part of committed DCO development as a SRFI.

7.4 In addition to these sites, a further RFI has been promoted at Four Ashes. This NSIP project is referred to as West Midlands Interchange and the DCO application has now been submitted to PINS. The site was sieved out of this assessment as set out in Section 6, because it is within the Green Belt. However, as the Four Ashes site is being promoted and has potential to contribute to the network of SRFI's required by national policy, that site is included for assessment in this section of the report.

7.5 The remainder of this section of the report considers these sites against the common scoring framework.

Table 7.1: Site 22: Land to the East of Northampton Loop, North of M1 (Northampton South SUE)

7.6 This site is located to the immediate south of Northampton. It is 97Ha and has the following constraints noted in the sieving analysis:

- Areas of Flood Zone 2 and 3 running along the northern boundary; and
- The entirety of the site is categorised as being Grade 3 agricultural land, with sub-categories of Grade 3a and 3b confirmed centrally.

7.7 There are also a number of listed buildings in the nearby settlement of Collingtree.

7.8 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	0	The site is adjacent to the M1 and very close to J15. However, there is no direct highways access with the shortest route being around 2.5km via Collingtree Park and down the A45.
Access to Rail	1	The site has access to a W10 gauge route. However there is a lack of frontage onto the main line and this would require rail sidings to be laid perpendicular to the main line. This would operationally less efficient than those laid parallel to the main line with access at each end.
Vehicle access routes	-1	Site access would need to be taken via Windingbrook Lane, Rowntree Road, Wooldale Road and the A45. This passes by houses in Collingtree Park.
Site size	1	102 Ha
Site shape	1	The site is regularly shaped and could accommodate larger floorplate buildings.
Topography	1	The site is relatively flat.
Proximity to and potential effects on residential or other sensitive land uses	0	Numerous sensitive receptors are located within the surrounding area of the site. Specifically, these include residential properties in the settlements of Collingtree, and the Collingtree Park and Merefield all of which bound the site to the north and east. It is however anticipated that mitigation measures could be implemented to reduce the impacts of developing the site.
Total	**3**	

7.9 In terms of labour force availability, the site is 102Ha, applying the formula at paragraph 4.29, the site could generate in the region of 4,295 jobs. There are currently 14,400 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

7.10 In relation to local policy designations and planning status, The site has numerous designations that comprise the following:

- Greenspace;

- Nature Conservation Value;
- Locally Important Landscape Area;
- Proposed Residential Area; and
- River Nene and Grand Union Canal Policy.

7.11 The site was the subject a planning application (Northampton Borough Council ref. N/2013/1035) and subsequent appeal (PINS ref. APP/V2825/W/15/3028151), which resulted in the approval of a scheme for 1,000 homes in August 2016. The first reserved matters application was considered at Committee on 15 February 2018 and subsequently approved on 7 March 2018 (Northampton Borough Council ref. N/2017/1566). Furthermore, applications to discharge conditions have also been submitted. Notwithstanding this, at the time of writing, it is not evident that construction of the development has not commenced.

7.12 This site performs reasonably well on access to rail, size and shape, although it is relatively distant from the main motorway junction no roads that are shared with residential uses.

7.13 Achieving rail access would also be difficult from both directions of travel on the main line, as the site has a limited rail frontage of 700m. To accommodate full length trains would require a triangular junction with the main line linked to sidings lain perpendicular to the main line rather than parallel; a less efficient arrangement than the “passing loop” sidings laid parallel to the main line as can be achieved at Rail Central.

7.14 This site is also not considered to be available given the recent planning permission received for a large housing scheme.

Figure 7.1: Site 23: Eurohub, Corby

7.15 This site is located to the immediate south east of Corby. It is 106Ha and has no constraints noted in the sieving analysis. The entirety of the site is categorised as being non-agricultural land.

7.16 This site would function as an extension to the existing Eurohub development in Corby. The site was assessed in the DIRFT III alternative site assessment.

7.17 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	-2	The nearest motorways are the M1 / M6 junction, some 40km away to the west. The A1 is some 25km to the east.
Access to Rail	-2	The site is not currently rail served, although has potential access to a W7 gauge rail line if the rail infrastructure is extended to the site.
Vehicle access routes	2	Vehicle access routes to the strategic highways network are long, but nearly all on A class roads (A43 and A14 to M1; and A43 to the A1). There is no need to pass through residential areas.
Site size	1	106Ha

Factor	Score	Notes
Site shape	1	The site is a regular shape and has potential to accommodate a rail link.
Topography	1	The site is relatively flat.
Proximity to and potential effects on residential or other sensitive land uses	0	The closest sensitive receptor is a Holiday Inn located c.80m to the north east of the site. Furthermore, a number of residential properties are located c.120m to the south of the site at Little Stanion. The properties at Little Stanion are already extensively screened due to existing woodland to the south of the site, whilst screening to benefit the Holiday Inn is considered possible.
Total	**1**	

7.18 In terms of labour force availability, the site is 106Ha, applying the formula at paragraph 4.29, the site could generate in the region of 4,463 jobs. There are currently 11,000 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

7.19 Outline planning permission was granted in December 2013 (limited to five years to commence development) for the development of Use Classes B1/B2 and B8 (Corby borough Council ref. 12/002589/OUT). An application to vary this permission was submitted in August 2017 and was subsequently approved on 13 February 2018 (Corby Borough Council ref. 17/00388/RVC). Following the grant of the revised planning permission, a series of applications seeking reserved matters and to discharge conditions have been submitted.

7.20 This site performs well on access, size and shape, although its distance from the main motorway junction is a major limiting factor.

7.21 This extension site is not directly rail served. The site has planning permission for a rail connected development and it is understood that the site owners do not intend to implement the rail connection due to cost concerns. The developer which controls the site, Prologis, is not marketing the site as a rail served scheme. It is considered that the rail connection is unlikely to be included in any future development of this site.

Figure 7.2: Site 24: Etwall Common (East Midlands Intermodal Park)

7.22 This site is located some 9km to the south west of Derby. It is 268Ha and it has no constraints noted in the sieving analysis. The entirety of the site is categorised as being Grade 3 agricultural land.

7.23 The site has been promoted as a SRFI opportunity and it was subject to public consultation in 2014. To date no DCO application has been submitted. Furthermore, the PINS website for the scheme confirms that the applicant has not yet set a timetable for the project.

7.24 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	-2	The site is 19km from J24a of the M1
Access to Rail	1	The adjacent main line is cleared for W10 gauge to the southeast where it joins the existing W10 gauge Birmingham - Derby line. The site has W7 gauge access northwest from the site to Crewe.
Vehicle access routes	2	The motorway can be accessed by the A50 with no need to pass through residential communities
Site size	2	268 Ha

Factor	Score	Notes
Site shape	2	The site is regularly shaped with straight boundaries adjacent to the railway line
Topography	2	The site is relatively flat.
Proximity to and potential effects on residential or other sensitive land uses	0	The closest sensitive receptors are a cluster of residential properties located c.100m to the south east of the site. Furthermore, there are a number of residential properties located along the western boundary of the site. It is however considered possible that the development could be screened from these receptors.
Total	**7**	

7.25 In terms of labour force availability, the site is 268Ha, applying the formula at paragraph 4.29, the site could generate in the region of 11,284 jobs. There are currently 26,700 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

7.26 In relation to local policy designations and planning status, the site has no designations. Furthermore, no relevant extant planning permissions or current planning applications have been identified.

7.27 This site performs well on access, size and shape, although its distance from the main motorway junction is a limiting factor.

7.28 A smaller adjacent site at Etwall Common (93,000sqm) was noted in the DIRFT assessment. The DIRFT assessment notes that there would be a resulting focus on regional rail need, with the site serving urban areas primarily to the north.

7.29 The DIRFT assessment was undertaken in 2012. Since then, this site has been notified as a NSIP project and the site promoter, Goodman, has completed informal consultation on a proposed intermodal facility which could provide up to 6 million sqft of floorspace. This is comparable to the scale of the Rail Central proposals.

7.30 The project was subject to informal consultation with a timeline for commencing formal consultation in May 2014, with submission of the application in spring 2015. The development was subject to a screening request and opinion in summer 2014 and it is understood that work was continuing on development of a DCO application, with formal consultation expected in 2016/17 and submission in early 2017[45]. No formal consultation has subsequently progressed.

7.31 The proposals would address a more northerly area and market, centred on an area of existing manufacturing (Toyota, JCB, Nestle, Rolls Royce, Bombardier).

[45] See http://www.emipark.co.uk/public-consultation/

Figure 7.3: Site 25: West Midlands Interchange

7.32 As explained above, this site is being promoted as a SRFI by Four Ashes Ltd. This NSIP project is referred to as West Midlands Interchange and a DCO application was submitted to PINS on 3 August 2018. This was subsequently accepted for examination by PINS on 24 August 2018.

7.33 The site was sieved out of the assessment as set out in Section 6 because it is within the Green Belt, which is considered to be a constraint to delivering a SRFI. Notwithstanding this, as the site is being actively promoted and has the potential to contribute to the network of SRFI's required by national policy, the site is assessed below.

7.34 The site is located approximately 10km north of Wolverhampton and immediately west of Junction 12 of the M6 in South Staffordshire.

7.35 The site comprises approximately 297Ha of land and other than its location within Green Belt; the site has no landscape or ecological designations of a national, regional or local importance. The site is categorised as being entirely Grade 3 agricultural land, with some sub-categorised Grade 3a and 3b land within the west of the site.

7.36 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	2	The site is adjacent to J12 of the M6, the current proposals for the development seek to utilise this existing junction

Factor	Score	Notes
		arrangement.
Access to Rail	1	The W10-gauge twin-track WCML bisects the site.
Vehicle access routes	2	With limited amendments to the existing highway network, vehicles can access the site via J12 of the M6 and the A5. This route does not require vehicles to navigate through residential areas.
Site size	2	297 Ha
Site shape	2	The site is large and relatively regular in shape.
Topography	0	The site is largely level and will require only minimal site works to be suitable for development. However, the railway line is positioned below the level of the site. Ground works will need to take place to ensure a level rail access can be achieved.
Proximity to and potential effects on residential or other sensitive land uses	0	The closest sensitive receptors to the site are residential properties located directly to the north of the site. However, due to the scale of the site, it is envisaged that suitable mitigation measures can be implemented to protect the amenity of the sensitive receptors.
Total	**9**	

7.37 In terms of labour force availability, the site is 297Ha, applying the formula at paragraph 4.29, the site could generate in the region of 12,505 jobs. There are currently 33,400 people looking for work in the surrounding local authority areas and on this basis we conclude that labour availability is not likely to be a constraint to delivering a SRFI in this location.

7.38 In relation to local policy designations and planning status, the South Staffordshire Local Plan (1996) Proposals Map confirms that the site for the most part is designated as being within the Green Belt, whilst the existing built area is designated as Employment Use, with a further area designated as an Employment Proposal. Furthermore, the site also carries the designation of Landscape Improvement Area.

7.39 The Green Belt and Employment Site designations have been carried forward to the Site Allocations Document, which PINS have confirmed is sound and was adopted at the Council committee meeting on 11 September 2018. There are no extant permissions of relevance on the site, however it is currently being promoted as a SRFI and a DCO application has been accepted for examination by PINS.

7.40 Much of the site is designated as being within the Green Belt, which would typically be restrictive to this form of development. However, through the submission of the DCO application, very special circumstances are identified for the proposals. A neutral rating has therefore been awarded in this factor.

7.41 This site performs well on access, size and shape, the only noticeable limitation being the level change between the rail access and the site. However, it is understood that through the course of the development, this issue can be overcome.

7.42 The site was subject to Stage 2 consultation between Wednesday 5 July and Wednesday 30 August 2017 with a further focussed consultation (Stage 2a) being undertake between December 2017 and January 2018. Should a DCO be secured on the site, it will add to the regional supply of rail served space and the choice available for rail connected space to meet market demand arising from the northern extent of the West Midlands and Staffordshire.

Overview

7.43 The following table summarises the sites identified through the sieving exercise and their associated scores:

Site Number	Site Name	Score
22	Land to the East of Northampton Loop, North of M1 (Northampton South SUE)	3
23	Eurohub, Corby	1
24	Etwall Common (East Midlands Intermodal Park)	7
25	West Midlands Interchange	9

7.44 West Midlands Interchange stands out as scoring well and is currently progressing through the DCO process. It therefore needs to be considered further in the comparative assessment.

7.45 In addition, as Etwall Common is currently being promoted as a SRFI by a reputable logistics developer, despite scoring slightly lower than the other top performing sites, this site has also been considered further in the comparative assessment (Section 9).

8. Stage 4: Rail Central

8.1 In order to compare the potential alternative sites against the proposed Rail Central site on a like for like basis, Rail Central has been scored below.

Figure 8.1: Rail Central

8.2 This site is located approximately 6km to the south of Northampton. It is 294Ha and has the following constraints noted in the sieving analysis:

- Areas of Flood Zone 2 and 3 running along the Milton Malsor beck corridor.
- Roade Cutting SSSI at the southern end of the site

8.3 In addition, there is a listed railway bridge to the south of the site, a number of listed buildings in Milton Malsor and a flight of Grade II listed locks on the Northampton Arm of the Grand Union Canal.

8.4 The scoring matrix has been utilised to produce the following results for this site

Factor	Score	Notes
Proximity to a motorway junction	1	The site is within 2km J15a of the M1.
Access to Rail	2	The site has access to two W10 gauge route sections, the Fast Lines via

		Weedon and the Slow Lines via Northampton.
Vehicle access routes	2	Site access will be taken directly off the A43 with no need to travel through either the settlements of Milton Malsor or Blisworth.
Site size	2	294Ha.
Site shape	2	The site has large regular areas capable of accommodating multiple large floorplate buildings, with long straight sections of site adjacent to rail infrastructure.
Topography	2	The site is largely flat with little earth working required to achieve level rail access.
Proximity to and potential effects on residential or other sensitive land uses	0	The site is close to residential properties along Northampton Road. However, the parameters plan, master plan and assessment work in the ES show that there is adequate provision to ensure potential effects can be mitigated.
Total	**11**	

8.5 In relation to local policy designations and planning status, for the most part, the site does not have any designations within the South Northamptonshire Local Plan (1988-2006). Notwithstanding this, a small area of the site located directly adjacent to the east of the NLL is designated as being within an Important Local Gap. On the basis of the current proposals, it is not considered that the scheme will conflict with this designation. The site does not have any extant planning permissions of relevance. However, as is the purpose of this DCO application, the site is being promoted as a SRFI.

8.6 This site performs well on access, size, shape, and rail connectivity. The key issues are a slightly longer distance from the main motorway junction compared to other sites and its close proximity to a small number of residential properties, albeit mitigation can be provided to reduce the likely impact on the properties. The site will also have direct access onto the A43, providing good access to junction 15a of the M1 motorway.

9. Stage 5: Comparative Assessment

9.1 The preceding sections of this report have identified the following sites as being notable high scores for further consideration.

Table 9.1: Site Summary

Site Number	Site Name	Site Score
-	Rail Central	11
16	Northampton Gateway	11
5	Land at Burbage Common	11
9	Kilsby North	9
25	West Midlands Interchange	9
24	Etwall Common (East Midlands Intermodal Park)	7

9.2 This section of the report considers those sites in more detail and compares them to Rail Central.

Etwall Common (EMIP)

9.3 This site is located close to Derby alongside the A50 and A50/A38 junction. It is close to a number of employers in the region including JCB, Nestle and Toyota. The site scores moderately well on the standard matrix, and has potential to operate as a rail freight terminal.

Site Capacity

9.4 The site is approximately 255 ha and is a sufficient size for a SRFI. There is currently a waste water treatment facility on site, a composting facility, an existing flood attenuation pond, three residences and overhead electricity lines (x2) supported by steel lattice pylons across the north of the site which would need to be relocated for development to proceed. A number of residential properties adjoin the site boundary. Parts of the site have been subject to previous gravel extraction which has been filled in through licensed waste tipping. In the past the majority of the land has been used for intensive sewage sludge recycling and as such is unsuitable for growing crops direct for human consumption. As a consequence the land is used to grow crops for biofuels or animal feed uses only. As such, while the site is of sufficient size, there are on-site constraints that are likely to add significantly to the cost of bringing this site forward.

9.5 This site was not considered in the DIRFT assessment as the latter focussed on a much smaller adjacent site (93,000sqm). The DIRFT assessment notes that there would be a resulting focus on regional rail need, with the site serving urban areas primarily to the north.

9.6 The DIRFT assessment was undertaken in 2012. Since then, this site has been notified as a NSIP project and the site promoter, Goodman has begun informal consultation on

a proposed intermodal facility which could provide up to 6m sqft of floorspace. This is more comparable to the scale of the DIRFT and Rail Central proposals.

9.7 Various site layout options – which showed how the proposed warehousing could be arranged and effectively served by rail access as well as ensuring residential amenity, were the subject of non-statutory consultation between May and July 2014.

Topography

9.8 The site generally slopes from around 62m above ordnance datum (AOD) in the north eastern corner to around 50m AOD in the south west corner. Along the southern boundary on Carriers Road, the land rises up to form a ridge line that obscures views further into the site when viewed from the road. The A38/A50 junction and the associated earthworks also provide some screening of views into the site.

9.9 Topographical variations across the site are unlikely to impact on site capacity.

Rail Infrastructure

9.10 The site is located adjacent to the Derby to Stoke line which broadly runs through the centre of the site. The various design options presented in 2014 suggest the proposed full length intermodal terminal will be located alongside the main line with alternate options for rail-linked warehouse units and a car loading terminal. The existing railway provides direct access to the Birmingham to Burton line at the Derby end which provides a route to locations in the north and also to the Midland Main Line at Sheet Stores Junction near Long Eaton. Network Rail has confirmed that the site is cleared to W10 gauge southeast to where it joins the existing W10 gauge Birmingham - Derby line. W7 gauge exists northwest of EMIP to Crewe.

Road Infrastructure

9.11 The site is bordered by the strategic road network to both the north and the east of the site (the A50 and A38). The site does not have any existing access to either of these roads and current masterplan options propose access via a new junction on the A50 and direct access onto the A38/A50 junction. The DIRFT site assessment (2012) also noted that the Highway Agency (now Highways England) had raised concerns about the safety implications of the potential access arrangements and the congestion levels that could result.

9.12 Existing public transport in the area is limited to longer distance services and express routes between settlements. Investment in new bus services would offer the potential to secure sustainable links to nearby settlements such as Burton and Derby.

Environmental

Landscape/Visual

9.13 The site does not contain or lie close to any statutory landscape areas such as National Parks or Registered Parks or Gardens. With the exception of existing development on site, the landscape is relatively flat and open predominately comprising large agricultural fields.

9.14 The visual impact arising from SRFI development is likely to be significant most obviously from the perspective of existing residential properties located around the

edges of the site and public footpaths that run to the site boundary. The edge of Etwall and Egginton – the nearest villages to the site approximately 0.5km and 0.7km away will have part direct and part filtered views of the development. Other villages further away are likely to be partially or fully obscured by intervening vegetation. Others receptors such as road users may experience an impact; however, this is something that would need to be confirmed as part of additional survey and site assessment work.

Heritage

9.15 There are no designated heritage assets on the site although there are numerous Conservation Areas which surround the site; three of which have direct views into the site. These include the Trent and Mersey Canal Conservation Area - an important ecological corridor and popular route for walkers, anglers and cyclists which presents views towards the site at various points along the canal; Repton Conservation Area, approximately 2.3km from the site which has views towards the site from the northern edge of the Conservation Area; and Newton Solney Conservation Area which lies approximately 2.6km from the site at its closest point and has some long views across the site. The only listed building which has any potential relationship with the site is Willington House Farmhouse (Grade II Listed) on Etwall Road.

9.16 The prevailing cultural heritage of the site and immediate surroundings does not indicate that the SRFI development would present any significant adverse local impacts. A geo-physical survey over part of the site found only limited evidence of archaeological assets to be preserved with modern activities likely to have removed any archaeological remains over slightly more than a third of the site.

Air Quality/Noise

9.17 The site is fairly well isolated with only those residential properties which border the site likely to be affected by the proposals. With the proposed site access being identified at the opposite end of the site from these properties, no significant air quality or noise impacts are likely to arise from the development. The site is not located within an Air Quality Management Area.

Biodiversity

9.18 The site consists primarily of large arable fields with associated hedgerows and narrow field margins with strands of semi-natural woodland and areas of grassland and tall ruderal vegetation. A number of ponds exist within and outside the site. Surveys undertaken in 2013 indicate great crested newts are not present on the site; however the scoping opinion for the SRFI proposals indicates that subsequent surveys have revealed the presence of a small population of two great crested newts to be present in two ponds in woodland located in the southern part of the site. Other surveys reveal that presence of bats, reptiles (grass snake, common lizard and slow worm), a wide assembly of winter birds (of no more than county level value) and common invertebrates. Redevelopment of the site for a SRFI is likely to give rise to some significant impacts that will need to be mitigated.

9.19 The nearest statutory designated site is Hilton Gravel Pitts SSSI approximately 1.4km to the north west which is designated for its range of breeding birds and overwintering

wildfowl. The designated site is not considered to provide significant constraints to development.

9.20 No detailed agricultural land classification surveys are publicly available but the scoping report indicates detailed surveys of similar land locally have identified Subgrade 3b (moderate).

Land Use Policy

9.21 The South Derbyshire Local Plan (Part 1) was adopted in June 2016 while the Local Plan (Part 2), covering non-strategic housing allocations and development management policies, was adopted in November 2017.

9.22 Local Plan Policy INF3 sets out the detailed criteria with which SRFI proposals are required to comply. The criteria references to rail access arrangements, vehicular access arrangements and a range of environmental issues.

Other

9.23 The site is located within Flood Zone 2.

Conclusions

9.24 The Etwall Common project was subject to informal consultation with a timeline for commencing formal consultation in May 2014, with submission of the application in Spring 2015. A request for a screening opinion was issued by the applicant in Summer 2014 and screening opinion was issued by PINS in September 2014.

9.25 The latest project update available on the PINS website for Etwall Common confirms that the applicant has not yet set a timetable for the project. However previous updates on the PINS website dated September 2016 confirmed that the developer was preparing a SOCC and intended to formally consult in late 2016 / early 2017. It noted that technical rail work (GRIP stages 1 and 2) were complete and the submission of the application was anticipated in the first quarter of 2017. No further update has been provided on the PINS website or the SRFI website. While this in itself is not problematic, it does suggest that the project remains in the initial phase of development, with the creation of SRFI facilities not likely to be delivered in the immediate future. Comparison with Rail Central suggests that it is at least eighteen months behind in programme terms.

9.26 In the alternatives assessment presented during the Stage 1 consultation process for Etwall Common, it was noted that this site would address more northerly markets than Rail Central, centred on an area of existing manufacturing (Toyota, JCB, Nestle, Rolls Royce, Bombardier). This is still considered to be the case, particularly in respect of Toyota whose factory is located immediately north of the site. The site also has limitations as it is further from the motorway network than Rail Central, despite there being good A Road access to the M1.

9.27 This site is considered to be a good SRFI site and it is being promoted by a reputable logistics developer. However, it is located significantly further north than Rail Central in the search area serving Derby and Nottingham to the north. Furthermore, given its distance from the strategic road network, and existing rail gauge issues, taken with the low score achieved on the scoring matrix in comparison to Rail Central, the site is not

particularly high performing for SRFI development. Notwithstanding this, should the site come forward as a SRFI, it could help to create a network of SRFI, expanding the current network further north towards Derby and Nottingham.

West Midlands Interchange

9.28 The West Midlands Interchange (WMI) site is approximately 10km to the north of Wolverhampton and immediately west of Junction 12 of the M6 in South Staffordshire.

9.29 A large proportion of the land is in agricultural use with other notable areas of mineral workings in the east and woodland (Calf Heath Wood) towards the centre of the site. Existing residential properties are located along Croft Lane and the A5 around the northern part and boundary of the site, with further farming and residential properties positioned around or close to the site boundaries.

9.30 The WMI site is currently characterised by a large area of sand and gravel mineral extraction within the east known as Calf Heath Quarry; a patchwork of agricultural fields with hedgerows and trees to the west and south of this and an area of mixed woodland known as Calf Heath Wood.

9.31 A DCO application for the development of a SRFI was submitted to PINS on 3 August 2018. This was subsequently accepted for examination by PINS on 24 August 2018. Through the DCO application, detailed information has been made available, which has permitted a more detailed review of the site.

Site Capacity

9.32 The site is approximately 297ha. The current masterplan includes a full-length rail terminal located directly adjacent to the WCML and sufficient space for up to 743,200sqm (GIA) of warehousing, as well as significant strategic landscaping and open space as confirmed in the information submitted in support of the DCO application.

Topography

9.33 The topography of the site is relatively level, with localised topographical features associated with the canal cutting, railway and quarry workings.

Rail Infrastructure/ Capacity

9.34 The site has over 2km of frontage onto a suitable main line (WCML branch via Penkridge, W10 gauge and electrified) and thus able to accommodate main line access from either direction of travel and on-site stabling/ handling sidings running parallel with the main line.

Road Infrastructure

9.35 The WMI site has direct connections to the strategic highway network via the A5, which provides onward connectivity to Junction 12 of the M6 as confirmed in the ES for the development. The main access to the WMI site for vehicular traffic would be via the A5 and would be provided between Junction 12 of the M6 and the Gailey Roundabout. The other principal means of access will be onto the A449 for vehicles travelling to the M54 and Wolverhampton. There would be a secondary access from the site to Vicarage Road which would give access to the southern element of the site, provide an access for local employees and act as an alternative route to the M6.

9.36 There is a considerable variance in levels between the site and the WCML. Providing adequate access from the rail line will therefore require significant levelling works to be undertaken.

Environmental

Landscape/ Visual

9.37 A large proportion of the land is under agricultural use with other notable areas of mineral workings in the east and woodland (Calf Heath Wood) towards the centre of the site. The existing Four Ashes Industrial Area lies outside the site to the south, contained between the railway and the canal. Existing residential properties are located along Croft Lane and the A5 around the northern part of the site, with a number of other farming and residential properties positioned around or close to the site boundaries.

9.38 The ES confirms that the character of the site is affected by a number of significant features including its current uses as predominantly arable farming, quarrying and Calf Heath Wood, as well as by the influence of features surrounding and crossing the site including the canal, railway, roads and dwellings, and the industrial area of Four Ashes.

9.39 The ES confirms that a number of significant adverse temporary effects have been identified on visual receptors during construction, notably Minor/Moderate to Major adverse effects on certain properties within view of the proposals, and Moderate to Major adverse effects on the canal towpath and Calf Heath reservoir. It is however anticipated that these effects will reduce during the completed development phase of the SRFI.

9.40 Furthermore, the ES confirms that the development will give rise to significant landscape effects (moderate to adverse) and result in significant visual impacts during construction and operation with effects reducing as new planting matures. The changing character of the site will have a significant effect on the existing openness of the Green Belt.

Cultural Heritage

9.41 The ES confirms that several historic features associated with the canal are located within or near the site. These comprise the canal itself, lock keeper's cottages including the Grade II Listed 18th century Round House located between two of the land parcels west of Gailey along the northern edge of the site. Adjacent to the Round House, Gailey Wharf is a Grade A locally listed building which includes a restored 18th century revolving crane. Furthermore, the Canal itself is within a Conservation Area that runs through the site.

9.42 The ES notes that the proposed SRFI will cause effects on the setting of the canal, however it is proposed to be mitigated through careful design of the landscaping so as to minimise the visual and setting impacts. Potential effects are identified relating to the demolition of the locally listed Heath Farm. These effects are seen to be minimised by Historic Building Recording prior to demolition. The ES confirms that no significant residual effects have been identified in relation to above ground cultural heritage.

Air Quality/ Noise

9.43 The ES confirms that the main source of existing air pollutants close to the site is road traffic in particular associated with the main road network to the north, east and west of the Site. This includes the A5, M6 and A449.

9.44 With regards to air quality, the ES confirms that negligible to slight residual effects have been identified for dust at construction stage and operational traffic on human receptors adjacent to the road network. In respect of noise, the ES confirms that noise from on-site operational activities is likely to give rise to moderate adverse effects at a number of receptors around the site.

Biodiversity

9.45 The ES confirms that there are no internationally or nationally designated sites for nature conservation located on or adjacent to the site. Without mitigation, there is the potential for development of the site to affect protected species. The ES confirms that surveys at the site have recorded the presence of several protected rare, declining or notable species including:

- Great crested newts and other amphibians;
- Birds, including breeding birds;
- Farmland birds and water birds;
- Invertebrates;
- Several species of bats; and
- Terrestrial mammals including badgers, hedgehogs and otters.

9.46 The ES confirms that there are significant residual effects in the operational phase, generally at the site or local scale (notably on farmland birds) or while habitats develop. This is balanced in part through the provision of significant new and enhanced habitat including the proposed community parks and offsite farmland bird mitigation land, to be maintained in the long term, which would provide benefits to a range of wildlife and which would be managed for the duration of the operational phase. The habitats created would address local and national biodiversity action plan targets.

9.47 Furthermore, it is noted within the ES that a number of veteran trees will be lost as a result of the proposed development.

Land Use Policy

9.48 The WMI site lies within Green Belt land and in accordance with the NN NPS[46] the Secretary of State would have to be convinced and promoters would need to demonstrate very special circumstances exist to justify planning consent for inappropriate development in the Green Belt. The NN NPS[47] also confirms that the Secretary of State will attach substantial weight to the harm to the Green Belt, when

[46] NN NPS Paragraph 5.172
[47] NN NPS Paragraph 5.178

considering any application for such development. Furthermore, the NN NPS[48] is clear that infrastructure projects may comprise inappropriate development which is, by definition, harmful to the Green Belt and for which there is a presumption against development, except in exceptional circumstances.

Other

9.49 According to the Environment Agency flood maps for planning, the WMI site is located within Flood Zone 1 and therefore has a 1 in 1,000 annual probability of tidal/ fluvial flooding. Notwithstanding this, Environment Agency data suggests that the site may be susceptible to surface water flooding.

Conclusions

9.50 On the scoring matrix, the site scored 9 points. Measuring 297Ha, the site is a considerable size and has minimal constraints that could restrict the future delivery of the site. Notwithstanding this, there is a significant level change between the WCML and the surrounding site area. Gaining suitable rail access will therefore require significant levelling works to be undertaken. From information submitted in support of the DCO application it is understood that this level change can be addressed.

9.51 The ES for the development discusses the various impacts that are a result of the proposals. These primarily include adverse impacts on heritage, ecology and nature, landscape and noise which the proposals have sought to mitigate and minimise where possible in accordance with the NN NPS.

9.52 The key differences in the scoring of the site against the Rail Central scheme are that WMI has closer access to the Motorway, whilst Rail Central has access to two W10 rail lines.

9.53 Having access to two W10 railway lines allows Rail Central to offer services to the emerging Express Freight market, which allows it to better utilise the faster moving WCML. This is a clear distinction between the two sites which suggests that Rail Central is more adaptable to anticipated future changes in the rail freight market.

9.54 Whilst access to the motorway is closer at the West Midlands Interchange scheme, this is only marginally better than the Rail Central scheme, where routes utilise A roads and do not pass through predominantly residential areas. Conversely, access to two W10 rail lines is considered to be a much greater advantage.

9.55 Furthermore, from a planning policy perspective, the WMI is located within the Green Belt. This sets a requirement on the DCO application to demonstrate very special circumstances for the release of land from the Green Belt. This factor further separates WMI and the Rail Central scheme, with Rail Central being preferable from a planning policy position.

9.56 Providing that the planning basis for providing a SRFI on land in the Green Belt can be adequately justified through the demonstrated of very special circumstances, WMI is a relatively high scoring site. WMI would seek to serve a more northern markets and and would expand the network of SRFIs between the North West and the Midlands.

[48] NN NPS Paragraph 1.78

Kilsby, North

9.57 This site is located approximately 5km to the south east of Rugby. It was also identified in the DIRFT III Alternative Site Assessment as Site 6 Kilsby North. The site area is approximately 238Ha.

9.58 The southern area of the site would have limited capacity for new trains as freight trains would need to use the WCML which is faster moving and less suitable for standard freight trains, other than at night. The northern section is considered to be capable of accommodating a limited form of rail freight development. However, the shape of the site creates limitations on rail layout which would affect path availability for other passenger and freight trains, and leaves little site capacity to accommodate warehousing as well as an intermodal facility. The details of the site are assessed below, although the DIRFT III Assessment discounted the site from its short list stage on the basis of the restricted nature of the site for rail access and its capacity for warehousing alongside an intermodal facility.

Site Capacity

9.59 The site is approximately 238Ha in area and is therefore sufficient to accommodate a SRFI. The site is primarily in agricultural use and is subdivided into a number of field parcels. Notwithstanding this, there are a number of small farm holdings and individual detached residential dwellings located within the site. The northern area of the site also includes Hamilton Wharf, which is a small marina, linking directly to the Oxford Canal.

9.60 Hillmorton, which is a residential suburb of Rugby, is located directly adjacent to the north west of the site. Furthermore, the settlement of Kilsby is located directly to the south of the site.

9.61 The site is not presently being promoted as a SRFI, on this basis, there is limited information regarding the possible capacity to deliver such a development. Notwithstanding this, considering the size of the site, this is not considered to be a constraint.

Topography

9.62 The site is considered to be relatively flat, higher ground is primarily located to the east of the site, which is approximately 124m AOD. From this location, the topography gently slopes downwards towards the north west, reaching approximately 102m AOD where the site intersects the Oxford Canal.

9.63 The general topography of the site is unlikely to impact upon the deliverability of a SRFI.

Rail Infrastructure/ Capacity

9.64 The WCML runs through and dissects the site; from the south east to the north west of the site. The WCML Northampton Loop forms the northern boundary of the site. The DIRFT Assessment confirmed that a new access point onto the WCML Northampton Loop line would be required, whilst the use of the existing DIRFT I crossing would also be required.

9.65 As a result and again as confirmed by the DIRFT Assessment, this would create a requirement to accommodate the rail infrastructure (including the necessary 775m siding) within the narrow triangle of land between the WCML and NLL. The limited size of this triangle (approx. 67ha) would make accommodating both 750m sidings and a terminal facility very difficult to achieve. Even shorter starter sidings (i.e. less than 750m) would be very difficult to accommodate.

9.66 Additionally, due to the variances in height between the site and the WCML, significant earth works would be required to ensure adequate rail access could be achieved.

9.67 On this basis, although the site is within close proximity to rail infrastructure, it would be difficult to achieve the necessary standards required to support a SRFI development.

Road Infrastructure

9.68 All routes bounding the site are single carriageways. Access to the M1 is currently along the A428, which becomes a dual carriageway where it meets DIRFT I. However, to access this road from the eastern section of the site will require a bridge over the railway or upgrading works to the A5.

9.69 Access via the B4038 to the south of the site is not considered suitable, this would require major road improvement works within the settlement of Kilsby. Furthermore, it is likely that the use of this route would cause a major disturbance to the settlement.

9.70 Additional assessment work may determine that access to the site could be achievable, however it is likely to require significant upgrading works to the highway network.

Environmental

Landscape/ Visual

9.71 The site does not contain or lie in close proximity to any statutory landscape areas such as National Parks or Registered Parks or Gardens. With the exception of some existing development on the site and the dissecting railway line, the site is relatively flat and open predominantly comprising large agricultural fields. The development of a SRFI site would therefore significantly impact upon the existing landscape of the site.

9.72 The most obvious adverse impacts will be experienced by occupiers of existing residential dwellings situated adjacent to the site boundary. Furthermore, visual impacts will also be experienced from the many public footpaths, which are located within and adjacent to the site.

9.73 As a result of road and rail routes being in close proximity to the site, users of these routes will see the development as they pass by, and this will result in an adverse visual impact, albeit transient for those receptors.

9.74 Through the design of the scheme, it is envisaged that some of these impacts could be mitigated, however, it is considered inevitable that some landscape and visual impacts will remain.

Cultural Heritage

9.75 There are no designated heritage assets within the site, however the Oxford Canal within the north of the site is in a Conservation Area. Furthermore, there are a number of listed buildings that are in close proximity to the site boundary. These include the following:

- A large number of primarily Grade II listed buildings within the settlement of Kilsby;
- The Grade II listed Wharf Farmhouse located directly adjacent to the north west of the site; and
- The scheduled ancient monument of Watling Street Roman Road, situated to the east of the site.

9.76 Given the proximity of these heritage assets, it is probable that a SRFI development on this site will create some impact on setting. Notwithstanding this, it should be possible to implement some form of mitigation to reduce adverse impacts. From an initial appraisal it is not evident that heritage constraints would restrict the development of the site as a SRFI, however their proximity would need to be considered in designing an appropriate scheme.

Air Quality/ Noise

9.77 For the most part, the site is relatively detached from sensitive receptors. Notwithstanding this, residential properties that do lie in close proximity to the site would be likely to experience adverse air quality and noise impacts.

9.78 Again, as with heritage implications, it is envisaged that both of these matters could be mitigated through the careful design of a SRFI development on the site.

Biodiversity

9.79 The site consists of primarily large fields with associated hedgerows and narrow field margins, with strands of semi natural woodland. There are no statutory biodiversity or ecological designations on the site or within close proximity.

9.80 Although additional assessments would need to be undertaken to ascertain the biodiversity value of the site, this initial appraisal does not demonstrate that it will cause any major constraints to the delivery of a SRFI on the site.

Land Use Policy

9.81 A small portion of the northern element of the site is located within Rugby Borough Council and is therefore covered in the Rugby Core Strategy. It is part of a wider allocation for an Urban Expansion. Adjacent to the proposed Urban Expansion is another designation, indicating the presence of a Regionally Important Geological Site.

9.82 The remainder of the site is located within the area covered by the Daventry Local Plan and the West Northamptonshire Joint Core Strategy (pre submission version). The Daventry Local Plan indicates the presence of a footpath in the vicinity of the northern corner of the site, although the policy relating to this allocation has not been saved. There are no other site specific allocations in the Daventry Local Plan. The West

Northamptonshire Joint Core Strategy contains no policy allocations for this part of the site.

Other

9.83 No relevant extant planning permissions or current planning applications have been identified. However, the Council refused an application for 99 dwellings on the southern area of the identified site in November 2015 (Daventry District Council ref. DA/2015/0830). The application was refused for being outside the settlement boundary, consisting of unsustainable development, design grounds and for its impact to surrounding landscape and heritage assets. This indicates that in bringing forwards a SRFI on the site, the development would need to overcome a number of possible constraints.

9.84 The entirety of the site is located within Flood Zone 1 and therefore has a 1 in 1,000 annual probability of tidal/ fluvial flooding.

Conclusions

9.85 This site scored 9 points on the scoring Matrix. It is clearly a strong site which has the characteristics of a good potential rail freight site.

9.86 This site was considered in detail in the DIRFT III assessment. That assessment considered a larger site, the northern part of which is included in this assessment. The southern part of the site assessed by the DIRFT III team was discounted from the analysis.

9.87 The DIRFT III assessment considered that the northern section of the site was considered to be capable of accommodating a limited form of rail freight development. However, it concluded that the shape of the site created limitations on rail layout which would affect path availability for other passenger and freight trains, and left little site capacity to accommodate warehousing as well as an intermodal facility.

9.88 This site clearly has merit as a SRFI location. However, this site scores lower than Rail Central and has acknowledged technical difficulties in delivering a similar quantum of rail served floorspace. Based on the scoring matrix and the above analysis, Rail Central appears to perform more favourably; however Kilsby North still represents a site which could complement and expand the network of SRFIs.

Land at Burbage Common, Hinckley

9.89 Consisting of an area of approximately 222Ha, the site at Burbage Common is located to the west of the M69. The north and north western boundary is defined by the Leicester to Nuneaton railway line, which has the capacity for W10 gauge trains. The settlement of Hinckley is located approximately 3km to the west of the site.

9.90 Notification has recently been submitted to PINS by DB Symmetry (Hinckley) Limited confirming the intention to submit a DCO application for a SRFI on the site. The application website confirms that statutory consultations are planned for winter 2018. Furthermore, the PINS infrastructure website confirms that the DCO application will be submitted in Q2 of 2019. Information presented on the PINS website states that the proposals are to include railway sidings and a freight transfer area alongside the two-

track railway between Hinckley and Leicester and a dedicated road access directly from junction 2 of the M69 motorway comprising the addition of a northbound off-slip and a southbound on-slip to this junction, which currently caters only for motorway traffic heading to and from the north.

9.91 Assuming the proposed vehicular access arrangements from the M69 are achievable and viable, the site scores well in the assessment.

Site Capacity

9.92 The site is approximately 222Ha and is therefore of sufficient size to accommodate a SRFI. The site is predominantly in agricultural use and subdivided into a number of different field parcels. Notwithstanding this, there are a number of singular detached residential dwellings and small farm holdings on the site. A small area within the south of the site is also occupied by a permanent traveller site. Residential dwellings associated with the village of Elmesthorpe are located to the north east of the site boundary.

9.93 As the site is in the early stages of being promoted for a SRFI, there is limited information currently available regarding its possible layout. Notwithstanding this, based on the site area it is envisaged that a SRFI can be accommodated alongside necessary mitigation measures to lessen the impact of the proposals.

Topography

9.94 The site generally slopes from around 112m AOD in the southern corner, to around 90m in the north. The M68, which runs along the sites eastern boundary, fluctuates from being above and below the general height of the site. Again, the railway line running along the sites northern and north western boundary fluctuates from being above and below the general height of the site.

9.95 The general topography of the site is unlikely to impact upon the delivery of a SRFI in this location.

Rail Infrastructure/ Capacity

9.96 The W10 gauge Leicester to Nuneaton railway line runs adjacent to the north and north western boundary of the site.

9.97 There are areas within the site boundary where the topography of the railway line and site are broadly level. Direct accesses to the railway line from parts of the site are blocked due to the location of Burbage Common Road. Adequate access should however be achievable from the northern site area. It is therefore envisaged that with some earthworks, reception lines into the site could be created. Albeit, detailed design work would need to be undertaken to demonstrate that this is feasible.

Road Infrastructure

9.98 The eastern boundary of the site is defined by the M69 with access possible from junction 2, which is located directly adjacent to the south eastern corner of the site. No detailed analysis of this junction has been undertaken, however it is anticipated that significant improvements are proposed comprising the addition of a northbound off-slip and a southbound on-slip to this junction, which currently caters only for motorway traffic heading to and from the north.

9.99 If these proposals ultimately prove unviable, the site would therefore need to gain access to the B4669 in the first instance. This would then provide onward connection to the M69. In doing so, the B4669 would need considerable improvement works. Furthermore, achieving direct access to the B4669 from the site is constrained by proximity to two existing permanent residential caravan sites and dense areas of woodland habitat.

9.100 Alternative access routes (approximately 5-10km additional distance to access J2) could be achieved at the north of the site although this area is similarly constrained by motorway embankments and a number of residential and commercial properties.

9.101 On this basis, although the strategic road network is within close proximity to the site, access to it will likely require significant investment in road infrastructure to create a suitable access. Detailed feasibility, design and mitigation work will therefore need to be undertaken to establish the means of achieving access.

Environmental

Landscape/ Visual

9.102 The site does not contain or lie in close proximity to any statutory landscape areas such as National Parks or Registered Parks or Gardens. With the exception of existing development on the site, the landscape is relatively flat and open, predominantly comprising large agricultural fields.

9.103 The development of a SRFI would be likely to affect the existing landscape of the site, in comparison to the existing nature as predominantly land in agricultural use. However, the actual impacts of this would only be established following a detailed analysis of landscape and visual impact issues.

Cultural Heritage

- There are no designated heritage assets within the site, although the conservation area of Aston Flamville is located approximately 1km to the south of the site. Furthermore, there are a number of listed buildings which are in close proximity to the site boundary. These include:

- Three Grade II listed properties to the north of the site;

- A cluster of Grade II listed properties within Aston Flamville;

- A series of Grade II and II* listed properties within the settlement of Hinckley;

- A cluster of Grade II and II* listed properties within the settlement of Stoney Stanton; and

- A cluster of Grade II properties located within the settlement of Sapcote.

9.104 It is anticipated that given the scale of the proposed site many of the views from the historic designations can be mitigated. The full extent of any impacts would however only be established following a full assessment of development on the site.

Air Quality/ Noise

9.105 For the most part, the site is fairly well isolated with only residential properties that are in close proximity to the site likely to be affected by the proposals. With regards to properties to the north of the site, it is envisaged that measures can be undertaken to mitigate against air quality and noise impacts.

9.106 However, the permanent caravan sites to the south of the site are likely to experience some detrimental air quality and noise impacts. The extent of these impacts will only be established following a detailed assessment as part of the emerging scheme.

Biodiversity

9.107 The site consists primarily of large arable fields with associated hedgerows and narrow field margins with strands of semi-natural woodland. In addition, the site is in close proximity to the following statutory designations:

- Adjacent to Burbage Wood and Aston Firs SSSI to the south; and
- Adjacent to Burbage Common and Woods Local Nature Reserve to the south.

9.108 Due to the close proximity of these designations, the design of the SRFI scheme will need to be carefully considered. However, given the size of the site, it is envisaged that mitigation measures can be implemented in the south of the site to reduce the impact on these designations.

9.109 Detailed agricultural land assessments and ecological surveys will need to be undertaken alongside the promotion of the site as a SRFI.

Land Use Policy

9.110 The site in its entirety is designated as being located within the 'Countryside'. This designation generally restricts against widespread development. Albeit, this designation does not carry the same restrictive weight as a Green Belt designation.

9.111 No relevant extant planning permissions or current planning applications have been identified on the site that would restrict the future development of the site as a SRFI.

Other

9.112 A small area within the north of the site is located within Flood Zone 2; however it is not considered that this will detrimentally impact the delivery of the site as a SRFI. The remainder of the site is within Flood Zone 1 and therefore has a 1 in 1,000 annual probability of tidal/ fluvial flooding.

Conclusions

9.113 The site generally scores well on most measures within the scoring matrix. It is at the early stages of being promoted as a SRFI by a reputable logistics developer. It is within close proximity of the strategic highway network, with proposals to secure access on to the M69, and has access to a W10 rail line.

9.114 Land at Burbage Common achieves the same score in the matrix as Rail Central, which is a reflection of the site location in proximity to important transport infrastructure and the lack of environmental constraints identified on the site. Notwithstanding this, the

site is only at the early stages of being promoted for SRFI development. As such, limited information regarding the proposals has been available to fully assess the potential SRFI scheme at Burbage Common.

9.115 However, this analysis has highlighted a number of key issues that will need to be addressed through the detailed design of the scheme. These include the proximity to sensitive biodiversity designations, impact on the permanent caravan sites to the south and the ability to find a feasible access route to the site.

9.116 Notwithstanding this, although the site has been identified within this alternative site assessment exercise, it will a serve a different area of the region being almost 50km to the north west of Rail Central.

9.117 Although the site at Burbage Common may be a good SRFI site on its own merits, this can only be confirmed upon the review of more detailed information when it is available. For these reasons and similarly to the other sites considered as part of this assessment, Land at Burbage Common could function as a complementary SRFI to the wider SRFI network, including Rail Central.

Northampton Gateway

9.118 The site is located between the M1 motorway to the east (near J15a) and the WCML to the west, to the south east of the settlement of Milton Malsor. The site is being advanced through the DCO process as a SRFI proposal by the promotors and applicant for the proposals, Roxhill (Junction 15) Ltd. The proposals have been subject to a Stage 2 public consultation process which was held between 9 October until 24 November 2017. A further focused consultation was held between December 2017 and February 2018. Furthermore, a DCO application was submitted in May 2018. This was subsequently accepted by PINS for examination in June 2018. A pre-examination hearing has been arranged for 9th October 2018.

Site Capacity

9.119 The site comprises an area of approximately 219ha (main site). The most recent masterplan shows a scheme with 5m sqft[49] of logistics space and a single connection to the NLL. In comparison, Rail Central will provide 7.4m sqft of logistics space and has two direct connections and full inter-connectivity, to the NLL. The Northampton Gateway proposal also includes road infrastructure including a new bypass to the village of Roade, improvements to Junction 15 and 15A of the M1 motorway, the A45, and other highway improvements at junctions on the local highway network.

Topography

9.120 The site generally slopes from the west to east; at its peak along the western boundary, elevations are approximately 102m AOD, falling to its lowest elevation of approximately 80m AOD with the shallow valley associated with the Courteenhall Brook along the south eastern boundary which flows to the north east.

[49] Proposals include 1.6msqft of mezzanine

Rail Infrastructure

9.121 The western boundary of the site is defined by the WCML NLL (W10 gauge) running from London to Scotland serving the West Midlands, North Wales and the North West, providing the site with excellent rail connectivity. The SRFI proposals intend to capitalise on this proximity, with direct connection to the WCML Northampton Loop (W10 gage); providing a set of three 775m reception sidings; a 775m headshunt and run round loop to permit shunting moves around the site; a three track intermodal terminal (775m); rail connections to four warehouses; and a rapid rail freight terminal. There are connections to both the southbound and northbound lines in both directions enabling trains being able to enter and leave the site in both directions.

Road Infrastructure

9.122 The proposal also includes road infrastructure including a new bypass to the village of Roade, improvements to Junction 15 and 15A of the M1 motorway, the A45, and other highway improvements at junctions on the local highway network. The information submitted as part of the DCO application indicates that J15 is operating well over its design capacity and is a congestion 'hot-spot'. The SRFI proposes an upgrade to Junction 15, lane widening and new signals at J15A and new bypass for Roade. It is asserted that highway modelling demonstrates that this package of works would remove congestion on the highway network (particularly at M1 Junction 15 and 15A and at Roade). Existing traffic would reassign to principal road networks consisting of the A508 between the A5 and M1 Junction 15 and Junction 15A and thereby lead to a consequential reduction in traffic on many of the surrounding roads.

Environmental

Landscape /Visual Impact

9.123 There is no statutory landscape designations that cover any part of Northampton Gateway other than the Roade Bypass extending into the edge of a locally designated Special Landscape Area largely located to the south east of Roade.

9.124 The ES confirms that at a local level, the effects of the development will vary on different receptors at different stages of the development process. The proposals would represent a significant change to the existing landscape not only built development but also through the provision of bunding and green infrastructure. The ES concludes that at worse the Northampton Gateway scheme will result in moderate long-term residual landscape and visual effects.

Cultural Heritage

9.125 The ES identifies 51 listed buildings within 1km of the main site along with two buildings within the main site which are considered to be non-designated heritage assets. The ES also identifies a number of heritage assets surrounding the bypass corridor. There are also three Conservation Areas and a Registered Park and Garden located within 1km of the site.

9.126 The Heritage Chapter of the ES concludes that the proposal will result in no more than a minor impact on the identified listed buildings and asserts that many of the effects have been identified as negligible.

Air Quality/Noise

9.127 In terms of noise impacts the ES suggests that no significant adverse effects are anticipated from operational rail noise or vibration, or road traffic associated with the site or the proposed Roade bypass.

9.128 There are two Air Quality Management Areas (AQMA) close to the site and the primary focus of air quality monitoring is nitrogen dioxide (NO_2). NO_2 is closely associated with major roads with the closest AQMA being on the M1 adjacent to the site and extends along the stretch of motorway running north-west from Junction 15 and around Collingtree to the east of the M1. The other AQMA of relevance is on the A45 at Wooton to the north of Junction 15.

9.129 The ES indicates that the proposals will reduce HGV miles on the national network and therefore result in potential improvements at a number of AQMA's across the UK – mostly on the strategic network and key ports. Furthermore, the ES confirms that the proposed highway mitigation measures, such as the M1 J15 and J15A improvements and a Roade by-pass will result in reduced localised emissions, thereby having a positive effect on air quality in a number of locations and communities.

Biodiversity

9.130 The site is dominated by arable farmland and boundary hedgerows, with areas of grassland, scattered woodland blocks, mature trees and ponds. There are no statutory designated sites within or adjacent to the site but the Upper Nene Valley Gravel Pits Special Protection Area (SPA)/Ramsar site is located approximately 5km to the west of the site. The Roade Cutting Site of Special Scientific Interest (SSSI), which is geological (not ecological) interest, falls within the boundary of the bypass corridor. There are no non-statutory Local Wildlife Sites (LWSs) within the boundary of the site. There are a number of potential LWSs (pLWSs) within the boundary of the site including 236/Unnamed pLWS of Highgate Wood, Roade Cutting pLWS and Roade pLWS. Protected or notable species present include badgers, roosting and foraging bats, farmland and woodland birds, great crested newts (GCN), invertebrates, common lizard, grass snake and otter.

9.131 The DCO submission documents indicate that the significant habitat losses resulting from development will be off-set through the re-creation and favourable management of hedgerows, trees, grassland and wetland features. It is indicated that where appropriate, the most sensitive habitats (hedgerows and neutral grassland) will be retained by translocation into part of the site green infrastructure. This would be a significant undertaking and appears impractical over an extensive site area. Overall, the ES confirms that the proposed development provides an opportunity to establish new habitats for nature conservation and to deliver a net gain for biodiversity in the locality.

Land-Use Policy

9.132 The South Northamptonshire Local Plan Proposals Map designates the site as being an Area of Important Local Gap. Saved Policy EV8 of the South Northamptonshire Local Plan confirms that "in order to prevent the coalescence of settlements the Council will not permit development which would significantly intrude into (…) important local gaps as shown on the proposals map".

9.133 On this basis, development within this land use designation is generally considered to be incompatible. Notwithstanding this, in drafting the South Northamptonshire Local Plan Part 2 (pre-submission draft), the Council does not intend to carry forward the principles of Saved Policy EV8. Policy Site Development Principles 1 within the pre-submission draft of the Local Plan Part 2 does however set out a number of principles to limit the coalescence of settlements.

9.134 It is anticipated that the Northampton Gateway scheme will need to have regard to these policies during the examination of the DCO application.

Other

9.135 The socio-economic information provided through the DCO submission asserts that the SRFI development could support around 7,544 additional jobs once fully operational.

9.136 For the most part, the site is located within Flood Zone 1, however the assessment and site specific modelling provided submitted alongside the DCO application indicate that small areas of the site are at an increased risk and within Flood Zones 2 and 3 (medium and high risk). The areas identified as being at increased risk from surface water flooding are limited to low lying areas of the site and the immediate corridors of existing drainage ditches/watercourses. Mitigation is proposed comprising the creation of a Sustainable Urban Drainage System (SuDS) to reduce surface water runoff rates with surface runoff restricted to existing greenfield annual flow rate with attenuation volume provided across the site. Residential impacts are identified as negligible.

Conclusion

9.137 This site scores well on most measures in the scoring matrix. It is currently being promoted as a SRFI by a reputable logistics developer. It has good access to the motorway network and access to a W10 rail line.

9.138 Northampton Gateway achieves the same score in the scoring matrix as Rail Central which is a reflection of the strategic nature and strength of this area as a location for rail freight development. This also reflects one of the limitations of the adopted methodology, in that it does not allow a fine grained enough analysis of sites in comparable areas, or as in this case, adjacent to each other. This is why qualitative analysis is provided for in the methodology. However, the national policy aim is not to develop a limited number of SRFI sites; it is to create a network of SRFIs and to ensure the growth of rail freight capacity and the associated economic and environmental benefits of this sector.

9.139 In assessing the degree and scale of environmental impact, it is important to note that a like for like comparison is difficult as the Northampton Gateway ES does not set out a standardised methodology for the assessment of environmentally significant effects. Instead different approaches are adopted across the whole of the ES resulting in a series of separate technical assessments as opposed to an ES which should be a cohesive and integrated report on the outcome of the EIA process. Many of the methodologies adopted also do not appear to have been followed through in topic assessments. The inconsistency of assessment methodology applied potentially compromises the ES and the conclusions within it. Notwithstanding this, for the

following assessment, we have largely accepted the conclusions of the Northampton Gateway ES at face value unless otherwise stated.

9.140 In appraising both schemes, it is important to note that Rail Central is almost 30% larger in site size and also delivers significantly more commercial floorspace than Northampton Gateway. Despite this, an appraisal of both schemes reveals that both are comparable in respect of environmental impacts. The environmental impact assessment in respect of air quality, archaeology, ground conditions, lighting, human health and waste all conclude that significant effects would not arise from the proposals. Both schemes identify a residual benefit in terms drainage and reduced flood risk although the residual benefit is identified as being significant for Rail Central. Both schemes are anticipated to give rise to significant benefits in respect of socio-economics and both will positively encourage the movement of freight from road to rail resulting in significant beneficial effects on HGV miles on the highway network and CO_2 emissions.

9.141 There are some key specific impacts and/or differences within certain topic areas which are worth explaining. These are summarised below:

(a) Landscape and Visual

Both Rail Central and Northampton Gateway do not affect any designated landscapes.

Northampton Gateway is located in an area between the NLL and the M1 motorway defined as "Area of Important Local Gap" within the South Northamptonshire Local Plan Policy EV7. Rail Central maintains the "Area of Important Local Gap" through significant landscape mitigation around its development zones comprising of hedgerow planting, ecological mitigation, woodland block planting, farmland and footpath diversions.

Northampton Gateway is in a rural, and slightly more contained landscape than Rail Central, though the site is influenced by urbanising features including the NLL to the east and southeast and by the M1 to the north and east and Northampton beyond the M1.

Rail Central is larger and in a slightly more open rural landscape than Northampton Gateway, though the local landscape of Rail Central does have some urbanising influences including the Northampton/Towcester Road, JBJ Business Park, and the Milton Business Park, and transport routes with noticeable traffic movement and noise from the WCML to the south, the NLL to the east, and A43 to the West. The Rail Central site does benefit from some containment being in a slight bowl of land with a ridgeline and the embankments of the WCML to the south, rising land to the south east and east and the embankments of the NLL and Milton Malsor to the north, rising land and Gayton Road to the northeast and the A43 to the West.

In terms of impacts, both schemes will have significant effects on their respective sites and immediate surroundings during construction, at year 1 and year 15, but the respective effects are limited and localised. Both schemes will

have limited and localised effects to County Landscape Character Areas (The Tove Catchment, and Bugbrooke and Daventry) though neither scheme's assessment identifies significant effects to these LCA's during construction or operation.

The relative effects of each scheme on the local landscape and landscape character are similar in level and extent (limited and localised), and are comparable. However, it should be noted that the Roade Bypass element of Northampton Gateway will add to the landscape and visual effects of this scheme, extending the overall effects of the scheme over a wider area in the vicinity of Roade and Stoke Bruerne in the south. The Northampton Gateway ES Appendix 4.4 Landscape Effects Table, and Appendix 4.5 Visual Effects Table identifies that the Roade bypass scheme will give rise to significant landscape and visual effects during construction and operation to a number of sensitive receptors including the local landscape character, residential receptors and public rights of way, which are greater than the very limited and localised landscape and visual effects resulting from the proposed works to J15a and other minor highway works included as part of Rail Central.

Considering the landscape and visual context and considering the nature, size and scale of the Rail Central and Northampton Gateway SRFIs in their own right, the visual effects are limited and localised. Significant visual effects during the construction and operational phases are anticipated to be experienced by a relatively small number of receptors overall, the majority of which are in close proximity to each site or where views may be gained from limited elevated locations overlooking each respective site. A number of these affected receptors are in close proximity to one another including a number of Public Rights of Way on elevated land overlooking the sites to the south, and to the east of Blisworth, so the geographical extent of visual effects is limited and localised. From such locations, the proposed embedded and adaptive landscape and visual mitigation of screen bunding and planting will be effective in the medium to long term in softening and screening the lower level elements of Rail Central such as acoustic barriers and service yards.

Both schemes propose areas of earth bunding and planting for landscape and visual mitigation. Since the PEIR, Rail Central has sought to refine the Green Infrastructure, ecological and landscape & visual mitigation proposals and has increased the height and extent of earth bunding, and reduced the maximum height of buildings within Zone 3a, to reduce the visual effects of the site. Rail Central is proposing sensitively designed screen bunding with maximum 1:5 gradients to outer facing slopes which takes consideration of existing land form and contouring and avoids an overly engineered appearance. Whereas Northampton Gateway appears to rely on much steeper earth bunds with 1:3 gradients, which are more engineered in appearance and therefore appear incongruous with the existing topography of the site.

In addition, Rail Central has refined its substantial Green Infrastructure, ecological, and landscape & visual mitigation proposals to further respond to local landscape character through the introduction of more regular planting

blocks, particularly to the east of the site, as well as providing: internal estate roads which will have ecological corridors that seek to replicate field edge vegetation with a ditch line and banked hedgerow; retention of existing trees and field edge vegetation where possible; and the use of predominantly native and locally occurring species throughout the scheme. The proposed scheme of Green infrastructure, ecological, and landscape & visual mitigation will also contribute to the strategic biodiversity network habitat reservoirs through the creation of neutral grassland, woodland and calcareous grassland.

The Applicant for Rail Central is providing a fund available to certain residents affected by the Proposed Development, to enable the purchase and planting of trees, or management of existing hedgerows at affected properties. This fund will be secured through a section 106 obligation as part of the DCO application. If this fund is taken up, the introduction of this additional mitigation would have a significant benefit and would reduce adverse effects.

For Rail Central and Northampton Gateway, the introduction and the effectiveness of the proposed embedded mitigation together with and the adaptive mitigation measures, mean that relatively few significant residual visual effects remain in the long term and that the proposed developments can be integrated into the landscape in the medium to long term.

In summary Rail Central and Northampton Gateway give rise to a similar level and significance of landscape and visual effects during both the construction and operational phases and both seek to employ mitigation measures which mean that relatively few significant residual visual effects remain in the long term and that the proposed development can be integrated into the landscape in the medium to long term.

(b) Ecology and Green Infrastructure

The baseline ecological conditions are similar for both Rail Central and Northampton Gateway, as are the predicted impacts. Both schemes consider that their impacts can largely be mitigated, leaving only a few residual minor adverse impacts as well as offering beneficial impacts. The ecological impact assessment for Northampton Gateway indicates that the majority of impacts are not considered to be significant and that the majority of adverse effects will be off-set in the mid- to long-term by the creation and favourable management of ecological habitat. It acknowledges that the loss of arable fields will lead to the unavoidable displacement of some protected farmland birds (the Northampton Gateway site is used by Golden Plovers, whereas the Rail Central site is not). Both schemes will have potential to affect bats, with Northampton Gateway likely to have a greater effect on badgers and GCN, and the Rail Central scheme having a greater effect on barn owl roosts and mature/veteran trees.

Both schemes demonstrate a positive net gain in biodiversity, possible largely because of provision of new habitat that is more valuable than the intensively farmed agricultural land that will be lost. However, Rail Central has undertaken a specific Biodiversity Assessment using the Warwickshire, Coventry and Solihull Biodiversity calculator and following the methods set out in Defra's biodiversity

offsetting pilot which confirms Rail Central delivers a net gain in biodiversity. The GI provision for Rail Central is designed to enhance retained vegetation, and to buffer features that are important for ecology, including the Grand Union Canal to the south. The GI will be augmented by specific adaptive mitigation that requires collaboration with ecological consultants to specifically design the habitat identified in the Illustrative Landscape Plan, so that it complements and reflects the existing local habitats. In addition to the on-site GI provision, Rail Central proposes a dedicated 26ha area for ecology mitigation located at J15a. This is considered to be an advantage over the Northampton Gateway provision where the on-site GI frequently requires habitat to fulfil landscape/screening/productive agricultural roles in addition to biodiversity. While there is loss of veteran trees, it is considered therefore that Rail Central will deliver more green infrastructure and biodiversity gains than Northampton Gateway.

(c) Built Heritage

The Northampton Gateway ES confirms that within a 1km radius of the Main Site, there are 51 listed buildings, three Conservation Areas, and a Registered Park and Garden. The ES notes that the majority of these will not be affected by the development proposals due to a lack of any visual or functional association between them but no visuals or plans are provided to support this. The ES notes that Northampton Gateway will require the demolition of two non-designated barns on the Main Site.

The Northampton Gateway ES confirms that the development will result in no more than a minor impact on the identified listed buildings and conservation areas within proximity to the site. Furthermore, many of the effects have been identified as negligible. This appears to be on an assumption that the proposed bunding will reduce or mitigate the visual effect of the development. However, there is no assessment as to the impacts of the bunding itself which could be considered to affect the heritage assets by creating an incongruous and engineered feature within the landscape. Should this assessment to be included, significant effects on heritage assets may arise.

The ES for the Rail Central scheme assesses all heritage assets within a 2km radius of the site. It confirms that adverse effects will be caused on a limited number of heritage assets as a result of Rail Central. These principally relate to the Milton Malsor Conservation Area (as a result of the Main SRFI Site) together with the Grand Union Canal Conservation Area (as a result of the highway works). The ES for Rail Central concludes moderate adverse effects on 3 (out of 203 assessed) heritage assets which are considered to be affected by the scheme, together with lower/ less significant effects to a limited number of other heritage assets. With the exception of one, these effects are indirect. This takes into account the effect of the Rail Central bunding unlike the Northampton Gateway ES.

Both schemes affect heritage assets within their immediate vicinity but due to their differing locations, different assets would be affected. The Rail Central

scheme has been robustly assessed and is supported by plans and visuals which help illustrate the level of effects identified. However, the level of effect for Northampton Gateway is potentially understated due to the lack of supporting assessment, plans and visuals within the ES Chapter.

(d) Agriculture

Northampton Gateway would affect approximately 220ha. All of this would be lost except 24ha of land which would be retained as agricultural land. Of the agricultural land to be lost, 33ha (12%) is best and most versatile (BMV) land in Grades 2 and 3a, with the remainder classified as moderate quality Subgrade 3b. This loss is assessed as a moderate adverse effect. Rail Central would involve 298ha of agricultural land, of which 89ha (30%) is BMV land, which is also considered to result in a moderate adverse effect. The extent of agricultural loss for Rail Central is a result of its size compared to Northampton Gateway but in terms of environmental impact, both result in an impact which is considered significant in EIA terms.

(e) Transport

Based on information contained within the Northampton Gateway DCO submission, the site is forecast to result in a total of 1,044 two-way vehicle movements during the AM peak hour and 1,303 two-way vehicle movements during the PM peak hour.

In comparison, Rail Central is forecast to result in a total of 1,233 two-way vehicle movements during the AM peak hour and 1,566 two-way vehicle movements during the PM peak hour. Therefore, in general terms, it can be seen that Rail Central is likely to result in a higher trip generation than Northampton Gateway. This is due to the fact that Rail Central is a larger scheme than Northampton Gateway.

The proposed mitigation associated with Rail Central is appropriate to minimise the impact of the proposals. From the information submitted as part of the DCO application, the impact of Northampton Gateway on the local highway network is intended to be mitigated.

Both Rail Central and Northampton Gateway traffic analyses have been carried out based on study areas agreed as appropriate with Highways England and Northamptonshire County Council, with capacity assessments carried out to determine where highway improvements may be appropriate. The highway improvement strategy for Rail Central includes capacity improvements at eight locations on the strategic and principal road network (including major improvements at M1 J15A), along with two road safety improvements on the A43 and a proposed foot/cycleway along Northampton Road.

In comparison, Northampton Gateway's highway improvements include major improvements at M1 Junction 15 (including improvements along the A45 and A508 approaches) and a new bypass at Roade. There are also more minor works proposed at M1 J15A, two locations on Knock Lane and 3 locations on the A508,

along with a new foot/cycleway along the A508 and further financial contributions towards other junction improvements.

Overall, the highway improvements proposed as part of Rail Central are more significant than those proposed as part of Northampton Gateway. However, this reflects the larger scale of Rail Central, and as set out in their respective assessments, both schemes are forecast to result in a net benefit to the overall operation of the highway network.

9.142 Overall, despite Rail Central delivering significantly more floorspace, both SRFI schemes have environmental impacts of a similar scale, albeit with different types of effects at different receptors. In addition, both of the proposals seek to mitigate environmental impacts to ensure they are reduced to an acceptable level.

9.143 It is also relevant to consider both schemes in respect of the operational and technical aspects being proposed within each SRFI proposal.

9.144 The table below (Table 9.2) presents a number of key differences between Rail Central and Northampton Gateway. Rail Central offers significantly more commercial floorspace than Northampton Gateway, it is also anticipated to generate more jobs (over 8,000) and generates greater economic benefits. Rail Central also provides direct access to two W10 railway lines and full connectivity between them. This enhanced flexibility and resilience in its infrastructure puts Rail Central at a distinct advantage. The Rail Central Express Freight Interchange will allow direct and quick access as opposed to Northampton Gateway which requires more time due to the need to shunt freight within the site. This will make other operations within the Northampton Gateway scheme less efficient than Rail Central. Rail Central also provides a range of additional facilities which aid the attractiveness of the SRFI as well as providing positive consequences to the efficiency of the rail network.

Table 9.2: Rail Central and Northampton Gateway Operational Comparison

	Rail Central	Northampton Gateway
Rail Connections	Rail Central has 4 main line access points onto two separate branches of the WCML (Fast and Slow Lines).	2 main line access points onto one branch of the WCML (Slow Lines).
Rail Inter-Connectivity	Full electrified inter-connectivity provided between WCML Fast and Slow Lines, maximising direct routeing opportunities to and from site onto the main line. This also enables main line access to be maintained throughout when either the WCML Fast Line or Slow Line is closed for maintenance (up to 27 separate occurrences per annum).	No direct interconnectivity provided between WCML Fast and Slow lines, access to Fast lines available via at-grade crossings 4 miles to the south (Hanslope Junction) and 20 miles to the north (Hillmorton Junction) Northampton Gateway would lose main line access in the event of maintenance activity blocking access to both main line

		connections on the Slow Lines.
Intermodal Terminal	Prior to first occupation, sufficient infrastructure will be constructed to enable the intermodal terminal to serve at least four trains per day. The phased expansion of the intermodal terminal will then take place in accordance with meeting demand and rail freight traffic growth. This approach was successfully utilised at Hams Hall SRFI which delivered its intermodal terminal in phases with each phase added in response to demand and traffic growth. The development of iPort SRFI is also being delivered in phases.	Rail Terminal will be constructed prior to first occupation of any development.
Overall Commercial Floorspace	702,097 sqm (GEA)[50]	468,000 sqm (GIA) plus 155,000 sqm in the form of mezzanines
Trains per day and capacity for growth	First phase of rail operations with 4 trains per day in and out of site, growing commensurate with warehousing and interchange facilities. The GB Freight Model (used in NR Freight Market Study as endorsed by the NN NPS) indicates that 7.4m sqft of floorspace would generate the equivalent of 13 intermodal trains per day in and out of site.	Rail Operation Report suggests that 4 trains per day each way will be achieved growing to up to 16 trains per day as the critical mass of development grows. However, this may be overstated because on a like-for-like comparison, the GB Freight Model output suggests the equivalent level of rail freight traffic from 5m sqft of floorspace would be 9 trains per day in and out of the site.
Rail Connected Floorspace	Approximately 179,250 sqm (GEA) would be rail connected. The level of rail-connected warehousing at SRFIs varies considerably from no provision at Hams Hall SRFI, iPort Doncaster,	The illustrative masterplan confirms that Units 4 – 7 could be rail connected. This would equate to 303,143 sqm (GIA)

[50] In preparing the DCO application, the Applicant for the Rail Central site has taken the view that it is appropriate to use Gross External Area (GEA) as a parameter. The maximum area that could be achieved from the development is set out on the Parameters Plan. Northampton Gateway which has taken a different approach for their submission, using Gross Internal Area (GIA). This approach provides maximum flexibility with regards to building out the development as the requirements of each occupier will vary.

	East Midlands Gateway and Howbury Park; limited provision at Mossend, 3MG and BIRFT; and greater provision at DIRFT and Northampton Gateway. Providing a diversity of SRFI facilities in functional terms will help maximise choice to occupiers.	
Electrification	Electrification is proposed from the outset of the development in agreement with Network Rail.	Electrification is proposed from the outset of the development.
Express Freight Terminal	Rail Central has direct and dedicated electrified access on WCML (Fast Lines) for express freight trains, allowing trains to arrive and depart in either or both directions with no intermediate shunting. Internal electrified access to the WCML Slow Lines provides continuity of access when the Fast Lines are closed for maintenance. The express freight facility will be delivered in accordance with a programme agreed with Network Rail in order to minimise disruption to rail services. The DCO includes drafting requiring a commitment to including the express rail freight facility, in agreement with Network Rail (Network Rail).	Northampton Gateway requires intermediate shunting of all express freight trains between the main line and the terminal, significantly slowing the processing of trains through the terminal.
Sidings	Rail Central has 10 x 775m sidings available (6 accessible by cranes), plus additional sidings serving the rail-linked warehouse units, express freight terminal and train maintenance depot. Provision of 4 electrified reception sidings (2 on either side of the site plus the interconnecting trackwork) allow for electric trains and multiple units to use the site.	Northampton Gateway has 6 x 775m sidings (5 accessible by cranes assuming outer line is electrified), plus additional sidings serving the rail-linked warehouse units, express freight terminal and aggregates terminal. Reception sidings assumed to be electrified outside of the intermodal terminal, express freight terminal, warehousing and aggregates terminal.

	In terms of the number of sidings provided, Rail Central has taken the decision to forego floorspace for providing additional space for sidings, to maximise the operational flexibility available to operators, and to provide the capability for future growth as per the NN NPS.	
Other rail-related facilities	Operational Control Room. Rail Central proposes a Train Maintenance Depot allowing trains to be stabled, maintained and fuelled on site rather than at off-site locations. This reduces the need for trains to be moved off site, maximising the efficient use of available mainline capacity. Early engagement with NR identified opportunities to minimise movement of light engines and empty stock to and from remote depots elsewhere on the network, which would be a less efficient use of main line capacity. The Train Maintenance Depot provides a facility enabling train operators to undertake crew changes, servicing and repair of traction and rolling stock without having to leave the site or incur empty running to and from site. This enhances the centralised and integrated suite of rail-related facilities on site and helps make best use of capacity on and off the main line.	Operational Control Room.
Aggregate Rail-head	Not provided. In reviewing the various options for rail freight facilities and services on site, it was concluded that the additional HGV movements and associated dust /	Provided. The proposals for Northampton Gateway make explicit provision for an aggregates terminal within the intermodal terminal area.

	noise which would arise from handling aggregates traffic (up to 200 HGV trips per 2,000 tonne train), plus the pathing of heavier and slower Class 6 aggregate trains on and off the main line, would not be desirable.	
GRIP Feasibility	Network Rail has informed the design of the rail infrastructure and main line connections; the assessment has progressed to GRIP2 validating technical and operational feasibility of the main line connections.	No reference has been provided to any GRIP feasibility work having been undertaken with/by Network Rail.
Transport Access	Direct access onto the A43 (T) and providing connectivity to J15a of the M1. The A43(T) provides an alternative strategic route on the trunk network and connections to the M40 and to surrounding towns such as Towcester.	Direct access onto the A508, providing connectivity to J15 of the M1.
Sustainability	The current proposals for Rail Central exceed that offered by Northampton Gateway. Main commitments/ targets are: Committed to achieving a BREEAM Excellent rating New Buildings will target a 20% reduction in carbon dioxide emissions over Building Regulations Electric vehicle Charging infrastructure	Following completion of a BREEAM 2018 Design and Procurement Pre-Assessment, the scheme currently achieves a translatable BREEAM 'Very Good' rating. In respect of sustainability, very little in the way of deliverables are committed to. It is however noted that Solar PV systems could be incorporated within the development. This could include the provision of Battery Energy Storage System (BESS), which could provide an energy supply for electric vehicles to operate on the site. The buildings are aiming to deliver a 9% improvement over current Building Regulations.
Road to Rail	In the road-only comparator scenario, the annual distance travelled by HGV across the road network equates to 263,550,000 HGV.km. With the Rail Central SRFI fully operational, this reduces to	No reference to or assessment of GHG emissions in the assessment of likely significant effects associated with the construction or operational phases of the proposed development is carried out in the DCO submission.

	210,605,000 HGV.km per year, saving of circa 52.95 million HGV.km per year, and equivalent to a 20.1% reduction.	
Economic Benefits	Estimated 8,090 gross full time equivalent (FTE) jobs. This takes account of: The lower employment densities typically seen in rail-connected warehouses, due to the need to accommodate rail infrastructure; and The absence of detailed design and layout information at the current point in time, with internal arrangements dependent upon the operational requirements of the end user.	Estimated 7,400 FTE jobs accommodated through provision of 623,000sqm floorspace. This takes account of: The proposed mezzanine, albeit a lower employment density has been assumed for this space (155,000sqm).

9.145 The other difference between these two sites is their distance to the strategic highway network. Whilst Northampton Gateway is closer to J15 than Rail Central is to J15a, the differences in distance are very limited (J15 is located directly adjacent to the Northampton Gateway site and Rail Central is within 2km from Junction 15a) and in practical terms both sites have good connections to the strategic road network. Both routes are on higher class roads and will not involve passing through residential communities. However, Rail Central is positioned on the A43 (T) and benefits from significant highway resilience offering alternative access arrangements if necessary.

9.146 Bringing all the analysis together, Rail Central is larger than Northampton Gateway in commercial terms and has the ability to connect to the WCML, as well as the NLL. Along with additional facilities such as the Train Maintenance Deport, this presents additional market, operational and technical advantages over Northampton Gateway which makes Rail Central more resilient, flexible and more adaptable to the changing rail freight market. Therefore, it is concluded that the Rail Central site is the better performing SRFI site. However, it is recognised that Northampton Gateway is being formally pursued in addition to the Rail Central site. Both schemes could contribute towards creating a network of SRFIs and the clustering of such infrastructure in this particular location. This scenario has therefore been the subject of cumulative impact assessment in the ES.

10. Overview and Conclusions

10.1 The NN NPS is clear that the Government has concluded there is a compelling need for an expanded network of SRFIs and not having such a network is not an option. In that context, this assessment has applied several distinct stages of work to identify possible alternative SRFI sites across a broad search area. It has employed a sieve mapping technique using a GIS system over the East and West Midlands. This was used to identify sites with good rail access, close to motorway junctions and with very few environmental constraints.

10.2 The sites were then scored using a common scoring matrix, which was designed to identify the best performing potential rail freight sites. The scoring prioritised factors including proximity to motorways, access to high gauge rail lines, local access routes, site levels, shape, size and proximity to sensitive land uses.

10.3 Further sites not identified in the screening exercise but which have been suggested by local representation or short listed in other similar studies were included in the analysis and scored using the same matrix.

10.4 The scores achieved by each of the sites identified were then reviewed and the highest scoring sites selected for comparative analysis. This process was subjective and focussed around the topics identified as important in the scoring matrix. The comparative analysis not only assesses the locations in terms of SRFI operations and environmental impacts, but also concludes with an understanding of the possible role each site would perform in operating as a network of SRFI facilities as required by the NN NPS.

10.5 The assessment has demonstrated that, despite the large area of search, the development opportunities for SRFI proposals are limited. A total of 25 locations were identified as satisfying key SRFI characteristics as defined by the NN NPS. Of these, only five locations (20%) present realistic SRFI opportunities and were identified for further comparative analysis. Within this context, it is not surprising, therefore, that four of the five alternative sites assessed for further comparative analysis are the subject of on-going DCO applications for SRFI proposals and each has the potential to provide SRFI facilities.

10.6 Indeed, this in itself demonstrates the rigour of the assessment methodology and is a reflection of the East and West Midlands being a significant area of developer interest to deliver a network of SRFI to meet burgeoning demand. It is also reflective of the NN NPS which makes it clear that it is for the market to determine the viability of particular proposals. All shortlisted sites comprise greenfield and all would result in the loss of agricultural land with associated biodiversity effects. Comparison of environmental benefits is difficult due to the size and scale of SRFI development and the individual nature of each candidate site. Each give rise to environmental effects of similar scales, albeit with different effects across different disciplines and at different receptors. It is not the case that one site is clearly preferable to another, in terms of development effects. It is important to note that the delivery of a single additional SRFI will not meet the objectives of government policy nor does the NN NPS require applicants to

demonstrate that their sites are the best available alternatives. Indeed, where the NN NPS policy tests are met, it would be appropriate for all sites to come forward to fully respond to Government policy to assist in creating the network of SRFIs needed.

10.7 Overall, therefore, it is the conclusion of this assessment that there are very limited SRFI opportunities within the broad search area. Comparisons of environmental impacts are difficult, due to the contrasting scale of each site and the different impacts which arise as a result. None of the other sites, however, creates development opportunities with clear environmental, operational or market benefits equivalent to Rail Central.

10.8 Four of the five sites which present realistic development SRFI opportunities are the subject of developer interest and are being pursued through the DCO process. Three of these locations would serve different areas of the Midlands (and potentially beyond) and do not present realistic alternatives. They would, however, provide complementary facilities to Rail Central and expand the SRFI network as required by the NN NPS with the overriding objective of securing access to the rail network and fostering the transfer of freight from road to rail to support economic growth in an environmentally responsible manner.

10.9 The study concludes that there are two clear top performing sites – Rail Central and Northampton Gateway that would seek to serve broadly the same core catchment area. They score the same using the scoring matrix but there are differences in performance between these two sites which allow them to be distinguished.

10.10 Northampton Gateway has very good access to the strategic road network. However, whilst it is closer to the motorway than Rail Central, this in itself is not a major distinguishing factor between these two sites. Environmental impacts are comparable albeit each project results in different effects at different receptors. Rail Central does however, have the ability to directly connect to the WCML, as well as the NLL and this presents, along with its additional infrastructure, enhanced operational and technical advantages over Northampton Gateway which make it more resilient, flexible and more adaptable to the changing rail freight market.

10.11 On this basis, it is concluded that the Rail Central site is the better performing SRFI site. However, it is recognised that Northampton Gateway to be consented in addition to Rail Central. Northampton Gateway could also be complementary to Rail Central and, along with Rail Central, could contribute to the required network of SRFI's. This scenario with Northampton Gateway also being consented and delivered has therefore been the subject of cumulative impact assessment in the Rail Central ES.

Appendix 1: Plan 1 – Catchment Area

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Rail Central Site

Region

Client:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central

Drawing:
Plan 1 - Catchment Area

Scale:
NTS@A3

Status:
Draft

Project Number:
ASHA3002

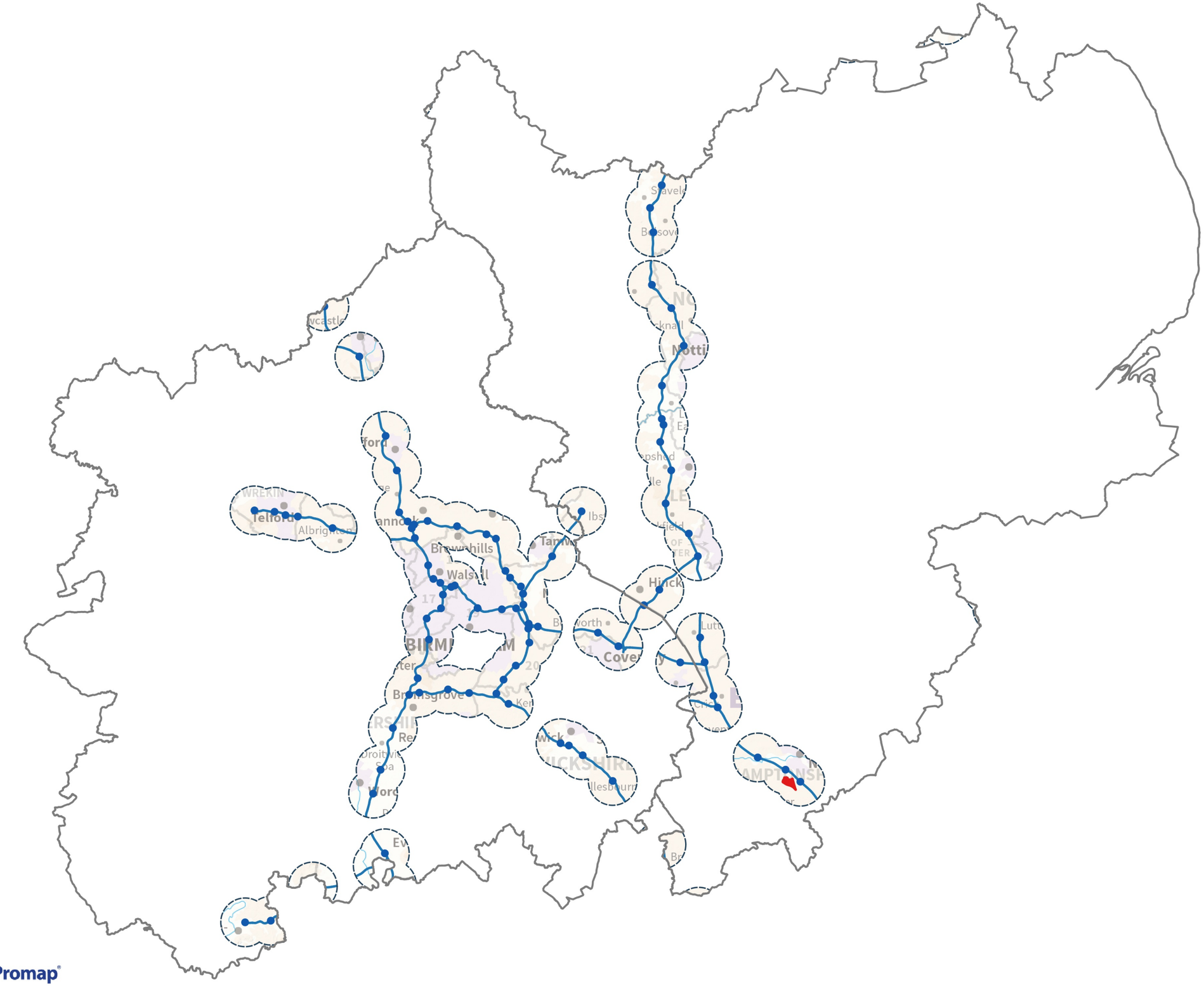
Drawing Number:
3002_101

Date:
22_11_2016

Revision:
1.2

Turley

Appendix 2: Plan 2 – Motorway Junction Buffer



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Rail Central Site

Region

Motorways (OS Open Data)

Junctions

5k Buffer from Motorway Junction

Client:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central

Drawing:
Plan 2 - Areas within 5km of a Motorway Junction

Scale:
NTS@A3

Status:
Draft

Project Number:
ASHA3002

Drawing Number:
3002_101

Date:
22_11_2016

Revision:
1.2

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Appendix 3: Plan 3 – Railways within Motorway Junctions

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Rail Central Site

Region

Railway

5k Buffer from Motorway Junction

Client:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central

Drawing:
Plan 3 Railway line overlay

Scale:
NTS@A3

Status:
Draft

Project Number:
ASHA3002

Drawing Number:
3002_102

Date:
22_11_2016

Revision:
1.2

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Appendix 4: Plan 4 – W8 Gauge Railways and Above

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Rail Central Site

Region

W8 / W10 / W12 Gauge

Area for Site Search

Client:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central

Drawing:
Plan 4 - W8 Gauge and above

Scale:
NTS@A3

Status:
Draft

Project Number:
ASHA3002

Drawing Number:
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Date:
22_11_2016

Revision:
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Appendix 5: Plan 5 – Key Environmental Designations

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- Rail Central Site
- Region
- Flood Zone 2
- Flood Zone 3
- Key Environmental Designations
- Search Area
- Rail Gauge W8 and above / Greater than 795m

Client:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central

Drawing:
Plan 5 - Key Environmental Designations

Scale:
NTS@A3

Status:
Draft

Project Number:
ASHA3002

Drawing Number:
3002_105

Date:
22_11_2016

Revision:
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Appendix 6: Plan 6 – Excluding Environmental Designations

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Excluded Environmental Designations (White Areas)

Rail Central Site

Region

Search Area

Rail Gauge W8 and above / Greater than 795m

Client:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central

Drawing:
Plan 6 - Excluding Environmental Designations

Scale:
NTS@A3

Status:
Draft

Project Number:
ASHA3002

Drawing Number:
3002_106

Date:
22_11_2016

Revision:
1.1

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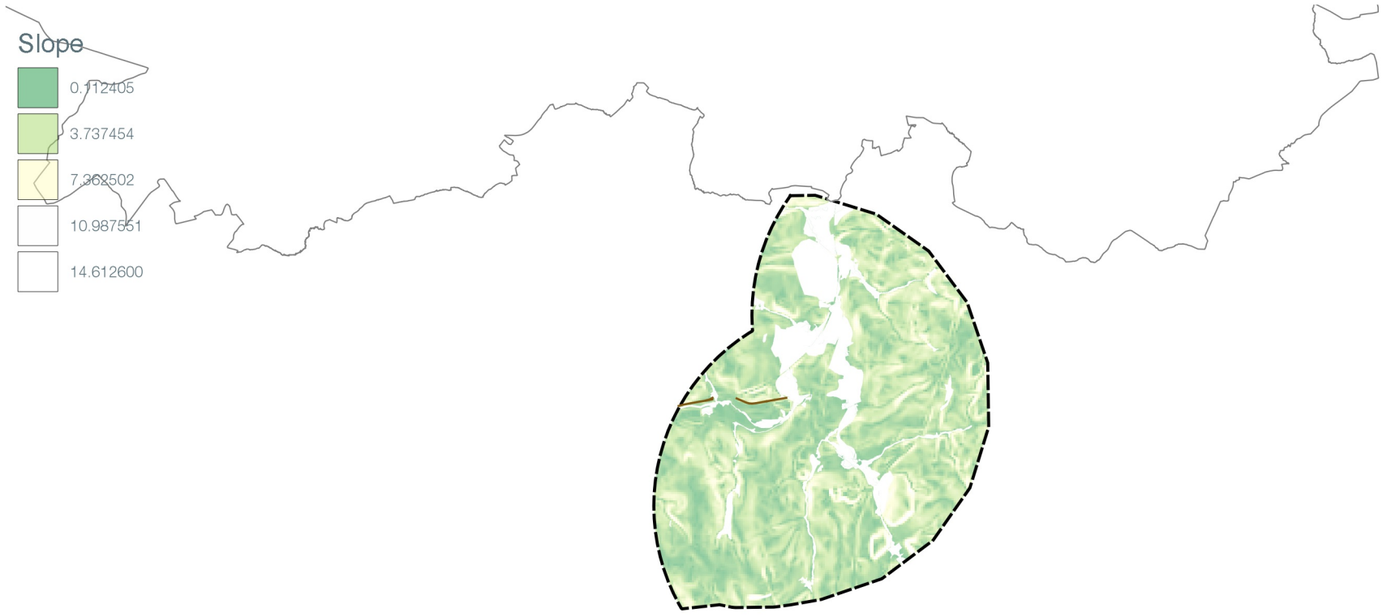
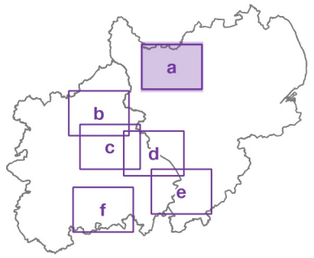
Appendix 7: Plans 6a – 6f – Excluding Environmental Designations





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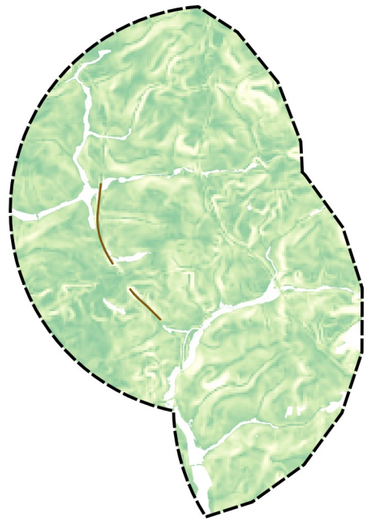
Excluded Environmental Designations (White Areas)

Search Area

Region

Rail Gauge W8 and above / Greater than 795m



Client:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central

Drawing:
Plan 6a - Key Environmental Designations

Scale:
NTS@A3

Status:
Draft

Project Number:
ASHA3002

Drawing Number:
3002_106

Date:
22_11_2016

Revision:
1.1

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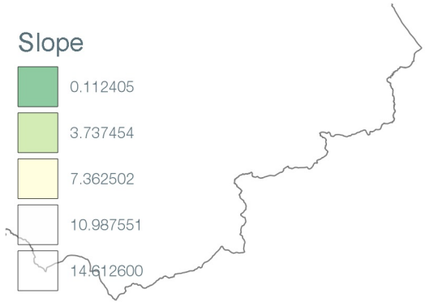

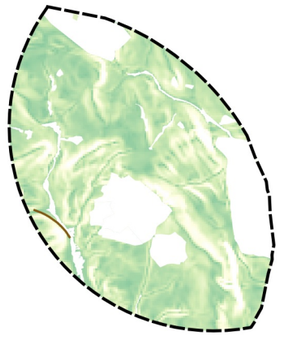

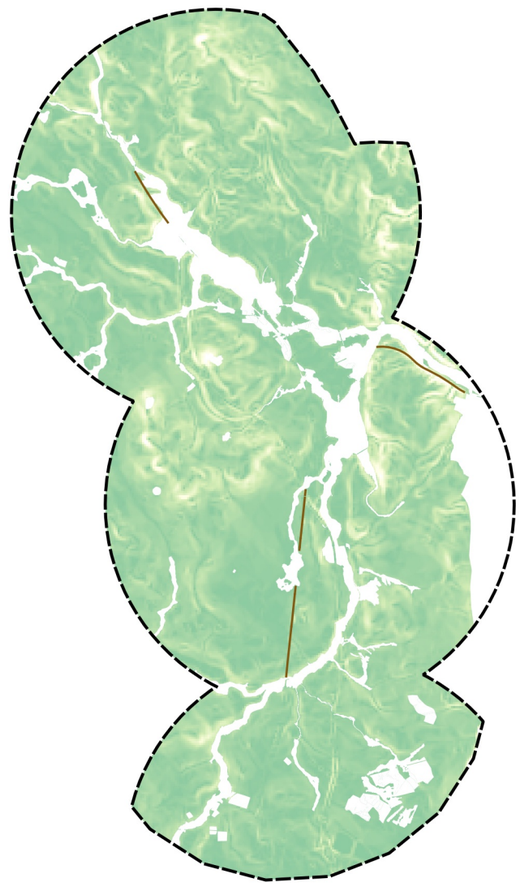

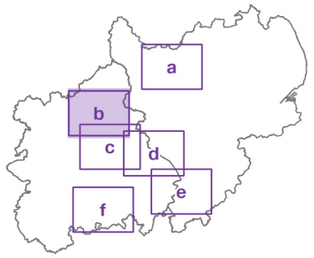

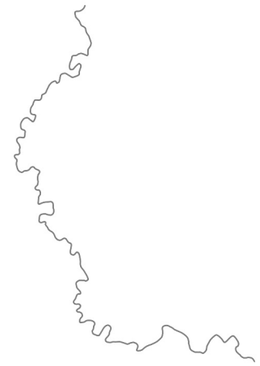

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Excluded Environmental Designations (White Areas)

Search Area

Region

Rail Gauge W8 and above / Greater than 795m

Client:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central

Drawing:
Plan 6b - Key Environmental Designations

Scale:
NTS@A3

Status:
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Slope

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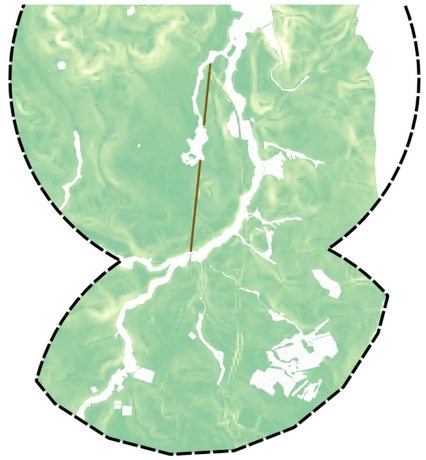
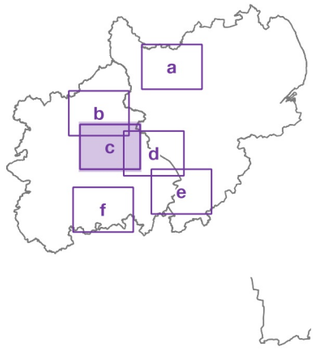
- 3.737454
- 7.362502
- 10.987551
- 14.612600





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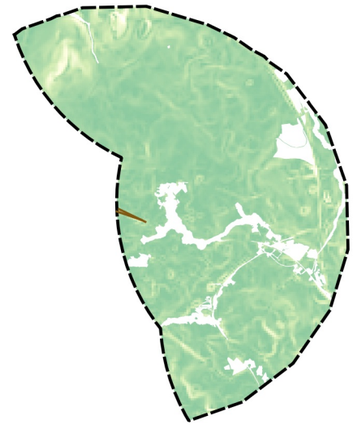
Excluded Environmental Designations (White Areas)

Search Area

Region

Rail Gauge W8 and above / Greater than 795m



Client:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central

Drawing:
Plan 6c - Key Environmental Designations

Scale:
NTS@A3

Status:
Draft

Project Number:
ASHA3002

Drawing Number:
3002_106

Date:
22_11_2016

Revision:
1.1

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Slope

- 0.112405
- 3.737454
- 7.362502
- 10.987551
- 14.612600

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Excluded Environmental Designations (White Areas)

Search Area

Region

Rail Gauge W8 and above / Greater than 795m

Client:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central

Drawing:
Plan 6d - Key Environmental Designations

Scale:
NTS@A3

Status:
Draft

Project Number:
ASHA3002

Drawing Number:
3002_106

Date:
22_11_2016

Revision:
1.1

Turley

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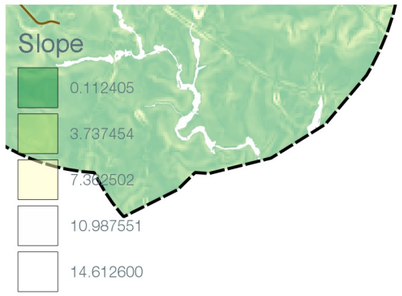

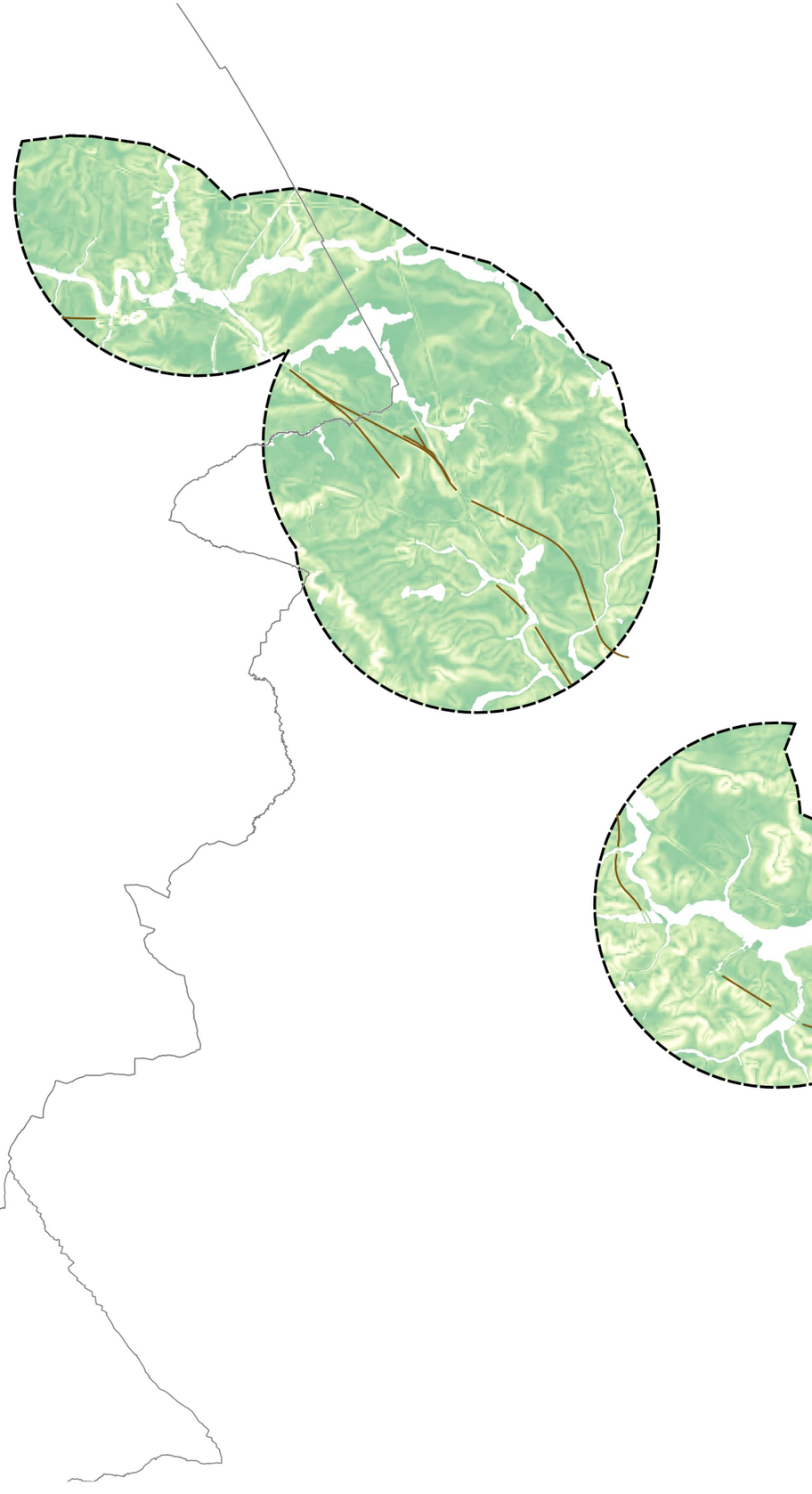

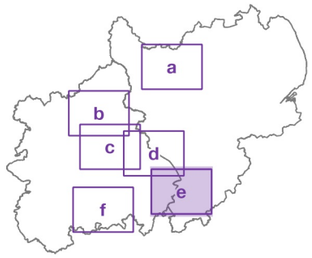

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Excluded Environmental Designations (White Areas)

Search Area

Rail Central Site

Region

Rail Gauge W8 and above / Greater than 795m

Client:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central

Drawing:
Plan 6e - Key Environmental Designations

Scale:
NTS@A3

Status:
Draft

Project Number:
ASHA3002

Drawing Number:
3002_106

Date:
22_11_2016

Revision:
1.1

Turley

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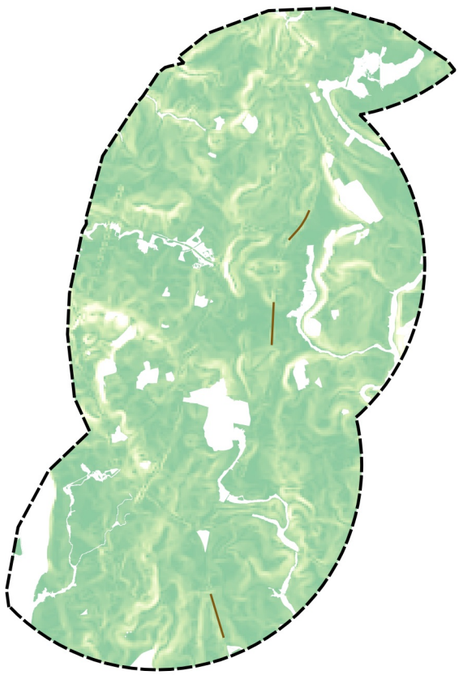
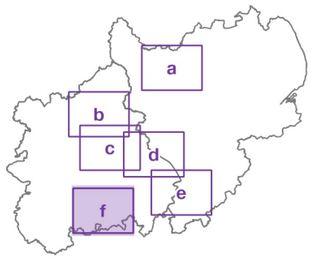
Slope

- 0.112405
- 3.737454
- 7.362502
- 10.987551
- 14.612600





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Excluded Environmental Designations (White Areas)

Search Area

Region

Rail Gauge W8 and above / Greater than 795m

Client:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central

Drawing:
Plan 6f - Key Environmental Designations

Scale:
NTS@A3

Status:
Draft

Project Number:
ASHA3002

Drawing Number:
3002_106

Date:
22_11_2016

Revision:
1.1

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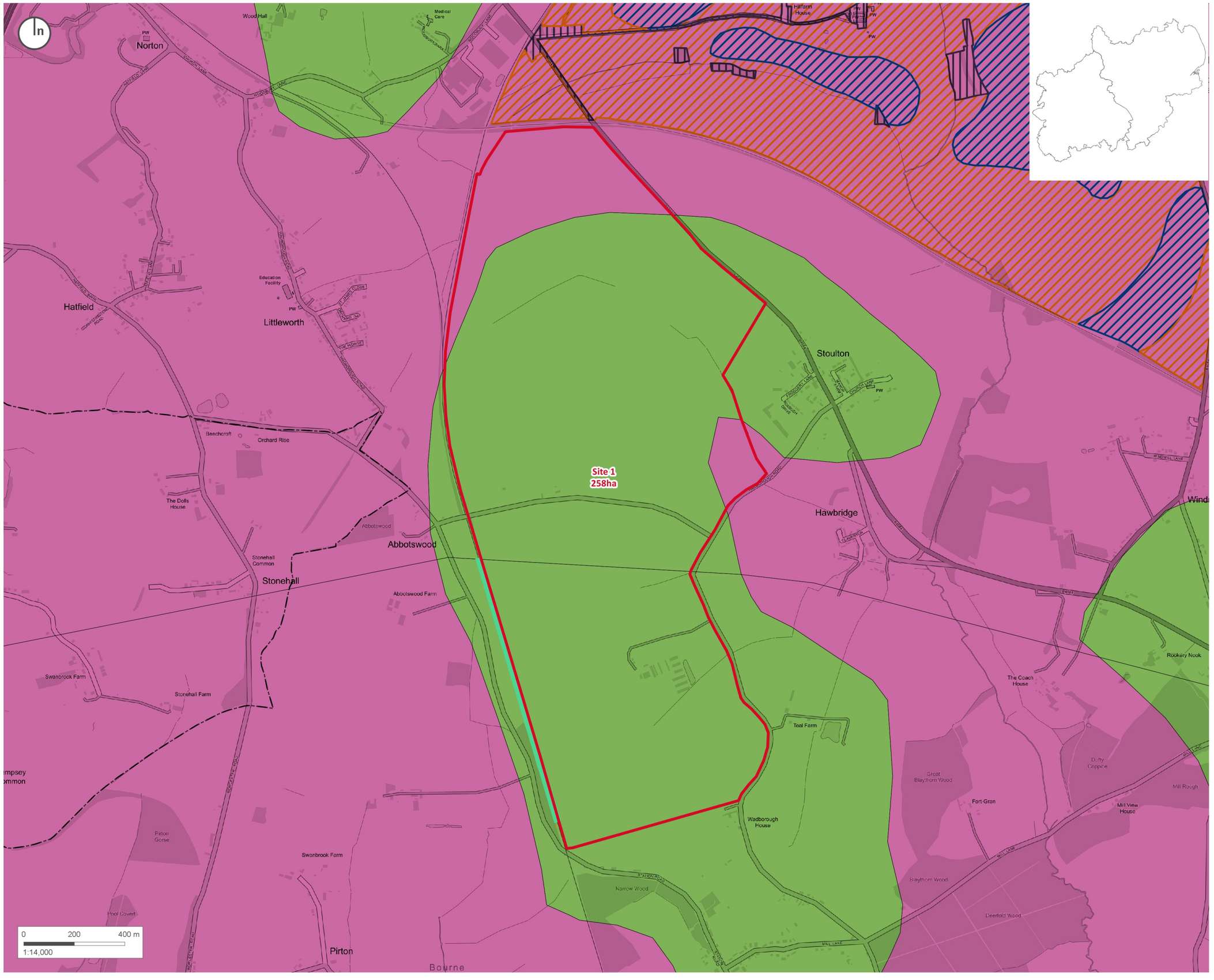
Turley

Appendix 8: Plans 7-1 to 7-25 Agricultural Land Classification



Alternative Site

Rail Gauge

W8

Background EA LIDAR (DSM)

ALC

Grade 2

Grade 3

ALC- sub

Grade 3a

Grade 3b

Other

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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 1
Wadborough Park Farm, near Stoulton, Worcestershire
Site Area - 258ha

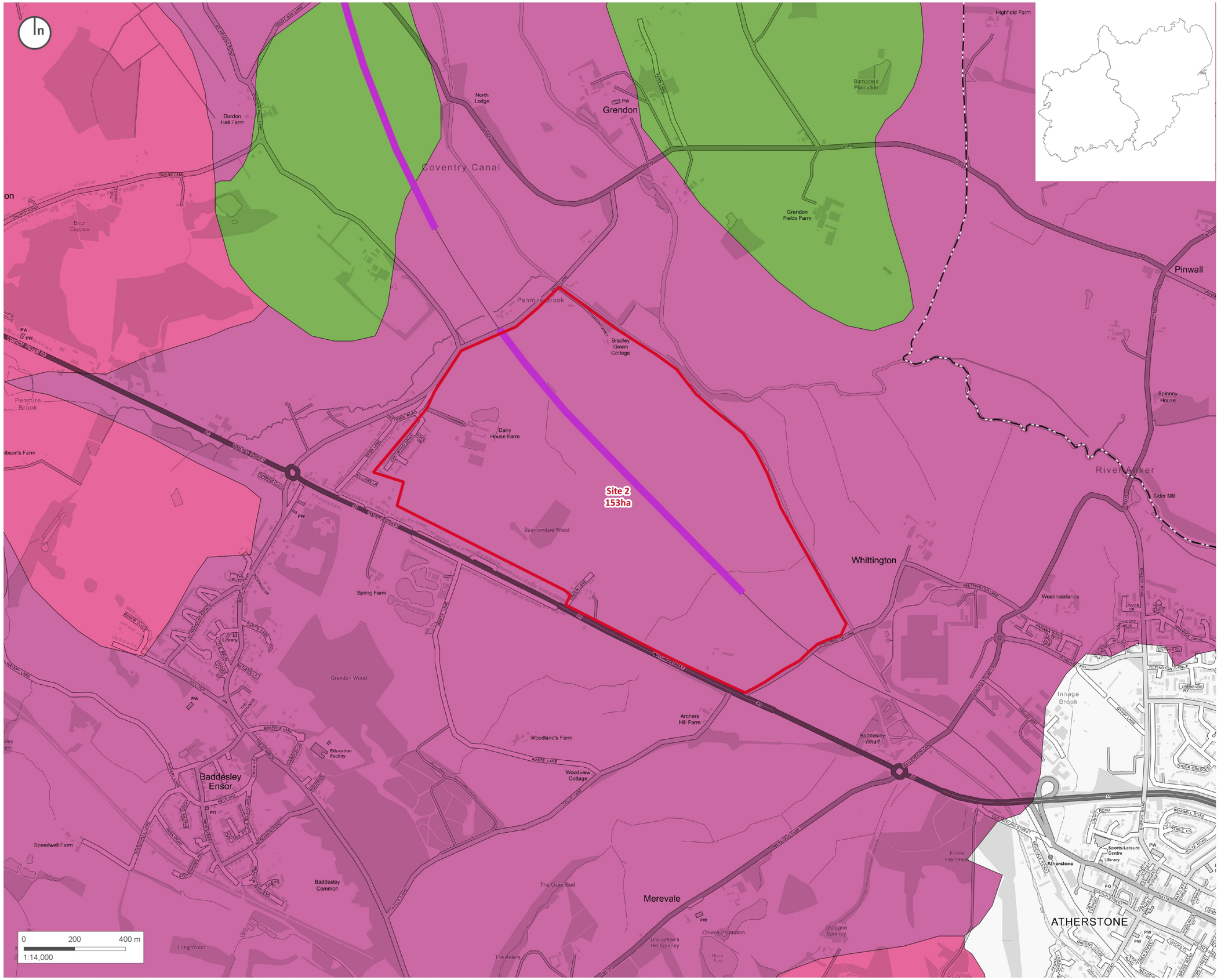
Figure No.
3002_108_(ALC) Plan 7-1

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

- Grade 2
- Grade 3
- Grade 4
- Urban

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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 2 Dairy House Farm, Grendon, near Tamworth Site Area - 153ha

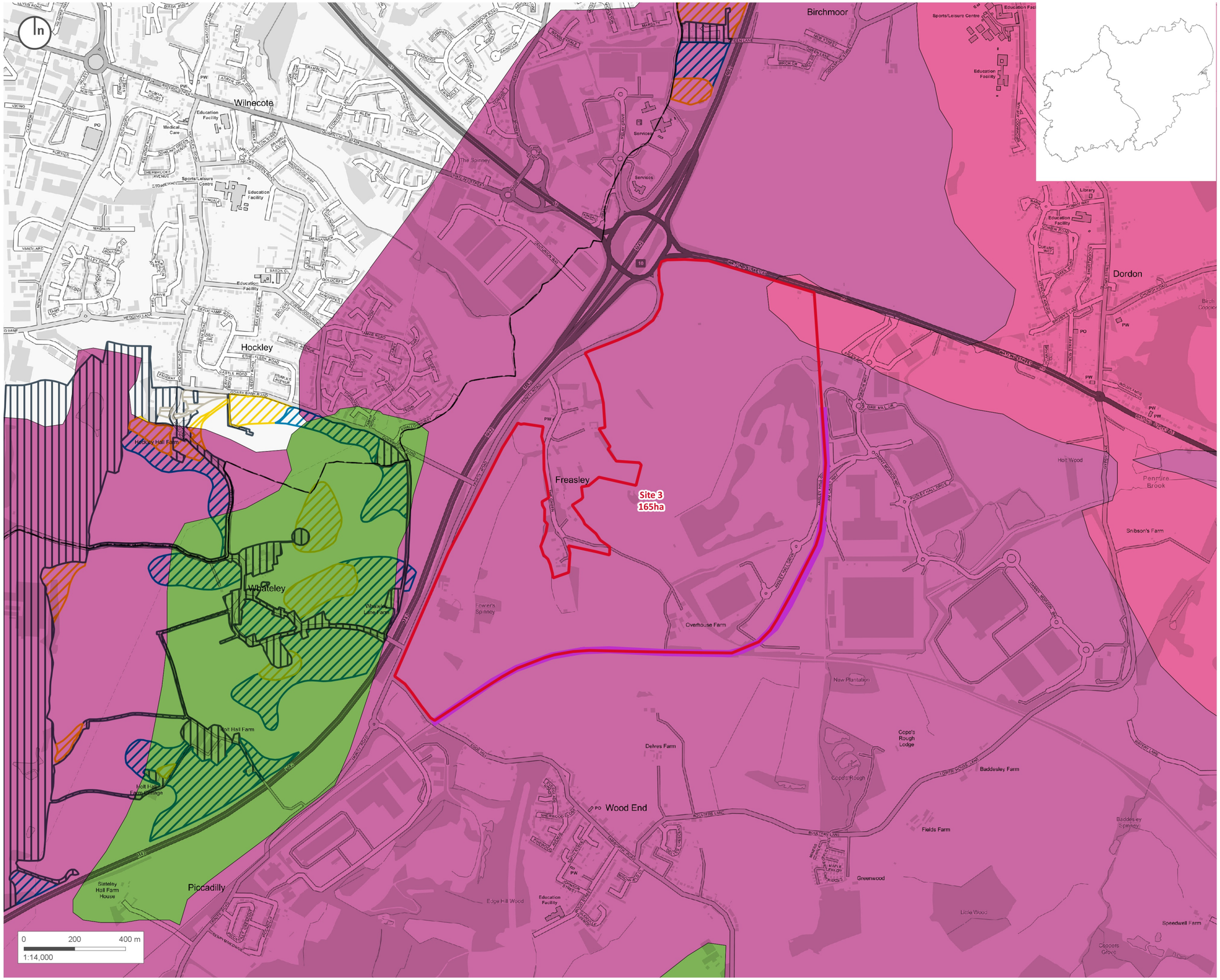
Figure No.
3002_108_(ALC) Plan 7-2

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

- Grade 2
- Grade 3
- Grade 4
- Urban

ALC- sub

- Grade 3a
- Grade 3b
- Not Surveyed
- Other

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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 3 Land adjacent to Birch Coppice, near Tamworth
Site Area - 165ha

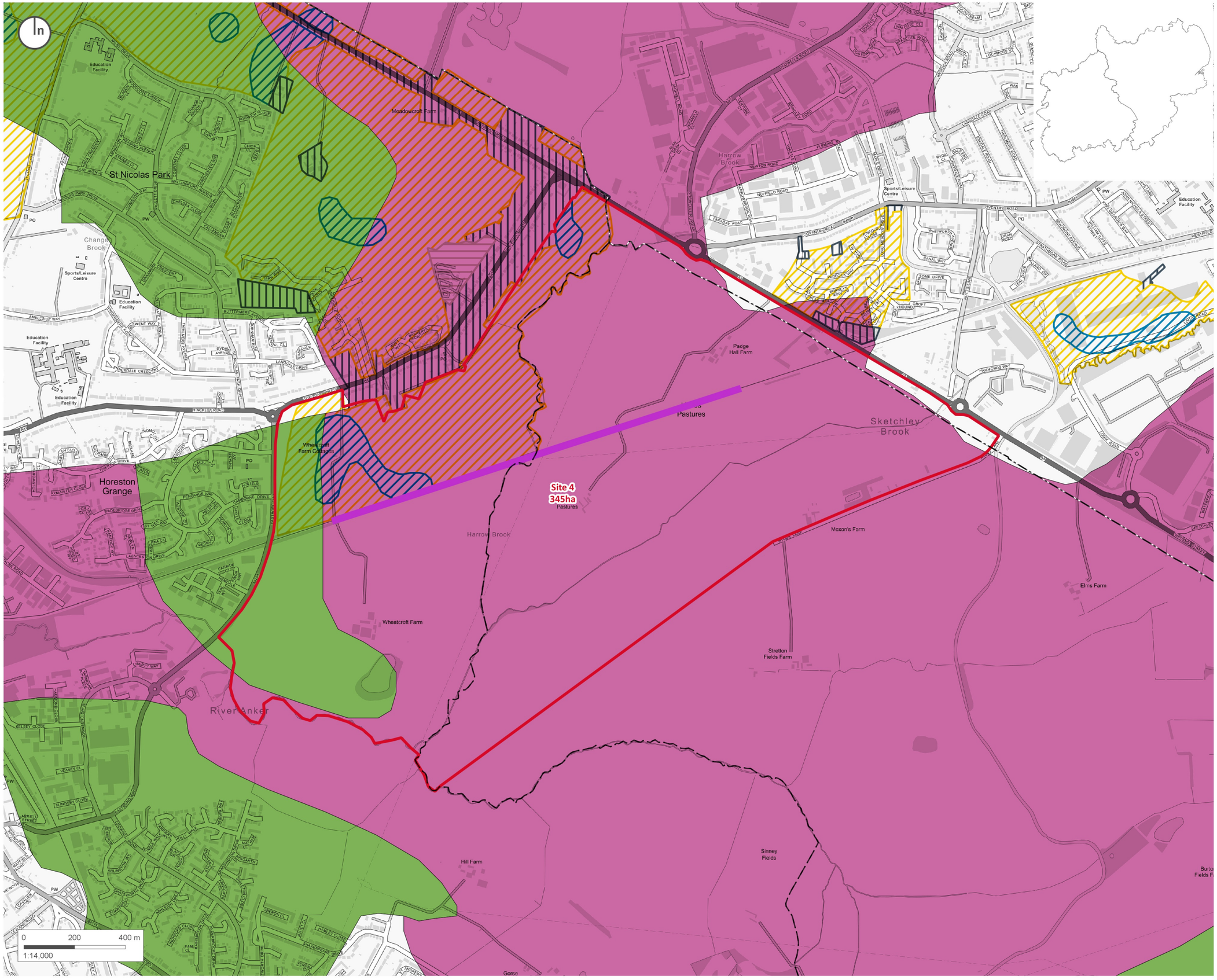
Figure No.
3002_108_(ALC) Plan 7-3

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 2

Grade 3

Urban

ALC- sub

Grade 3a

Grade 3b

Not Surveyed

Other

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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 4 Land between Hinckley and Nuneaton Site Area - 345ha

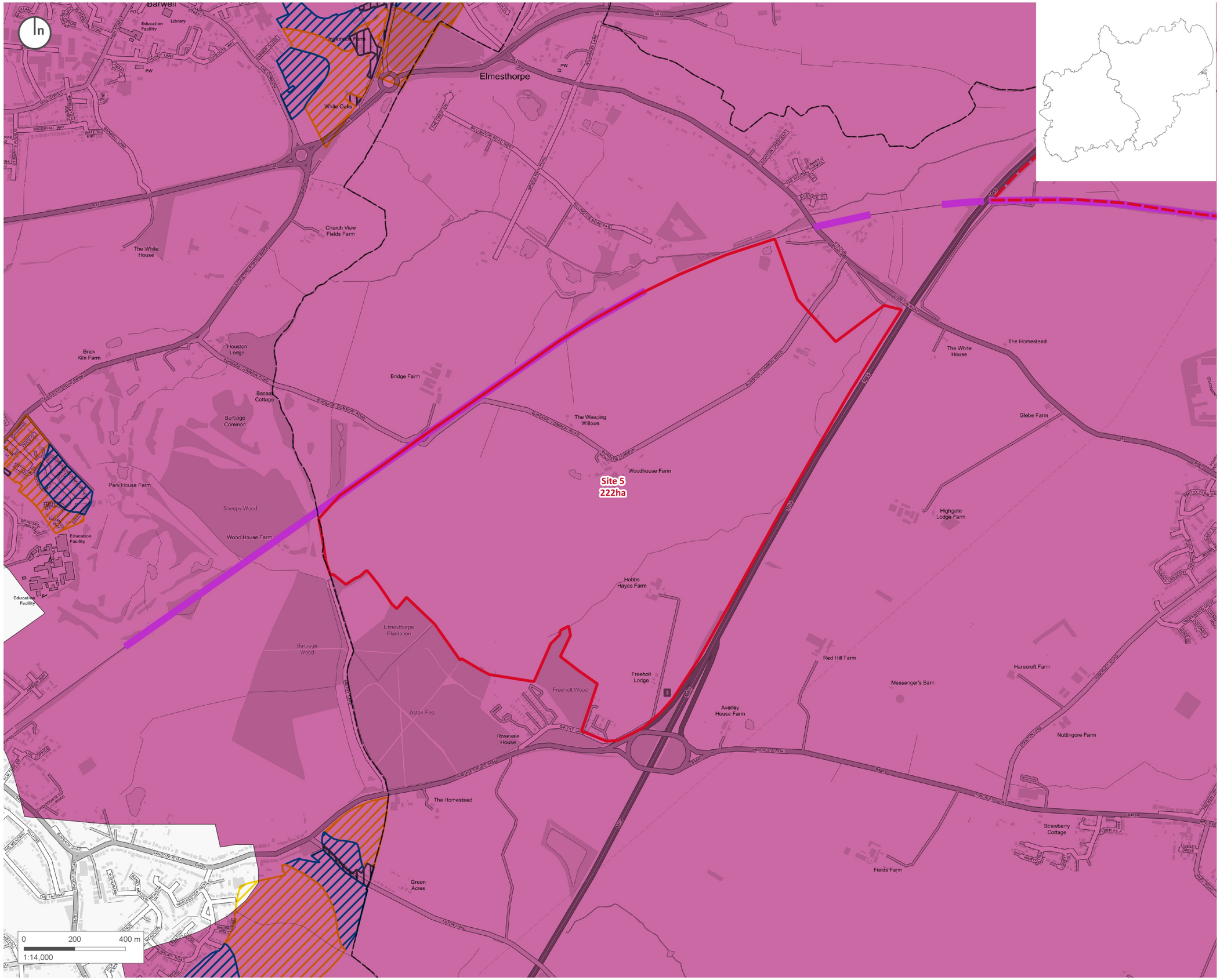
Figure No.
3002_108_(ALC) Plan 7-4

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Other Alternative Sites

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 3

Urban

ALC- sub

Grade 3a

Grade 3b

Other

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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 5
Land at Burbage Common, Hinckley
Site Area - 222ha

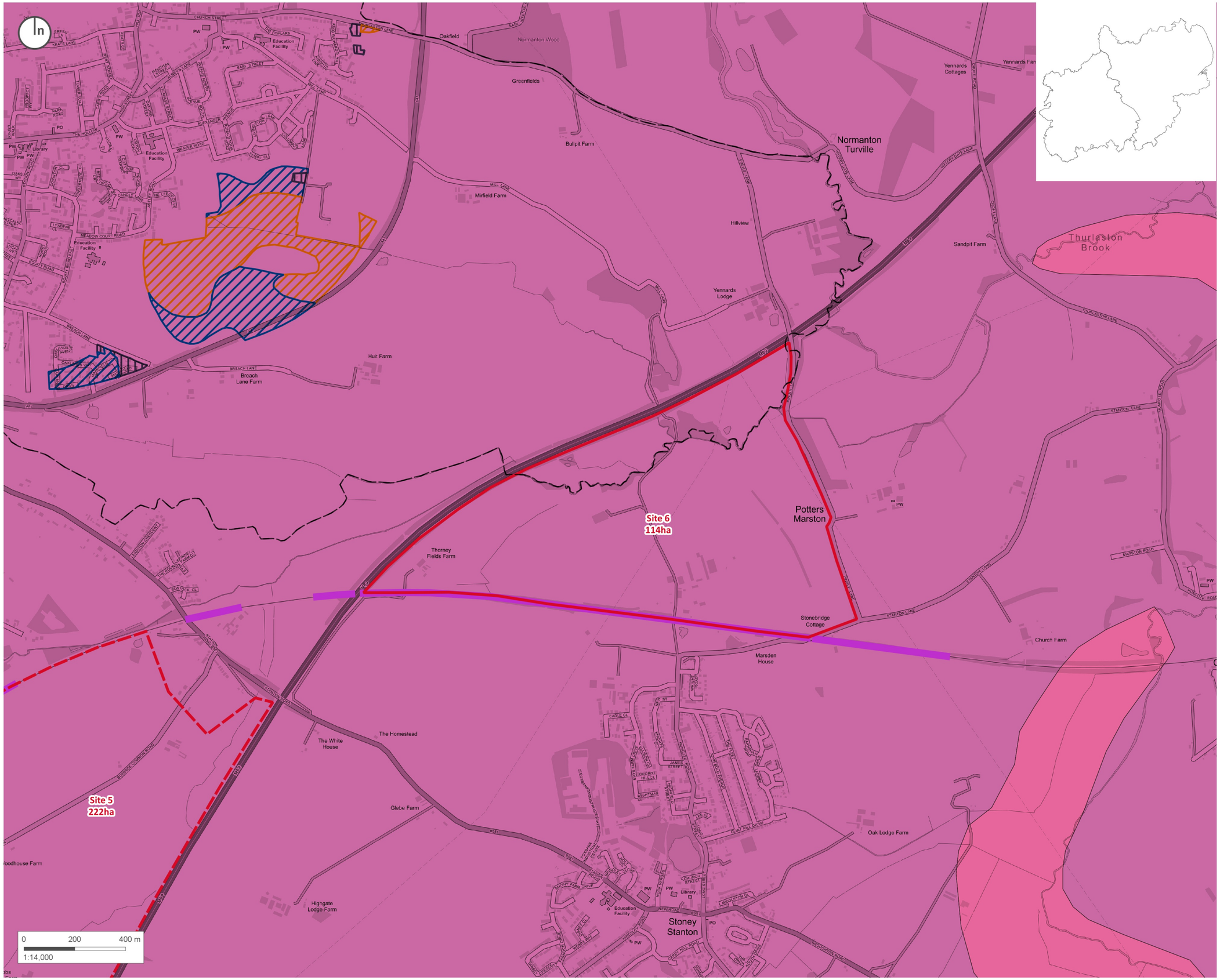
Figure No.
3002_108_(ALC) Plan 7-5

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Other Alternative Sites

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 3

Grade 4

ALC- sub

Grade 3a

Grade 3b

Other

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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 6
Land at Potters Marston
Site Area - 114ha

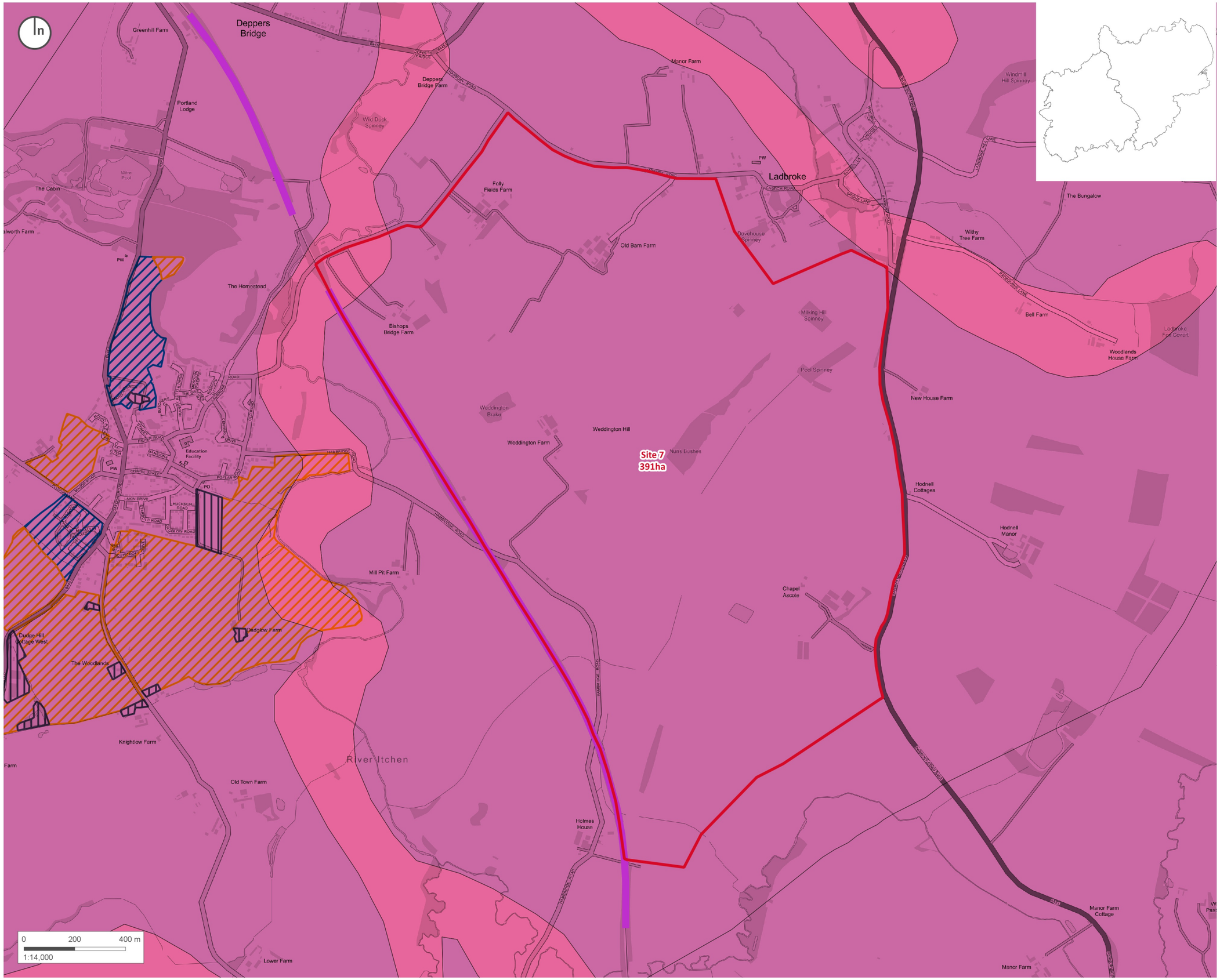
Figure No.
3002_108_(ALC) Plan 7-6

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 3

Grade 4

ALC- sub

Grade 3a

Grade 3b

Other

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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 7
Land between Ladbroke and Bishops Itchington
Site Area - 391ha

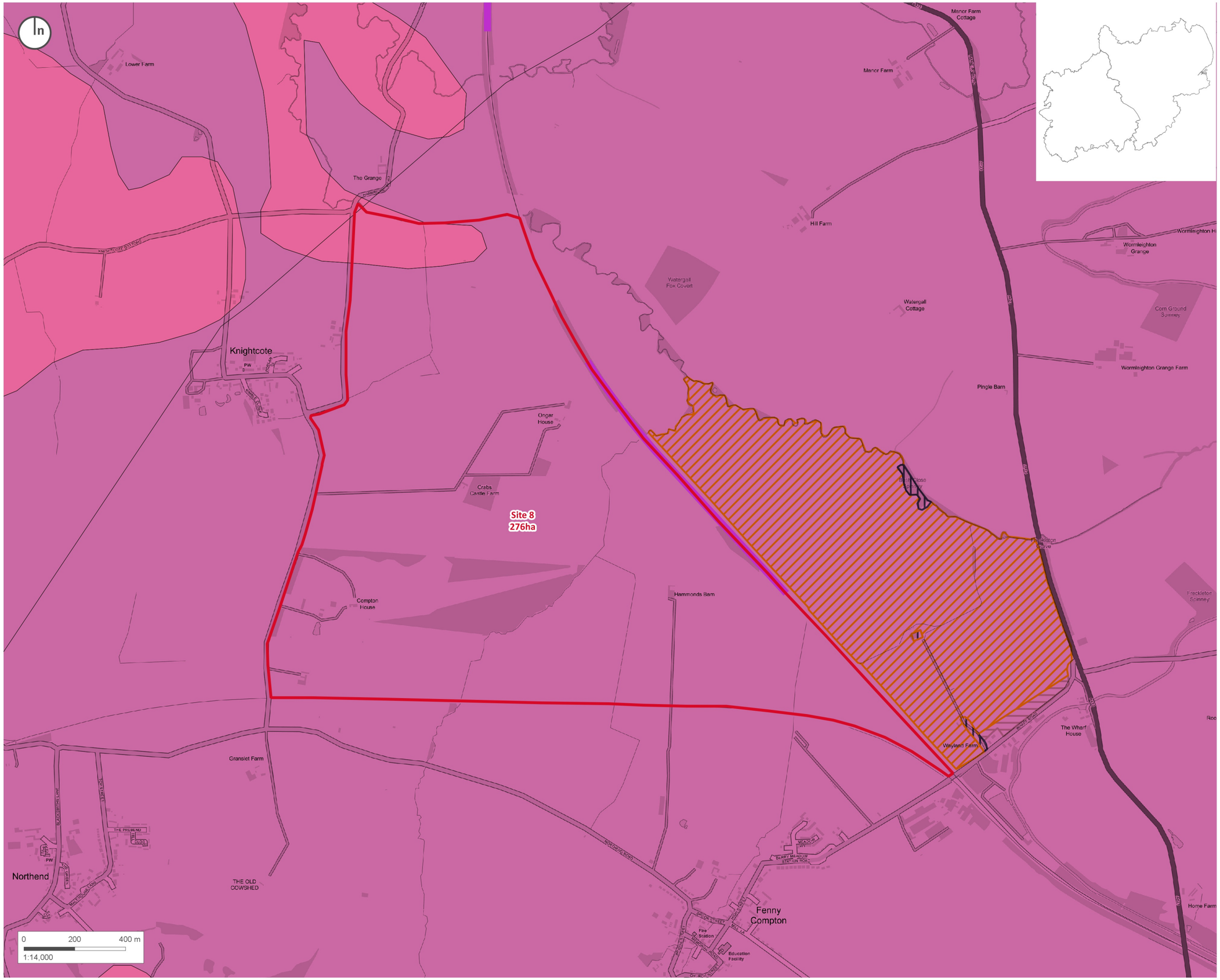
Figure No.
3002_108_(ALC) Plan 7-7

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 3

Grade 4

ALC- sub

Grade 3b

Not Surveyed

Other

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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 8 Land between Knightcote and Fenny Compton Site Area - 276ha

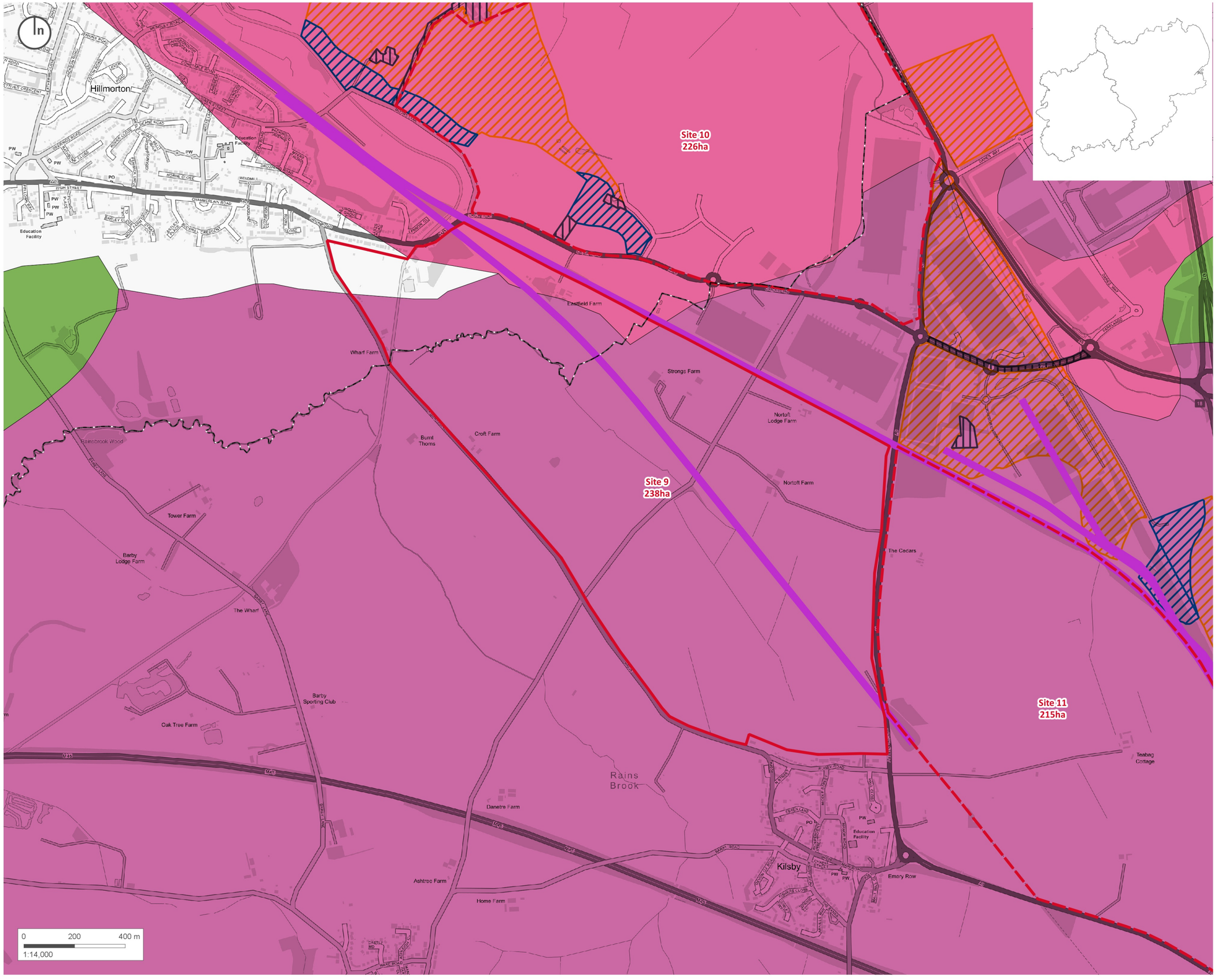
Figure No.
3002_108_(ALC) Plan 7-8

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Other Alternative Sites

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 2

Grade 3

Grade 4

Urban

ALC- sub

Grade 3a

Grade 3b

Other

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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 9 Kilsby North
Site Area - 238ha

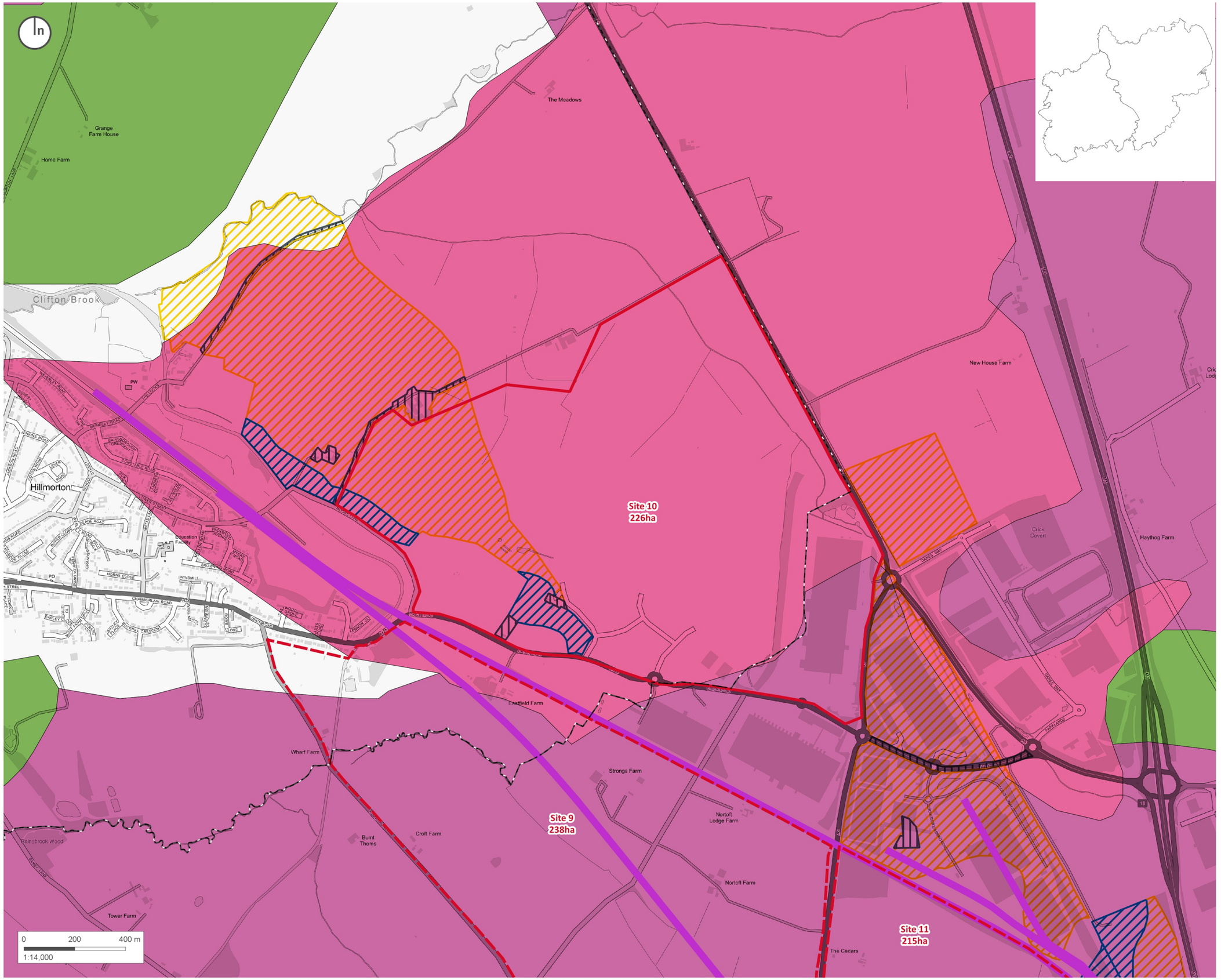
Figure No.
3002_108_(ALC) Plan 7-9

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Other Alternative Sites

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 2

Grade 3

Grade 4

Urban

ALC- sub

Grade 3a

Grade 3b

Other

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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 10
Part of Rugby Radio Station West
Site Area - 226ha

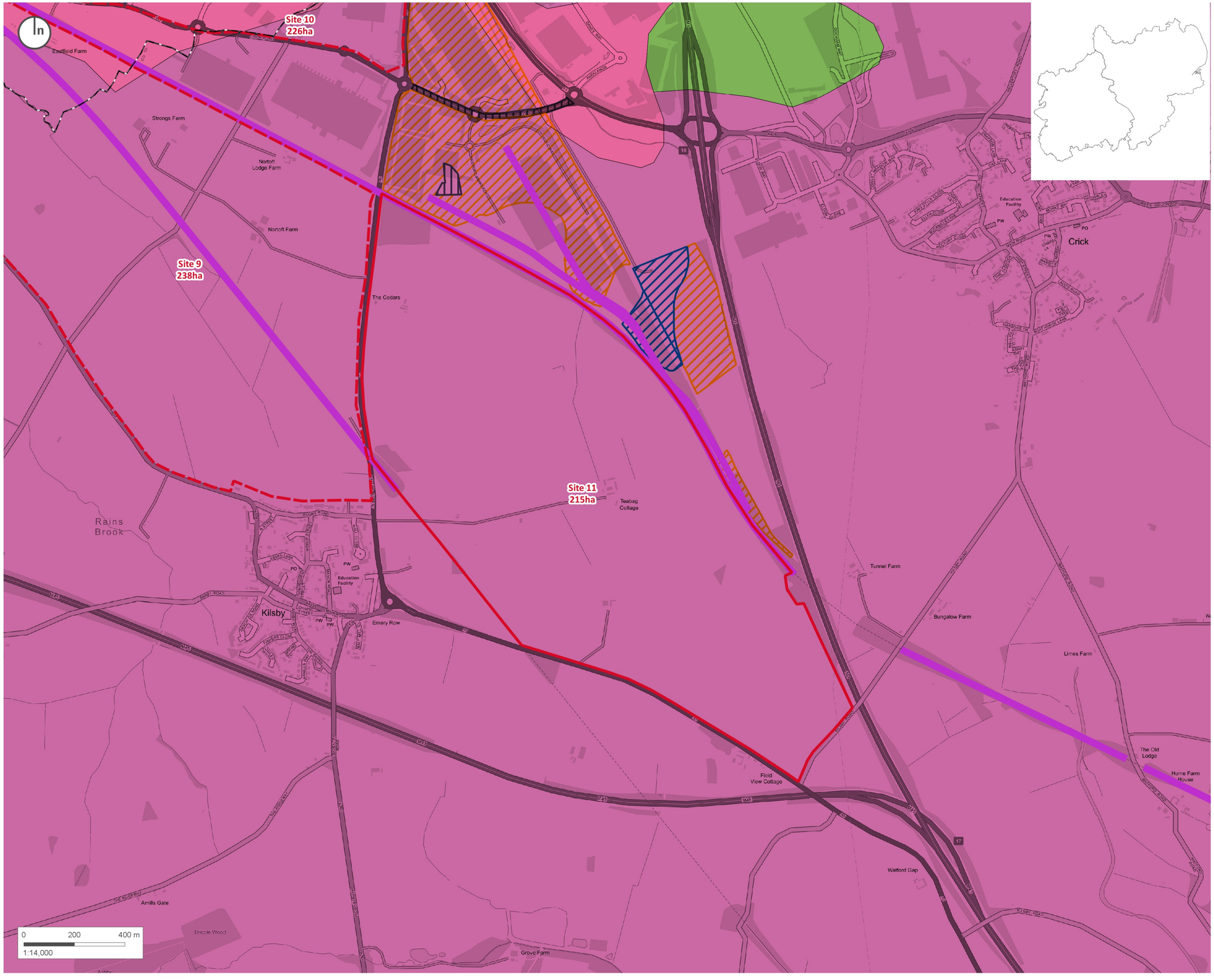
Figure No.
3002_108_(ALC) Plan 7-10

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Other Alternative Sites

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 2

Grade 3

Grade 4

ALC- sub

Grade 3a

Grade 3b

Other

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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 11
Kilsby East
Site Area - 215ha

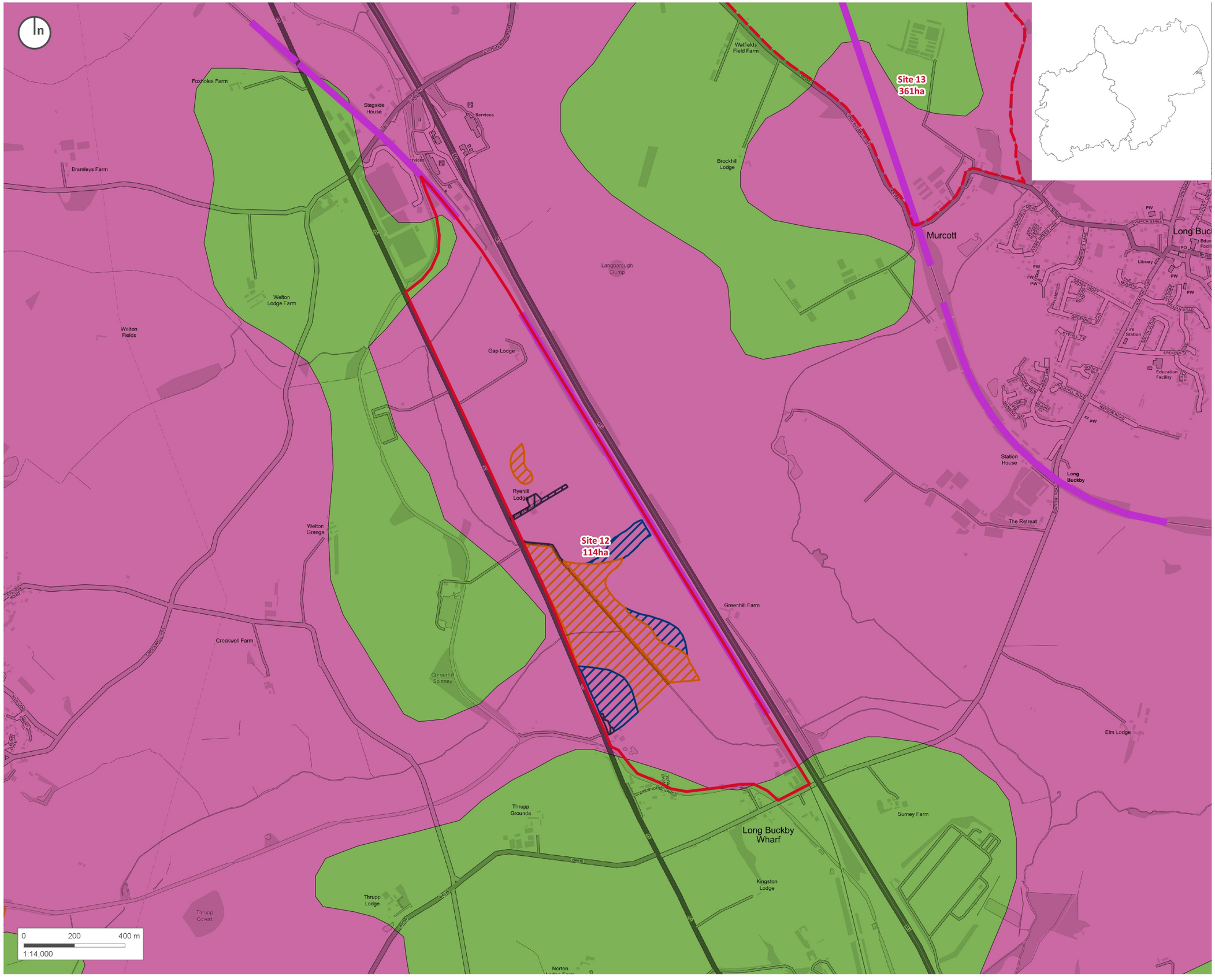
Figure No.
3002_108_(ALC) Plan 7-11

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Other Alternative Sites

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 2

Grade 3

ALC- sub

Grade 3a

Grade 3b

Other

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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 12
Land North of Long Buckby Wharfe
Site Area - 114ha

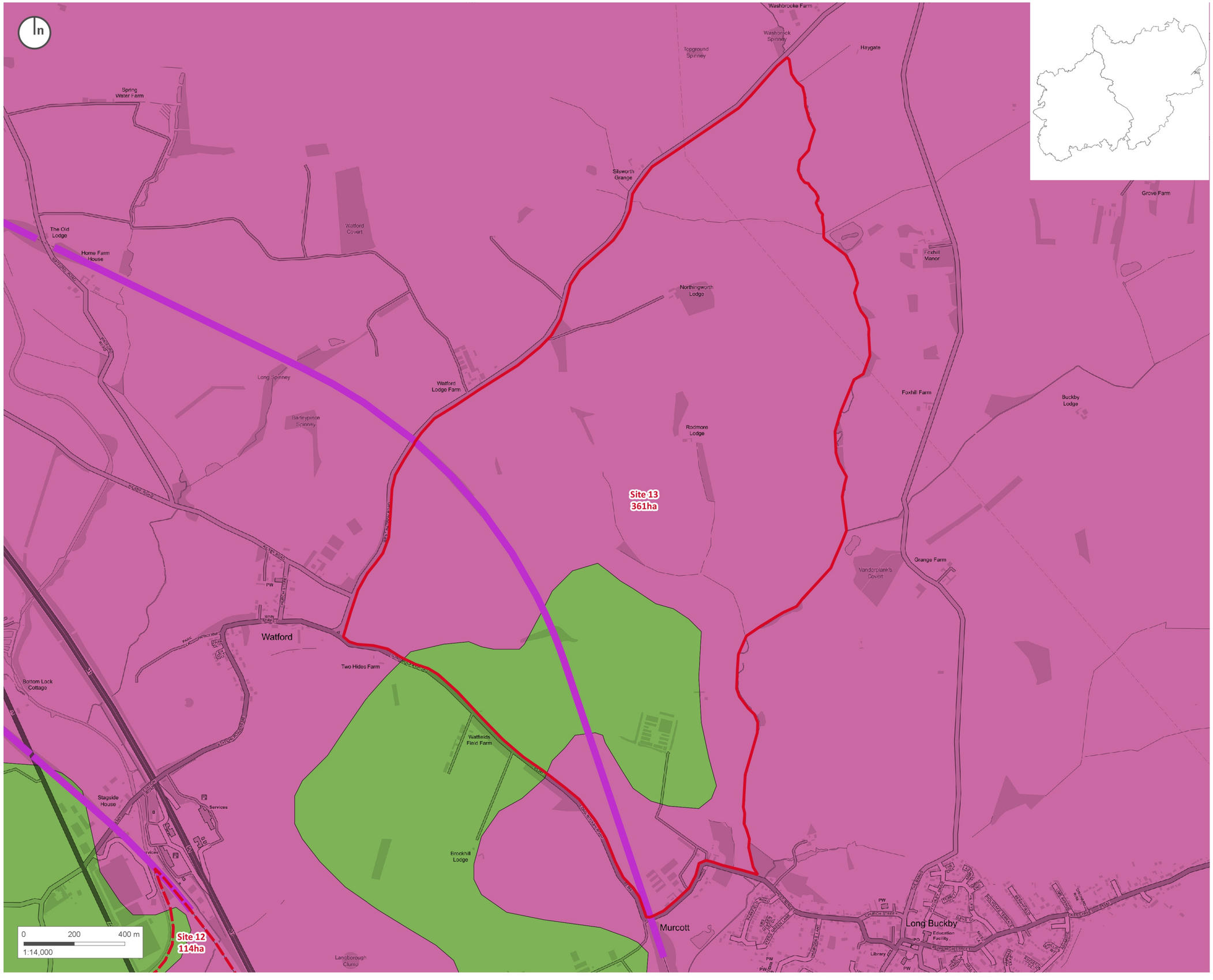
Figure No.
3002_108_(ALC) Plan 7-12

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Other Alternative Sites

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 2

Grade 3

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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 13 Land to the North East of Long Buckby Site Area - 361ha

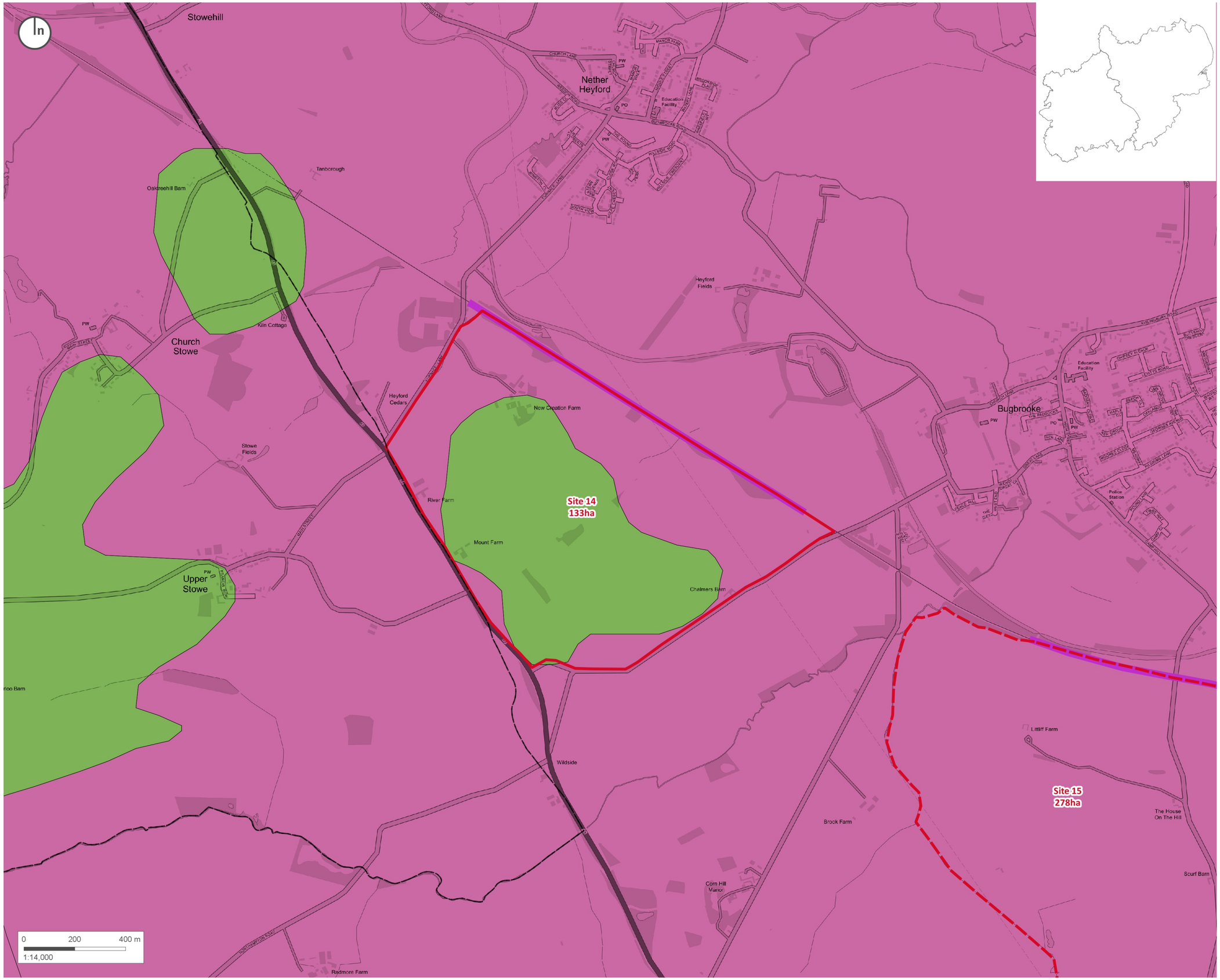
Figure No.
3002_108_(ALC) Plan 7-13

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Other Alternative Sites

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 2

Grade 3

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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 14 Land to the West of Bugbrooke and South of Nether Heyford
Site Area - 133ha

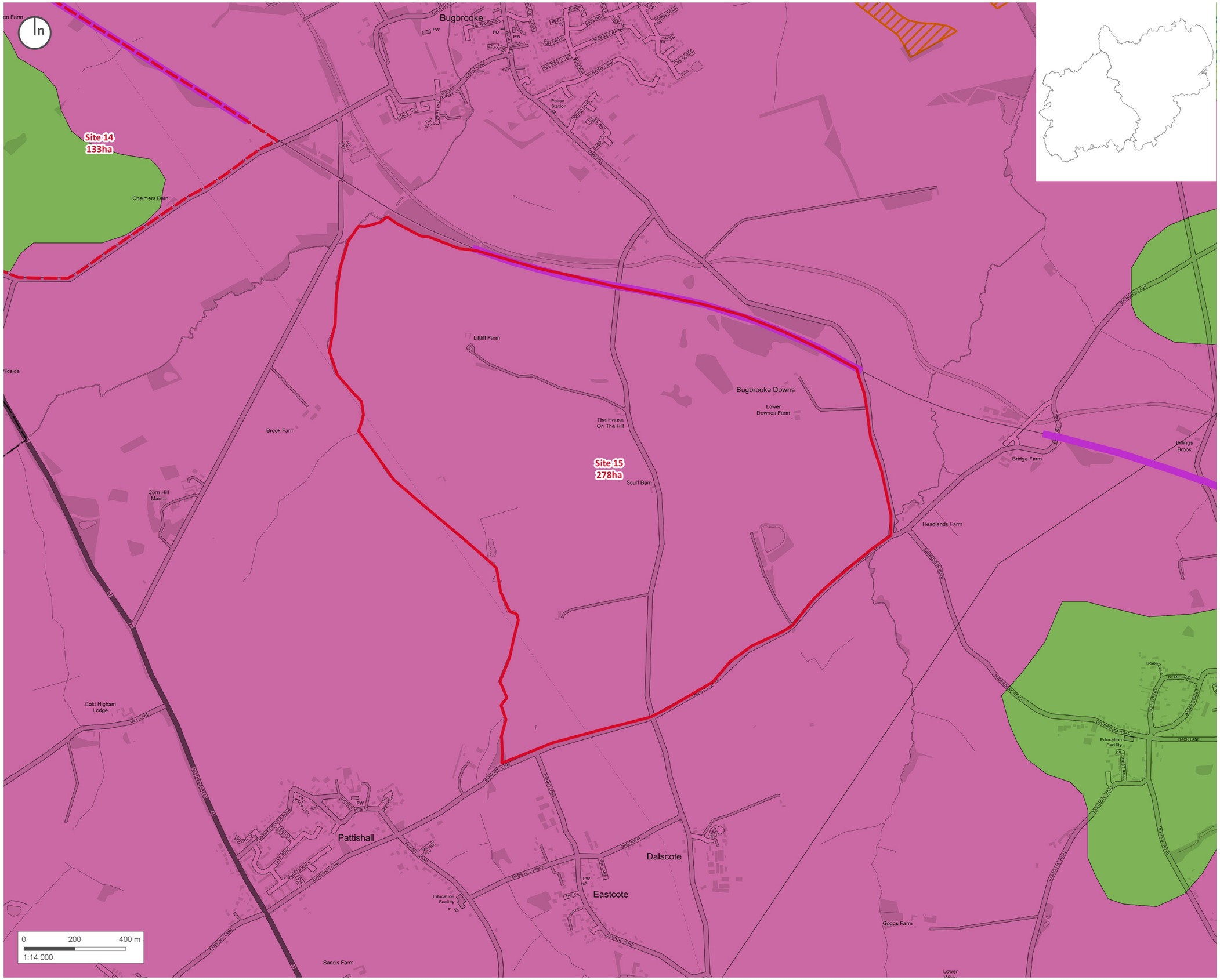
Figure No.
3002_108_(ALC) Plan 7-14

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Other Alternative Sites

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 2

Grade 3

ALC- sub

Grade 3a

Grade 3b

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Client reference:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 15
Land South of Bugbrooke
Site Area - 278ha

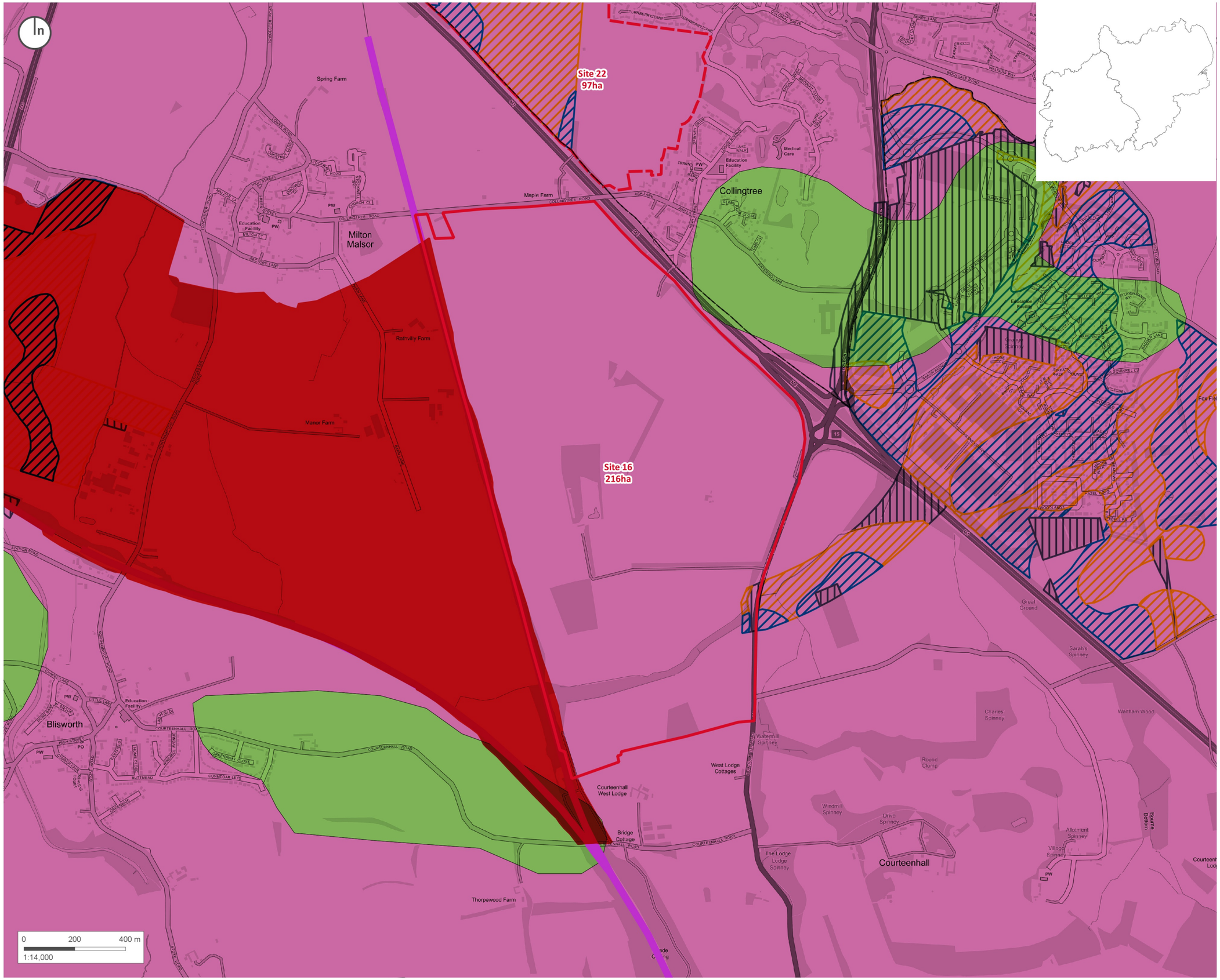
Figure No.
3002_108_(ALC) Plan 7-15

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Other Alternative Sites

Rail Central Site

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 2

Grade 3

ALC- sub

Grade 3a

Grade 3b

Other

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Client reference:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 16 Northampton Gateway Site Area - 216ha

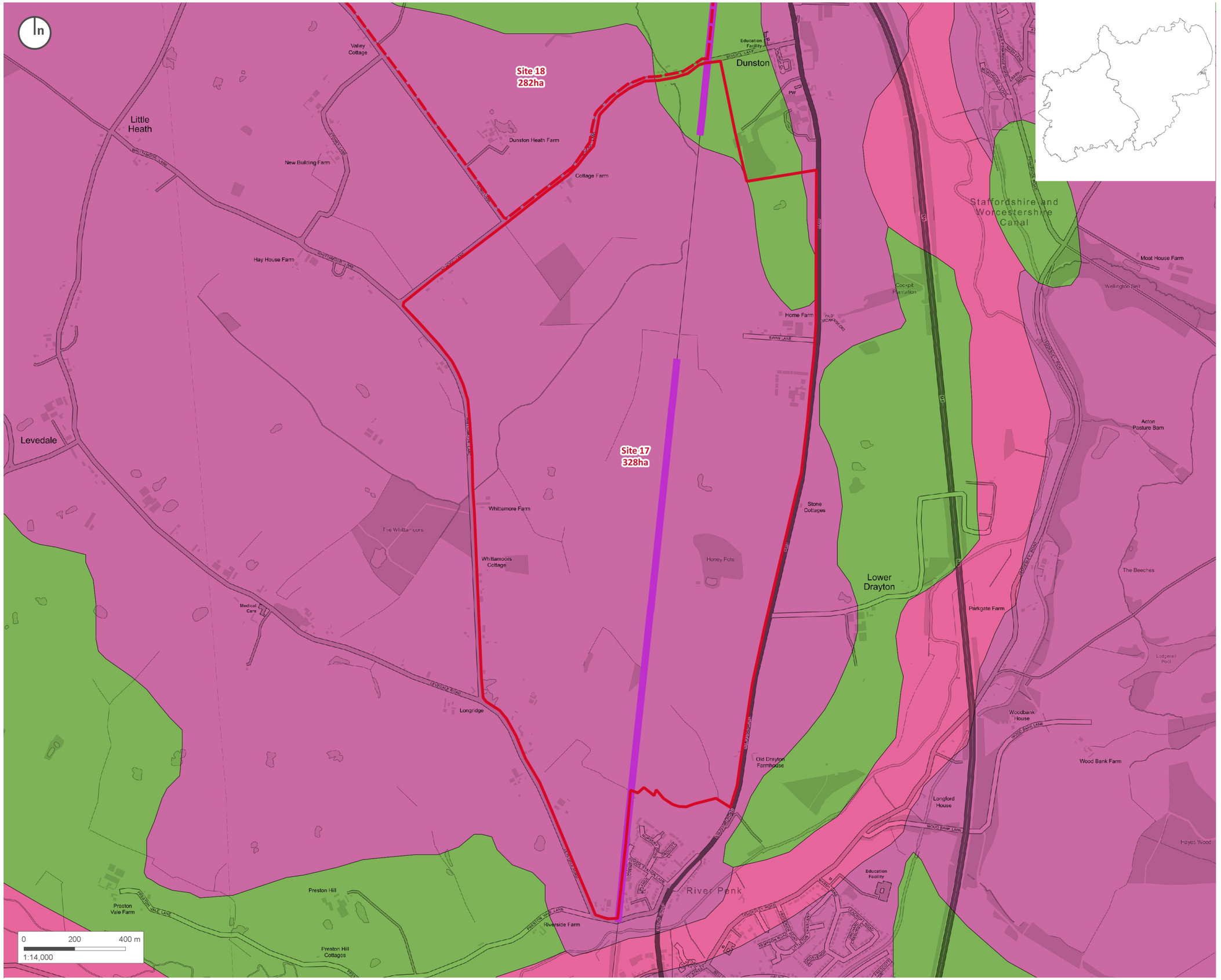
Figure No.
3002_108_(ALC) Plan 7-16

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Other Alternative Sites

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 2

Grade 3

Grade 4

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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 17
Land North of Penkridge
Site Area - 328ha

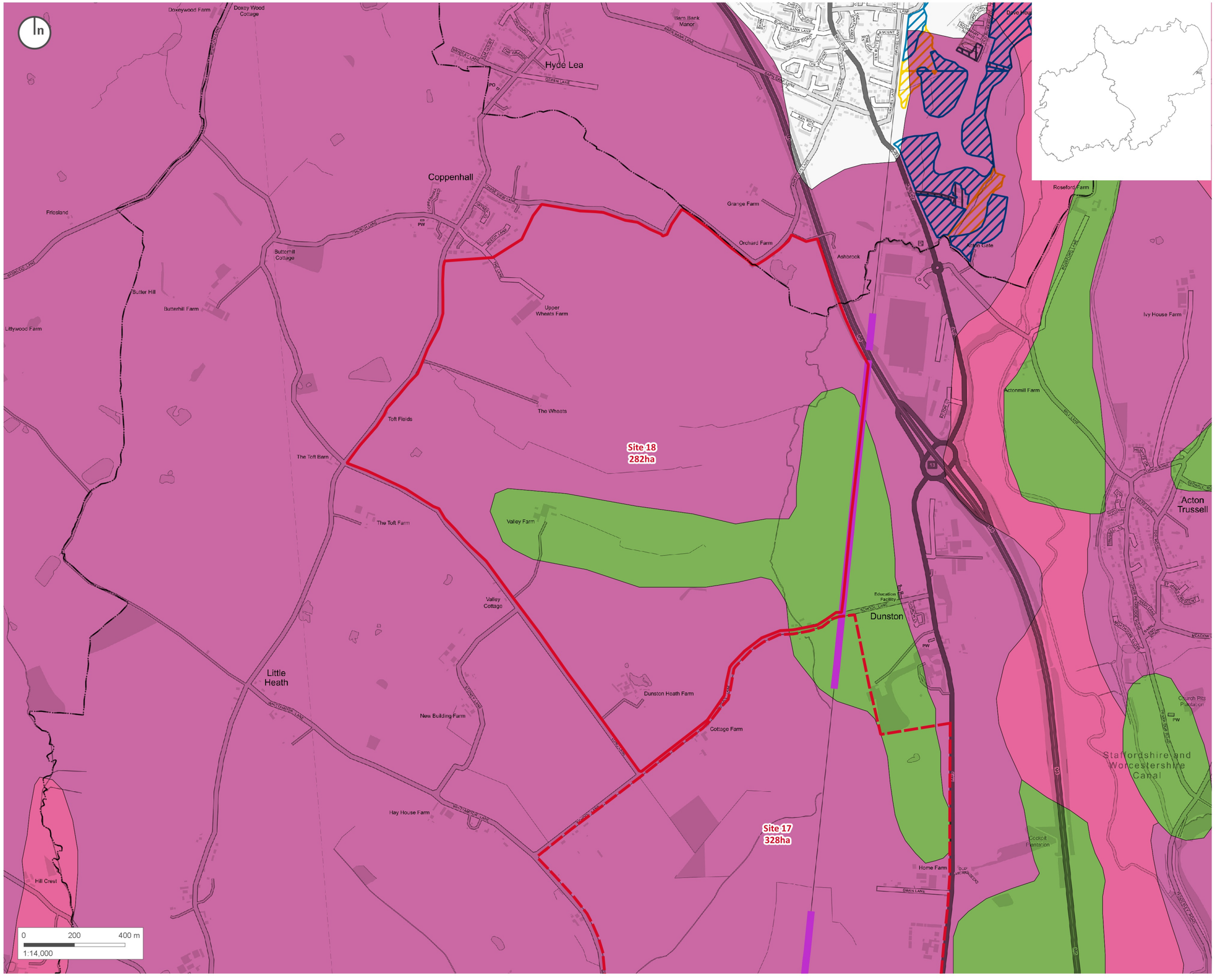
Figure No.
3002_108_(ALC) Plan 7-17

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Other Alternative Sites

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 2

Grade 3

Grade 4

Urban

ALC- sub

Grade 3a

Grade 3b

Not Surveyed

Other

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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 18
Land to the South of Stafford
Site Area - 282ha

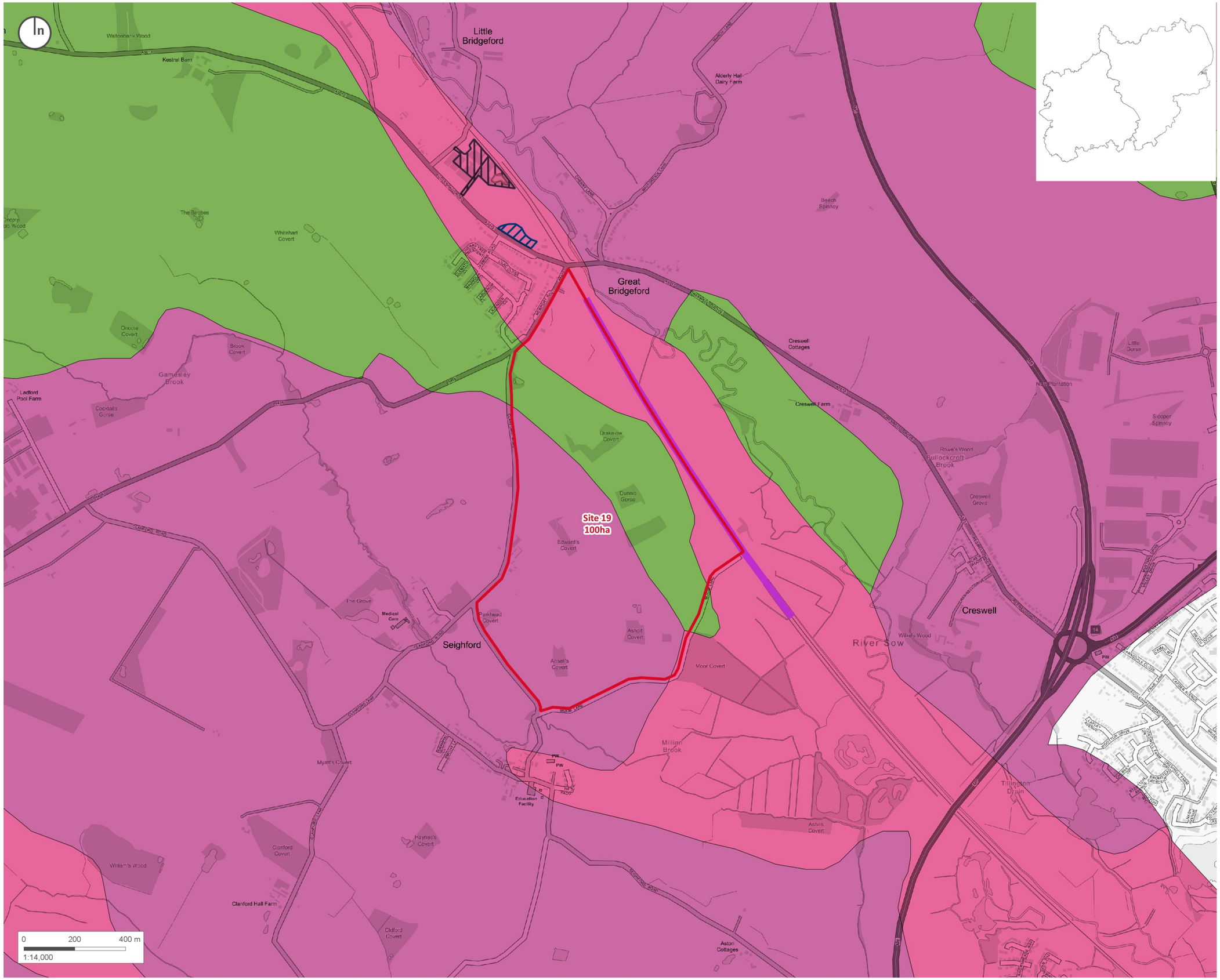
Figure No.
3002_108_(ALC) Plan 7-18

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 19
Land South of Great Bridgeford
Site Area - 100ha

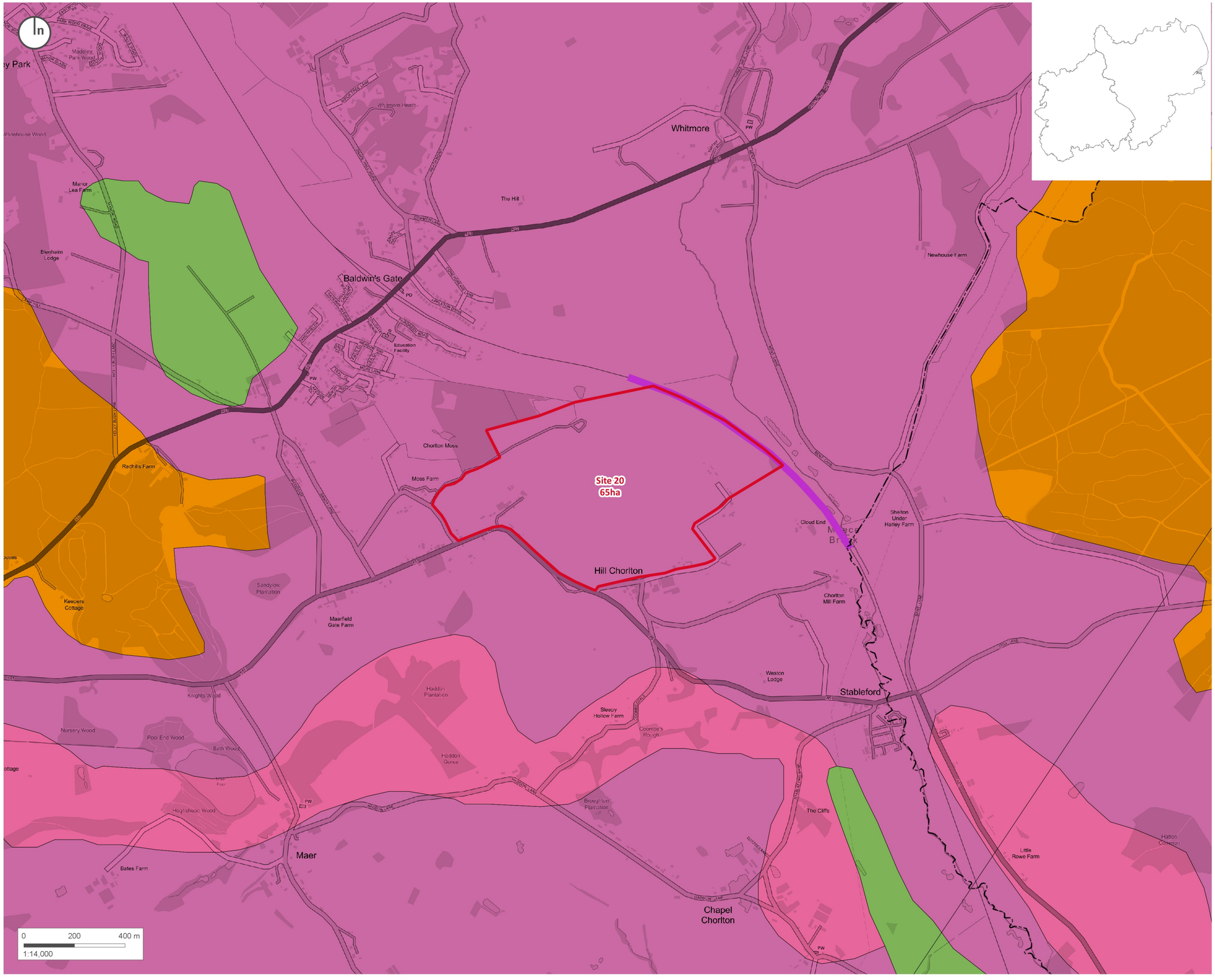
Figure No.
3002_108_(ALC) Plan 7-19

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 2

Grade 3

Grade 4

Non Agricultural

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Client reference:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 20
Land at Baldwin's Gate
Site Area - 65ha

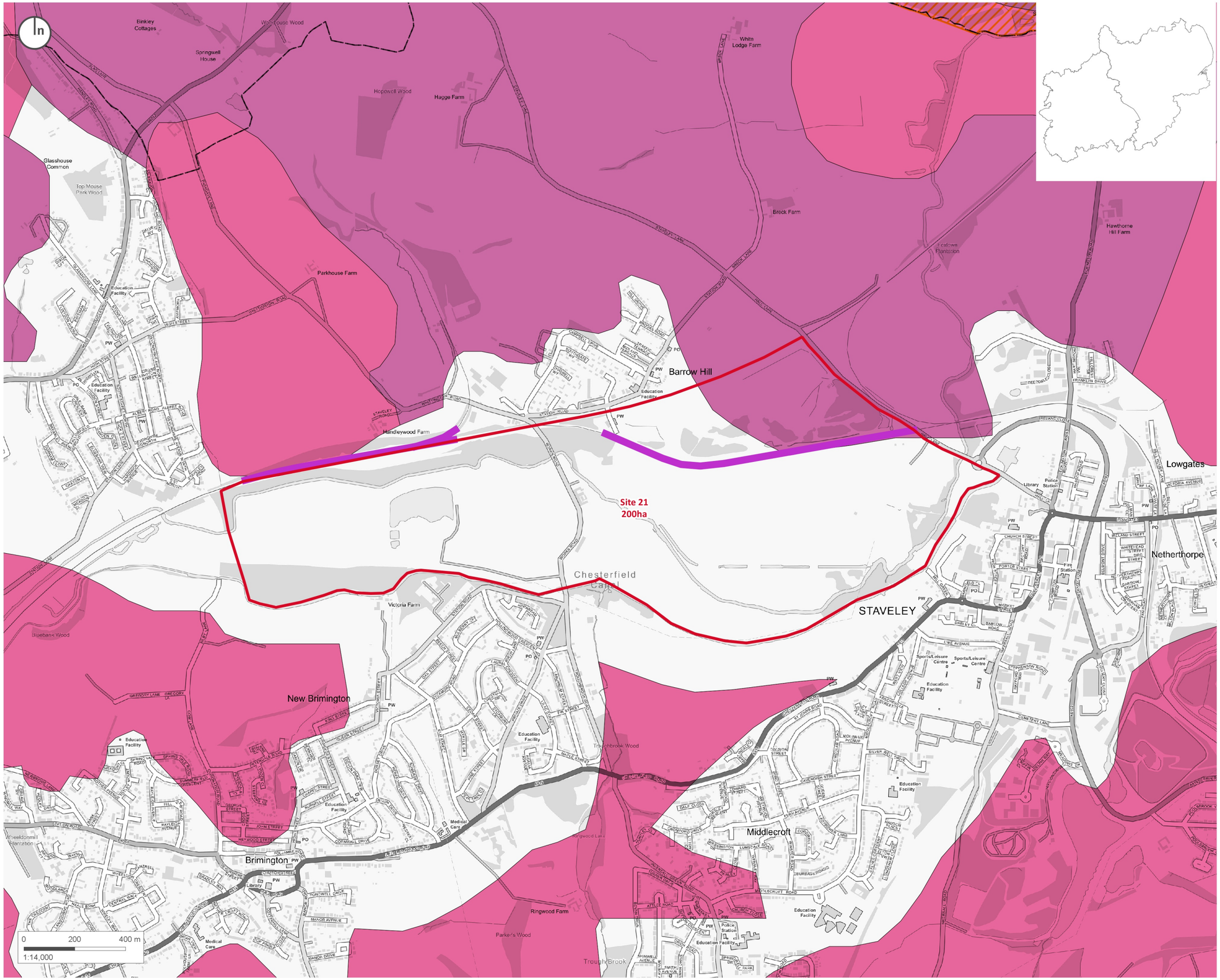
Figure No.
3002_108_(ALC) Plan 7-20

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 3

Grade 4

Urban

ALC- sub

Grade 3b

Other

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Client reference:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 21 Covidien, Staveley
Site Area - 200ha

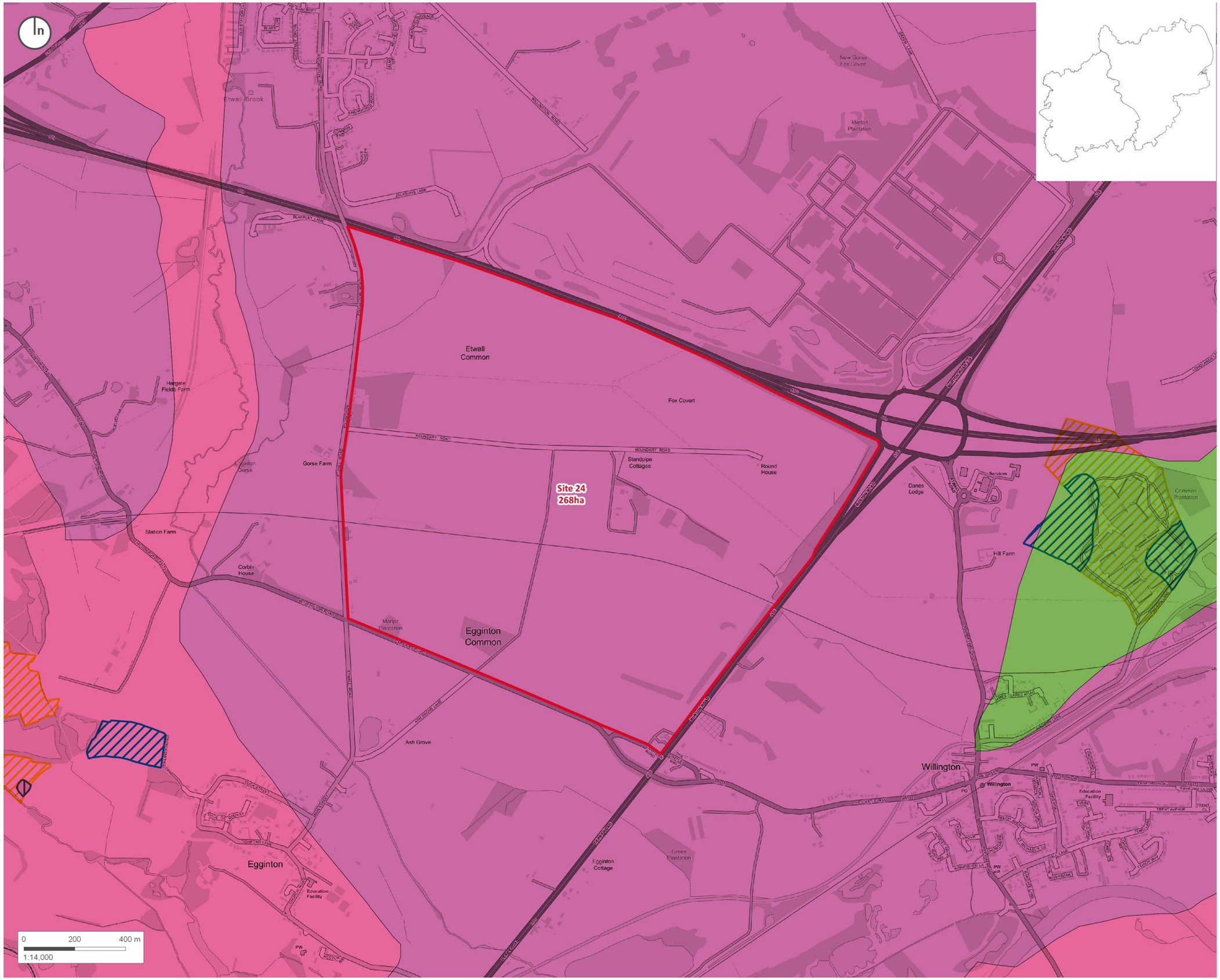
Figure No.
3002_108_(ALC) Plan 7-21

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Background EA LIDAR (DSM)

ALC

- Grade 2
- Grade 3
- Grade 4

ALC- sub

- Grade 3a
- Grade 3b
- Other

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Client reference:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 24 Etwall Common (East Midlands Intermodal Park)
Site Area - 268ha

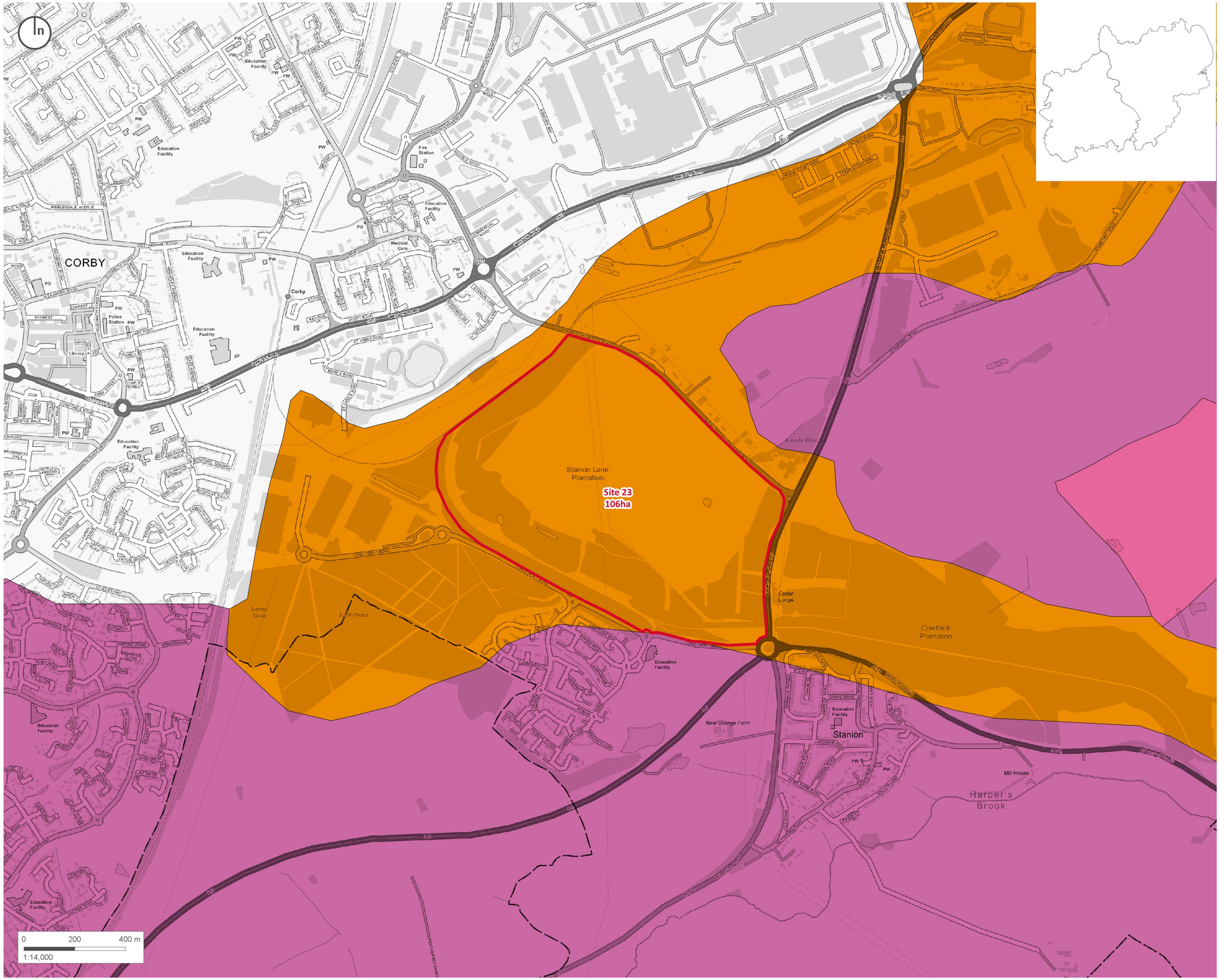
Figure No.
3002_108_(ALC) Plan 7-24

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Background EA LIDAR (DSM)

ALC

- Grade 3
- Grade 4
- Non Agricultural
- Urban

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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 23 Eurohub, Corby
Site Area - 106ha

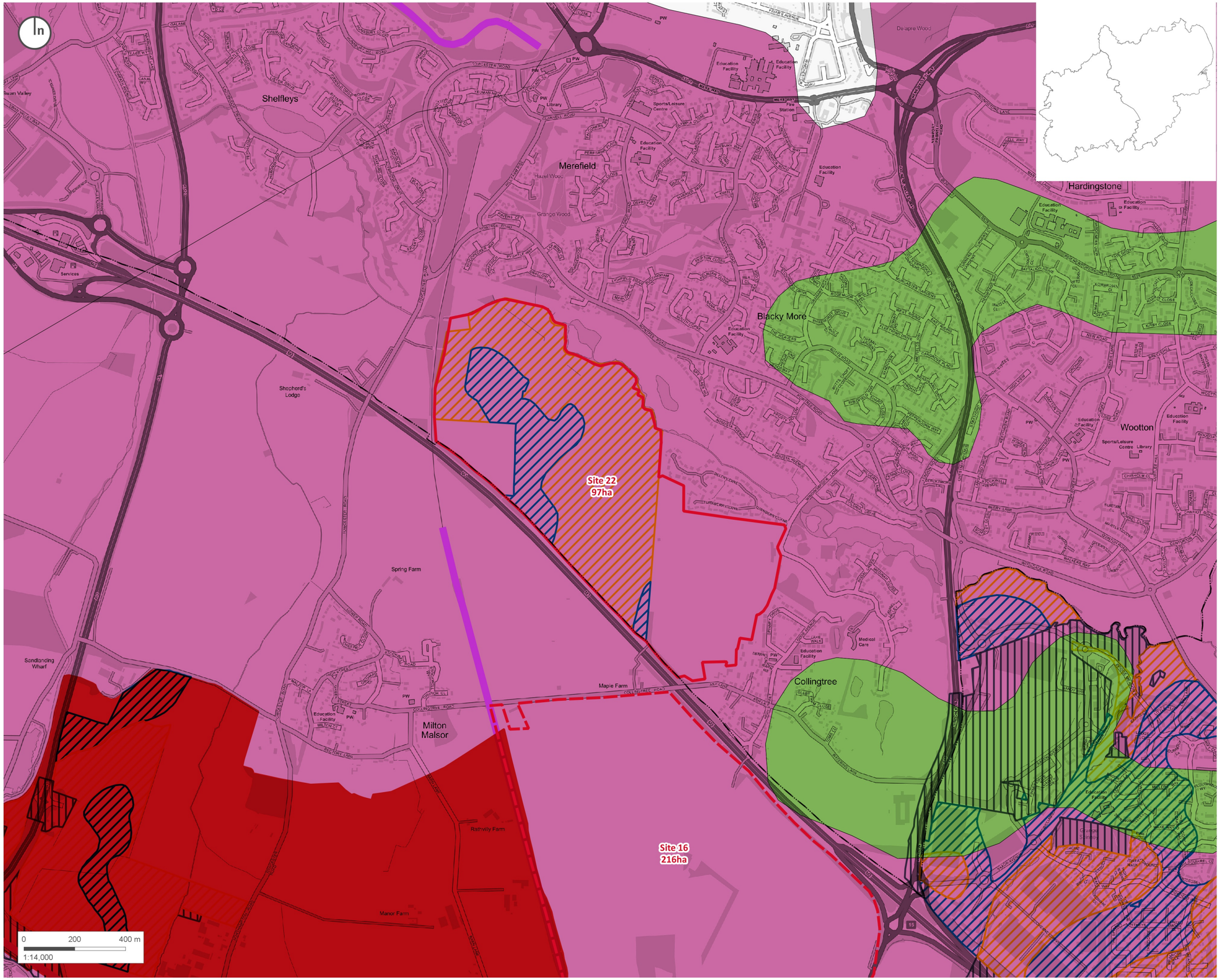
Figure No.
3002_108_(ALC) Plan 7-23

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Other Alternative Sites

Rail Central Site

Rail Gauge

W10

Background EA LIDAR (DSM)

ALC

Grade 2

Grade 3

Urban

ALC- sub

Grade 3a

Grade 3b

Other

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Client reference:
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Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 22 Land to the East of Northampton Loop, North of M1 (Northampton South SUE) Site Area - 97ha

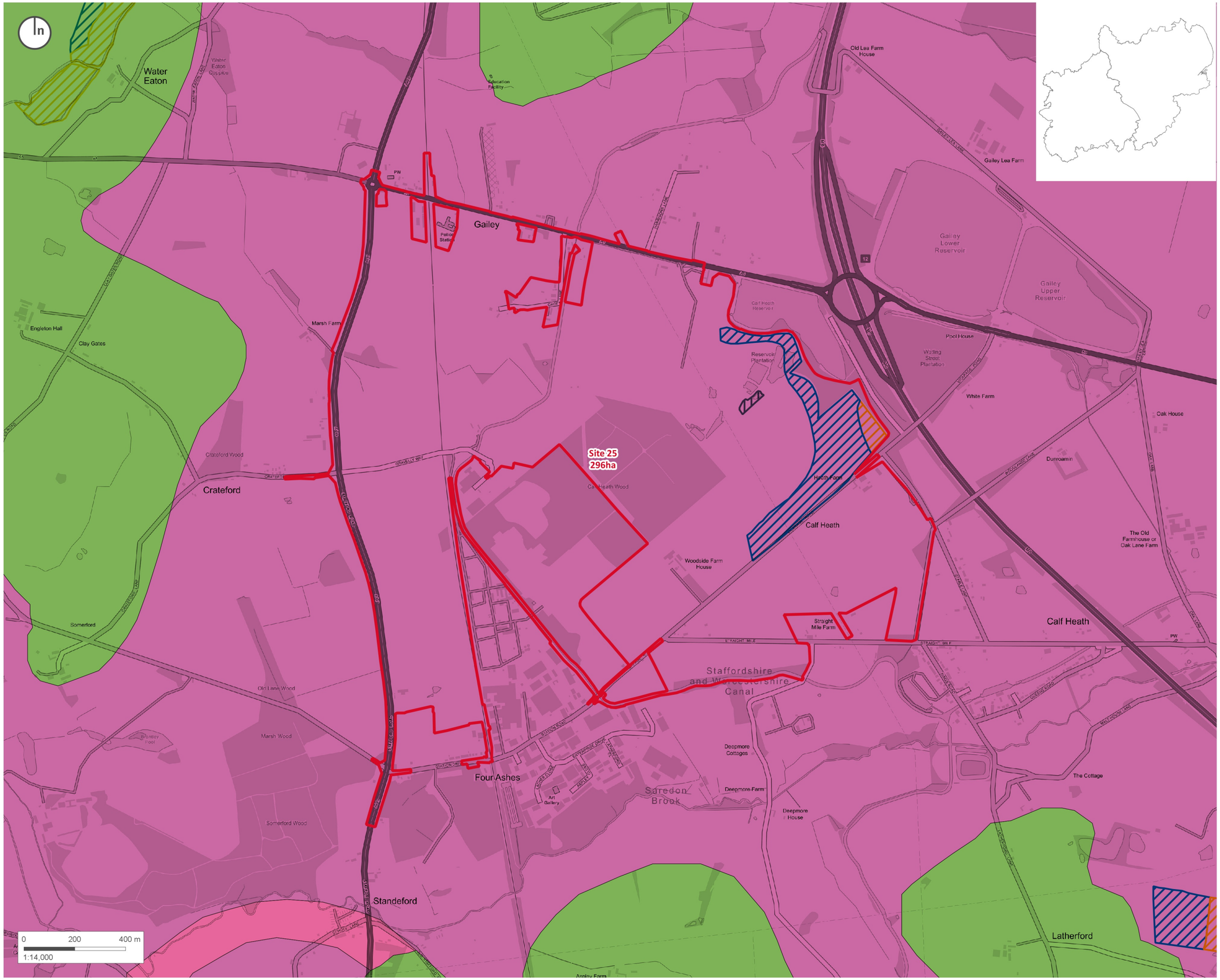
Figure No.
3002_108_(ALC) Plan 7-22

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)



Alternative Site

Background EA LIDAR (DSM)

ALC

- Grade 2
- Grade 3
- Grade 4

ALC- sub

- Grade 3a
- Grade 3b
- Other

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Client reference:
Ashfield Land Management Limited and Gazeley GLP Northampton s.à.r.l.

Project:
Rail Central, Northamptonshire

Document:
Environmental Statement

Title:
Alternative Sites Red Line (ALC) - Site 25
West Midlands Interchange
Site Area - 296ha

Figure No.
3002_108_(ALC) Plan 7-25

Revision:
1.2

Author:
MS

Date:
March 2018

Scale:
As shown (A3)

Appendix 9: Labour Market Availability Data

ID	Site Name	Local authority area	Contiguous local authorities	Total JSA claimants	Economically inactive people wanting a job
Site 1	Wadborough	Wychavon	Bromsgrove, Malvern Hills, Redditch, Worcester, Stratford-on-Avon, Wyre Forest, Cotswold, Tewkesbury	3,485	22,900
Site 2	Atherstone	North Warwickshire	Nuneaton and Bedworth, Lichfield, Tamworth, Birmingham, Coventry, Solihull, Hinckley and Bosworth, North West Leicestershire	29,900	61,900
Site 3	Freasley	North Warwickshire	Nuneaton and Bedworth, Lichfield, Tamworth, Birmingham, Coventry, Solihull, Hinckley and Bosworth, North West Leicestershire	29,900	61,900
Site 4	Nuneaton	Rugby	Nuneaton and Bedworth, Stratford-on-Avon, Warwick, Coventry, Blaby, Harborough, Hinckley and Bosworth, Daventry	5,645	35,200
Site 5	Hinckley	Blaby	Leicester, Rugby, Harborough, Charnwood, Oadby and Wigston, Hinckley and Bosworth	4,220	38,100
Site 6	Stoney Stanton	Blaby	Leicester, Rugby, Harborough, Charnwood, Oadby and Wigston, Hinckley and Bosworth	4,220	38,100
Site 7	Bishops Itchington	Stratford-on-Avon	West Oxfordshire, Bromsgrove, Redditch, Rugby, Warwick, Wychavon, Solihull, Cotswold, South Northamptonshire, Cherwell, Daventry	4,170	22,400
Site 8	Knightcote	Stratford-on-Avon	West Oxfordshire, Bromsgrove, Redditch, Rugby, Warwick, Wychavon, Solihull, Cotswold, South Northamptonshire, Cherwell, Daventry	4,170	22,400

ID	Site Name	Local authority area	Contiguous local authorities	Total JSA claimants	Economically inactive people wanting a job
Site 9	Kilsby	Daventry	Rugby, Stratford-on-Avon, Harborough, Northampton, South Northamptonshire, Wellingborough, Kettering	3,995	22,800
Site 9a	DIRFT 4 (Shed Only)	Rugby	Nuneaton and Bedworth, Stratford-on-Avon, Warwick, Coventry, Blaby, Harborough, Hinckley and Bosworth, Daventry	5,645	35,200
Site 10	Ashby St Ledgers	Daventry	Rugby, Stratford-on-Avon, Harborough, Northampton, South Northamptonshire, Wellingborough, Kettering	3,995	22,800
Site 11	Kilsby (East)	Daventry	Rugby, Stratford-on-Avon, Harborough, Northampton, South Northamptonshire, Wellingborough, Kettering	3,995	22,800
Site 12	Long Buckby Wharf	Daventry	Rugby, Stratford-on-Avon, Harborough, Northampton, South Northamptonshire, Wellingborough, Kettering	3,995	22,800
Site 13	Long Buckby	Daventry	Rugby, Stratford-on-Avon, Harborough, Northampton, South Northamptonshire, Wellingborough, Kettering	3,995	22,800
Site 14	South West of Long Buckby	Daventry	Rugby, Stratford-on-Avon, Harborough, Northampton, South Northamptonshire, Wellingborough, Kettering	3,995	22,800
Site 15	South of Nether Heyford	South Northamptonshire	Milton Keynes, Aylesbury Vale, Stratford-on-Avon, Northampton, Wellingborough, Cherwell,	6,070	33,400

ID	Site Name	Local authority area	Contiguous local authorities	Total JSA claimants	Economically inactive people wanting a job
			Daventry		
Site 16	South of Bugbrooke	South Northamptonshire	Milton Keynes, Aylesbury Vale, Stratford-on-Avon, Northampton, Wellingborough, Cherwell, Daventry	6,070	33,400
Site 17	Roxhill	South Northamptonshire	Milton Keynes, Aylesbury Vale, Stratford-on-Avon, Northampton, Wellingborough, Cherwell, Daventry	6,070	33,400
Site 18	Penkridge	South Staffordshire	Telford and Wrekin, Shropshire, Bromsgrove, Wyre Forest, Cannock Chase, Stafford, Dudley, Walsall, Wolverhampton	16,660	59,500
Site 19	Coppenhall	South Staffordshire	Telford and Wrekin, Shropshire, Bromsgrove, Wyre Forest, Cannock Chase, Stafford, Dudley, Walsall, Wolverhampton	16,660	59,500
Site 20	Great Bridgeford	Stafford	Stoke-on-Trent, Telford and Wrekin, Shropshire, Cannock Chase, East Staffordshire, Lichfield, Newcastle-under-Lyme, South Staffordshire, Staffordshire Moorlands	8,040	50,700
Site 21	Baldwins Gate	Newcastle-under-Lyme	Stoke-on-Trent, Shropshire, Stafford, Staffordshire Moorlands, Cheshire East	6,595	38,400
Site 22	Staveley	Chesterfield	Bolsover, North East Derbyshire	1,830	8,700

ID	Site Name	Local authority area	Contiguous local authorities	Total JSA claimants	Economically inactive people wanting a job
Site 23	Land to the East of Northampton Loop, North of M1 (Northampton South SUE)	Northampton	Daventry, South Northamptonshire, Wellingborough	2,945	14,400
Site 24	Eurohub, Corby	Corby	Harborough, Kettering, East Northamptonshire, Rutland	1,440	11,000
Site 25	Etwall Common (East Midlands Intermodal Park)	South Derbyshire	North West Leicestershire, East Staffordshire, Lichfield, Amber Valley, Derbyshire Dales, Erewash, Derby	4,285	26,700
Site 26	East Midlands Distribution Centre, Castle Donnington	North West Leicestershire	North Warwickshire, Charnwood, Hinckley and Bosworth, Lichfield, Erewash, South Derbyshire, Rushcliffe	2,920	19,100
Site 27	East Midlands Gateway	North West Leicestershire	North Warwickshire, Charnwood, Hinckley and Bosworth, Lichfield, Erewash, South Derbyshire, Rushcliffe	2,920	19,100
	Rail Central	South Northamptonshire	Milton Keynes, Aylesbury Vale, Stratford-on-Avon, Northampton, Wellingborough, Cherwell, Daventry	6,070	33,400

Appendix 3: Environmental Comments on Comparative Analysis

Landscape and Visual

Landscape Design and Green Infrastructure

The Comparative Analysis (Doc 5.2) makes comments on the RC landscaping/ green infrastructure in section 3 and section 5 (e.g. para 3.6 and 5.1.26). However, this fails to acknowledge the significant and effective integral landscaped bunding that RC is proposing to screen the development from Milton Malsor and other key receptors. This is supported by a robust cut / fill analysis to allow a commitment to the size and height of the bund as shown.

In addition, the RC bunding has been designed to create a max incline of 1 in 5 on external slopes of the bund and to follow the existing contours (rather than develop the maximum potential development footprint) to avoid the engineered look of a steeper 1 in 3 bund as proposed by NG. The photomontages presented in RC's ES show views from the edge of Milton Malsor (e.g. RC VP1, VP17 and VP18), to demonstrate this soft landscaping. The bunds proposed by NG in comparison (eg NG VP16 from Milton Malsor) have a much more engineered appearance.

Overall, RC has a much more comprehensive green infrastructure package than NG. For example, development of a linear country park (rather than re-routing footpaths on screening bunds as NG is proposing), creation of bespoke wildlife corridors and farmland bird mitigation at J15a. As RC has a much more extensive area of landscape, there is no requirement to cover it all with woodland as NG is proposing, but provide a more varied mixture of habitats (as per the illustrative plan). This does not imply woodland/ structural planting is "sporadic" (as claimed at para 5.1.9 in NGs Doc 5.2) – rather it has been designed to better reflect landscaping in the surrounding area. The RC proposals seek to tie back to the Northamptonshire habitat networks (ref. Northamptonshire's Environmental Character and Green Infrastructure Suite). This has led to the inclusion of areas of Neutral and Calcareous grassland in addition to woodland planting for example (para 5.1.26 in Doc 5.2).

The comments also imply that RC will be seen from the whole of Blisworth not just from Courteenhall Road (e.g. para 3.6 and 5.1.20 of Doc 5.2), and fail to reference the offsite landscape fund (which is a commitment within the RC DCO) to bolster existing field edge vegetation. Overall, the RC green infrastructure ensures that the built parts of the site are deliberately set back from Northampton Road to allow a significant buffer from the road.

NG implies that RC has "awkward pinch points" (para 5.1.8 in Doc 5.2) – yet mentions only one part of the site with a lesser depth of green infrastructure than the rest of the site. No other examples are provided. It also fails to mention the integral nature of the green infrastructure to RC's offer.

Comparatively – yet also cumulatively – NG appears to have omitted to consider the effect of matured planting, and how this will affect the comparative effect of both projects (for example, para 2.40 of the Revised CIA – Doc 8.13). Although the current planting layout may create separation between the two sites, this ignores the proposed interrelationship, where

there is potential for a combined landscaping scheme to ensure a coherent landscaping strategy.

Landscape and Visual Assessment

The Revised NG CIA (Doc 8.13) claims there are "*a number of matters in relation to the methodology and subsequent judgements that are not considered to be correct or justifiable*" in the RC chapter (para 2.28 of Doc 8.13) and suggests RC has underestimated effects for some receptors (para 2.34 of Doc 8.13). However, these are not outlined with no explanation or justification here, or elsewhere within the CIA document.

The applicant is also critical of changes made in the RC assessment between the S42 stage and application (e.g. para 2.30 of Doc 8.13). Explanation was provided within RC responses to NG EXA Q's; which also questioned NGs failure to address their own site as a "Locally Important Gap" in local policy, hence potentially underestimating the landscape value of their own site in comparative terms.

Overall the Applicant assesses that the NG development will not give rise to significant landscape effects at year 15 (para 2.31 of Doc 8.13). RC would dispute this assessment given the nature and scale of the proposal and the permanent change arising to the landscape of the NG site and its immediate surroundings (as assessed for RC). It is also apparent that in some cases, the NG site would create a larger impact at a particular receptor (for example, at Collingtree and Courteenhall/ West Lodge (para 2.47 of Doc 8.13, which is relevant comparatively as well as cumulatively)) and in some cases RC would create a larger impact (such as at Willow Lodge (para 2.48-49 of Doc 8.13). In practice it is evident that some receptors will be closer to one development than another, so that development will impact the receptor more than the other development.

Paragraph 2.52 of Doc 8.13 states that the visual effects on the Public Right of Way (RoW) would arise almost entirely from RC. Although this statement is made from a cumulative point of view (i.e. views of RC would be the prominent view from the diverted RoW rather than views of NG), it is also relevant comparatively. Taken alone, NG proposes to raise the footpath onto a bund on the eastern side of the Northampton Loop Line (NLL). Therefore views will be affected by the NG development by bringing users of the RoW onto an artificial, engineered landscape bund. Were RC and not NG to go ahead, the footpath would be diverted through the “softer” landscaping proposed by RC. The RC site has created a setting for diverted footpaths, rather than running them along the side of a screening bund.

Air Quality

The comparative assessment at Section 5.3 of Doc 5.2 generally considers that the two schemes have the potential to be comparable in terms of air quality, with no significant environmental effects caused. This would be as a result of mitigation outlined in the Construction Environmental Management Plans for both sites, and further adaptive mitigation as required. RC agrees with this conclusion.

As outlined previously, RC has not yet modelled traffic data due to modification of the proposed highway works, so air quality effects of this cannot be compared.

Noise and Vibration

Comments on the RC noise assessment made within Doc 5.2 (section 5.4) and Doc 8.13 (para 2.106 onwards) appear to have been made in reaction to RC's comments on the NG assessment at earlier Deadlines, which identified three key weaknesses:

1) use of inappropriate and elevated assessment thresholds (LOAEL/SOAEL),
2) omission of significant noise sources (e.g. warehouse mechanical ventilation plant; HGV trailer mounted chillers), and
3) underestimation of noise output from other significant sources (e.g. Rail Mounted Gantry Cranes and their alarms)).

Para 5.4.1 in Doc 5.2 states that there are weaknesses in RC's approach, but does not provide detail as to why the approach used is inappropriate. Similar issues are raised in Doc 8.13. Evidently the RC team does not accept the criticisms, and consider the assessment methodologies and thresholds to be robust and in accordance with current guidance, and have been scoped with the EHO.

Addressing the issues at para 5.4.1 of Doc 5.2 in turn:

- *incomplete and inconsistent approach to identify LOAELs and SOAELs* – the methodology used by RC is described in the ES and has been scoped with the EHO who has not raised similar issues. Without further detail therefore it is not clear where NG's concerns are with the methodology. It should be notes that as outlined in RCs written submissions at Deadline 1, NG used consistently less onerous assessment thresholds in their own assessment than RC.

- *No predictions of railway noise and vibration made* - RC has predicted and assessed rail noise level changes (RC ES Table 16.34-35) and rail vibration (RC ES para 16.350-352) and concluded negligible effects. In addition, NG incorrectly state that freight trains were not included as an operational noise source by RC (see App 16.11 of the RC ES). Para 2.110 of the Revised CIA (Doc 8.13) acknowledges that rail noise has been assessed but states that RC have modelled *'noise sources at fixed points, to represent diesel locomotives idling and shunting locomotives under full loads…It is not considered adequate to model points sources to represent the potential noise from on-site rail movements. … no noise source is considered from the curved section of track in the south-east corner of the site, close to the receptor NSR 05.*' This misrepresents RCs approach which has treated the locomotives as fixed sources as a worst case (as close as possible to receptors) in accordance with BS 4142 (15 minute reference period). It is not clear that NG have included on-site locomotives in their assessment of on-site operational noise under BS 4142. It also appears NG may have inappropriately used the "Calculation of Railway Noise" (CRN) guidance document to calculate noise from on-site locomotives.

- *One set of receptors has been used for the assessment of all noise types* - The RC receptors were agreed with the Environment Agency at the request of PINS following the scoping opinion. The road traffic noise assessment considers noise level changes at these receptors and also on all roads within the study area, in accordance with DMRB. Similarly, the baseline monitoring methodology, measurement locations and sensitive receptors were agreed with stakeholders during consultation.

- *Not all relevant sources of operational sound have been adequately considered.* – It is not clear which sources are considered to have been omitted, with the exception of operational freight trains (as addressed above, RC have indeed assessed this potential source). However, this statement from Doc 5.2 appears to contradict para 2.108 in the Revised CIA (Doc 8.13) which states that "potential sources of noise and vibration are similar for both schemes"(despite methodological differences). This is disputed by RC, who have previously highlighted that fact that NG have omitted some significant sources from their assessment (including HGV mounted chillers as well as warehouse mechanical ventilation plant) and underestimated sound power levels for gantry cranes and alarms. As a result it is considered that NG's assessment has therefore substantially underestimated the noise levels generated by the NG SRFI site. Para 2.111 of NG's Revised CIA (Doc 8.13) states, '..*The sources of operational sound listed on the last page of Appendix 16.11 make no reference to the impulsive activities that this equipment (gantry cranes and reach stackers) would carry out, e.g. spreader bar engagement and container placement. Considering how often these events might occur, the lack of assessment of these activities potentially results in an underestimation of the noise impact.'* Again this misrepresents RC's assessment, which did address noise from impulsive events and other acoustic characteristics of operational sound by applying a character correction of +3dB to the Specific Sound Level, in accordance with BS 4142. Given the relative distances between the intermodal platform and NSRs with respect to other on-site sound sources, the modelling of sources of impulsive sound events, with the requisite on-time corrections applied, would not have any effect on the total operational sound levels calculated at NSRs.

- *Out-of-hours construction works are not allowed for* – this is incorrect, as the RC dDCO acknowledges that rail construction (and highways works) could well take place out-of-hours, and this is allowed for in the RC noise assessment. (e.g. RC ES para 5.181 and 16.81).

- *Baseline noise and vibration survey not adequately described* – This statement from Doc 5.2 is expanded in the Revised CIA (doc 8.13) which questions the use of particular background noise levels. RC's baseline survey as described in the ES measured noise at the shared receptors and found it to be dominated by road traffic(i.e. not focussing only on SW winds as NG suggest should be undertaken). A comparison of background noise assumptions is made below.

Para 5.4.6 in Doc 5.2 highlights RC's use of acoustic screens in yards and by on-site rail lines, in addition to bunds. NG has only proposed bunds as mitigation, and implies screening is only effective if very high. This is incorrect, as the proximity of screening to a noise source is also relevant (it is more effective to locate screening as close as possible to the noise source). RC has fully considered screening in the overall design strategy in seeking to balance both noise and visual impacts. NG's argument that mechanical ventilation plant is a key (and potentially significant) noise source in RC's assessment is surprising, as their own assessment did not include it. If the source is mitigated by NG's proposed bunding, the model requires to include it to demonstrate its success at such mitigation.

Para 5.4.7 in Doc 5.2 states that the RC scheme will, overall, have a greater adverse impact as a result of noise and vibration than NG at the two shared receptors. However, the assumptions

for the prediction of operational sound made by NG are significantly different to those made by RC, and NG have completely omitted to include a number of significant noise sources from their noise model and significantly underestimated the sound power output of a number of other significant sources as indicated above. Therefore NG are significantly under-predicting operational noise at receptors so NG's conclusion that RC would have a greater adverse impact cannot be relied on.

In addition, the background noise used in NGs assessment is substantially lower than used for RC. This is raised in the Revised CIA (doc 8.13) and NG criticises RCs choice of receptor locations for this. For example, at para 2.145 (doc 8.13) they state "*At receptor R21, this may be due to the corresponding RC survey position being more exposed to road traffic noise from the A43 to the west*.' RC considers this unlikely. RC's road traffic noise modelling and the online Extrium England Noise Map Viewer indicate that, at the relevant monitoring location, the M1 to the east would be dominant; the M1 is closer and has more traffic than the more distant A43 to the west. It is highly unlikely that this could account for a 5-6dB difference in background sound level between RC and NG assessments at this shared receptor. Similarly, para 2.147 states, *'At receptor R28, the NGW survey position was again at the boundary of the rear garden of the receptor, approximately 27 m from the residential building. The RC survey position was approximately 180 m to the south of the receptor, close to Courteenhall Road and the railway lines, and at a ground level 10 m higher than the receptor. This location is likely to be more exposed to the prevailing noise than the NGW receptor and could be the reason why the noise levels measured by RC are different from and higher than those measured at the receptor by NGW.*' It is considered, however, that the relatively low number of traffic movements on Courteenhall Road and the rail line would have little effect, if any, of the measured background sound level at the RC monitoring location.

RC considers instead that differences in the background sound levels used by RC and NG are much more likely to be down to data processing methodology, rather than measurement location. NG have quoted 'modal' values and also 'lower quartile' values in their assessment, although the relevance of the lower quartile has not been made clear. RC have quoted 'mean' values. The "lower quartile" values are likely to be representative of the middle of the night, when levels are at their lowest, rather than the earlier night time period and early morning, before 7am. BS 4142 advises that impacts estimated during 'the middle of the night can be distinctly different (and potentially of lesser importance) compared to the start or end of the night-time period for sleep purposes.' It is considered that the lower quartile value is therefore not an appropriate statistical parameter with which to determine the background sound level in this case. NG undertook two periods of survey work, with the earlier survey (2 weeks in Oct 2016) indicating significantly higher levels than the later survey (2 weeks in June 2017). This was less than RC's survey effort (6 weeks between Feb and May 2016) which included continuous monitoring and filtering for both wind speed and direction, and the use of the "mean" value is therefore considered to be the most appropriate indicator of typical background sound levels in this case.

Evidently comments made on noise arising from highways mitigation are no longer relevant in terms of comparative assessment. However, it is noted that at one receptor on the proposed Roade bypass, a minor adverse impact rises to a moderate adverse impact as a result of RC - though this cannot be confirmed or explained as no data is provided (para 2.141 of Doc 8.13). It is assumed that the absolute noise level remains below the threshold of significant effect.

Lighting

NG indicates that construction impacts from the RC project would be “major adverse” (para 5.5.9 of the comparative assessment in Doc 5.2) whereas the RC ES lighting assessment (Ch 19 of the RC ES) indicates residual effects from construction and operation would be negligible. This difference is because NG focuses primarily on sky glow (only a potential issue during some climatic conditions, and acknowledged as such in RC’s assessment), ignoring other aspects of light pollution which are appropriately managed through RC’s proposed mitigation, though not assessed by NG. Therefore the residual effects on lighting by the RC proposal (including sky glow where that becomes relevant) would be negligible

The RC assessment instead properly addresses the three elements of light pollution – namely light trespass/ encroachment, glare and sky glow. RCs assessment is based on baseline measurements of light, and uses an objective and recognised assessment methodology (Lighting Impact Assessment (Institute of Lighting Professionals ILP Guidance Notes for the Reduction of Obtrusive Light (2011)).

Sky glow relates to loss of view of stars and can indeed be a local issue whenever there is light at night. However, its measurement is dependent on the environmental zone in which the proposed development is located and to ensure that no artificial light at night is aimed into the night sky. Sky glow is most likely to be observed under certain, specific, atmospheric conditions (such as low level mist, cloud cover etc) above the site - however there is no agreed methodology for modelling such conditions. When there is no cloud cover, the RC Operational Parameter Plan lighting approach meet all international recognisable codes and standards metrics. In addition, where the relevant atmospheric conditions are present, then the main reason for limiting sky glow (i.e. observing the stars) is not possible.

Night-time photomontages in the RC application are based on an Operational Parameter Plan approach rather than a detailed design approach, to address the criticisms NG make. They are specifically not intended to be viewed as a reflection of what will be seen. Nevertheless, although sky glow may be problematic to model the other two components which make up the collective term light pollution, light trespass/encroachment and glare, have been modelled as accurately as possible given the limitations of any computer generated image.

Embedded mitigation in RC's project would result in a negligible or minor impact at the shared receptors, which would be reduced to negligible by the proposed adaptive mitigation. Therefore RC disputes the potential "significance of effect" included at NGs Revised CIA (Doc 8.13) at Table 1 (p51 - construction) and Table 2 (p54 - operation). In particular, the definitions used in the assessment are disputed - for example, in RC's ES lighting chapter at Table 19.6 RC considers residential receptors over 100m away as receiving a 'Negligible' Magnitude of Effect (as a result of the distance mitigating the effect of lighting - even poorly aimed lighting) and residential receptors are deemed to have "low" sensitivity, as they are tolerant of change in artificial light conditions without detriment to character. This is in accordance with guidance for Lighting Impact Assessment (Institute of Lighting Professionals ILP Guidance Notes for the Reduction of Obtrusive Light (2011)). NG however, have increased the perceived magnitude and receptor sensitivity of the RC assessment at Table 1 and 2, so have unsurprisingly identified a higher pre-mitigation cumulative impact from both developments. These assumptions are unqualified and therefore just conjecture.

At para 2.210 of NG's Revised CIA (doc 8.13), reference is made to *"(4) light presence of lit elements appearing in dark views*" and they have made an assessment of RC's proposal against this category (as well as others) However, RC disputes this assessment, as it would come under the technical assessment for glare (that is, limits to the measured luminance (cd)). NG's statement therefore is unquantifiable and is a subjective, rather than objective, 'visual effect'.

At para 2.211 of the Revised CIA, the Applicant states that "there would be no nuisance of (sic?) ecological disturbance effects (as a result of the mitigation measures proposed)" though no qualification of this statement is provided in any submissions. NG has not undertaken any baseline survey work at known ecological receptors nor any assessment, on a parameter plan basis, of a post operational impact on such receptor locations.

The assessment of operational lighting in Table 2 is inconsistent with the cumulative assessment elsewhere in the section. For example, on page 54 - Table 2 there is a statement that "*New lit development will extend over an angle of view of approximately 150 degrees, over which local sky glow will appear where previously there was a relatively dark view. This will be especially noticeable on hazy/ misty evenings/ nights…*" However, on page 58 - Table 2 it is accepted that *'the lighting associated with this Development will not emit any upward light although a proportion will be reflected upwards from illuminated surfaces…"*. All the comments in this section however make comment on sky glow as the negative cumulative effect. Their statements are therefore inconsistent.

Biodiversity

Comments made in Doc 5.2 imply that there are gaps in the RC Biodiversity ES Chapter, with a number of protected species surveys being incomplete or inadequate. Similarly, there are criticisms as to the methodology used. However, there is no indication as to what these gaps or methodological issues are. This is in part resolved by more detailed comments provided within the Revised CIA (Doc 8.13 – para 2.67-2.85). Therefore this review concentrates on this document rather than the initial comparative assessment.

It is agreed that the Order Limits of the two projects support a similar range of fauna and flora (para 2.71 of Doc 8.13). Habitats in RC include a network of hedgerows, some areas of woodland and scrub and wetland features, including ponds, watercourses and a section of canal. Surveys for similar species were undertaken, including bats, great crested newt, badgers and farmland birds.

It should be noted that NG misrepresents RCs proposal to mitigate loss of habitat to farmland birds by describing it as "on-site" mitigation which is similar to what NG are themselves providing. Although RCs mitigation at J15a is within the Order Limits, and therefore on-site, it provides a much more extensive area specifically for these species, which NG does not provide.

At para 2.73 of the CIA (doc 8.13) NG states:

"there appear to be some significant gaps in the RC Ecology ES Chapter, with a number of protected species surveys being incomplete or inadequate. On this basis it is considered that RC's conclusion that, with the implementation of appropriate mitigation there will be 'minor and/or minor negligible' residual effects related to loss of veteran trees, important hedgerow features and bats, is premature and may be misleading."

RC does not consider this to be the case, as addressed in the points below, addressing specific criticisms:

- *Biodiversity offsetting report (RC Doc 7.13) fails to include or take account of some fundamental aspects of the methodology used that may indicate that the change, overall, is negative* – This criticism implies insufficient understanding of current methods. Up to date thinking accepts that there are a lot of limitations and flaws with the current off-setting calculator. A new metric and condition assessments are due to be launched later in 2019 that will reduce the number of flaws. RCs assessment does not include multipliers for "difficult to create habitats" and "time to reach the target condition" as they can significantly reduce the "calculated" value of proposed habitats. However, in reality, as long as the proposed habitats reach the proposed conditions which are all realistically achievable there should be a net gain. It is accepted that there will be a temporary loss of biodiversity whilst the site is developed but this will happen regardless as to whether the relevant multipliers are included. Current good practice recommended by IEEM is that it is acceptable to deviate from the methods if you can justify why, as in the RC document.

- *Inconsistency between the Veteran Tree Survey Report (ref 6.1.14.13), which states that no field survey has been completed and Chapter 14 Table 14.6, which suggests one has. Further clarification of methods is required as it is difficult to assess impacts without this understanding* – From a biodiversity viewpoint, there was no requirement to produce a specific, "veteran tree survey" as all necessary data was acquired during the project Development Tree Survey which viewed all trees from ground-level and from within the site boundary. Appendix H to the RC ecology chapter was a desk study, provided for technical information and this was reviewed in the field in August 2018, as explained in Table 14.6. Those trees that were identified as veteran or notable in the desk study, were inspected and assessed from ground level following 'Ancient and other veteran trees; further guidance on management' (Ref 14.29 in the RC ES). Conversely, it is not clear how NG themselves have identified veteran trees, as no guidance is cited and no methodology provided in the NG assessment. Therefore it is not clear that the same criteria have been used for both sites.

- *Table 14.6 also indicates that buildings within the order limits were surveyed for roosting bats. This is not the case and prevents a full assessment of impacts on bats being undertaken*. – This point is accepted. The relevant technical appendix to the RC ES Chapter (Appendix 14 Annex E) does indicate that buildings at the nurseries were not surveyed for bats as no access was possible. However, this is not repeated in Table 14.6 in the ES chapter. It should be noted that these areas are very small, and in practice, NGs statement that it is unlikely that this would have affected the conclusions of the assessment is correct. There is minimal likelihood that the survey results would show anything to materially affect the significance of the impacts. Mitigation for the missing areas is outlined in the adaptive mitigation proposed.

- *It is stated that great crested newt surveys were completed in accordance with English Nature survey guidelines. This is not the case due to suboptimal weather conditions, which can reduce the efficacy of presence/absence surveys, and also due to failure to survey all waterbodies considered to be suitable* - All ponds with access permissions were surveyed and there are no limitations to the surveys that could mean that the

results are not viable. It is common to not have full access to ponds outside the Order Limits. Natural England were consulted throughout the survey process and are fully aware of the limitations of the assessment and confirmed that the methodology for the surveys was appropriate. There were no GCN identified in ponds in the Order Limits, but an EPS licence will be required for work on the main SRFI Site, due to the population within 500m, to the east of the NLL.

- *Evidence of badgers was observed widely within the RC site, although it is suggested that no active setts were observed within the RC order limits. There are a number of areas of the site that were not fully inspected and the presence of badger setts could not be ruled out, with resurvey recommended by the surveyors*. – This is not an accurate representation of the status at RC, as outlined in Chapter 14 of the RC ES. The whole site, with the exception of land at the Nurseries, was surveyed for badger and no definitive evidence of them was recorded in 2016 or 2017. No setts were found anywhere on the site. Regardless, and allowing for the very small areas of the site around the nurseries that were not surveyed (where no badger path was observed going into the un-surveyed area), it is accepted that badgers are likely to use the site, and embedded green infrastructure will provide a higher quality habitat for badgers to forage and build setts. Pre-development surveys will ensure that the Applicant's responsibilities under regulations such as the *Protection of Badgers Act, 1992* are met.

- *Inconsistencies between the Tables 14.24 to 14.27 and the impact matrix provided at Table 14.27. These Tables do not appear to follow the methodology set out in the ES Chapter.* – The assessment tables follow the "Level of Effects" table 14.7, with professional judgement employed to classify "combined" classifications (eg moderate/minor). The effect of the embedded mitigation is used in the assessment (e.g. Outline CEMP) to reach the identified level of effect, as outlined in the relevant tables. In the case of foraging bats, noted as an indicator of these inconsistencies, the table incorrectly states the magnitude of impact during construction to be high, when it should, allowing for embedded mitigation, be medium. This results in a moderate effect, which is logical, given the small proportion of the county-significant receptor affected. As a significant effect is identified, further (adaptive) mitigation is proposed (table 14.28). During operation, embedded mitigation will reduce the residual effect to negligible.

- *The Schedule of Adaptive Mitigation provided at Table 14.28 appears to rule out significant residual effects on many receptors including effects on European Protected Species (EPS).* – As outlined throughout the RC ES, including the Schedule of Mitigation (Appendix 5.3 of Ch 5 to the RC ES and RC ES chapter 14.182, for example), legal requirements are considered as embedded mitigation – not adaptive. All activities that may affect EPS are licensable and the activities will not be carried out without an appropriate licence. Natural England is aware of and accepts this approach.

Overall RC has ensured that the assessment has been carried out appropriately, and the surveys scoped with the relevant stakeholders. Therefore, without further information, no weight can be placed on NG's comments.

Agricultural Land

Both NG and RC assessments accept that both projects will result in the loss of agricultural land with associated environmental effects. As a larger site, RC would result in loss of more land though both projects would result in a "moderate" level of effect. However, as addressed in para 2.269 of the Revised CIA (Doc 8.13) the quality of the land lost at both RC and NG is actually some of the lowest quality in all Northamptonshire. Therefore land within both sites includes a relatively small proportion of land in the highest quality categories (1 and 2) in that context. RC would agree with this assessment.

Archaeology

NG correctly states that there will be no impact by either site on designated archaeological assets, or any setting impacts on such assets. Impacts on buried archaeological assets would be mitigated by both sites through a programme of excavation in accordance with a Written Scheme of Investigation. Although RC questions the extent of trial trenching undertaken by NG, and whether it provides an adequate assessment of the archaeological resource likely to be lost (as outlined in RCs submission at Deadline 2 and oral submissions at ISH3), overall it is considered that mitigation undertaken by both sites will appropriately mitigate the impacts.

Built Heritage

Comments on RCs heritage assessment in the comparative assessment suggest that RC will affect more assets than NG (Section 5.9 of Doc 5.2). RC is larger, so will inevitably affect more assets given its size and coverage. However, NGs comparative assessment makes no comparison as to what each scheme offers.

It is also relevant that the NG assessment methodology potentially underestimates the level of effect (particularly the impact of the bunding etc). This means that NG may have concluded there is no significant effect on assets where there could be one. This issue was raised in RCs Deadline 1 submissions (para 13.23 of RCs Deadline 1 Written Representation) and at Deadline 4 in RCs comments made at the ISH2 oral submissions (in relation to the landscape implications of bunding).

Reference to there being fewer assets within the order limits are irrelevant (para 5.9.2 in Doc 5.2), as the issue is the level of effect at these assets. NG has not recognised this critical issue.

Hydrology, Geology and Contamination

NG's comparative assessment addresses drainage only (para 5.10.1 and 5.10.2 of Doc 5.2). This misrepresents RCs drainage proposals, which are not heavily reliant on underground storage in attenuation tanks – but include attenuation ponds and other drainage features within the landscaping on site. In particular, the Milton Malsor Brook will be diverted, which has substantial proposed biodiversity benefits, as well as reducing flood risk downstream.

Comment on flood risk and the hydrological assessment is also provided in the Revised CIA. However, NG have apparently misunderstood the assessment of flood risk undertaken by RC. At para 2.101/102 (Revised CIA at Doc 8.13) copied below:

> *"The Rail Central application (ES paragraph 13.214) identifies 'moderate beneficial' effects with regard to flood risk and foul water drainage … However, the NGW application assesses the magnitude of the impact as Low, with a receptor sensitivity of*

Medium, leading to an assessment of the effect as minor, beneficial. To achieve a moderate beneficial outcome would require the impact to be of medium magnitude and in the view of the NGW Team further justification would be required by the Rail Central promotors as to why this is so".

The assessment is described in para 13.195 of the RC ES chapter - i.e. the receptor (land in flood Zone 3) is considered to be high sensitivity, and the impact (reduction of likelihood of flooding of this land) is low magnitude - resulting in a moderate beneficial effect (direct in nature, on a local scale and a permanent basis). This effect is caused by RC alone. RCs compliance with the WFD (claimed missing at para 2.104 of Doc 8.13) is contained within the RC ES chapter (Para 13.13).

However, overall it is accepted that both schemes attenuate runoff to pre-development greenfield rates. In addition, as stated in the Revised CIA (para 2.105 of Doc 8.13) both developments have "*potential to offer at least a minor, beneficial impact across the wider drainage catchment areas they sit within. This is due to increased proportions of these catchments having sustainable drainage systems designed to restrict runoff and delivering a betterment on the peak runoff rates seen currently for rainfall events which generate high volumes of surface water*".

Detailed geotechnical design to be carried out for both schemes will ensure the works are stable and therefore will not impact upon neighbouring lands, infrastructure or adjacent proposed developments. No significant soil gas has been identified beneath either the NG or RC sites.

Comparatively, therefore, both sites are agreed as being similar in terms of hydrology, geology and potential for contamination despite differences in the assessment methodologies.

Appendix 4: Document 7.13 (Biodiversity Offsetting Report)

Rail Central
Northamptonshire

The Rail Central Rail Freight Interchange and Highway Order 201[x]

Biodiversity Offsetting Report

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Ashfield Land Management and Gazeley GLP Northampton s.à.r.l.

Rail Central

Biodiversity Offsetting Report

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RSK

RSK GENERAL NOTES

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Date:	15 August 2018	Date:	15 August 2018

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Environment Ltd.

EXECUTIVE SUMMARY

1. This report presents an assessment study of effects on biodiversity in connection with the proposed development of a strategic rail freight interchange (SRFI) known as Rail Central, and an associated mitigation site (J15a) at Milton Malsor, Northamptonshire.
2. The study was carried out as a desk-based exercise, using the results of surveys carried out by RSK to establish the baseline ecology of the site. The post-development biodiversity value of the site is based on the Illustrative Landscape Masterplans (RC-ALG-PLN-2.16.10-14). The study is intended to identify any potential loss of biodiversity on the site as a result of the proposed development.
3. This report calculates 'biodiversity units' using the Warwickshire, Coventry and Solihull Biodiversity calculator and following the methods set out in Defra's biodiversity offsetting pilot. The units are calculated based on the area (or length), condition and distinctiveness of habitats found on the site. Pre-development and post-development biodiversity values are calculated and compared to identify any change in the biodiversity value of the site.
4. The main SRFI site includes 18 habitat types with a total baseline of 675.20 biodiversity area units and 200.80 linear biodiversity units.
5. The J15a site 14 habitat types with a total baseline of 169.14 biodiversity area units and 18.56 linear biodiversity units.
6. The SRFI post-development plans include 9 habitat types with a total of 836.97 biodiversity area units and 201.24 linear units.
7. The J15a post-development plans include 20 habitat types with a total of 267.47 biodiversity area units and 113.56 linear units.
8. The report concludes that the current proposed development at the SRFI site and J15a combined will result in a total positive gain of + 260.1 biodiversity area units and + 95.44 linear biodiversity units.
9. In order to achieve these gains assumptions have been made regarding the conditions of the proposed habitats which are listed in Appendix C and Appendix D. Highlighted assumptions will require ecological input / guidance to ensure they are achieved. This will be achieved via Adaptive Mitigation as described in **Chapter 14 Biodiversity**, of the Environmental Statement.

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1 INTRODUCTION

1.1 Purpose of this Report

This report presents a study of effects on biodiversity in connection with the proposed development of a strategic rail freight interchange (SRFI) and associated mitigation site known as J15a. The proposal for the SRFI includes the construction of up to 13 warehouse units along with associated road and rail infrastructure. The SRFI site is 290.10 ha and *Figure 1* shows the site location. The proposed mitigation site at J15a includes the creation of various habitats designed specifically for wildlife. The J15a site is 48.86ha and *Figure 1* shows the site location.

1.2 Ecological Context

The Main SRFI site occupies gently undulating land on more-or-less neutral loams south of Milton Malsor in Northamptonshire. Like the surrounding area the site has an intensively farmed landscape with most fields under arable or improved grass in approximately equal proportions. A few fields in the south-western part of the site have semi-improved agricultural grassland. Boundaries are mostly marked by species-poor *Crataegus monogyna* (Hawthorn) hedges, many of which have large ditches.

The J15a site includes a range of habitats. To the north is the motorway junction with associated verges and scrub. South of the junction is an area of wetland on abandoned land. The southern section of the site is farmland which includes grazed pasture and arable land bordered by hedgerows. Running through the site is the Grand Union Canal and two streams.

The village of Milton Malsor lies to the north of the site and there are houses, commercial premises and light industrial premises along Towcester Road which bisects the site from north to south. There is also an industrial estate adjacent to the north-western corner of the site. Otherwise, there are scattered houses, farms and plant nurseries in the local vicinity, as well as a disused dual-carriageway service area. Railways largely bound the site to the east and the south, and the A43 dual-carriageway main road bounds the site to the east; all of these actually have some parts of the site lying beyond them. Adjacent to the south-western corner of the site is the canal and marina complex of Blisworth junction, and towpaths border the site in some locations.

2 METHODS

2.1 Introduction

This study was carried out as a desk-based exercise, using the results of field surveys carried out at the site by RSK and Illustrative Landscape Plans (Mar / May 2018) produced by BCA. The primary report consulted as part of this study include:

- **Chapter 14 Biodiversity, Appendix 14, Annex B Phase 1 Habitat Report** (RSK 2018)

Maps of the pre-construction habitats from the ecological appraisal are presented in *Figure 2* and *Figure 3* for the SRFI and J15a sites respectively. Maps showing the proposed habitats extracted from the Illustrative Landscape Masterplans are shown in *Figure 4* and *Figure 5* for the SRFI and J15a sites respectively.

2.2 Biodiversity Baseline Methods

To calculate a biodiversity baseline, this study used methods similar to those of the Defra Biodiversity Offsetting pilot scheme and guidance set out by Defra (2013a).

Initially habitats were digitised in GIS using field notes. Areas were measured in hectares and linear features in kilometres. The biodiversity unit value for each habitat was then calculated by multiplying the habitat area (or length) by its distinctiveness score and then by its condition score, both described below. The unit values for each habitat were then totalled to produce the biodiversity baseline. Linear habitats were assessed separately to areas.

2.2.1 Habitat Distinctiveness

Habitats were classified using the Integrated Habitat System (IHS) codes developed by Somerset Environmental Records Centre (SERC). A distinctiveness score was then assigned using a value pre-determined by the Warwickshire, Coventry and Solihull biodiversity impact assessment calculator. Habitat distinctiveness is a collective measure of biodiversity and includes parameters such as species-richness, diversity, rarity and the degree to which a habitat supports species rarely found in other habitats (Defra 2012b).

On occasions, the habitat distinctiveness was altered up or down from the pre-determined value. Any alterations are fully justified here using evidence relevant to the site, e.g. an increase in distinctiveness because of rare flora or fauna or a decrease in distinctiveness if there has been artificial modification of the habitat.

2.2.2 Habitat Condition

Habitat condition is assessed using the *Farm Environment Plan (FEP) Manual* produced by Natural England (2010). The condition assessments in this manual involve checking features against a list of criteria for habitat in ‘good’ condition. If the area under assessment fails to meet one of the criteria, the condition is considered to be ‘moderate’. If it fails to meet two or more criteria, the condition is considered to be

'poor'. Some habitats do not fit into the condition assessment guidance set out in the FEP manual; these are assessed against a generic condition assessment.

2.3 Calculating Impacts on Biodiversity

The post-development biodiversity units were calculated using information from the Illustrative Landscape Plan (Mar / May 2018) produced by BCA. The baseline biodiversity units were then subtracted from the post-development units to determine any change in biodiversity value of the site as a result of the development. We have assumed there will be no changes to habitats beyond the development boundary resulting from the proposed works. Some assumptions will be made regarding the conditions of the proposed habitats which will require ecological input / guidance to ensure they are achieved.

This report seeks to identify any change in biodiversity value and does not discuss the avoidance, mitigation and compensation hierarchy.

3 BIODIVERSITY BASELINE

3.1 Introduction

This section establishes the biodiversity baseline for the SRFI and J15a sites based on the preliminary ecological appraisal surveys. SRFI site surveys were conducted by RSK in March 2015 and surveys at J15a were conducted in March 2016, with updates in 2016 and 2017 due to boundary changes and access to land parcels (RSK 2018). The calculations were carried out in June and August 2018 for the Main SRFI Site and J15a Site respectively.

3.2 Biodiversity Baseline for Habitats on the SRFI Site

The phase 1 habitat survey map has been used to identify 14 habitat area types and 4 linear habitat types (*Figure 2*). Habitat areas, distinctiveness and condition scores have been calculated and assessed and are displayed in *Table 1*. Linear habitat lengths, distinctiveness and condition scores for linear features are displayed in *Table 1*. Full details of the condition assessments can be found in *Appendix A*.

Table 1. Main SRFI Site Baseline Habitat Areas Biodiversity Calculation

Target Note	Phase 1 Habitat	Total Area (ha)	Distinctiveness	Condition	Biodiversity score
1	Amenity grassland	0.09	Low	Poor	0.18
2	Arable fields	157.94	Low	Poor	315.89
3	Arable field margins	3.34	High	Mod	40.08
4	Broad-leaved plantation woodland	0.93	Medium	Good	11.14
5	Broad-leaved semi-natural woodland	0.59	High	Mod	7.07
6	Buildings and hardstanding	12.69	None	Poor	0
7	Dense / continuous scrub	3.32	Medium - Low	Poor	9.96
8	Improved grassland	75.22	Low	Poor	150.44
9	Introduced shrubs	0.16	Low	Poor	0.32
10	Rough grassland	4.21	Medium	Mod	33.52
11	Poor semi-improved grassland	22.51	Medium - Low	Poor	67.52
12	Standing water	0.05	High	Good	0.81
13	Tall ruderal	5.41	Medium - Low	Poor	16.23
14	No access area	3.65	Medium - Low	Mod	21.90
	Total Site Area (ha)	**290.10**	**Habitat Areas Biodiversity Units**		**675.20**

Table 2. Main SRFI Site Baseline Linear Habitats Biodiversity Calculation

Target Note	Phase 1 Habitat	Total Length (km)	Distinctiveness	Condition	Biodiversity score
15	Hedgerows group 1	8.24	Medium	Good	98.88
16	Hedgerows group 2	4.90	Medium	Mod	39.20
17	Hedgerows group 3	2.33	Medium	Poor	9.32
18	Running Water	4.45	High	Mod	53.40
	Total Length (km)	**19.92**	**Linear Habitats Biodiversity Units**		**200.80**

3.3 Biodiversity Baseline for Habitats on the J15a Site

The phase 1 habitat survey map has been used to identify 13 habitat area types and 1 linear habitat type (*Figure 3*). Habitat areas, distinctiveness and condition scores have been calculated and assessed and are displayed in *Table 1*. Linear habitat lengths, distinctiveness and condition scores for linear features are displayed in *Table 1*. Full details of the condition assessments can be found in *Appendix B*.

Table 3. J15a Baseline Habitat Areas Biodiversity Calculation

Target Note	Phase 1 Habitat	Total Area (ha)	Distinctiveness	Condition	Biodiversity score
1	Arable field margins	0.75	High	Moderate	9.00
2	Arable fields	26.34	Low	Poor	52.68
3	Buildings	0.04	None	Poor	0
4	Hardstanding	5.08	None	Poor	0
5	Broad-leaved plantation woodland	1.91	Medium	Moderate	15.28
6	Broad-leaved wet woodland	1.47	High	Good	26.46
7	Dense / continuous scrub	3.86	Medium - Low	Moderate	23.16
8	Canal	0.50	High	Good	9.00
9	Improved grassland	3.87	Low	Poor	7.74
10	Rough grassland	2.76	Medium - Low	Poor	8.28
11	Rough grassland and tall ruderal	0.76	Medium	Moderate	6.08
12	Marshy grassland	0.46	High	Good	8.28
13	Tall ruderal	1.06	Medium - Low	Poor	3.18
	Total Site Area (ha)	**48.86**	**Habitat Areas Biodiversity Units**		**169.14**

Table 4. J15a Baseline Linear Habitats Biodiversity Calculation

Target Note	Phase 1 Habitat	Total Length (km)	Distinctiveness	Condition	Biodiversity score
14	Hedgerows	2.32	Medium	Moderate	18.56
	Total Length (km)	**2.32**	**Linear Habitats Biodiversity Units**		**18.56**

3.4 Combined Biodiversity Baseline for Habitats on the SRFI and J15a Sites

There is a combined total of 844.34 habitat area and 219.36 linear habitat biodiversity units. This is shown in *Table 5*. Below

Table 5. Combined Biodiversity Baseline Units

Main SRFI Site Baseline Biodiversity Area Units		J15a Mitigation Site Baseline Biodiversity Area Units		Combined Baseline Biodiversity Area Units
675.20	**+**	**169.14**	**=**	**844.34**
Main SRFI Site Baseline Biodiversity Linear Units		**J15a Mitigation Site Baseline Biodiversity Linear Units**		**Combined Baseline Biodiversity Linear Units**
200.80	**+**	**18.56**	**=**	**219.36**

4 IMPACTS ON BIODIVERSITY

4.1 Introduction

This section calculates the biodiversity value of the proposed development based on the Illustrative Landscape Masterplans:

- RC-ALG-PLN-2.16.10 Rev L – Illustrative Landscape Masterplan – Key Plan.
- RC-ALG-PLN-2.16.11 Rev G – Illustrative Landscape Masterplan – 1 of 3.
- RC-ALG-PLN-2.16.12 Rev G – Illustrative Landscape Masterplan – 2 of 3.
- RC-ALG-PLN-2.16.13 Rev G – Illustrative Landscape Masterplan – 3 of 3.
- Rc-ALG-PLN-2.16.14 Rev E – J15A Illustrative Landscape Masterplan.

The condition assessments of proposed habitats have been based on assumed conditions 5 years after development to allow habitats to develop and become natural, some habitats will require ecological input / guidance to ensure the assumed condition is achieved.

4.2 Post-development biodiversity value of the Main SRFI Site

The Illustrative Landscape Masterplans have been used to identify 7 habitat area types and 2 linear habitat types (*Figure 4*). Habitat areas, distinctiveness and condition scores have been calculated and assessed and are displayed in *Table 1*. Linear habitat lengths, distinctiveness and condition scores for linear features are displayed in *Table 1*. Full details of the assumptions made to determine the distinctiveness and carry out the condition assessments can be found in *Appendix C*.

Table 6. Post-development Habitat Areas Biodiversity Calculation

Target Note	Phase 1 Habitat	Total Area (ha)	Distinctiveness	Condition	Biodiversity score
1	Buildings	65.07	None	Poor	0
2	Hardstanding	92.97	None	Poor	0
3	Retained arable farmland	14.28	Low	Poor	28.56
4	Proposed grassland areas	62.04	Medium – Low	Poor	186.12
5	Proposed scrub planting	15.53	Medium – Low	Good	139.77
6	Proposed scrub and trees planting	35.47	Medium	Good	425.64
7	Proposed waterbodies	4.74	High	Mod	56.88
	Total Site Area (ha)	**290.10**	**Habitat Areas Biodiversity Units**		**836.97**

Table 7. Post-development Linear Habitats Biodiversity Calculation

Target Note	Phase 1 Habitat	Total Length (km)	Distinctiveness	Condition	Biodiversity score
8	Hedgerows	9.69	Medium	Good	116.28
9	Running Water	7.08	High	Mod	84.96

Target Note	Phase 1 Habitat	Total Length (km)	Distinctiveness	Condition	Biodiversity score
	Total Length (km)	**16.77**	**Linear Habitats Biodiversity Units**		**201.24**

4.3 Post-development Biodiversity value of the J15a Site

The Illustrative Landscape Masterplans have been used to identify 17 habitat area types and 3 linear habitat types (*Figure 5*). Habitat areas, distinctiveness and condition scores have been calculated and assessed and are displayed in *Table 1*. Linear habitat lengths, distinctiveness and condition scores for linear features are displayed in *Table 1*. Full details of the assumptions made to determine the distinctiveness and carry out the condition assessments can be found in *Appendix D*.

Table 8. Post-development Habitat Areas Biodiversity Calculation

Target Note	Phase 1 Habitat	Total Area (ha)	Distinctiveness	Condition	Biodiversity score
1	Arable	13.56	None	Poor	27.12
2	Arable field margins	2.38	High	Moderate	28.56
3	Bare ground	0.47	Low	Poor	0.94
4	Buildings	0.05	None	Poor	0
5	Hardstanding	6.01	None	Poor	0
6	Broad-leaved wet woodland	1.47	High	Moderate	26.46
7	Broad-leaved plantation woodland	1.80	Medium	Moderate	14.40
8	Dense / continuous scrub	3.48	Medium – Low	Moderate	20.88
9	Scrub and tree planting	1.69	Medium – Low	Good	15.21
10	Canal	0.50	High	Good	9.00
11	Proposed ponds	0.15	High	Good	2.70
12	Improved grassland	3.11	Low	Poor	6.22
13	Rough grassland verges	3.18	Medium – Low	Poor	9.54
14	Retained rough grassland and tall ruderal	0.68	Medium	Moderate	5.44
15	Marshy grassland	1.56	High	Good	28.08
16	Proposed grazed grassland and wildflower planting	8.08	Medium	Moderate	64.64
17	Proposed wildflower planting	0.69	Medium	Good	8.28
	Total Site Area (ha)	**48.86**	**Habitat Areas Biodiversity Units**		**267.47**

Table 9. Post-development Linear Habitats Biodiversity Calculation

Target Note	Phase 1 Habitat	Total Length (km)	Distinctiveness	Condition	Biodiversity score
18	Retained hedgerows	0.92	Medium	Moderate	7.36
19	New native species rich hedgerows	4.40	High	Good	79.20
20	Proposed ditches	2.25	High	Moderate	27.00
	Total Length (km)	**7.57**	**Linear Habitats Biodiversity Units**		**113.56**

4.4 Combined Post-Development Biodiversity Value for Habitats on the Main SRFI Site and J15a Site

The proposals result in a combined total of 1104.44 habitat area and 314.80 linear habitat biodiversity units. This is shown in *Table 10* below.

Table 10. Combined Post-Development Biodiversity Units

Main SRFI Site Post-Development Biodiversity Area Units		J15a Site Post-Development Biodiversity Area Units		Combined Post-Development Biodiversity Area Units
836.97	**+**	**267.47**	**=**	**1104.44**
Main SRFI Site Post-Development Biodiversity Linear Units		**J15a Site Post-Development Biodiversity Linear Units**		**Combined Post-Development Biodiversity Linear Units**
201.24	**+**	**113.56**	**=**	**314.80**

4.5 Combined Change in Biodiversity Value

Under the current proposals set out in the Illustrative Landscape Masterplans there will be a positive gain of + 260.10 biodiversity area units and + 95.44 linear biodiversity units as a result of the Proposed Development. This is shown in *Table 1* below.

Table 11. Change in Combined Biodiversity Units for SFRI and J15a

Combined Post-development Biodiversity Area Units		Combined Baseline Biodiversity Area Units		Change in Combined Biodiversity Area Units
1104.44	**-**	**844.34**	**=**	**+ 260.10**
Combined Post-development Biodiversity Linear Units		**Combined Baseline Biodiversity Linear Units**		**Change in Combined Biodiversity Linear Units**
314.8	**-**	**219.36**	**=**	**+ 95.44**

5 REFERENCES

Defra (2012a), *Biodiversity Offsetting: Guidance for Developers*. Defra, UK

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Natural England (2010) *Higher Level Stewardship. Farm Environment Plan (FEP) Manual* (3rd edition). Natural England, Peterborough.

RSK (2018), *Rail Central – Annex B: Phase 1 Habitat Survey Report.* Project No. 855950. February 2018. RSK, unpublished.

Illustrative Landscape Plan (Mar 2018) produced by BCA.

Drawing; 1627-15-201C – J15A Illustrative Landscape Masterplan.dwg

Illustrative Landscape Plan (May 2018) produced by BCA.

Drawing; 1627-16-25I, 29D, 30D, 100D, 101D, 102D - Illustrative Landscape Masterplan.dwg

6 FIGURES AND PLATES

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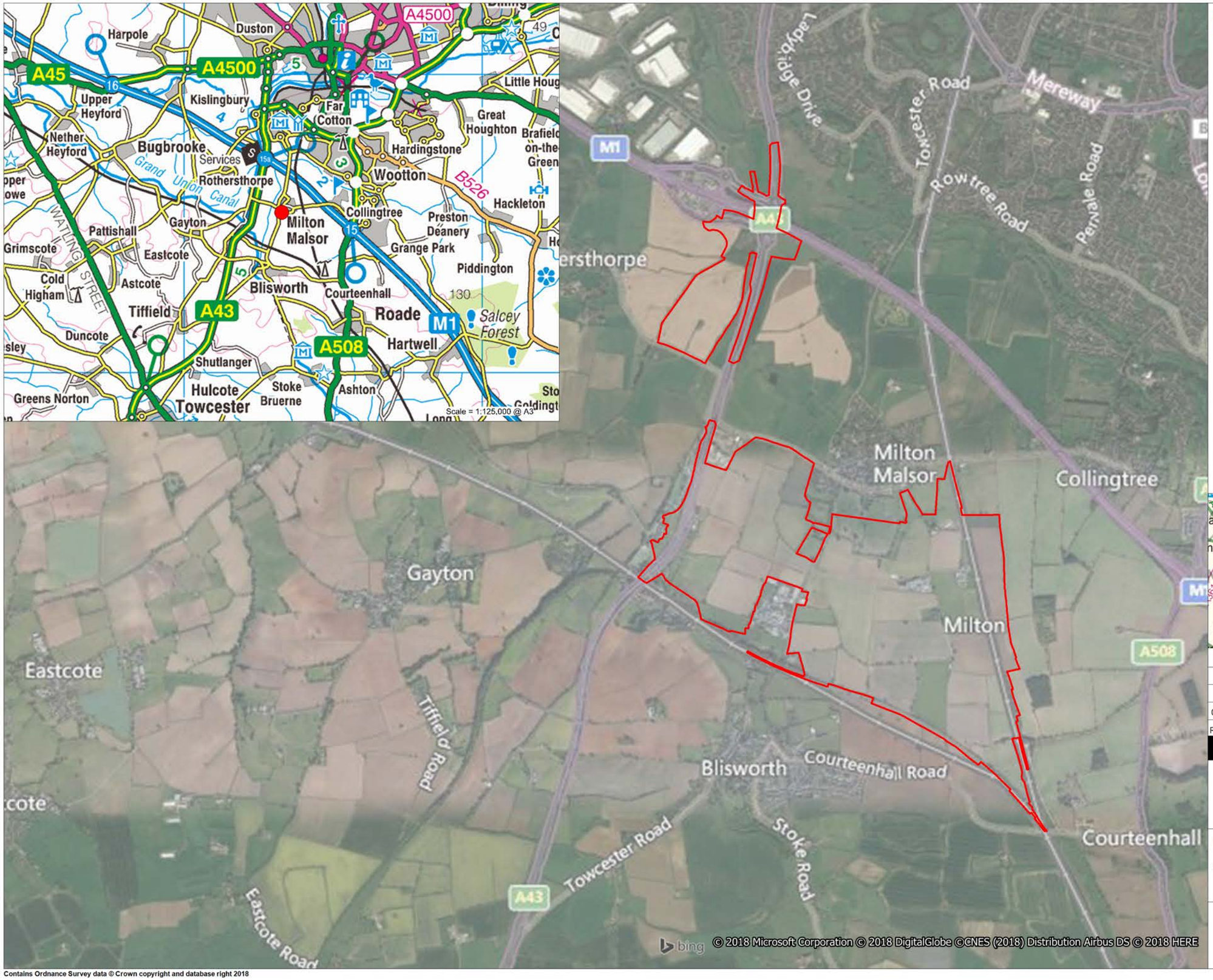
Figure 1. Site locations



Rev	Date	Description	Drn	Chk	App
00	15.08.18	855950	SP	RG	RE

Rail Central

RSK

Figure 1

Site Location Plan

0 750

Metres

Scale = 1:25,000 @ A3

N W E S

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Figure 2. SRFI Site Existing Habitats.

Site boundary (July 2017)
Broad-leaved semi-natural woodland
Broad-leaved plantation woodland
Dense / continuous scrub
Rough grassland
SI Poor semi-improved grassland
I Improved grassland
Tall ruderals
Standing water
Running water
A Arable field
Amenity grassland
Introduced shrub
Hedgerow group 1
Hedgerow group 2
Hedgerow group 3
Buildings and hardstanding
Biodiversity target notes
No access

Rev	Date	Description	Drn	Chk	App
00	30.05.18	855950	SP	RG	RE

Rail Central

RSK

Figure 2

Biodiversity Impact Assessment
Existing Habitats

0 300
metres
Scale = 1:10,000 @ A3

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Base plan provided by client, Drawing; OS_Vectormap_Local_Raster_297671_409492.tif

Figure 3. J15a Site Existing Habitats

Site boundary (Jan 2018)
Ecological mitigation area
Broad-leaved wet woodland
Broad-leaved plantation woodland
Dense / continuous scrub
Rough grassland
I Improved grassland
Marshy grassland
Tall ruderal and rough grassland
Tall ruderals
Canal
A Arable field
Intact hedge
Building
Hardstanding
Biodiversity target notes

Rev	Date	Description	Drn	Chk	App
00	15.08.18	855950	SP	RG	RE

Rail Central

RSK

Figure 3

Biodiversity Impact Assessment
Existing Habitats

0 180
metres
Scale = 1:6,000 @ A3

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Figure 4. SRFI Site Proposed Habitats

Rev	Date	Description	Drn	Chk	App
00	30.05.18	855950	SP	RG	RE

Rail Central

RSK

Figure 4

Biodiversity Impact Assessment
Proposed Habitats

0 300
metres
Scale = 1:10,000 @ A3

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Proposed habitats derived from Illustrative Landscape Plan (May 2018) provided by client, Drawing; 1627-16-25I, 29D, 30D, 100D, 101D, 102D - Illustrative Landscape Masterplan.dwg

Figure 5. J15a Site Proposed Habitats

Site boundary (Jan 2018)
Ecological mitigation area
Broad-leaved wet woodland
Broad-leaved plantation woodland
Dense / continuous scrub
Scrub and tree planting
Rough grassland verges
I Improved grassland
Marshy grassland
Tall ruderal and rough grassland
Proposed grazed grassland and wildflower planting
Proposed wildflower planting
Proposed ponds
Canal
Proposed ditches
A Arable field
Arable field margins
Retained hedgerows
New native species rich hedgerows
Building
Bare ground
Hardstanding
Biodiversity target notes

Rev	Date	Description	Drn	Chk	App
00	15.08.18	855950	SP	RG	RE

Rail Central

RSK

Figure 5

Biodiversity Impact Assessment
Proposed Habitats

0 180
metres
Scale = 1:6,000 @ A3

REV 00

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Proposed habitats derived from Illustrative Landscape Plan (Mar 2018) provided by client, Drawing; 1627-15-201E - J15A Proposals.dwg

APPENDIX A – SRFI SITE BASELINE DETAILED CONDITION ASSESSMENTS

This appendix presents the assessment of the baseline habitats against the relevant habitat condition criteria given in the Farm Environment Plan (FEP) manual (Natural England 2010). Following the guidelines, the condition is judged to be 'good', if all assessment criteria are met. Where one criterion is failed, the condition is reduced to 'moderate' and if two or more are failed, the condition is given as 'poor'. Some habitats that are not listed in the FEP manual, and therefore a generic condition assessment has been used. The generic condition assessment has been developed by RSK and includes simplified conditions from the FEP manual that are frequently used for other habitats. In some cases the criteria may appear not applicable, however this ensures that poor habitats don't exceed a multiplier greater than one and enables higher quality habitats to score more units through increased multipliers.

Target Note 1

Amenity grassland is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	1	**Phase 1 habitat type**	Amenity grassland
Distinctiveness	Low (2)	**Area / Length**	0.09 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	The areas of amenity grassland are species poor and mown.		

Target Note 2

Arable field is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	2	**Phase 1 habitat type**	Arable field
Distinctiveness	Low (2)	**Area / Length**	157.94 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	Individual fields are planted at the same time with a single crop species resulting in a uniform structure. The fields are frequently ploughed and harvested using machinery.		

Target Note 3

Arable field margin is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	3	**Phase 1 habitat type**	Arable field margin
Distinctiveness	High (6)	**Area / Length**	3.34 ha
Condition Assessment	A diverse age range		Pass
	A diverse species mix		Pass
	Diverse structural variety / diverse form		Pass
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Pass
	CONDITION RESULT		MODERATE (2)
Justification	The field margins consist of a diverse age and range of species creating structural variety. No protected species have been identified as present and the margins are undamaged by machinery.		

Target Note 4

Broad-leaved plantation woodland has been assessed against the criteria for To6 – Mixed Woodland in the FEP manual.

Offset Note	4	**Phase 1 habitat type**	Broad-leaved plantation woodland
Distinctiveness	Medium (4)	**Area / Length**	0.93 ha
Condition Assessment	This should be an area of trees with complete canopy cover.		Pass
	The woodland must be free from damage (in the last five years) by stock or wild mammals.		Pass
	There should be no evidence of machinery storage, signage or other inappropriate management		Pass
	CONDITION RESULT		GOOD (3)
Justification	The parcels of broad-leaved plantation woodland have a complete canopy cover which is free from damage within the past five years.		

Target Note 5

Broad-leaved semi-natural woodland has been assessed against the criteria for To8 – Native semi-natural woodland in the FEP manual.

Offset Note	5	**Phase 1 habitat type**	Broad-leaved semi-natural woodland
Distinctiveness	High (6)	**Area / Length**	0.59 ha
Condition Assessment	Native species are dominant. Non-native and invasive species account for less than 10% of the vegetation.		Pass
	A diverse age and height structure		Pass
	Free from damage (in the last five years) from stock or wild mammals – there should be evidence of tree regeneration such as seedlings, saplings and young trees.		Pass
	Standing and fallen dead trees of over 20 centimeters diameter are present.		Fail
	The area is protected from damage by agricultural and other adjacent operations.		Pass
	CONDITION RESULT		MODERATE (2)
Justification	The parcels of broad-leaved semi-natural woodland contain native species of a diverse age and height. There is no evidence of damage within the last five years. There is no standing dead trees and the woodland are unaffected by agricultural activities and other adjacent operations.		

Target Note 6

Buildings and hardstanding is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	6	**Phase 1 habitat type**	Buildings and hardstanding
Distinctiveness	None (0)	**Area / Length**	12.69 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	Buildings and hard standing on site don't support any species.		

Target Note 7

Dense / continuous scrub has been assessed against the criteria for Vo5 – Scrub of High Environmental Importance.

Offset Note	7	**Phase 1 habitat type**	Dense / continuous scrub
Distinctiveness	Medium - Low (3)	**Area / Length**	3.32 ha
Condition Assessment	There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be 100% cover)		Pass
	There is a good age range – a mixture of seedlings, saplings, young shrubs and mature shrubs.		Pass
	Pernicious weeds and invasive species make up less than 5% of the ground cover.		Pass
	The scrub has a well-developed edge with ungrazed tall herbs		Fail
	There are many clearings and glades within the scrub.		Fail
	CONDITION RESULT		POOR (1)
Justification	All areas of scrub consist of at least three woody species of a diverse age range. No invasive species have been recorded. All areas of scrub have abrupt edges where they meet arable fields or the rail lines. All parcels of scrub are relatively dense with no clearings or glades.		

Target Note 8

Improved grassland is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	8	**Phase 1 habitat type**	Improved grassland
Distinctiveness	Low (2)	**Area / Length**	75.22 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	The improved grasslands on site are species poor and regularly grazed or cut with machinery resulting in a uniform sward of similar age. No protected or invasive species have been identified as present.		

Target Note 9

Introduced shrub is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	9	**Phase 1 habitat type**	Introduced shrub
Distinctiveness	Low (2)	**Area / Length**	0.16 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Fail
	No or limited damage for example by machinery		Pass
	CONDITION RESULT		POOR (1)
Justification	The areas of introduced shrubs are dominated by non-native species of similar age and structure. No protected species have been recorded and there are no signs of damage by machinery.		

Target Note 10

Rough grassland is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	10	**Phase 1 habitat type**	Rough grassland
Distinctiveness	Medium (4)	**Area / Length**	4.21 ha
Condition Assessment	A diverse age range		Pass
	A diverse species mix		Pass
	Diverse structural variety / diverse form		Pass
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Pass
	CONDITION RESULT		MODERATE (2)
Justification	The areas of rough grassland support a variety of species of various ages and structure. No protected or invasive species have been recorded and there is no evidence of damage.		

Target Note 11

Semi-improved grassland is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	11	**Phase 1 habitat type**	Semi-improved grassland
Distinctiveness	Medium - Low (3)	**Area / Length**	22.51 ha
Condition Assessment	A diverse age range		Pass
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Pass
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Pass
	CONDITION RESULT		POOR (1)
Justification	The areas of semi-improved grassland are species poor with a diverse range of ages and structure. No protected or invasive species have been recorded and there is no evidence of damage.		

Target Note 12

Standing Water has been assessed against the criteria for W07 – Ponds.

Offset Note	12	**Phase 1 habitat type**	Standing Water
Distinctiveness	High (6)	**Area / Length**	0.05 ha
Condition Assessment	The pond should be set within a semi-natural habitat.		Pass
	It should be within 500m of another wetland feature (such as a pond, river or fen).		Pass
	There should be no obvious sign of pollution or of inappropriate quality of the water supply.		Pass
	There should be an absence of damaging non-native plant or animal species. Damaging plants include water fern, Australian swamp stonecrop, parrot's feather, floating pennywort and Japanese knotweed (on the bank). Damaging animals include non-native crayfish, reptiles and amphibians.		Pass
	The pond should not be stocked with fish or support damaging numbers of wildfowl		Pass
	It should experience only natural fluctuations in water levels.		Pass
	CONDITION RESULT		POOR (1)
Justification	All of the ponds are located within semi-natural habitat and within 500m of another water feature. There are no obvious signs of pollution or invasive species. None of the ponds have been stocked with fish or support damaging numbers of waterfowl. The ponds only experience natural fluctuations in water levels.		

Target Note 13

Tall ruderal is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	13	**Phase 1 habitat type**	Tall ruderal
Distinctiveness	Medium - Low (3)	**Area / Length**	5.41 ha
Condition Assessment	A diverse age range		Pass
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Pass
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Pass
	CONDITION RESULT		MODERATE (2)
Justification	The areas of tall ruderal are species poor with a diverse range of ages and structure. No protected or invasive species have been recorded and there is no evidence of damage.		

Target Note 14

There are a few areas of no access to date. These areas have been given a distinctiveness of medium – low. This is based on using aerial imagery to assume which habitats could be present. Due to no access it is not possible to carry out a condition assessment so a moderate condition has assumed.

Target Note 15

Hedgerows group 1 has been assessed against the criteria for Fo2 – High Environmental Value Boundaries, Hedges of High Environmental Value in the FEP manual.

Offset Note	15	**Phase 1 habitat type**	Hedgerows group 1
Distinctiveness	Medium (4)	**Area / Length**	8.24 km
Condition Assessment	Height: The hedgerow must meet a minimum threshold of 2m in height. Assess the height of the woody component of the hedgerow from the base of the stems to the top of the shoots of the woody species. This should be assessed along the whole length of the hedgerow and the most common height used. Gaps are not included, nor are hedgerow trees. Where a bank is present, the height of the bank must be excluded.		Pass
	Width: The hedgerow must meet a minimum threshold of 1.5 m in width. Assess the width of the woody component between the shoot tips at the widest point. This should be assessed along the whole length of the hedgerow and the most common width used. Gaps are not included.		Pass
	Gappiness: Assess the horizontal gappiness of the woody component. Gaps are complete breaks in the woody canopy of the hedgerow. No more than 10% of the hedgerow length should be occupied by gaps and no one gap should be greater than 5 m wide (this excludes access points and gates). Where dormice or target species of bat are present in the hedgerow there must be no gaps.		Pass
	CONDITION RESULT		GOOD (3)
Justification	All hedgerows within group 1 meet all three of the above criteria and are in good condition.		

Target Note 16

Hedgerows group 2 has been assessed against the criteria for Fo2 – High Environmental Value Boundaries, Hedges of High Environmental Value in the FEP manual.

Offset Note	16	**Phase 1 habitat type**	Hedgerows group 2
Distinctiveness	Medium (4)	**Area / Length**	4.90 km
Condition Assessment	Height: The hedgerow must meet a minimum threshold of 2m in height. Assess the height of the woody component of the hedgerow from the base of the stems to the top of the shoots of the woody species. This should be assessed along the whole length of the hedgerow and the most common height used. Gaps are not included, nor are hedgerow trees. Where a bank is present, the height of the bank must be excluded.		See justification
	Width: The hedgerow must meet a minimum threshold of 1.5 m in width. Assess the width of the woody component between the shoot tips at the widest point. This should be assessed along the whole length of the hedgerow and the most common width used. Gaps are not included.		See justification
	Gappiness: Assess the horizontal gappiness of the woody component. Gaps are complete breaks in the woody canopy of the hedgerow. No more than 10% of the hedgerow length should be occupied by gaps and no one gap should be greater than 5 m wide (this excludes access points and gates). Where dormice or target species of bat are present in the hedgerow there must be no gaps.		See justification
	CONDITION RESULT		MODERTATE (2)
Justification	All hedgerows within group 2 meet two out of three of the above criteria and are in moderate condition.		

Target Note 17

Hedgerows group 3 has been assessed against the criteria for Fo2 – High Environmental Value Boundaries, Hedges of High Environmental Value in the FEP manual.

Offset Note	17	**Phase 1 habitat type**	Hedgerows group 3
Distinctiveness	Medium (4)	**Area / Length**	2.33 km
Condition Assessment	Height: The hedgerow must meet a minimum threshold of 2m in height. Assess the height of the woody component of the hedgerow from the base of the stems to the top of the shoots of the woody species. This should be assessed along the whole length of the hedgerow and the most common height used. Gaps are not included, nor are hedgerow trees. Where a bank is present, the height of the bank must be excluded.		See justification
	Width: The hedgerow must meet a minimum threshold of 1.5 m in width. Assess the width of the woody component between the shoot tips at the widest point. This should be assessed along the whole length of the hedgerow and the most common width used. Gaps are not included.		See justification
	Gappiness: Assess the horizontal gappiness of the woody component. Gaps are complete breaks in the woody canopy of the hedgerow. No more than 10% of the hedgerow length should be occupied by gaps and no one gap should be greater than 5 m wide (this excludes access points and gates). Where dormice or target species of bat are present in the hedgerow there must be no gaps.		See justification
	CONDITION RESULT		POOR (1)
Justification	All hedgerows within group 3 fail two out of three of the above criteria and are in poor condition.		

Target Note 18

Running Water has been assessed against the criteria for Fo2 – High Environmental Value Boundaries, Wet Ditch of High Environmental Value.

Offset Note	18	**Phase 1 habitat type**	Running Water
Distinctiveness	High (6)	**Area / Length**	4.45 km
Condition Assessment	Water levels in the ditch must be no more than 45cm below the mean field level and the water must have a minimum depth of 30cm throughout the year.		Fail
	Cover of macro-algae is less than 30% in the summer.		Pass
	The following species together make up less than 75% of the vegetation cover: Common duckweed, fennel pondweed and yellow water-lily.		Pass
	The following species make up less than 10% of the vegetation cover: New Zealand pygmyweed, floating pennywort, waterfern and parrot's feathers.		Pass
	Less than 20% of the ditch is in heavy shade (unless the ditch is adjacent to a hedge or within a woodland) and more than 25% has a gently sloping profile or berms and shelves.		Pass
	CONDITION RESULT		MODERATE (2)
Justification	None of the ditches on site have a minimum depth of 30cm throughout the year. All of the ditches have less than 30% cover of macro-algae in the summer and are free from invasive species. Most of the ditches are within or adjacent to hedgerows, those that are not have less than 20% shading.		

APPENDIX B – J15A SITE BASELINE DETAILED CONDITION ASSESSMENTS

This appendix presents the assessment of the baseline habitats against the relevant habitat condition criteria given in the Farm Environment Plan (FEP) manual (Natural England 2010). Following the guidelines, the condition is judged to be 'good', if all assessment criteria are met. Where one criterion is failed, the condition is reduced to 'moderate' and if two or more are failed, the condition is given as 'poor'. Some habitats that are not listed in the FEP manual, and therefore a generic condition assessment has been used. The generic condition assessment has been developed by RSK and includes simplified conditions from the FEP manual that are frequently used for other habitats. In some cases the criteria may appear not applicable, however this ensures that poor habitats don't exceed a multiplier greater than one and enables higher quality habitats to score more units through increased multipliers.

Target Note 1

Arable field margin is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	1	**Phase 1 habitat type**	Arable field margin
Distinctiveness	High (6)	**Area / Length**	0.75 ha
Condition Assessment	A diverse age range		Pass
	A diverse species mix		Pass
	Diverse structural variety / diverse form		Pass
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Pass
	CONDITION RESULT		MODERATE (2)
Justification	The field margins consist of a diverse age and range of species creating structural variety. No protected or invasive species have been identified as present and the margins are undamaged by machinery.		

Target Note 2

Arable field is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	2	**Phase 1 habitat type**	Arable field
Distinctiveness	Low (2)	**Area / Length**	26.34 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	The fields are planted at the same time with a single crop species resulting in a uniform structure. The fields are frequently ploughed and harvested using machinery.		

Target Note 3

Buildings are not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	3	**Phase 1 habitat type**	Buildings
Distinctiveness	None (0)	**Area / Length**	0.04 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Pass
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	The buildings on site are barns which support very few species however Barn Owls have been recorded.		

Target Note 4

Hardstanding is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	4	**Phase 1 habitat type**	Hardstanding
Distinctiveness	None (0)	**Area / Length**	5.08 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	The hardstanding areas are predominately roads which support very few species.		

Target Note 5

Broad-leaved plantation woodland has been assessed against the criteria for To6 – Mixed Woodland in the FEP manual.

Offset Note	5	**Phase 1 habitat type**	Broad-leaved plantation woodland
Distinctiveness	Medium (4)	**Area / Length**	1.91 ha
Condition Assessment	This should be an area of trees with complete canopy cover.		Fail
	The woodland must be free from damage (in the last five years) by stock or wild mammals.		Pass
	There should be no evidence of machinery storage, signage or other inappropriate management		Pass
	CONDITION RESULT		MODERATE (2)
Justification	The parcels of broad-leaved plantation woodland don't have a complete canopy cover but they are free from damage within the past five years.		

Target Note 6

Broad-leaved wet woodland has been assessed against the criteria for To8 – Native semi-natural woodland in the FEP manual.

Offset Note	6	**Phase 1 habitat type**	Broad-leaved semi-natural woodland
Distinctiveness	High (6)	**Area / Length**	1.47 ha
Condition Assessment	Native species are dominant. Non-native and invasive species account for less than 10% of the vegetation.		Pass
	A diverse age and height structure		Pass
	Free from damage (in the last five years) from stock or wild mammals – there should be evidence of tree regeneration such as seedlings, saplings and young trees.		Pass
	Standing and fallen dead trees of over 20 centimeters diameter are present.		Pass
	The area is protected from damage by agricultural and other adjacent operations.		Pass
	CONDITION RESULT		GOOD (3)
Justification	The area of broad-leaved wet woodland contains native species of a diverse age and height. There is no evidence of damage within the last five years and the woodland is unaffected by agricultural activities and other adjacent operations. There are a number of standing and fallen dead trees.		

Target Note 7

Dense / continuous scrub has been assessed against the criteria for Vo5 – Scrub of High Environmental Importance.

Offset Note	7	**Phase 1 habitat type**	Dense / continuous scrub
Distinctiveness	Medium - Low (3)	**Area / Length**	3.86 ha
Condition Assessment	There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be 100% cover)		Pass
	There is a good age range – a mixture of seedlings, saplings, young shrubs and mature shrubs.		Pass
	Pernicious weeds and invasive species make up less than 5% of the ground cover.		Pass
	The scrub has a well-developed edge with ungrazed tall herbs		Pass
	There are many clearings and glades within the scrub.		Fail
	CONDITION RESULT		MODERATE (2)
Justification	All areas of scrub consist of at least three woody species of a diverse age range. No invasive species have been recorded. All areas of scrub have grassland / verge edges. All parcels of scrub are relatively dense with no clearings or glades.		

Target Note 8

Canal has been assessed against the criteria for Fo2 – High Environmental Value Boundaries, Wet Ditch of High Environmental Value.

Offset Note	8	**Phase 1 habitat type**	Running Water
Distinctiveness	High (6)	**Area / Length**	0.50 ha
Condition Assessment	Water levels in the ditch must be no more than 45cm below the mean field level and the water must have a minimum depth of 30cm throughout the year.		Pass
	Cover of macro-algae is less than 30% in the summer.		Pass
	The following species together make up less than 75% of the vegetation cover: Common duckweed, fennel pondweed and yellow water-lily.		Pass
	The following species make up less than 10% of the vegetation cover: New Zealand pygmyweed, floating pennywort, waterfern and parrot's feathers.		Pass
	Less than 20% of the ditch is in heavy shade (unless the ditch is adjacent to a hedge or within a woodland) and more than 25% has a gently sloping profile or berms and shelves.		Pass
	CONDITION RESULT		GOOD (3)
Justification	The canal has a minimum depth of 30cm throughout the year. There is less than 30% cover of macro-algae in the summer and no invasive species have been recorded. Most of the canal has less than 20% shade.		

Target Note 9

Improved grassland is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	9	**Phase 1 habitat type**	Improved grassland
Distinctiveness	Low (2)	**Area / Length**	3.87 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	The improved grasslands on site are species poor and regularly grazed or cut with machinery resulting in a uniform sward of similar age. No protected or invasive species have been identified as present.		

Target Note 10

Rough grassland is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	10	**Phase 1 habitat type**	Rough grassland
Distinctiveness	Medium - Low (3)	**Area / Length**	2.76 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	Many of the rough grassland areas are species poor verges that are occasionally strimmed. No protected or invasive species have been recorded.		

Target Note 11

Rough grassland and tall ruderal is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	11	**Phase 1 habitat type**	Rough grassland and tall ruderal
Distinctiveness	Medium (4)	**Area / Length**	0.76 ha
Condition Assessment	A diverse age range		Pass
	A diverse species mix		Pass
	Diverse structural variety / diverse form		Pass
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Pass
	CONDITION RESULT		MODERATE (2)
Justification	The areas of rough grassland and tall ruderal are fairly species rich with a diverse range of ages and structure. No protected or invasive species have been recorded and there is no evidence of damage.		

Target Note 12

Marshy grassland is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	12	**Phase 1 habitat type**	Marshy grassland
Distinctiveness	High (6)	**Area / Length**	0.46 ha
Condition Assessment	A diverse age range		Pass
	A diverse species mix		Pass
	Diverse structural variety / diverse form		Pass
	Presence of protected species		Pass
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Pass
	CONDITION RESULT		GOOD (3)
Justification	The areas of marshy grassland are fairly species rich with a diverse structure and age range. No invasive species have been recorded and there is no evidence of damage. Although no projected species have been recorded, it is highly likely that they may be present.		

Target Note 13

Tall ruderal is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	13	**Phase 1 habitat type**	Tall ruderal
Distinctiveness	Medium - Low (3)	**Area / Length**	1.06 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Pass
	CONDITION RESULT		POOR (1)
Justification	The areas of tall ruderal are species poor with a similar range of ages and structure. No protected or invasive species have been recorded and there is no evidence of damage.		

Target Note 14

Hedgerows have been assessed against the criteria for Fo2 – High Environmental Value Boundaries, Hedges of High Environmental Value in the FEP manual.

Offset Note	14	**Phase 1 habitat type**	Hedgerows
Distinctiveness	Medium (4)	**Area / Length**	2.32 km
Condition Assessment	Height: The hedgerow must meet a minimum threshold of 2m in height. Assess the height of the woody component of the hedgerow from the base of the stems to the top of the shoots of the woody species. This should be assessed along the whole length of the hedgerow and the most common height used. Gaps are not included, nor are hedgerow trees. Where a bank is present, the height of the bank must be excluded.		See justification
	Width: The hedgerow must meet a minimum threshold of 1.5 m in width. Assess the width of the woody component between the shoot tips at the widest point. This should be assessed along the whole length of the hedgerow and the most common width used. Gaps are not included.		See justification
	Gappiness: Assess the horizontal gappiness of the woody component. Gaps are complete breaks in the woody canopy of the hedgerow. No more than 10% of the hedgerow length should be occupied by gaps and no one gap should be greater than 5 m wide (this excludes access points and gates). Where dormice or target species of bat are present in the hedgerow there must be no gaps.		See justification
	CONDITION RESULT		MODERATE (2)
Justification	Limited information is held for the hedgerows due to access restrictions, so a moderate condition has been assigned.		

APPENDIX C – SRFI SITE POST-DEVELOPMENT DETAILED CONDITION ASSESSMENTS

This appendix presents the assessment of the post-development habitats against the relevant habitat condition criteria given in the Farm Environment Plan (FEP) manual (Natural England 2010). To allow time for habitats to develop and become natural the condition assessments are based on an assumed condition 5 years after the development has been completed. Any assumptions that will require ecological input / guidance to ensure that they have achieved have been highlighted.

Target Note 1

Buildings are not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	1	**Phase 1 habitat type**	Buildings
Distinctiveness	None (0)	**Area / Length**	65.07 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	The proposed buildings are unlikely to support any species.		

Target Note 2

Hardstanding is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	2	**Phase 1 habitat type**	Hardstanding
Distinctiveness	None (0)	**Area / Length**	92.97 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	The proposed roads and other hardstanding areas are unlikely to support any species.		

Target Note 3

Arable field is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	3	**Phase 1 habitat type**	Arable field
Distinctiveness	Low (2)	**Area / Length**	14.28 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	The proposed area of retained arable farmland will continue to be planted with crops. It will also be frequently ploughed and harvested using machinery.		

Target Note 4

Grassland planting is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	4	**Phase 1 habitat type**	Grassland planting
Distinctiveness	Medium - Low (3)	**Area / Length**	62.04 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	All areas of grassland and wildflower planted have been grouped together making it difficult to separate lower quality amenity verges adjacent to roads / building from areas of wildflower landscaping that are likely to be better managed and of higher quality. Therefore a conservative approach has been taken and a medium – low distinctiveness has been chosen. The condition assessment is based on the lower quality amenity verges that are likely to be mown regularly resulting in grassland that is species poor of similar structure and age. As the areas of wildflower landscaping are likely to make up a significant portion of the grassland planting area, if they can be separated there is potential for a significant increase in biodiversity units		

Target Note 5

Proposed scrub planting has been assessed against the criteria for Vo5 – Scrub of High Environmental Importance.

Offset Note	5	**Phase 1 habitat type**	Proposed scrub planting
Distinctiveness	Medium - Low (3)	**Area / Length**	15.53 ha
Condition Assessment	There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be 100% cover)		Pass
	There is a good age range – a mixture of seedlings, saplings, young shrubs and mature shrubs.		Pass
	Pernicious weeds and invasive species make up less than 5% of the ground cover.		Pass
	The scrub has a well-developed edge with ungrazed tall herbs		Pass
	There are many clearings and glades within the scrub.		Pass
	CONDITION RESULT		GOOD (3)
Justification	The scrub planting will likely become dense / continuous scrub within 5 years therefore a distinctiveness of medium – low has been chosen. The parcels of scrub are set within areas of grassland creating clearing and open areas. It has been assumed that all areas of proposed scrub and tree planting will consist of at least three woody species, no invasive species will be introduced and the areas of scrub will be left to develop edges with ungrazed tall herbs.		

Target Note 6

Proposed scrub and tree planting has been assessed against the criteria for Vo5 – Scrub of High Environmental Importance.

Offset Note	6	**Phase 1 habitat type**	Proposed scrub and tree planting
Distinctiveness	Medium (4)	**Area / Length**	35.47 ha
Condition Assessment	There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be 100% cover)		Pass
	There is a good age range – a mixture of seedlings, saplings, young shrubs and mature shrubs.		Pass
	Pernicious weeds and invasive species make up less than 5% of the ground cover.		Pass
	The scrub has a well-developed edge with ungrazed tall herbs		Pass
	There are many clearings and glades within the scrub.		Pass
	CONDITION RESULT		GOOD (3)
Justification	The scrub and tree planting will likely become a mixture dense / continuous scrub and immature woodland within 5 years therefore a slightly higher distinctiveness of medium has been chosen. The parcels of scrub are set within areas of grassland creating clearing and open areas. It has been assumed that all areas of proposed scrub and tree planting will consist of at least three woody species, no invasive species will be introduced and the areas of scrub will be left to develop edges with ungrazed tall herbs.		

Target Note 7

Proposed waterbodies has been assessed against the criteria for W07 – Ponds.

Offset Note	7	**Phase 1 habitat type**	Proposed waterbodies
Distinctiveness	High (6)	**Area / Length**	4.74 ha
Condition Assessment	The pond should be set within a semi-natural habitat.		Fail
	It should be within 500m of another wetland feature (such as a pond, river or fen).		Pass
	There should be no obvious sign of pollution or of inappropriate quality of the water supply.		Pass
	There should be an absence of damaging non-native plant or animal species. Damaging plants include water fern, Australian swamp stonecrop, parrot's feather, floating pennywort and Japanese knotweed (on the bank). Damaging animals include non-native crayfish, reptiles and amphibians.		Pass
	The pond should not be stocked with fish or support damaging numbers of wildfowl		Pass
	It should experience only natural fluctuations in water levels.		Pass
	CONDITION RESULT		MODERATE (2)
Justification	All of the proposed ponds will be created within an artificial habitat and located within at least 500m of another water feature. It has been assumed that there will be no introduced pollution or invasive species, none of the ponds will be stocked with fish or support damaging numbers of waterfowl and the ponds will only experience natural fluctuations in water levels.		

Target Note 8

Hedgerows have been assessed against the criteria for Fo2 – High Environmental Value Boundaries, Hedges of High Environmental Value in the FEP manual.

Offset Note	8	**Phase 1 habitat type**	Hedgerows
Distinctiveness	Medium (4)	**Area / Length**	9.69 km
Condition Assessment	Height: The hedgerow must meet a minimum threshold of 2m in height. Assess the height of the woody component of the hedgerow from the base of the stems to the top of the shoots of the woody species. This should be assessed along the whole length of the hedgerow and the most common height used. Gaps are not included, nor are hedgerow trees. Where a bank is present, the height of the bank must be excluded.		Pass
	Width: The hedgerow must meet a minimum threshold of 1.5 m in width. Assess the width of the woody component between the shoot tips at the widest point. This should be assessed along the whole length of the hedgerow and the most common width used. Gaps are not included.		Pass
	Gappiness: Assess the horizontal gappiness of the woody component. Gaps are complete breaks in the woody canopy of the hedgerow. No more than 10% of the hedgerow length should be occupied by gaps and no one gap should be greater than 5 m wide (this excludes access points and gates). Where dormice or target species of bat are present in the hedgerow there must be no gaps.		Pass
	CONDITION RESULT		GOOD (3)
Justification	It has been assumed that all planted hedgerows will be allowed to grow at least 2m high and 1.5m wide with no more than 10% gaps.		

Target Note 9

Running Water has been assessed against the criteria for Fo2 – High Environmental Value Boundaries, Wet Ditch of High Environmental Value.

Offset Note	9	**Phase 1 habitat type**	Running Water
Distinctiveness	High (6)	**Area / Length**	7.08 km
Condition Assessment	Water levels in the ditch must be no more than 45cm below the mean field level and the water must have a minimum depth of 30cm throughout the year.		Fail
	Cover of macro-algae is less than 30% in the summer.		Pass
	The following species together make up less than 75% of the vegetation cover: Common duckweed, fennel pondweed and yellow water-lily.		Pass
	The following species make up less than 10% of the vegetation cover: New Zealand pygmyweed, floating pennywort, waterfern and parrot's feathers.		Pass
	Less than 20% of the ditch is in heavy shade (unless the ditch is adjacent to a hedge or within a woodland) and more than 25% has a gently sloping profile or berms and shelves.		Pass
	CONDITION RESULT		MODERATE (2)
Justification	The proposed ditches are unlikely to have a minimum depth of 30cm throughout the year. It has been assumed that all of the ditches will have less than 30% cover of macro-algae in the summer and will be free from invasive species. It has also been assumed that ditches that are not adjacent to hedgerows with not have more than 20% shading.		

APPENDIX D – POST-DEVELOPMENT DETAILED CONDITION ASSESSMENTS

This appendix presents the assessment of the post-development habitats against the relevant habitat condition criteria given in the Farm Environment Plan (FEP) manual (Natural England 2010). To allow time for habitats to develop and become natural the condition assessments are based on an assumed condition 5 years after the development has been completed. Any assumptions that will require ecological input / guidance to ensure that they have achieved have been highlighted.

Target Note 1

Arable field is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	1	**Phase 1 habitat type**	Arable field
Distinctiveness	Low (2)	**Area / Length**	13.56 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	The proposed arable fields are unlikely to increase in condition.		

Target Note 2

Arable field margin is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	2	**Phase 1 habitat type**	Arable field margin
Distinctiveness	High (6)	**Area / Length**	2.38 ha
Condition Assessment	A diverse age range		Pass
	A diverse species mix		Pass
	Diverse structural variety / diverse form		Pass
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Pass
	CONDITION RESULT		MODERATE (2)
Justification	Wide field margins surround the areas of proposed arable fields. It has been assumed that they will consist of a diverse age and range of species creating structural variety. No invasive species will be introduced and there will be no inappropriate damage. The field margins will be suitable for protected species but their presence can't be guaranteed.		

Target Note 3

Bare ground is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	3	**Phase 1 habitat type**	Bare ground
Distinctiveness	Low (2)	**Area / Length**	0.47 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	The area of bare ground is a proposed trackway which is unlikely to support more than a few weedy plant species.		

Target Note 4

Buildings are not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	4	**Phase 1 habitat type**	Buildings
Distinctiveness	None (0)	**Area / Length**	0.05 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Pass
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	The existing barns will be renovated and designed to support Bats and Barn Owls.		

Target Note 5

Hardstanding is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	5	**Phase 1 habitat type**	Hardstanding
Distinctiveness	None (0)	**Area / Length**	6.01 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	The hardstanding areas are predominately roads which support very few species.		

Target Note 6

Broad-leaved wet woodland has been assessed against the criteria for To8 – Native semi-natural woodland in the FEP manual.

Offset Note	6	**Phase 1 habitat type**	Broad-leaved semi-natural woodland
Distinctiveness	High (6)	**Area / Length**	1.47 ha
Condition Assessment	Native species are dominant. Non-native and invasive species account for less than 10% of the vegetation.		Pass
	A diverse age and height structure		Pass
	Free from damage (in the last five years) from stock or wild mammals – there should be evidence of tree regeneration such as seedlings, saplings and young trees.		Pass
	Standing and fallen dead trees of over 20 centimeters diameter are present.		Pass
	The area is protected from damage by agricultural and other adjacent operations.		Pass
		CONDITION RESULT	GOOD (3)
Justification	The area of broad-leaved wet woodland will be unchanged.		

Target Note 7

Broad-leaved plantation woodland has been assessed against the criteria for To6 – Mixed Woodland in the FEP manual.

Offset Note	7	**Phase 1 habitat type**	Broad-leaved plantation woodland
Distinctiveness	Medium (4)	**Area / Length**	1.80 ha
Condition Assessment	This should be an area of trees with complete canopy cover.		Fail
	The woodland must be free from damage (in the last five years) by stock or wild mammals.		Pass
	There should be no evidence of machinery storage, signage or other inappropriate management		Pass
		CONDITION RESULT	MODERATE (2)
Justification	The parcels of broad-leaved plantation woodland will be mostly unchanged with a small area removed.		

Target Note 8

Dense / continuous scrub has been assessed against the criteria for Vo5 – Scrub of High Environmental Importance.

Offset Note	8	**Phase 1 habitat type**	Dense / continuous scrub
Distinctiveness	Medium - Low (3)	**Area / Length**	3.48 ha
Condition Assessment	There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be 100% cover)		Pass
	There is a good age range – a mixture of seedlings, saplings, young shrubs and mature shrubs.		Pass
	Pernicious weeds and invasive species make up less than 5% of the ground cover.		Pass
	The scrub has a well-developed edge with ungrazed tall herbs		Pass
	There are many clearings and glades within the scrub.		Fail
	CONDITION RESULT		MODERATE (2)
Justification	Many of the areas of scrub north of the M1 will be retained. Some areas will be removed for highway layout changes with new areas also planted. It has been assumed that any new areas of scrub planting will contain at least three woody species and a mixture of age ranges. The new areas of scrub will have grassland verge edges and form linear buffers so they are unlikely to contain clearings or glades.		

Target Note 9

Scrub and tree planting has been assessed against the criteria for Vo5 – Scrub of High Environmental Importance.

Offset Note	9	**Phase 1 habitat type**	Scrub and tree planting
Distinctiveness	Medium - Low (3)	**Area / Length**	1.69 ha
Condition Assessment	There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be 100% cover)		Pass
	There is a good age range – a mixture of seedlings, saplings, young shrubs and mature shrubs.		Pass
	Pernicious weeds and invasive species make up less than 5% of the ground cover.		Pass
	The scrub has a well-developed edge with ungrazed tall herbs		Pass
	There are many clearings and glades within the scrub.		Pass
	CONDITION RESULT		GOOD (3)
Justification	It has been assumed that any new areas of scrub and tree planting will contain at least three woody species and a mixture of age ranges. The parcels of scrub and tree planting are separated by areas of grassland that forms clearings between the parcels and well developed edges.		

Target Note 10

Canal has been assessed against the criteria for Fo2 – High Environmental Value Boundaries, Wet Ditch of High Environmental Value.

Offset Note	10	**Phase 1 habitat type**	Running Water
Distinctiveness	High (6)	**Area / Length**	0.50 ha
Condition Assessment	Water levels in the ditch must be no more than 45cm below the mean field level and the water must have a minimum depth of 30cm throughout the year.		Pass
	Cover of macro-algae is less than 30% in the summer.		Pass
	The following species together make up less than 75% of the vegetation cover: Common duckweed, fennel pondweed and yellow water-lily.		Pass
	The following species make up less than 10% of the vegetation cover: New Zealand pygmyweed, floating pennywort, waterfern and parrot's feathers.		Pass
	Less than 20% of the ditch is in heavy shade (unless the ditch is adjacent to a hedge or within a woodland) and more than 25% has a gently sloping profile or berms and shelves.		Pass
	CONDITION RESULT		GOOD (3)
Justification	The canal will be unchanged.		

Target Note 11

Proposed ponds have been assessed against the criteria for W07 – Ponds.

Offset Note	11	**Phase 1 habitat type**	Proposed ponds
Distinctiveness	High (6)	**Area / Length**	0.15 ha
Condition Assessment	The pond should be set within a semi-natural habitat.		Pass
	It should be within 500m of another wetland feature (such as a pond, river or fen).		Pass
	There should be no obvious sign of pollution or of inappropriate quality of the water supply.		Pass
	There should be an absence of damaging non-native plant or animal species. Damaging plants include water fern, Australian swamp stonecrop, parrot's feather, floating pennywort and Japanese knotweed (on the bank). Damaging animals include non-native crayfish, reptiles and amphibians.		Pass
	The pond should not be stocked with fish or support damaging numbers of wildfowl		Pass
	It should experience only natural fluctuations in water levels.		Pass
	CONDITION RESULT		GOOD (3)
Justification	All of the proposed ponds will be created within semi-natural habitat and located within at least 500m of another water feature. It has been assumed that there will be no introduced pollution or invasive species, none of the ponds will be stocked with fish or support damaging numbers of waterfowl and the ponds will only experience natural fluctuations in water levels.		

Target Note 12

Improved grassland is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	12	**Phase 1 habitat type**	Improved grassland
Distinctiveness	Low (2)	**Area / Length**	3.87 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	The areas of improved grasslands will be mostly unchanged will only a small area lost to scrub planting.		

Target Note 13

Rough grassland verges are not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	13	**Phase 1 habitat type**	Rough grassland verges
Distinctiveness	Medium - Low (3)	**Area / Length**	3.18 ha
Condition Assessment	A diverse age range		Fail
	A diverse species mix		Fail
	Diverse structural variety / diverse form		Fail
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Fail
	CONDITION RESULT		POOR (1)
Justification	The existing rough grassland verges will be unchanged and new verges are likely to develop into a similar condition.		

Target Note 14

Retained rough grassland and tall ruderal is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	14	**Phase 1 habitat type**	Retained rough grassland and tall ruderal
Distinctiveness	Medium (4)	**Area / Length**	0.68 ha
Condition Assessment	A diverse age range		Pass
	A diverse species mix		Pass
	Diverse structural variety / diverse form		Pass
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Pass
	CONDITION RESULT		MODERATE (2)
Justification	The areas of rough grassland and tall ruderal will be mostly unchanged with a small area lost to scrub planting.		

Target Note 15

Marshy grassland is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	15	**Phase 1 habitat type**	Marshy grassland
Distinctiveness	High (6)	**Area / Length**	1.56 ha
Condition Assessment	A diverse age range		Pass
	A diverse species mix		Pass
	Diverse structural variety / diverse form		Pass
	Presence of protected species		Pass
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Pass
	CONDITION RESULT		GOOD (3)
Justification	The existing area of marshy grassland will be retained and extended. A number of new areas of marshy grassland will also be created. It has been assumed that these new areas will have a diverse range of species and that there will be no inappropriate damage. Although it's not possible to ensure the presence of protected species it is likely that they will be present.		

Target Note 16

Proposed grazed grassland and wildflower planting is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	16	**Phase 1 habitat type**	Proposed grazed grassland and wildflower planting
Distinctiveness	Medium (4)	**Area / Length**	8.08 ha
Condition Assessment	A diverse age range		Pass
	A diverse species mix		Pass
	Diverse structural variety / diverse form		Pass
	Presence of protected species		Fail
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Pass
	CONDITION RESULT		MODERATE (2)
Justification	It has been assumed that the areas of proposed grazed grassland and wildflower planting will be species rich and free from inappropriate damage. The grassland may support protected species in time but this can't be guaranteed.		

Target Note 17

Proposed wildflower planting is not listed in the FEP manual therefore a generic condition assessment has been used.

Offset Note	17	**Phase 1 habitat type**	Proposed wildflower planting
Distinctiveness	Medium (4)	**Area / Length**	0.69 ha
Condition Assessment	A diverse age range		Pass
	A diverse species mix		Pass
	Diverse structural variety / diverse form		Pass
	Presence of protected species		Pass
	None or a limited presence of invasive species		Pass
	No or limited damage for example by machinery		Pass
	CONDITION RESULT		MODERATE (2)
Justification	It has been assumed that the areas of wildflower planting will be species rich and free from inappropriate damage. It is likely that the wildflower areas will support protected species.		

Target Note 18

Retained hedgerows have been assessed against the criteria for Fo2 – High Environmental Value Boundaries, Hedges of High Environmental Value in the FEP manual.

Offset Note	18	**Phase 1 habitat type**	Retained hedgerows
Distinctiveness	Medium (4)	**Area / Length**	0.92 km
Condition Assessment	Height: The hedgerow must meet a minimum threshold of 2m in height. Assess the height of the woody component of the hedgerow from the base of the stems to the top of the shoots of the woody species. This should be assessed along the whole length of the hedgerow and the most common height used. Gaps are not included, nor are hedgerow trees. Where a bank is present, the height of the bank must be excluded.		See Justification
	Width: The hedgerow must meet a minimum threshold of 1.5 m in width. Assess the width of the woody component between the shoot tips at the widest point. This should be assessed along the whole length of the hedgerow and the most common width used. Gaps are not included.		See Justification
	Gappiness: Assess the horizontal gappiness of the woody component. Gaps are complete breaks in the woody canopy of the hedgerow. No more than 10% of the hedgerow length should be occupied by gaps and no one gap should be greater than 5 m wide (this excludes access points and gates). Where dormice or target species of bat are present in the hedgerow there must be no gaps.		See Justification
	CONDITION RESULT		GOOD (3)
Justification	Limited information is held for the hedgerows due to access restrictions, so a moderate condition has been assigned. Retained hedgerows will be unchanged		

Target Note 19

New native species rich hedgerows have been assessed against the criteria for Fo2 – High Environmental Value Boundaries, Hedges of High Environmental Value in the FEP manual.

Offset Note	19	**Phase 1 habitat type**	New native species rich hedgerows
Distinctiveness	High (6)	**Area / Length**	4.40 km
Condition Assessment	Height: The hedgerow must meet a minimum threshold of 2m in height. Assess the height of the woody component of the hedgerow from the base of the stems to the top of the shoots of the woody species. This should be assessed along the whole length of the hedgerow and the most common height used. Gaps are not included, nor are hedgerow trees. Where a bank is present, the height of the bank must be excluded.		Pass
	Width: The hedgerow must meet a minimum threshold of 1.5 m in width. Assess the width of the woody component between the shoot tips at the widest point. This should be assessed along the whole length of the hedgerow and the most common width used. Gaps are not included.		Pass
	Gappiness: Assess the horizontal gappiness of the woody component. Gaps are complete breaks in the woody canopy of the hedgerow. No more than 10% of the hedgerow length should be occupied by gaps and no one gap should be greater than 5 m wide (this excludes access points and gates). Where dormice or target species of bat are present in the hedgerow there must be no gaps.		Pass
	CONDITION RESULT		GOOD (3)
Justification	It has been assumed that all planted hedgerows will be allowed to grow at least 2m high and 1.5m wide with no more than 10% gaps.		

Target Note 20

Proposed ditches have been assessed against the criteria for Fo2 – High Environmental Value Boundaries, Wet Ditch of High Environmental Value.

Offset Note	9	**Phase 1 habitat type**	Proposed ditches
Distinctiveness	High (6)	**Area / Length**	2.25 km
Condition Assessment	Water levels in the ditch must be no more than 45cm below the mean field level and the water must have a minimum depth of 30cm throughout the year.		Fail
	Cover of macro-algae is less than 30% in the summer.		Pass
	The following species together make up less than 75% of the vegetation cover: Common duckweed, fennel pondweed and yellow water-lily.		Pass
	The following species make up less than 10% of the vegetation cover: New Zealand pygmyweed, floating pennywort, waterfern and parrot's feathers.		Pass
	Less than 20% of the ditch is in heavy shade (unless the ditch is adjacent to a hedge or within a woodland) and more than 25% has a gently sloping profile or berms and shelves.		Pass
	CONDITION RESULT		MODERATE (2)
Justification	It has been assumed that all of the ditches will have less than 30% cover of macro-algae in the summer and will be free from invasive species. It has also been assumed that ditches that are not adjacent to hedgerows with not have more than 20% shading. It's not possible to ensure that the proposed ditches have a minimum depth of 30cm throughout the year.		

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