OxSRFI

OXFORDSHIRE

STRATEGIC RAIL FREIGHT INTERCHANGE

DESIGN APPROACH DOCUMENT

MAIN SITE

Document 5.5A

Revision A

OCTOBER 2026

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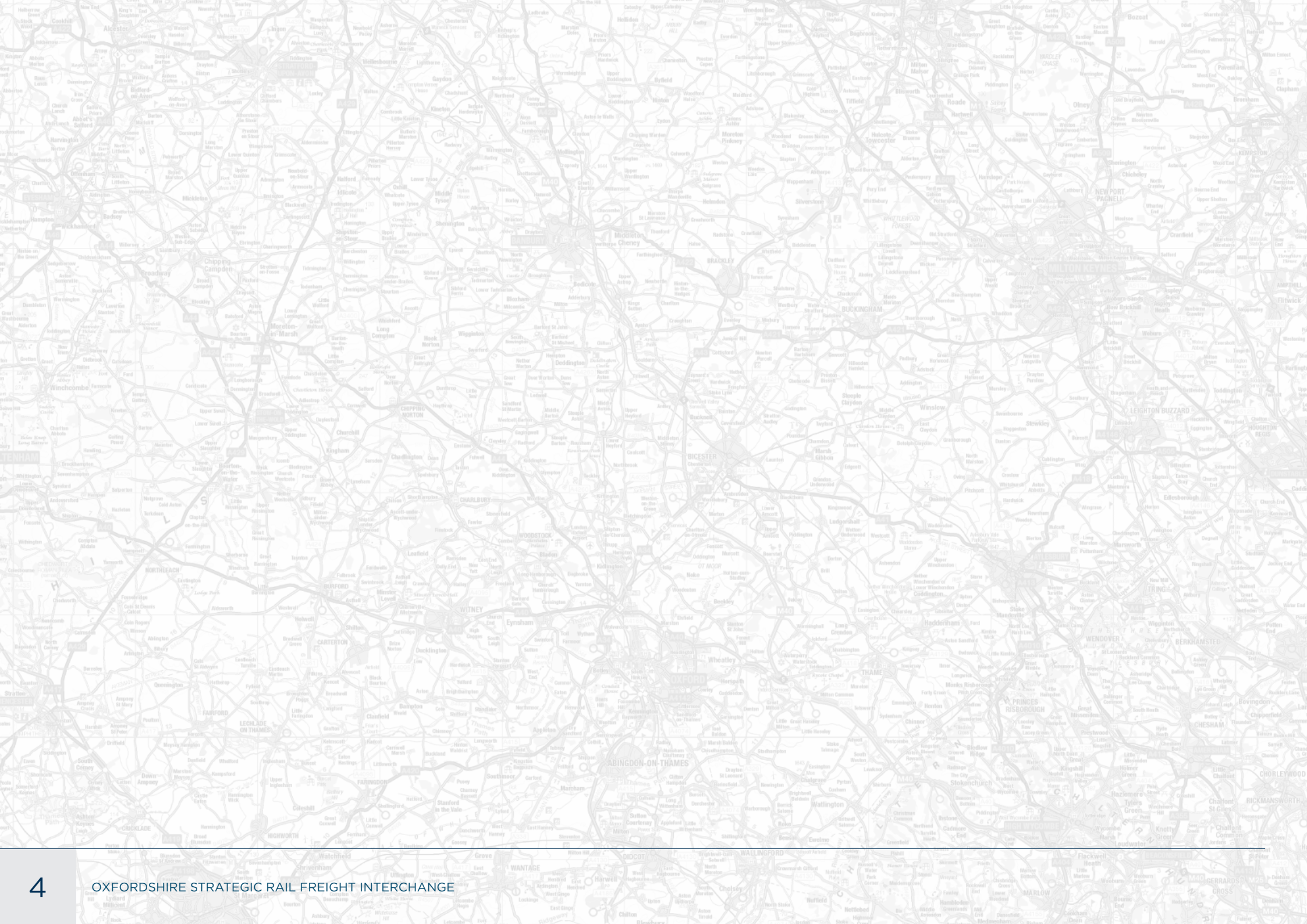
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Watchfield
Shrivenham
Highworth
Cricklade
Down Ampney
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Tetbury
Malmesbury
Chipping Norton
Middle Barton
Bicester
Woodstock
Kidlington
Oxford
Abingdon-on-Thames
Didcot
Harwell
Chilton
Wheatley
Thame
Haddenham
Aylesbury
Buckingham
Brackley
Towcester
Roade
Olney
Newport Pagnell
Milton Keynes
Wolverton
Stony Stratford
Leighton Buzzard
Wendover
Tring
Berkhamsted
Princes Risborough
Chesham
Amersham
Chalfont St Giles
Rickmansworth
Chorleywood
Watford
Hemel Hempstead
Aylesbury Vale
Cherwell
South Oxfordshire
Vale of White Horse
West Oxfordshire
Wycombe
Chiltern

SECTION 1

INTRODUCTION

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SCOPE AND CONTENT

1.1. This Design Approach Document has been prepared in support of an application for a Strategic Rail Freight Interchange (SRFI) and associated infrastructure, on land adjacent to the Chiltern Main Line Railway and close to Junction 10 of the M40. The scheme is known as Oxfordshire Strategic Rail Freight Interchange or OxSRFI.

1.2. The Applicant is Oxfordshire Railfreight Limited, a company owned by Mountpark Logistics EU Sarl (Mountpark) to promote and develop the proposed development. If approved the development will be delivered by Mountpark – a leading developer with a proven track record in delivering high quality logistics developments across the UK/Ireland and Europe.

1.3 This document begins with reference to the assessment work that has informed the preparation of the proposal and goes on to explain how the proposal has evolved in response to this work and to consultation and how design principles have been established. It then explains the key components and main structure of the scheme in terms of the scheme parameters and illustrative masterplan. It outlines the detailed design principles that will inform the detailed design process post consent. It concludes by outlining the approach to the phasing and delivery of the scheme.

1.4. The purpose of the Design Approach Document is to provide supporting information to the application. It draws heavily on and should be read in conjunction with the other technical and supporting documents that are submitted with the application.

SITE LOCATION AND CONTEXT

1.5. The application site consists of land necessary to deliver a Strategic Rail Freight Interchange together with the landscaping and highway works associated with the SRFI.

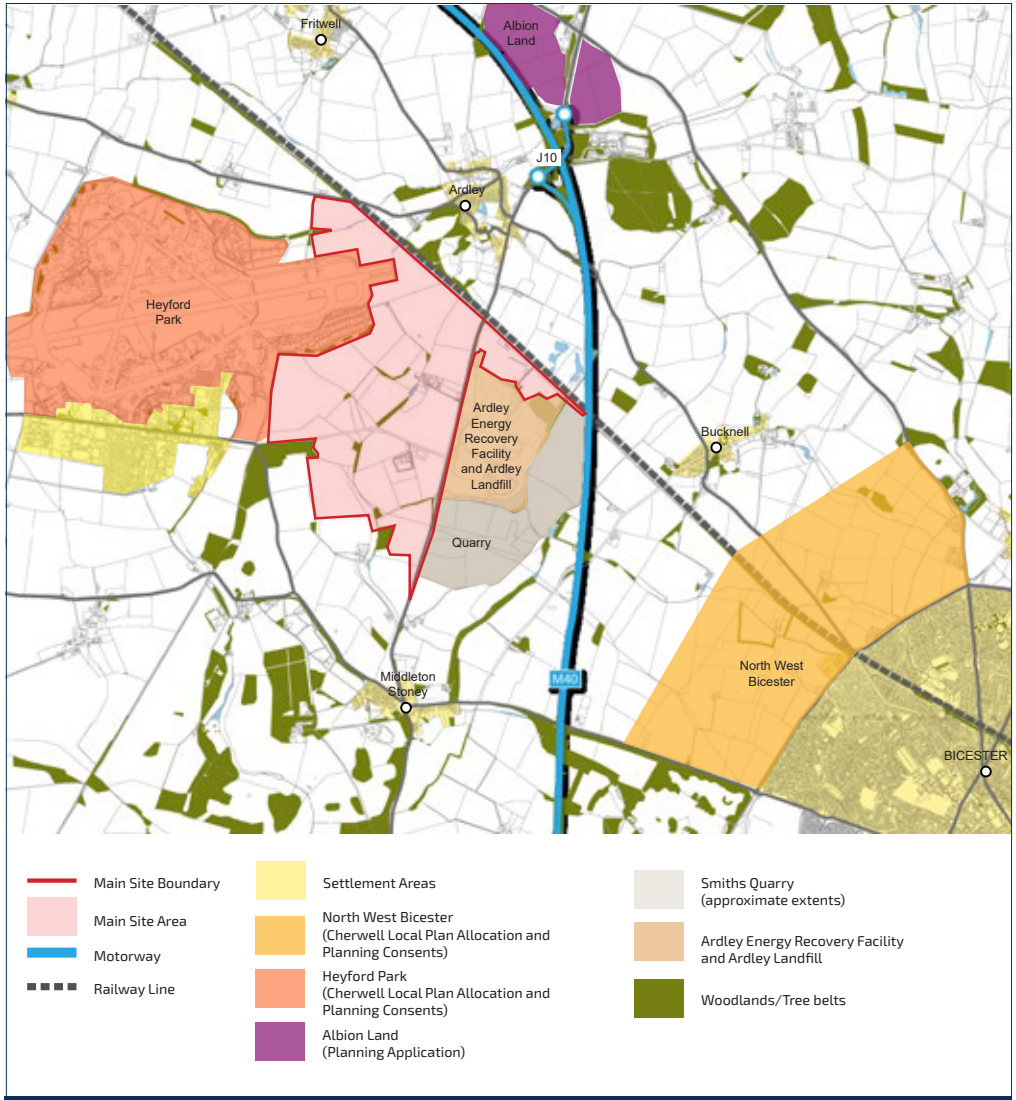


Figure 1 SITE LOCATION PLAN

THE MAIN SITE

1.6. The Main Site is located between the B430 to its east, the disused Upper Heyford Airfield and the Heyford Park new village to its west and the Chiltern Main Line to the north. It is well defined by these existing urban features. The village of Ardley is located to the north of the Chiltern Main Line and is separated from the Main site by intervening woodland and agricultural land. The village of Middleton Stoney lies approximately 1.5km to the south of the Main Site, separated by intervening agricultural land and associated landscape. The M40 Motorway runs nearby, to the east of the Main Site and the Town of Bicester lies to the east of the M40.

1.7. The area around the Main Site has and continues to evolve as new development takes place. The extensive former US Airforce base at Upper Heyford is being transformed into a new settlement, with extensive new housing, schools, shops and new business uses. An application has recently been submitted for further development, which would see up to 9,000 new homes. To the east of the Main Site and east of the B430 is the Viridor Ardley Energy Recovery Facility ("Viridor ERF"), as well as the Ardley Fields Household Waste and Recycling facility and Ardley Landfill Site. Further south of the waste facilities is the active 'Dewars Farm' minerals quarry (limestone and clay).

1.8. Bicester has experienced significant growth in recent years driven by the Bicester Garden Town project, which aims to build 13,000 new homes by 2032. A large portion of this growth is focused on the North West Bicester area, with plans for up to 6,000 new homes, (with a further 1500 homes proposed in the Local Plan Review) as well as additional housing planned at South West Bicester and other strategic sites.

1.9. There are large scale commercial development proposals east of M40 J10, with schemes being promoted by Albion Land and TriTax for logistics development both recently being refused consent (although appeals are likely). There are also 2 leisure schemes proposed, with the Great Wolf Water Park Resort gaining consent recently and an application recently submitted by Puy Du Fou for a theme park (see figure 2).

1.10. The Main Site consists of agricultural land used for mixed arable and grazing purposes and includes the Ashgrove farmstead ("Ashgrove Farm") which comprises a number of farm buildings and residences, including a listed threshing barn. Currently within the Main Site is the Biffa operated 'In-Vessel Composting' (IVC) Facility which is an operational commercial food and garden waste composting facility. The commercial arrangements for the IVC Facility are that the lease ends in 2030 and the operator will vacate the site at that time. There is also an underground reservoir in the south east part of the Main Site which will remain. In connection with the reservoir there are some substantial water mains.

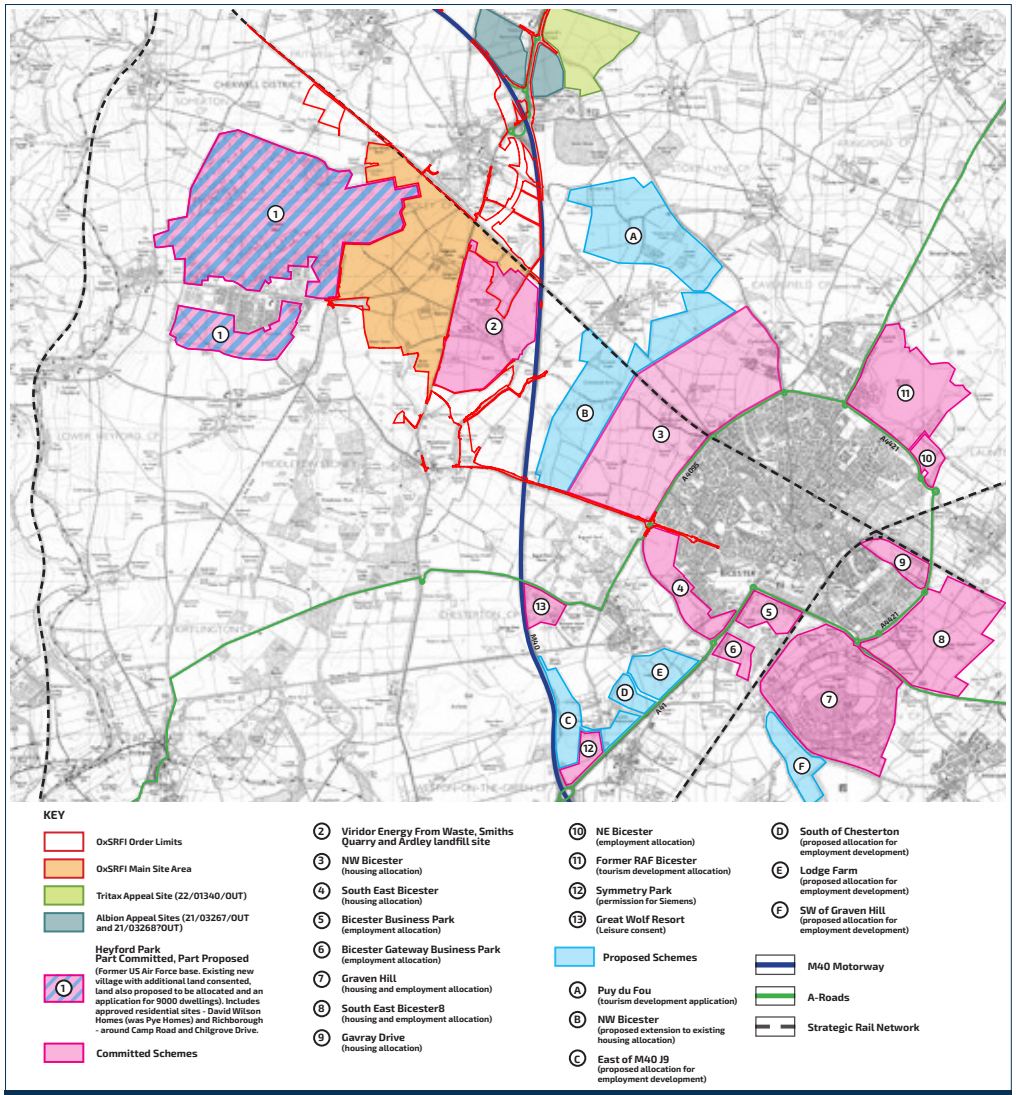


Figure 2 WIDER CONTEXT WITH CUMULATIVE SITES

LAND FOR HIGHWAY WORKS

1.11. The Highways Works include land on both the eastern and western sides of M40 Junction 10 which is largely in agricultural use already directly influenced by highways infrastructure. The proposed Ardley Bypass is on land to the east of Ardley, and crosses a number of existing field hedgerow boundaries, as well as the Chiltern Main Line.

1.12. Similarly, the Middleton Stoney Relief Road includes agricultural land to the north and east of the village and includes sections of woodland as well as the Gagle Brook corridor.

DEVELOPMENT PROPOSALS

1.13. In summary, the Proposed Development consists of:

- An intermodal rail freight terminal, including rail connections and improvements to the Chiltern Main Line including works to Ardley Tunnel, rail sidings, container storage, HGV parking and associated buildings;
- Up to 603,850 sqm (approx. 6.5 million square feet) of warehousing and ancillary buildings, plus up to 201,283 sqm of additional floorspace in the form of mezzanines.
- The retention, rejuvenation and re-use of Ashgrove Farm and associated buildings as part of a 'central hub' to provide estate management, training and communal facilities to serve the site;
- A secure, dedicated HGV Parking area including driver welfare facilities;
- New road infrastructure and works to the existing road network, including improvements to M40 J10 and junctions on the A43, provision of the principal site access and associated works on the B430, a bypass to the village of Ardley linking the site directly with M40 J10, a relief road around the north eastern side of the village of Middleton Stoney, a link road connecting the B430 to Camp Road, , improvements to M40 J9 and other highway improvements at junctions on the local highway network and related traffic management measures;
- New and improved pedestrian and cycle infrastructure both on the Main Site and in the surrounding area connecting the Main Site to local communities;
- Demolition of existing structures within the application site;
- Earthworks to create development areas, construct the rail freight terminal and connections to the Mainline and form landscape screen mounding;
- The retention of key landscape features together with new strategic landscaping, general planting and biodiversity enhancements.
- On and off site works associated with utilities including for foul drainage connections.

POLICY CONTEXT

1.14. The planning policy context for the proposed development and the applicants response to policy will be set out in detail in the Planning Statement. The main conclusions particularly where they relate to design will be outlined here for ease of reference.

1.15. The National Policy Statement for National Networks (NPS) sets out the policy criteria for Strategic Rail Freight Interchanges. It concludes that there is a compelling need for a network of SRFI's and establishes criteria with which new SRFI's should accord. This includes the need to have good access to the strategic rail and road network. Sites which are located relative to the markets they will serve and in locations where the environmental effects of the scheme can be appropriately mitigated. The NPS recognises that countryside locations may be required for SRFI's. In terms of scale and design the NPS requires SRFI's to provide for rail infrastructure and buildings from the outset with the potential for more extensive rail connection in the longer term. They should be capable of handling four trains a day and where possible increasing that number in the future. It should also be capable of accommodating 775m trains, minimise shunting and allow main line access in either direction and make appropriate provision for the receipt of HGV including parking and associated facilities.

1.16. The NPS includes design criteria for national networks. It confirms that visual appearance should be a key factor in considering the design of new infrastructure, as well as functionality, fitness for purpose, sustainability and cost. Good design should produce sustainable infrastructure sensitive to place and matched by an appearance that demonstrates good aesthetics as far as possible. It goes on to state that good design should meet the objectives of the scheme by eliminating or substantially mitigating identified problems by improving operational conditions and minimising adverse impacts. Networks should also be as aesthetically sensitive and resilient as they can reasonably be.

1.17. Advice on the approach to the design of nationally significant infrastructure is provided by the Planning Inspectorate in the form of Advice on Good Design, and the National Infrastructure Commission Design Group in a number

of publications, including Design Principles for National Infrastructure, and Project Level Design Principles both of which focus on applying design principles using four high-level principles of climate, people, place and value. There is also the Government's National Model Design Code which provides a helpful tool for establishing design codes to help guide a project post consent.

1.18. The Planning Inspectorate's Advice on Good Design explains that the design process for nationally significant infrastructure projects should follow a four-stage process involving assemble, research, co-ordinate and secure (see Figure 3).

1.19. The OxSRFI project has sought to follow this process and the approach is explained in various sections of this Document. The approach to the structure of this document and how it relates to the four stages is explained below:

- Assemble: Details of the multi-disciplinary team are outlined in section 2 alongside details of the identified opportunities and constraints. A Vision for the project is set out and followed the initial appraisal of the site, relevant policy and reflect the ambitions for a commercially successful SRFI.
- Research: This stage overlaps and has taken place throughout the pre-application process from initial appraisal work, through the EIA process to scheme refinement following consultation and final assessment. In this DAD it is explained both as part of the section 2 Analysis but also section 3 scheme evolution and section 4 and 5 which explain how overarching design principles have been established and then how the scheme has responded to specific assessment work on particular topic areas.
- Coordinate: This stage clearly overlaps with the ongoing process of research, but is seen as the stage through which the design evolves and is finalised in response to consultation and assessment. The sections on design principles, sections 4 and 5, explain how key design decisions have been made.
- Secure: The DAD explains the approach to scheme parameters, including key decisions in relation to relevant topic areas. By the nature of SRFI's final details of building layout, scale and design are not known, so a detailed design code has been set out (section 7) which will guide and control future detailed design. The design quality of the scheme will therefore be secured through a combination of the scheme parameters and the design code.

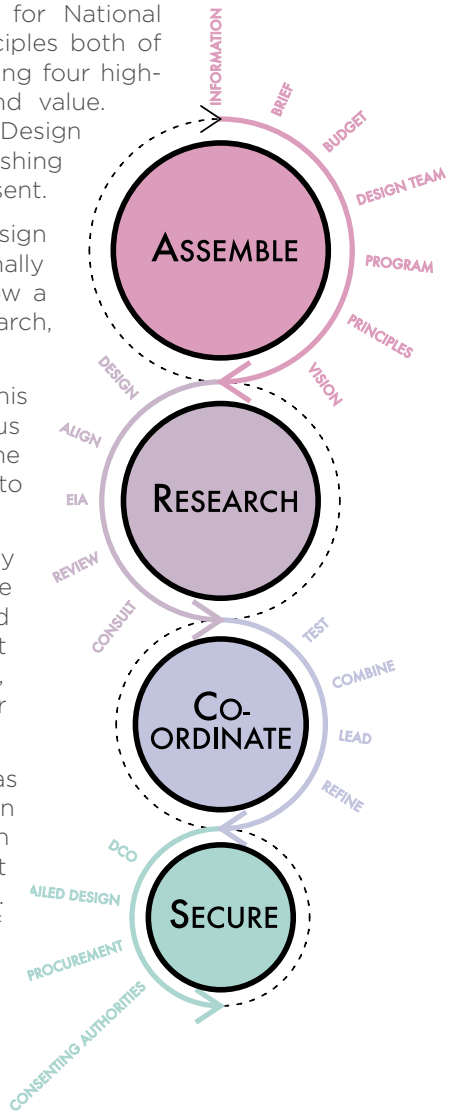
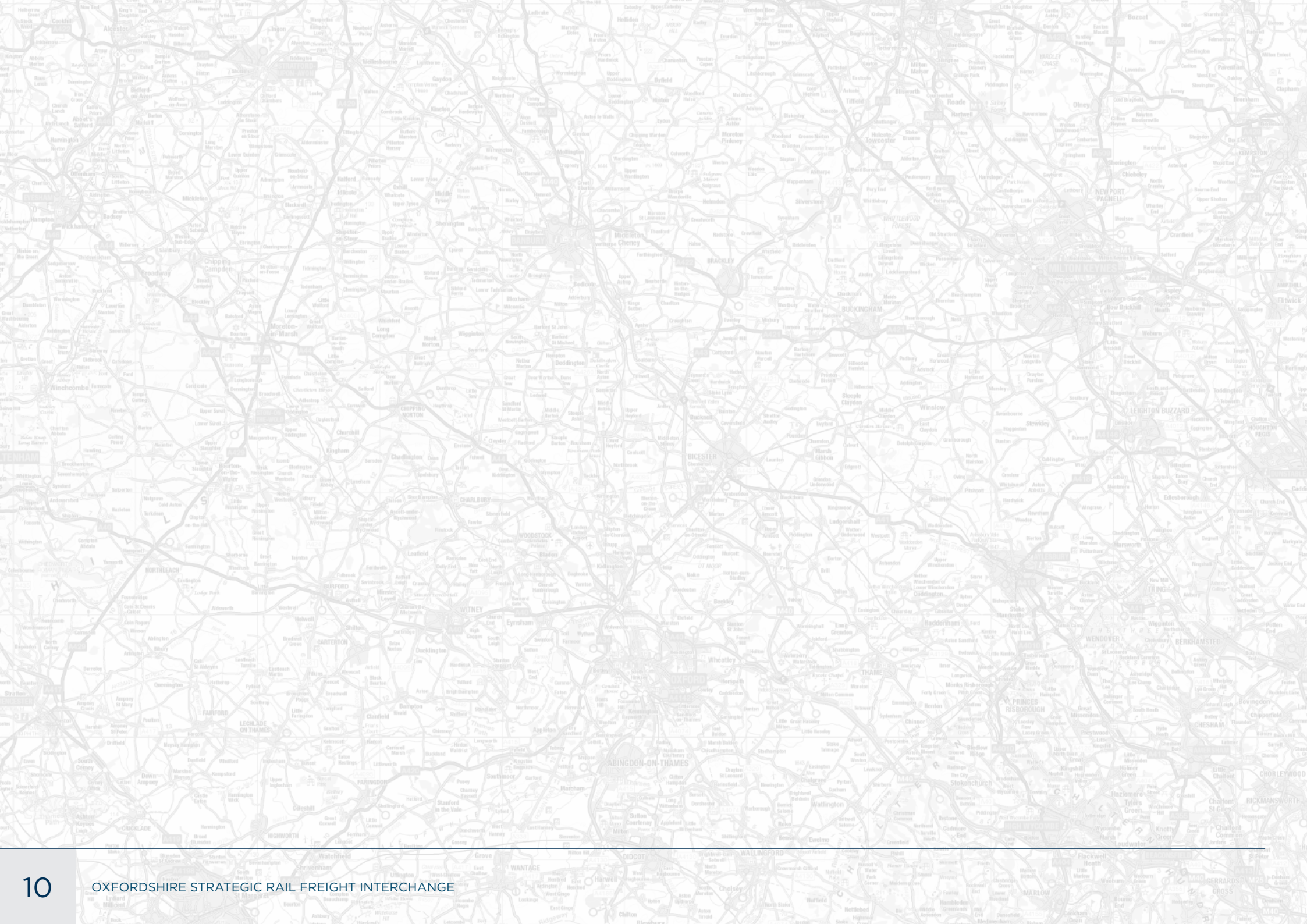


Figure 3 FOUR-STAGE PROCESS - ADVICE ON GOOD DESIGN PLANNING INSPECTORATE



SECTION 2

ANALYSIS

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THE DESIGN TEAM

2.1. The evolution of the OxSRFI scheme has been a collaborative, multi-disciplinary approach with input from a full team of specialist consultants covering a range of topic areas. A core team including planners, master planners, architects and landscape architects have met regularly with Mountpark's Project Directors, to discuss all aspects of scheme design and finalise the approach to design and scheme parameters as set out in the application submission. GB Railfreight (GBRf) have also advised on and informed the design, particularly in relation to the rail terminal and interaction with the Chiltern Main Line. The design process has involved input from the following consultant team:

Consultant	Discipline and Chapters
Oxalis Planning	Planning
MSA Architects	Building Design and Masterplanning
DIA Architects	Historic buildings architecture
ADC	Traffic and Transport and sustainable travel
BWB	Infrastructure and civils design, Flood risk and drainage, Ground conditions, Air Quality and odour
WSP	Waste
Vanguardia/ Buro Happold	Noise and vibration
FPCR	Masterplanning, Ecology and Biodiversity and Landscape and Visual Impacts
DFL	Lighting
RPS and Marrons	Cultural heritage (Built and archaeology)
RPS	Climate change
LRA	Agricultural soils
ESC	Utilities
GC Insight	Socio-economics, Population and human health,

INITIAL SITE IDENTIFICATION

2.2. The initial identification of the OxSRFI site was a response to both the Governments objectives to expand the network of SRFI's across different regions and the market demand both for logistics space and for the use of rail in the supply chain. The OxSRFI site is at a strategically advantageous position in terms of the markets it can serve, the demand it can meet and the access to both the rail and road network. Initial appraisal work to identify a suitable location for an SRFI identified the following key attributes of the OxSRFI site:

- Accessibility to the strategic rail network, capable of W8 gauge and appropriate pathing for freight trains;
- Accessibility to the strategic road network in the form of the M40 south but also the A43 and A34;
- Accessibility to markets, both locally in Oxfordshire but also via the M40 south to London and north to Birmingham;
- Accessibility to labour, from the growing towns of Bicester, Banbury and Oxford as well as Heyford Park;
- A site that is well contained by existing physical features in the form of the former US airbase at Upper Heyford, the Chiltern mainline and the B430 with the Viridor energy from waste facility and Smiths quarry beyond;
- The containment from existing villages and other potential residential receptors;
- The environment on the site and its landform which provides the opportunity for buildings to be substantially screened and harm to the environment and potential receptors to be managed.

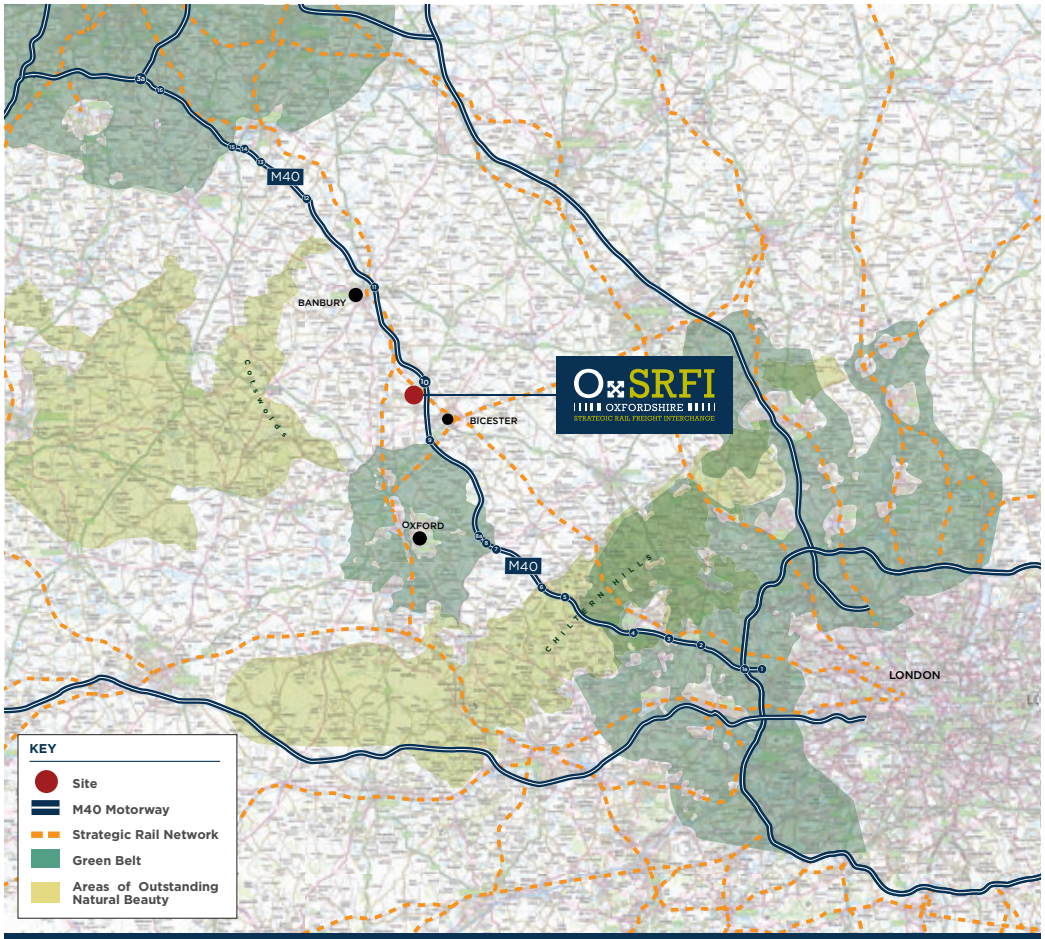


Figure 4 LOCATIONAL ADVANTAGES OF THE SITE

ENVIRONMENT

2.3. The NPS recognises that applicants may only have a limited choice in the physical appearance of some network infrastructure but that there may be opportunities for good design in terms of siting and design measures relative to existing landscape and historical character and function, landscape permeability, landform and vegetation.

2.4. The location of OxSRFI has been identified in response to the policy and evidence base. The approach to defining the application site, its boundaries, scale, form and structure and ultimately the design of the proposed scheme, have responded to this policy base but also to the assessment of the area and to market demand and commercial considerations.

2.5. The application is supported by an Environmental Impact Assessment (EIA) providing comprehensive information across the full range of technical studies and assessments including:

- Ecology and biodiversity;
- Landscape;
- Drainage and Flood Risk Assessment;
- Heritage and Archaeology;
- Air Quality and Noise Assessments;
- Lighting;
- Ground conditions and soil assessments;
- Socio Economics
- Climate Change;
- Transport;
- Waste.

2.6. Details of and the conclusions reached by the environmental assessment work is set out in the Environmental Statement and not repeated in detail here. The following sections set out the analysis of the site drawing on conclusion from the assessment work which has informed the overarching approach to the scheme. Other supporting studies will set out the details of matters which have informed the approach to the design of the scheme including in relation to market demand, and construction management. The assessment and design process has been iterative, with the design of the scheme having responded directly to the assessment work and then ultimately the final Environmental Statement assessing the effects of the defined application scheme.

OPPORTUNITIES AND CONSTRAINTS

2.7. Having regard to the policy, environmental and economic matters, key opportunities and constraints can be identified that have informed the design of the application proposal.

2.8. Opportunities:

- Direct rail access with connections in both directions;
- Direct access to the strategic road networks;
- To accommodate 775m long trains and a large intermodal terminal with extensive storage and the ability for expansion to accommodate 12 trains a day;
- Extensive area for warehousing with potential for flexible building sizes including large individual buildings, some of which with the potential for direct rail connection;
- Extensive landscaping to screen the site and contribute to the open space network;
- To retain key landscape features and to deliver biodiversity enhancements;
- To bring about strategic highway improvements to increase capacity on the network, particularly M40 J10 but also through new roads around Ardley and Middleton Stoney;
- To deliver an SRFi strategically placed in relation to rail and road access where it can expand the network of SRFI's, meet market needs and contribute to a modal shift from road to rail;
- Develop a scheme which responds to and builds upon the sites context and its containment through existing development, rail and road infrastructure and landscape features;
- To utilise existing topography and landscape features to help contain and screen the development from surrounding areas and help minimise noise, visual and lighting effects.
- To retain, rejuvenate and re-use an existing farm complex including a listed barn, farmhouse and farm cottages.

2.9. Constraints (without mitigation):

- Existing trees and hedgerows that are present on the site and adjacent areas;
- Existing watercourse, wildlife and habitat areas within the site.
- Existing listed threshing barn and associated farmhouse;
- Traffic congestion, consideration of traffic generation to and from the site and potential impact upon local villages and communities and the capacity of the strategic road network;
- Topography of the site with differences in ground levels across the site (which also presents design opportunities);
- Visual, noise, and lighting effects without appropriate screening;
- The need to respond appropriately to ecological features and landscape condition;
- The existing IVC facility;
- The existing Thames water reservoir and associated water mains;
- Areas of existing landfill where rail access could be required;
- Potential environmental effects on existing and proposed nearby properties and open countryside which influences the location of built development, and determines key design characteristics;
- Effects on air quality management;
- Public footpaths and rights of way cross the site;

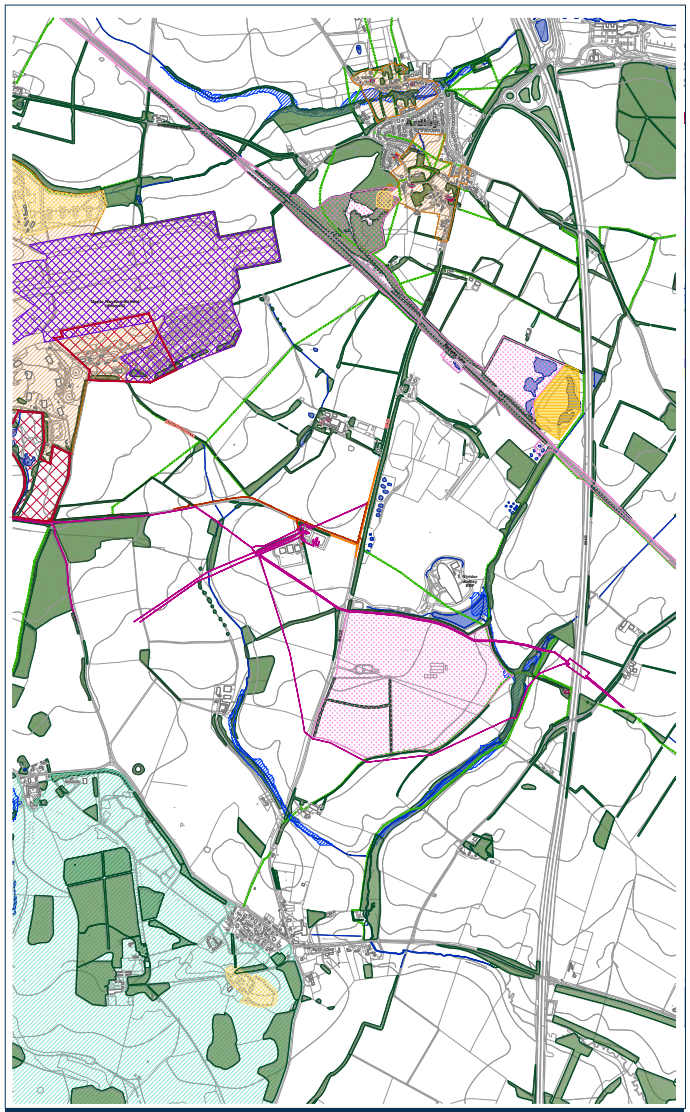


Figure 5 CONSTRAINTS PLAN

2.10. Concept design layouts were developed responding to constraints as described above and having regard to relevant policy and guidance. See Concept Landscape Framework Plan at Figure 7. The context to the site has evolved during the evolution of the scheme, in particular in relation to consents and proposals for development at and around Heyford Park. From these conceptual schematic layouts the design has evolved to take account of the changing context and assessment work to establish the parameters for development at the site, identifying the site potential and establishing the extent of suitable and sustainable development for the site. A key part of the initial design approach was to develop a strategy to respond to existing topography, utilising cut and fill of materials across the site to form large plateau areas for built development as well as areas of raised landscape mounds which could provide visual and acoustic screening. Such an approach would also ensure a materials balance on site, avoiding the need for the import or export of materials. See Concept Landscape Cross Sections at Figure 6.

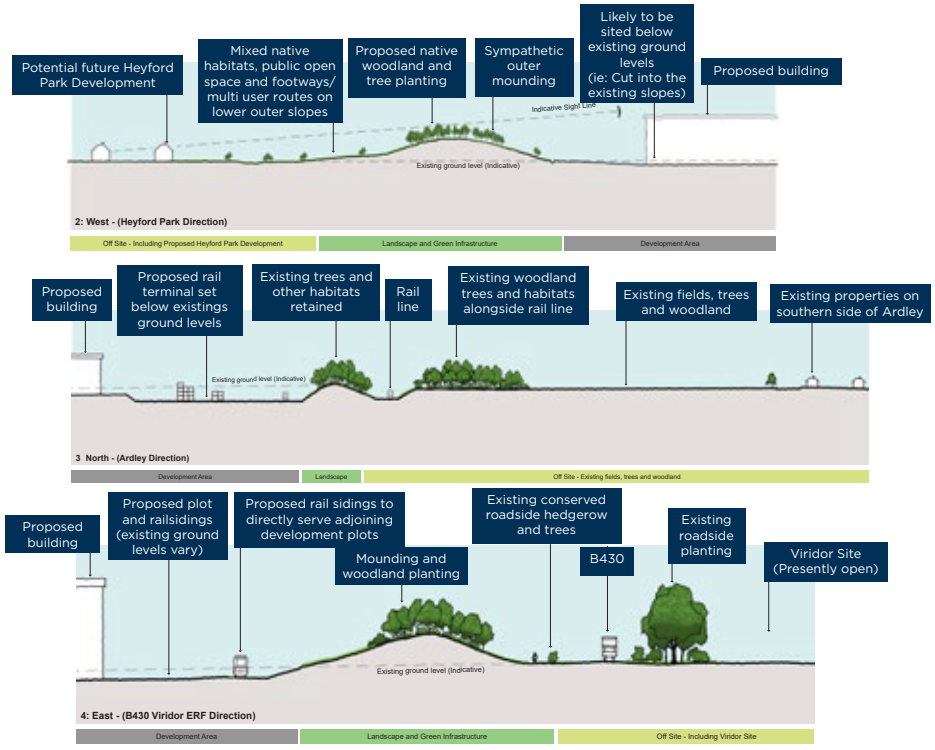


Figure 6 INITIAL CONCEPT LANDSCAPE CROSS SECTIONS

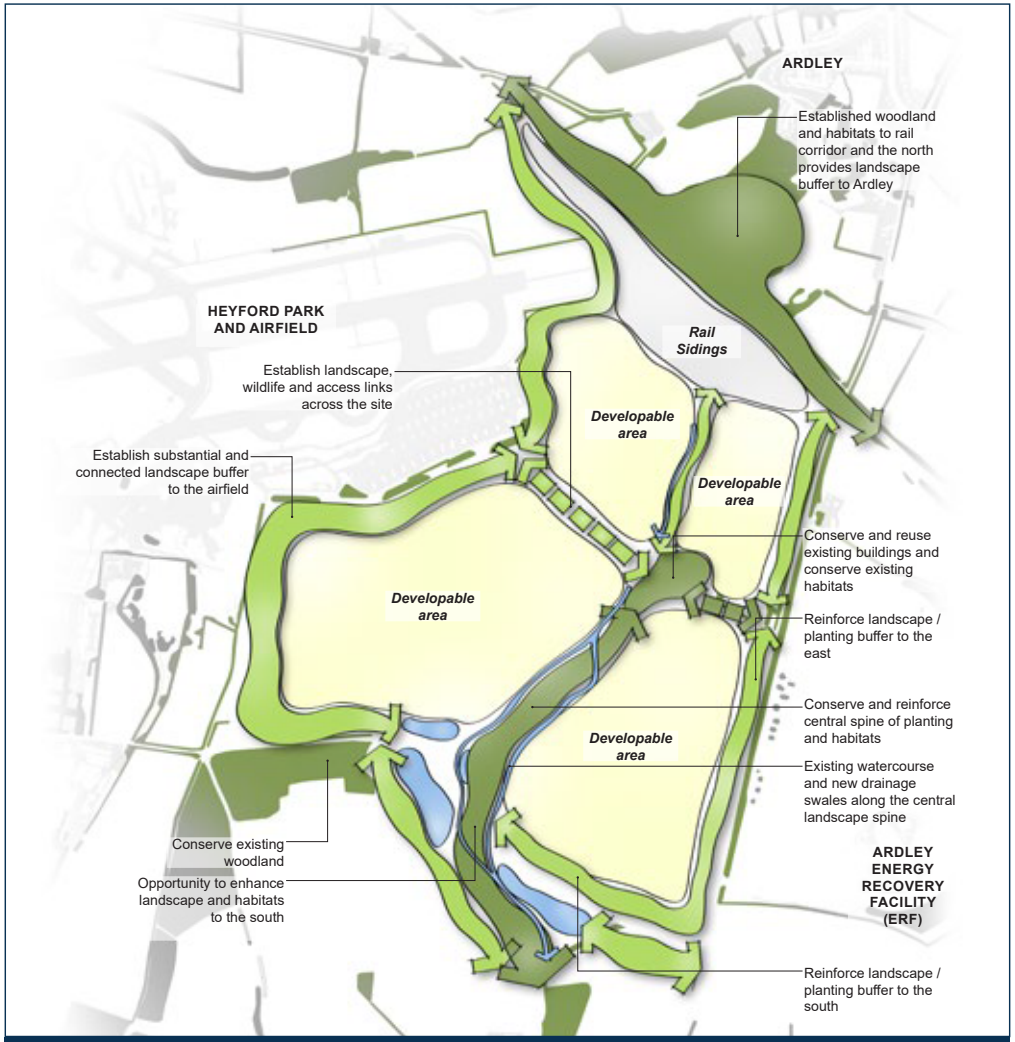


Figure 7 INITIAL CONCEPT LANDSCAPE FRAMEWORK

SCHEME VISION

2.11. The overarching vision for the OxSRFI scheme, developed following initial appraisal work and having regard to relevant policy, is to establish a successful, nationally significant, Strategic Rail Freight Interchange, meeting the demands of the market and facilitating investment, job creation and economic growth and greater use of rail in the supply chain.

2.12. The rail terminal, built development and other active components of the scheme will be positioned within an extensively landscaped site, with their effects on the environment and local communities minimised and appropriately mitigated. The scheme will facilitate greater public access to green spaces and the wider network of pedestrian and cycle links will be improved. The scheme will also deliver an important uplift in biodiversity. The quality of landscaping and building design will create a sense of place appropriate for a commercial scheme of national significance. The capacity of the surrounding road network will be improved and the effects of the scheme on local communities addressed through new infrastructure. Employees will be able to travel to work on high frequency, high quality public transport system.

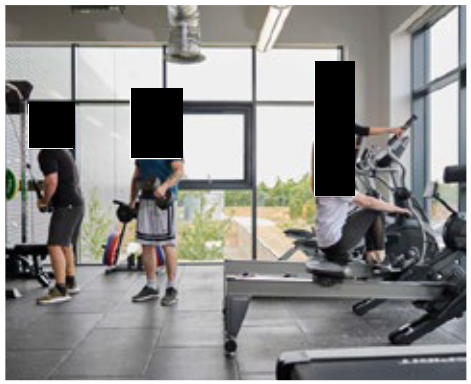
2.13. One of Mountpark's strategic priorities is Responsible Development. Mountpark's mission statement is 'to deliver strategic and efficient space by staying close to what matters to our customers, our people, and the communities we serve.' Mountpark's ambition has always been to be a responsible owner - socially, economically and environmentally, which explains their desire to construct in a responsible manner. Responsible Development has therefore been their guiding principle throughout the development and design of the OxSRFI proposals.

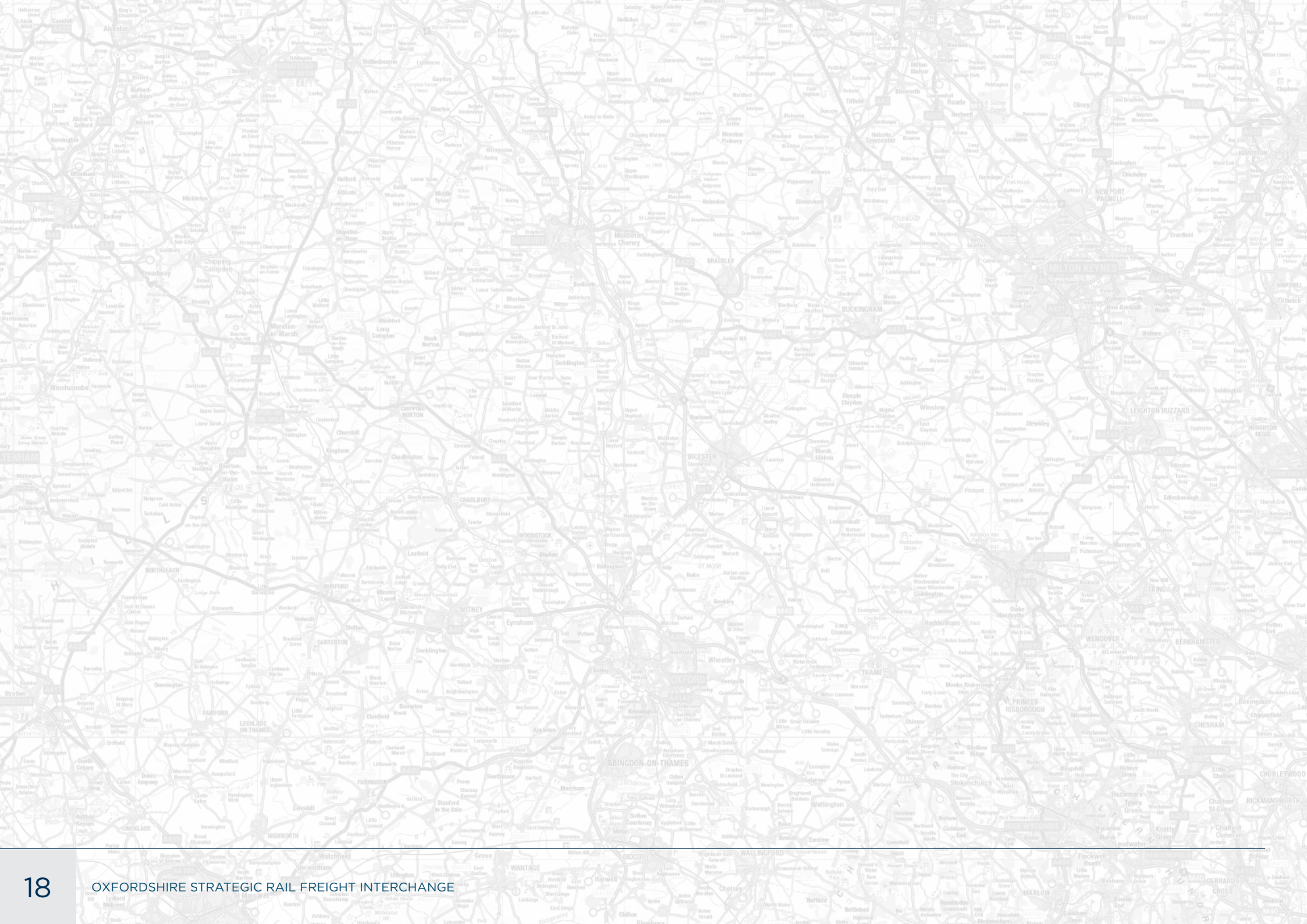
2.14. The proposals will play a direct role in enabling the transition towards a more sustainable economy by enabling a shift of freight from road to rail (rail freight is currently estimated to be approximately 76% more carbon efficient than road freight).

2.15. The design approach will be based on key design principles focused on the creation of a high-quality built and natural environment and including delivering energy efficient buildings with a focus on reducing carbon footprints during both construction and operation. A real sense of place will be created with an attractive environment where people want to work and where they can take advantage of sustainable transport links, walking and cycling and where they have access to amenities around the site and within a vibrant Central Hub, which will help foster a sense of community for all employees.









SECTION 3

SCHEME EVOLUTION

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3. SCHEME EVOLUTION

3.1. This section sets out how the OxSRFI scheme has evolved from its initial identification through the iterative process of scheme development, assessment, consultation and scheme finalisation.

SITE IDENTIFICATION

3.2. The OxSRFI proposal seeks to respond to both the market demand and policy encouragement for additional rail freight interchanges to meet the needs of areas currently poorly served. The Government has concluded that there is a compelling need for a network of SRFI's and strongly encourages their development in locations currently not well served. The proposals also respond to the strength of demand for national and regional distribution facilities in well-connected central areas of the country.

3.3. The OxSRFI is at a strategically advantageous location where the demand for logistics facilities is strong and continues to grow as the attractiveness of the M40 corridor grows. Its location at the intersection of both the rail network and the strategic road networks is commercially attractive. There are very few locations which provide access to both rail and road and where development can take place in a manner which enables the effects of the scheme to be appropriately managed and mitigated.

3.4. The site is therefore, in principle, a suitable and viable location for an SRFI, with a strong and growing market and excellent access to the national transport infrastructure network.

ENGAGEMENT

3.5. The OxSRFI proposals have been developed over a long period of time and with extensive engagement. Initial design work began in 2018 and early engagement with key bodies began in 2019/2020. This included Network Rail, National Highways, Cherwell District Council and Oxfordshire County Council. Other statutory bodies were also engaged at an early stage of the design process.

3.6. An extensive non-statutory consultation process was undertaken in 2022, following which the scheme was paused publicly, to allow for a comprehensive review of the scheme and the infrastructure works. A comprehensive Statutory consultation process was undertaken in September-November 2025. The Consultation report provides details of the consultation processes, methods and outcomes and how they have influenced and informed the proposals.

3.7. The process of extensive engagement has informed all aspects of the design of the scheme, from the rail terminal and main line connections to the highway improvements works and to the design and layout of the Main site. The key stages of the evolution of the scheme are explained in the plans and description below.

SCHEME DEVELOPMENT

3.8. The design approach to the scheme, its layout and masterplanning, evolved in response to the work to analyse and assess the site and has followed an iterative process of engagement, scheme refinement, further assessment, and further refinement.

3.9. The scheme has therefore evolved through a large number of design changes. The key stages of scheme evolution and refinement are explained below through a series of masterplan stages.



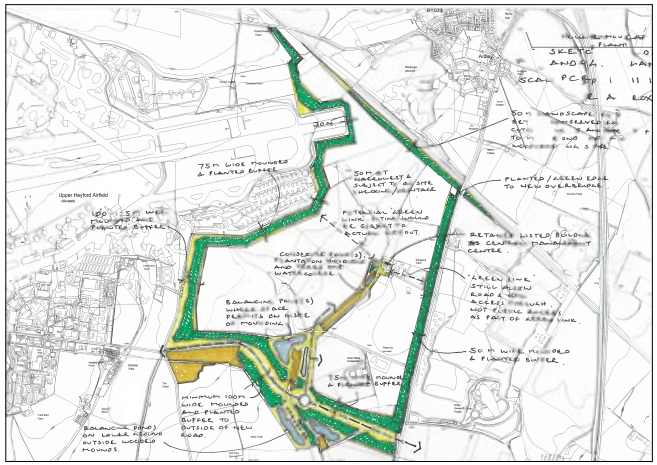
April 2018:

Initial capacity masterplan option explore the potential for a rail terminal through the centre of the site; rail connected warehousing and a road link to and a new Junction on the M40.



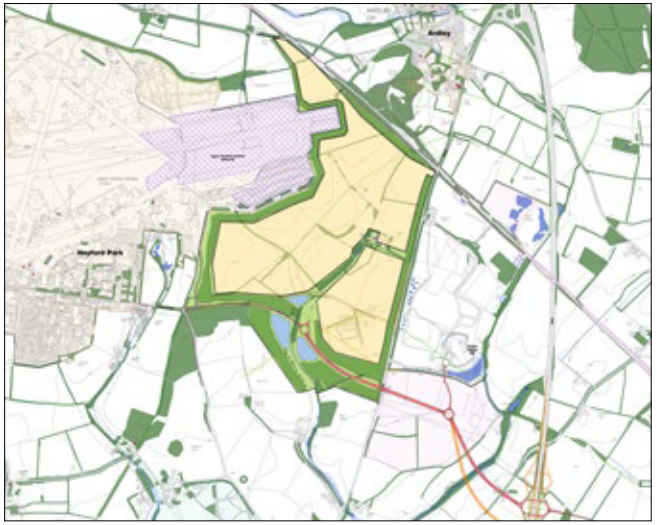
Sept 2019:

An alternative approach to the rail terminal was explored, with the rail terminal parallel to the existing Main line.



Nov 2019:

A landscape structure for the site was developed following initial assessment work in relation to landscape, ecological and other environmental matters together with further opportunity and constraints analysis.



Feb 2020:

A landscape led masterplan was developed for the scheme. This included a rail terminal parallel to the existing main line, the retention of key landscape and ecological features through the centre of the scheme and development of new landscape bunds around the site. This option also included the potential for a new junction on the M40 and link road to it



June 2020:

More detailed design work was undertaken to refine and formalise the proposals with design consideration given to all aspects and areas of the potential scheme; including terminal layout and main line connections, the retention and enhancement of the central landscape spine together with the retained farm buildings, the retention of the Thames Water reservoir, the landscape structure around the scheme and surface water drainage



Nov 2020:

The broad structure of the scheme remain unchanged but the scheme was refined in relation to specific matters. A Lorry park was incorporated, the potential for the relocation of the IVC facility explored and additional land brought into the scheme to help deliver a comprehensive approach to the design and mitigation of the southern area of the site.



Feb 2021:

Following extensive work with the transport working group an alternative approach to site access and highway mitigation was explored, with access taken directly from M40 Junction 10 with a Bypass to the village of Ardley. A proposed relief road around the north east of the village of Middleton Stoney is also explored.



March 2022:

The proposals evolved following further assessment work and design evolution. The design of the proposed road corridors evolved, as well as landscape detail across the Main Site. Details of the Central hub area progress and changes are proposed to the Heyford Link road to integrate better with the Middleton Stoney Relief road.



Oct 2024:

The project was partially paused to allow a full review of highway works. This resulted in changes to the proposed work to M40 Junction 10. Following this scheme refinement continued with the detailed design of road and rail infrastructure and additional land is incorporated into the scheme to provide opportunities for biodiversity net gain. The IVC facility is no longer proposed to be relocated.



March 2026:

Changes to the proposals follow extensive consultation during 2025, including statutory consultation, together with finalisation of environmental assessment work. Key changes include additional bunding and detailed landscape detail along the Heyford Relief Road; alterations on the western part of the site with development set back from proposed housing, increased bund heights and widths and additional planting; alterations to the parameters on the western part of the site with maximum building height reduced from 25.5m to 18.5m and 21m and unit layout reconfigured.

SECTION 4

OVERARCHING DESIGN PRINCIPLES

OxSRFI
OXFORDSHIRE
STRATEGIC RAIL FREIGHT INTERCHANGE

4. OVERARCHING DESIGN PRINCIPLES

POLICY AND OPERATIONAL OBJECTIVES

4.1. A starting point for the design of large scale, nationally significant strategic rail freight schemes, are the commercial requirements essential to meet the demands of occupiers. These requirements are reflected in the NPS. It includes ensuring there is appropriate access to the strategic rail and road network. The need for flexible building plots, including very large scale warehouses is also a key commercial requirement and an important factor recognised by Government policy. In this regard the site size and overarching structure has been informed by the need to ensure that new buildings can be provided which meet the requirements of potential occupiers and that overall the scheme is of a sufficient scale to meet commercial requirements and ensure the rail terminal is successful.

4.2. Section 2 of this Statement outlines the key environmental factors that have informed the scale, form, layout and design of the proposal. The key issues are outlined as main opportunities and constraints, which when combined with the policy and commercial considerations outlined above and together with the iterative process of design, assessment and consultation has helped to fix the parameters of the scheme.

CLIMATE

4.3. A fundamental aim of the scheme is to help support the country's move to a more sustainable method of moving goods by expanding the network of rail freight interchanges and providing the opportunity for occupiers of existing and new warehouse space to maximise the use of rail in their supply chain process.

4.4. The scheme will include a range of measures to retain and enhance biodiversity. Overall it will include significant areas of landscape to help mitigate the effects of the scheme, to deliver accessible green space and to achieve net gains in biodiversity.

4.5. One of Mountpark's strategic priorities is Responsible Development. Mountpark's mission statement is 'to deliver strategic and efficient space by staying close to what matters to our customers, our people, and the communities we serve.' Mountpark's ambition has always been to be a responsible owner - socially, economically and environmentally, which explains their desire to construct in a responsible manner. Responsible Development has therefore been their guiding principle throughout the development and design of the OxSRFI proposals.

4.6. Mountpark's focus is on delivering high-quality, highly efficient, and attractive working environments. Mountpark will strive to reduce embodied carbon in construction and buildings will be designed such that they assist occupiers in reducing their operational carbon. This will be achieved through wide ranging energy efficiency initiatives including targeting an Energy Performance Certificate (EPC) rating of 'A+' and a minimum of BREEAM Excellent' targeting 'Outstanding' as part of Mountpark's base build shell and core specification. The aim will be for on-site solar PV, generating renewable energy for occupiers, and assisting decarbonisation in parallel with grid electricity.

PEOPLE

4.7. The scheme will incorporate a strong entrance and access strategy, with high quality formal landscaped routes providing a strong sense of place and coherent scheme structure.

4.8. Careful consideration will be given to the routing of traffic, both on existing and new highway infrastructure and a pedestrian and cycle network, to ensure that future employees and existing local communities have a choice of means of travel, can move around efficiently and through well planned and designed routes.

4.9. The scheme will include green space around the main site which will provide access to open spaces which can be used by employees on the site and adjacent communities. The overall quality of the built and natural environment will create a healthy and pleasant place to work. A Central Hub with facilities for employees and visitors to the site will help serve the overall development, providing amenity and engendering a sense of place and community.

4.10. Regular and on-going engagement will inform the final design of the scheme, the construction process and future operation. A community liaison group will be established to ensure that the scheme is a good neighbour and benefits for local communities are maximised.

PLACES

4.11. The combination of landscape design and a coordinated approach to building design will create a clear sense of identity to the scheme. Building orientation will respond to environmental constraints and maximise the contribution articulated office components can make to key nodes within the scheme.

4.12. Opportunities will be taken to enhance ecology and deliver a gain in biodiversity.

VALUE

4.13. The final approach to the design of the scheme will seek to achieve an appropriate balance between maximising economic, environmental and social benefits and managing harm to the environment.

4.14. The scheme will integrate with existing and planned developments in the area to establish a high quality public transport service that benefits the site and wider area. Improvements to pedestrian and cycle links will contribute to accessibility and encourage sustainable travel.

4.15. The approach to strategic highway improvements will deliver significant additional capacity to the highway network. New road infrastructure will also mitigate the effects of the scheme on local communities and seek to provide environmental improvements.

DEVELOPMENT PARAMETERS

4.16. The design principles for the site have evolved from the identification of key policy requirements and commercial demand, the conclusions of the extensive analysis of the site and the evolution of the scheme in response to consultation and stakeholder engagement. The overarching design principles outlined in this section are fixed through the Parameters Plan and illustrated through the illustrative Masterplan.

4.17. The parameters for the development are set out on the Parameters Plan (see Figure 8 below) and in the detailed description of development, set out in the Planning Statement and Environmental Statement and summarised above at paragraph 1.13.

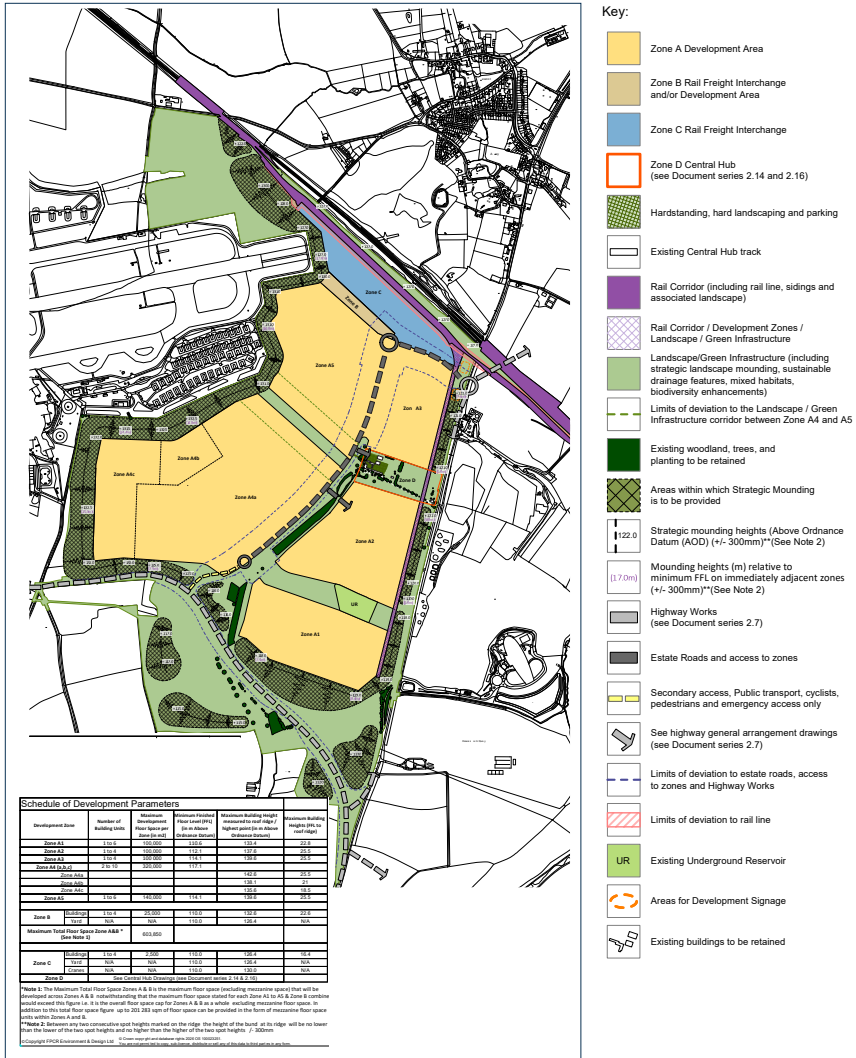
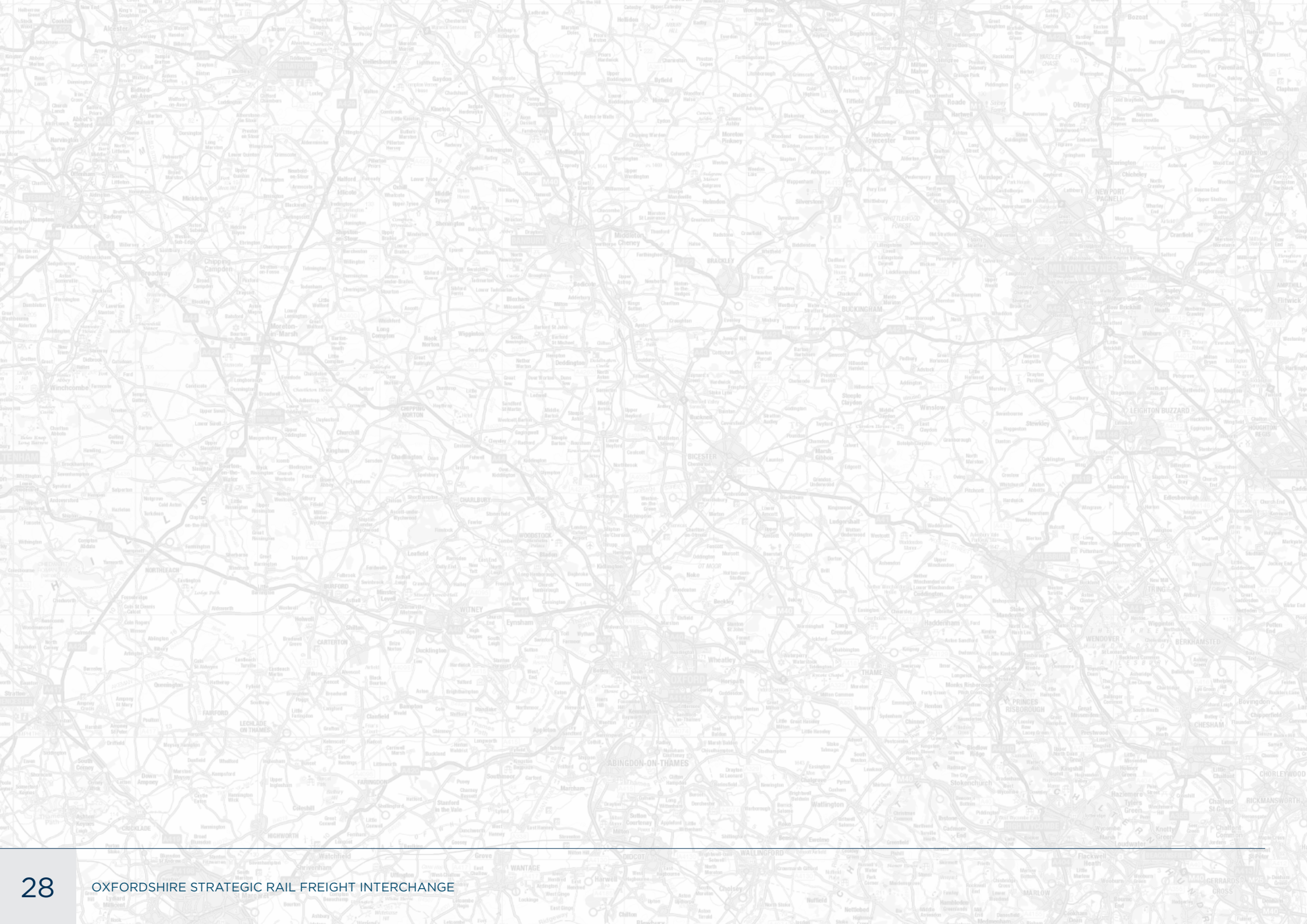


Figure 8 PARAMETERS PLAN



SECTION 5

DETAILED DESIGN PRINCIPLES

OxSRFI
OXFORDSHIRE
STRATEGIC RAIL FREIGHT INTERCHANGE

5. DETAILED DESIGN PRINCIPLES

5.1. This section seeks to explain the approach to the design of the site and the parameters that have been set out by explaining the approach to the scheme in relation to a range of specific design and environmental topics. It utilises illustrative material to help explain the approach and why specific design decisions have been taken. It is structured as follows:

- Rail
- Structural landscape design;
- Biodiversity;
- Drainage;
- Noise;
- Lighting;
- Accessibility;
- Roads;
- Building design principles;
- The Central Hub;
- Climate.

The overarching Illustrative masterplan is shown in Figure 9;



Figure 9 ILLUSTRATIVE MASTERPLAN

RAIL

5.2. The rail terminal has been designed having regard to the policy requirement of the NPS, the commercial operational requirements of a large intermodal terminal, the operational requirements of Network Rail as well as the potential environmental effects of the scheme. The design solution places the rail terminal parallel to the existing main line with a series of reception and operational sidings with a large intermodal area for container storage and processing. The broad approach is similar to that at other recently developed and consented SRFI's. The Rail Report sets out a more detailed explanation as to the operational design of the rail terminal. The key design elements are:

- East and west facing rail connections on to the Chiltern main line together with appropriate signalling;
- 5 sidings each capable of stabling a full length 775m freight train with 2 sidings closest to the mainline being reception sidings and 3 as operational sidings, although all sidings will be capable of receiving trains direct from the mainline to minimise shunting;
- A southern hundshunt and additional sidings to provide direct access to the yards of some of the warehousing;
- Passive provision for future electrification;
- Extensive area for container storage, with the ability for efficient layout and operation through reach stackers or gantry cranes;
- Management offices and welfare facilities;
- Gatehouses and extensive HGV parking areas
- A maintenance compound

5.3. The terminal design is partly dictated by the level of the existing main line which is in cutting as it passes the site. The terminal is also therefore in cutting, which has the design advantage of placing the operation of the terminal at a level which can be screened by the existing landscape and proposed additional landscape screen bunds. The terminal design also allows for an initial phase to be constructed and for it to be expanded in the future as it becomes established and the number of trains per day increases. The sequence of plans below, figures 10 and 11, illustrate how the terminal could be constructed and operated.

5.4. The south eastern rail line connection passes through the existing Ardley Landfill. Earthworks will therefore include the excavation and re-depositing of landfill material elsewhere in the Ardley Landfill site.

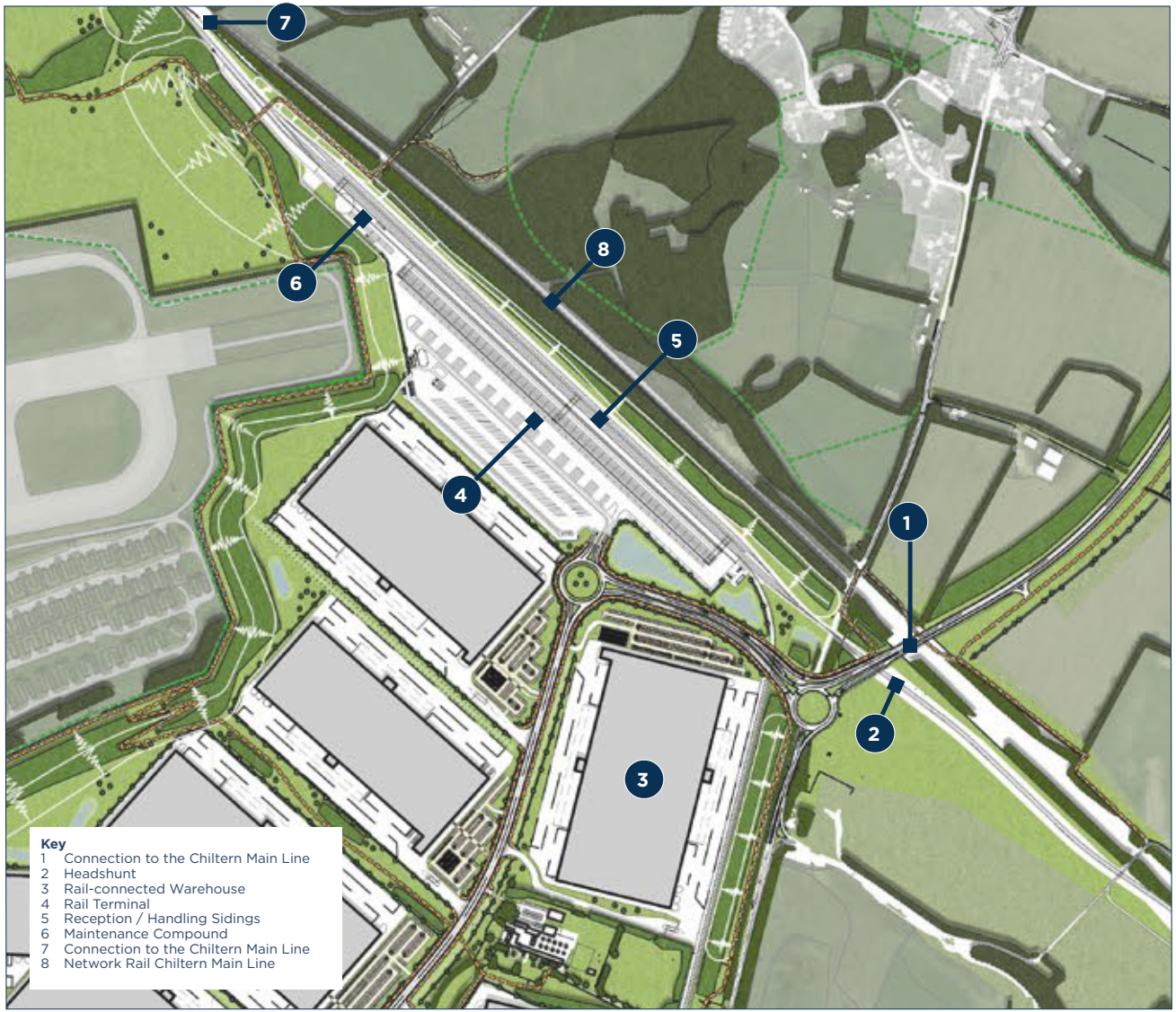
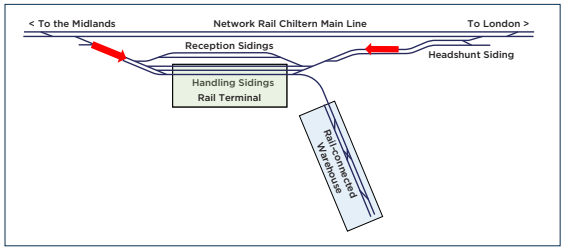


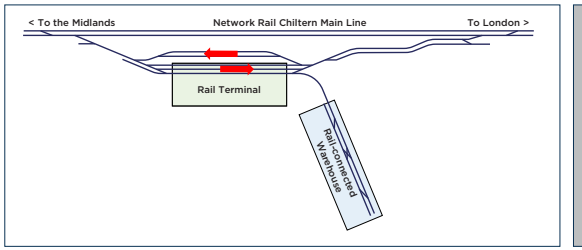
Figure 10 EXTRACT FROM ILLUSTRATIVE MASTERPLAN SHOWING PROPOSED RAIL TERMINAL

Train movements will be as shown on the following diagrams (note that the track layout is shown diagrammatically and is a simplified version of the connections that will actually be installed)

1

Trains arrive into the Reception or Handling Sidings as required.



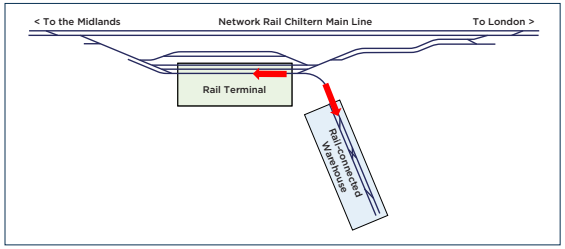


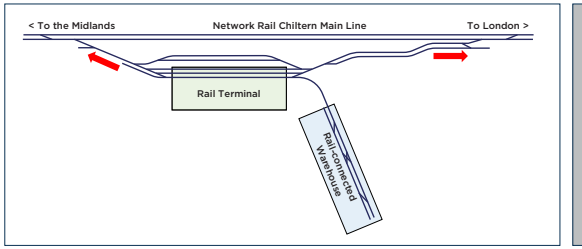
2

Trains are moved to the Rail Terminal or Rail-Connected Warehouses for unloading and reloading.

3

When ready for despatch, trains are moved back to the Handling Sidings or Reception Sidings, using the Headshunt Siding as required.





4

Trains depart onto the Chiltern Main Line to the north or south.

Figure 11 RAIL TERMINAL OPERATION DIAGRAM

STRUCTURAL LANDSCAPE DESIGN

5.5. The existing landscape resource of the site and its context has been considered through the assessment, masterplanning and design process. This has extended from preliminary landscape and visual appraisals through to the production of the guiding design principles set out in section 4 and the establishment of a landscape framework (see figure 7). This iterative process has entailed close collaboration between landscape, architectural, urban design, engineering, ecological, heritage and other professionals, including statutory bodies and the local planning authorities.

5.6. The landscape framework for the site responds to key landscape and related green infrastructure design issues which can be summarised as follows:

- Positively assimilating development with the landscape of the site and its surrounding context;
- Retention of existing landscape features, particularly the mature woodland and other planting which runs through parts of the site;
- Making best use of the sites topography, to balance earthworks on site, create development plateaus and landscape screen bunds;
- Establishing and strengthening connections and green corridors; both within and around the built development and with the surrounding landscape;
- Improving accessibility to the green spaces and incorporate features to improve health and wellbeing through informal recreation and physical activity eg walking and cycling;
- Securing and maximising biodiversity interest, through conservation, enhancement and creation of habitats;
- Integrating Sustainable Drainage (SUD's) features that will deliver valuable biodiversity and amenity benefits wherever practicable;
- Establishing and managing a significant and robust landscape framework to form an appropriate and cohesive "green structure" to the built development and incorporate a suitable buffer to existing and potential future receptors.

5.7. The approach to earthworks and landscape are fully aligned with a strategy designed to make the views of the Proposed Development as sympathetic as possible. Although it will not be possible to entirely eliminate views of the proposed buildings from all viewpoints, the combination of existing topography, new earthworks and existing and proposed woodland planting will establish a very effective visual screen. The design approach will ensure that ground level activity is largely screened when earthworks are complete and buildings will become increasingly screened as the landscaping is established and matures.

5.8. The landscape Framework Plan (Figure 12) and selection of cross sections (Figure 13) and photomontages (Figure 14) shown on the following pages help to illustrate how the landscape proposals have been designed and how they will effectively screen the development.

5.9 The southern part of the Main site contains the Heyford Park Link Road, which will be used by residents in Heyford Park and other communities. The design of this area seeks to ensure that the route provides a well landscape gateway to the new village, with buildings well screened, extensive areas of open space, woodland and water features. The approach to the landscape design of the area is shown on the Landscape Framework Plan and illustrated in the artists impressions at Figures 15 on the following pages.

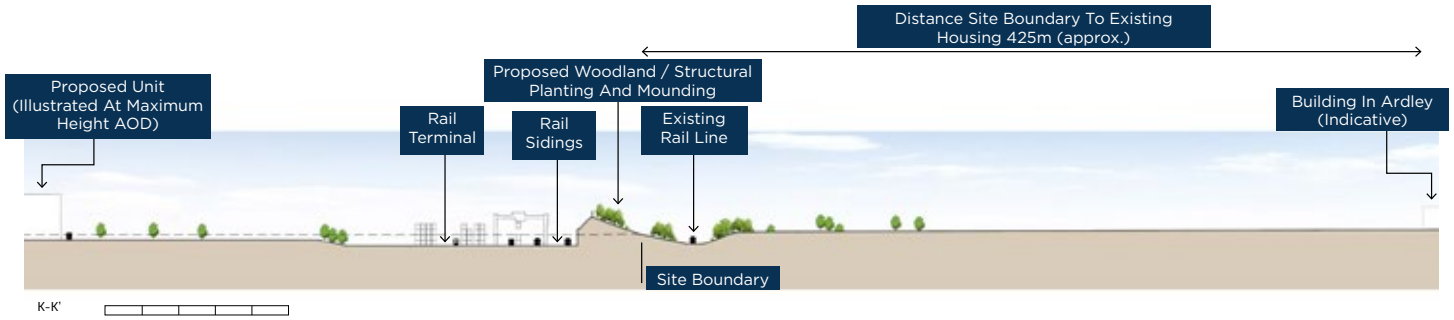
5.10. In terms of the approach to Landscape planting, largely native trees and shrubs will be used to reflect those in the existing locality. A mix of planting sizes and densities will be adopted to satisfy the differing objectives, principally those of screening and filtering in the short and longer terms and of establishing well balanced woodland and planting habitats.

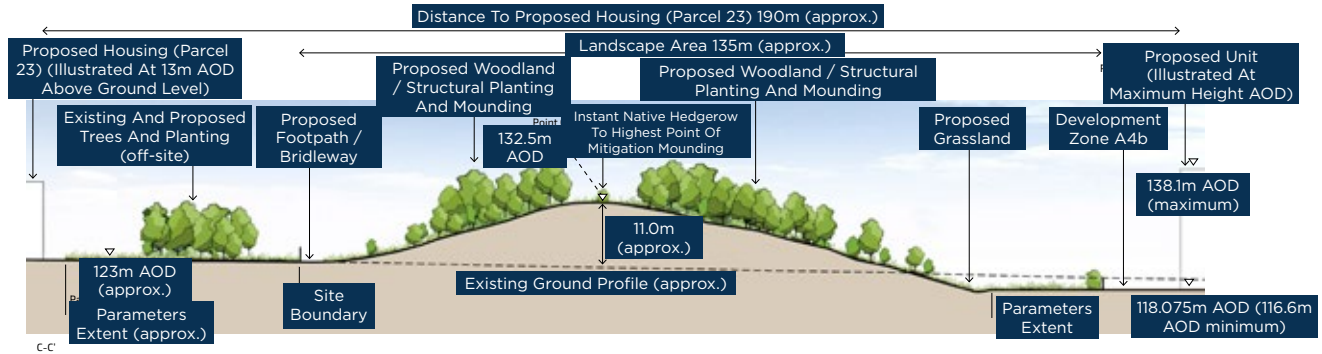
5.11. All of the landscape areas and features will be managed and maintained in the long term. This will be achieved through the implementation of a comprehensive Habitat Management and Maintenance Plan (HMMP) to ensure the successful establishment and maturity of the landscaping.

Figure 12 LANDSCAPE DESIGN



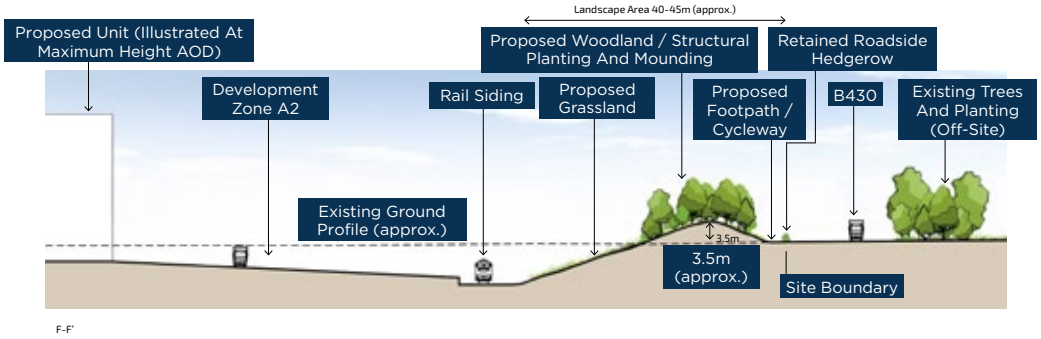
- **A** Substantial mounding and woodland/ tree planting around site edges (west, south and east)
- **B** Mounding and woodland planting along the proposed link road to screen views towards the development
- **C** Extensive new woodland for visual screening and wildlife connectivity
- **D** Reinforce existing railside planting with new tree planting and habitats
- **E** Proposed Rail Sidings and Intermodal Rail Terminal set down significantly below existing ground levels
- **F** New drainage features on lower lying land. Including marsh habitats and other wetland
- **G** New drainage swales and ponds alongside existing watercourse and habitats
- **H** Conserve and manage existing woodland and other habitats
- **I** Perimeter footway/cycleway with connections into the development. Potential links into/from the Airfield
- **J** Footways and cycleways around the site including fitness circuits and walks
- **K** Opportunity for Central Park Hub, including meeting, eating and fitness facilities
- **L** Potential Raised Viewing Deck of the Rail Terminal







Note: On-site levels are based upon topographic survey data. Off-site levels are based upon available approximate ordnance survey data.



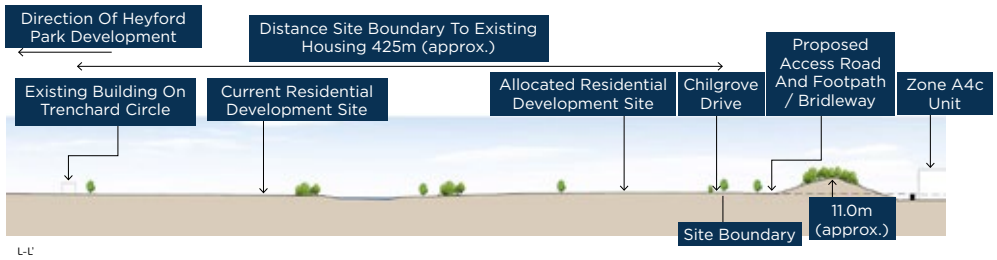
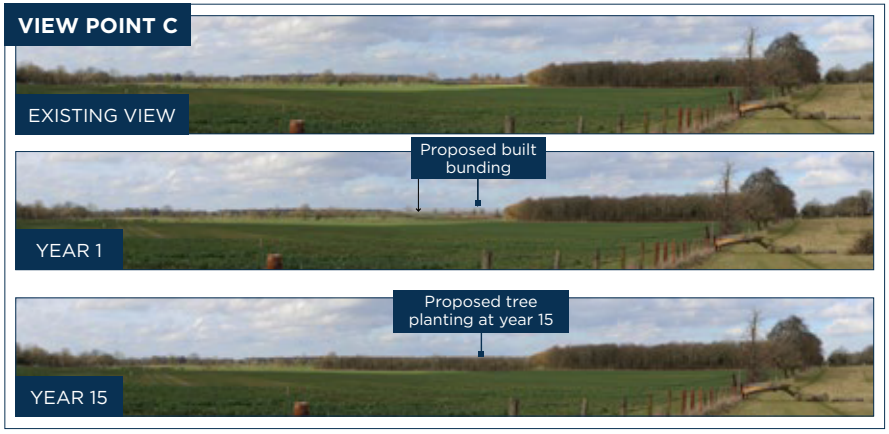
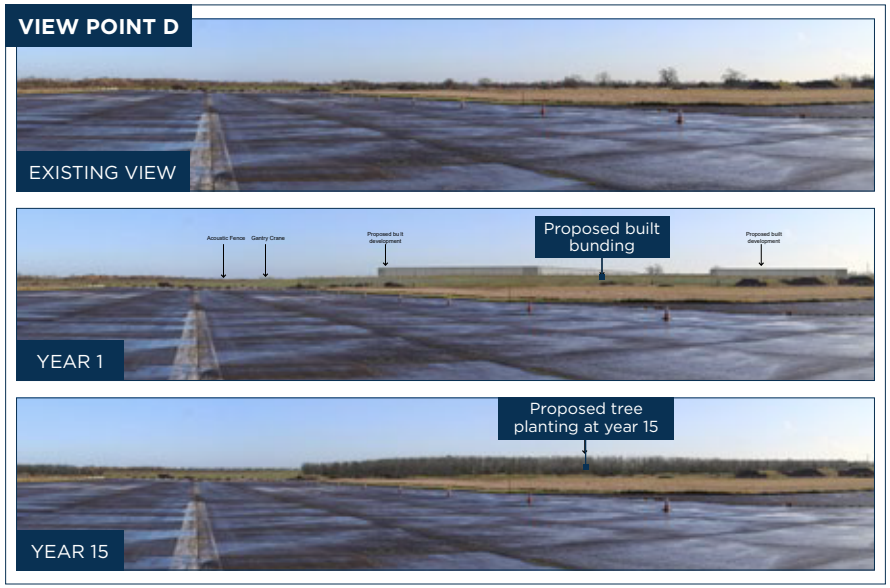


Figure 13 LANDSCAPE CROSS SECTIONS









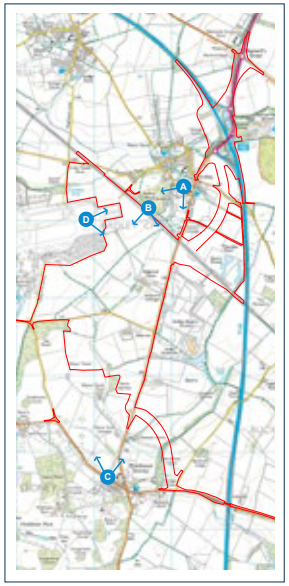
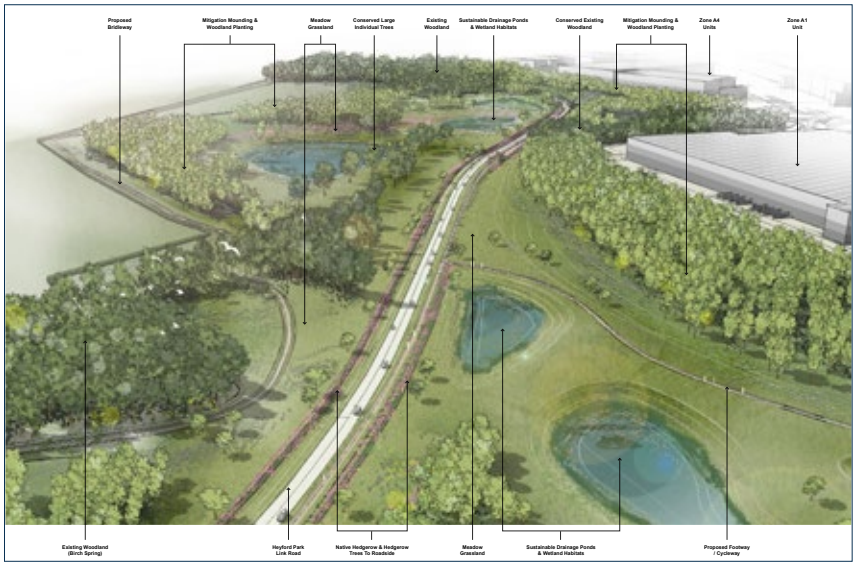


Figure 14 PHOTOMONTAGE EXAMPLES



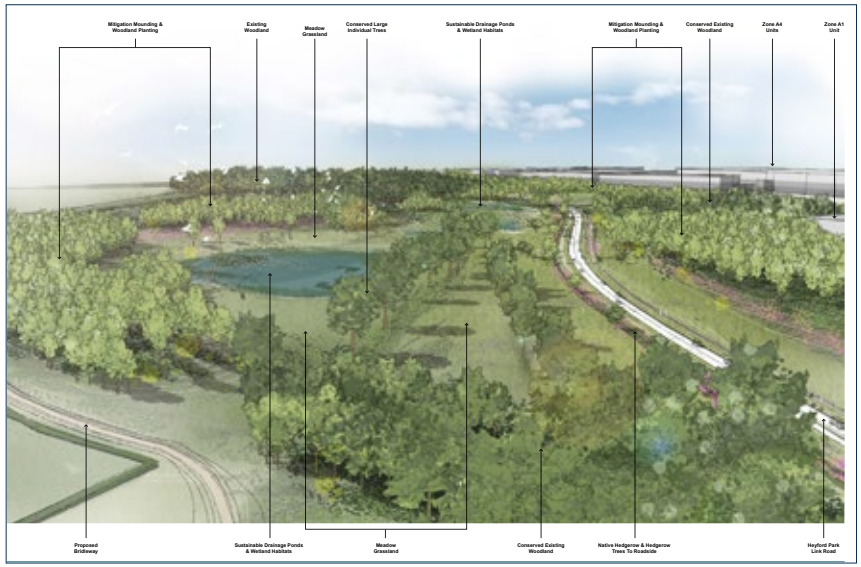
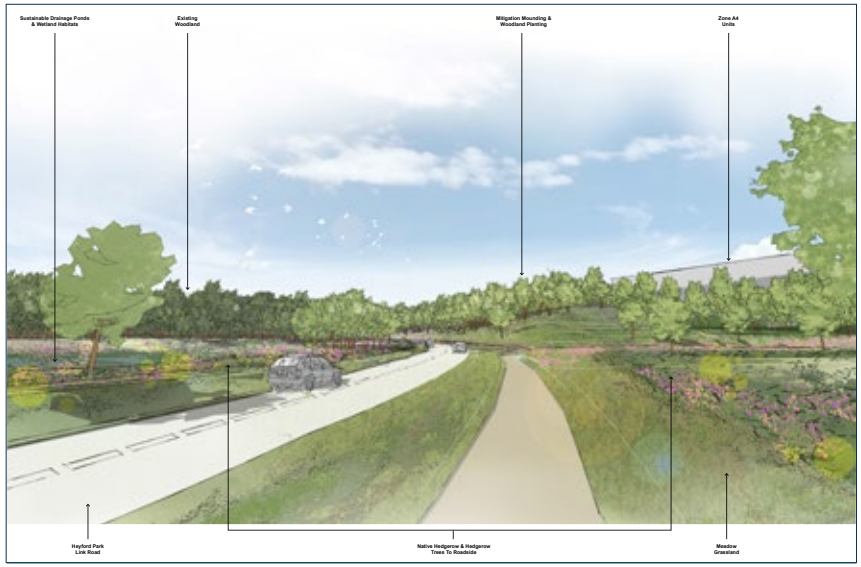


Figure 15 HEYFORD PARK LINK ROAD LANDSCAPE CORRIDOR DESIGN CONCEPT



BIODIVERSITY

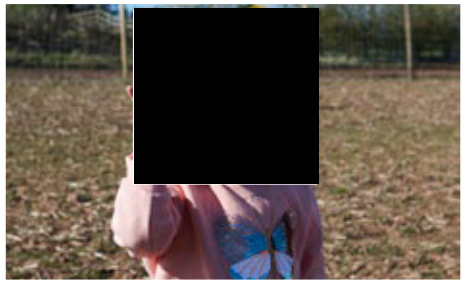
5.12. The design of the scheme has evolved to ensure that it can deliver a significant gain in biodiversity. The approach seeks to retain wherever possible areas of valuable habitat and to deliver a suitable balance between built development and areas of landscape enhancement. Significant landscaping works are to be undertaken as part of the proposed development, both within and around the Main Site and along the road corridors. These areas offer the opportunity to provide new habitats of ecological interest, including new woodland, scrub and hedgerows, new wildflower meadows, and new waterbodies designed according to ecological principles to encourage wildlife. The scheme includes

- In excess of 56 hectares of new native woodland and scrub with over 150,000 new native trees and other plants;
- In excess of 13km of new native and species rich hedgerow;
- Over 110 hectares of new calcareous and other wildflower grassland;
- Over 6 hectares of wetland and waterside habitat.

5.13. Overall the proposed development provides an opportunity to establish new habitats of nature conservation interest and to deliver net gains for wildlife in the locality. See Figure 16.









DRAINAGE

5.14. Without proper design and management, development can increase surface water "runoff" and cause an impact downstream. The sustainable drainage strategy has been designed to ensure that the proposals do not have an adverse effect on the environment. The proposed drainage strategy will capture rain that falls onto the built area of the scheme, and through a series of pipes transfer it into the above-ground basins which form part of a Sustainable Drainage Systems (SUDS). Water will be stored in the basins and discharged at a controlled rate. The strategy proposes surface ponds / 'SuDS' features, localised read beds, and shallow grassed swales which provide storage of flow and natural water treatment processes. This has been designed to ensure that the flow passed downstream in big storm events is reduced (from that which currently occurs) and the quality of the water is of a good standard to maintain existing ecology and habitats.

5.15. The design approach ensures that the proposals integrate with the current hydrology of the area. Balancing ponds will be formed mainly in the southern part of the site and these will be designed to provide visual and biodiversity interest as well as performing a drainage function.





Figure 16 BIODIVERSITY PLAN

- **A** Balance of native tree and scrub planting and grassland on proposed mounding.
- **B** Conserved and new native woodland and tree planting to create and maintain green corridors to woodlands within the wider landscape. New species-rich grassland and complimentary riparian habitats also included.
- **C** Native trees, species-rich hedgerows and scrub planting on proposed roadside mounting to create linear green corridors to link to the local hedgerow network and other features of ecological value including woodlands and tree groups to maximise habitat connectivity.
- **D** Open scrub, grassland and native hedgerows and trees within broad landscape corridor.
- **E** Proposed great crested newt mitigation area with tussocky grassland and other complimentary habitats created alongside the SSSI.
- **F** Conserved and enhanced planting and habitats to the existing buildings surrounds - managed for biodiversity benefits.
- **G** New aquatic and marginal planting and bringing into management.
- **H** Native woodland and tree planting on higher slopes with scrub and open grassland on lower slope to maintain and provide green corridors and linkages around and though the site.
- **I** Conserved woodland, trees and watercourse - enhanced through new native tree planting and measures to watercourse and wetland habitats.
- **J** Retained calcarous grassland and population of rare plant species within Local Wildlife Site. Opportunities to collect seed and increase population size within areas of new grassland creation within the wider scheme.
- **K** Broad open landscape corridor to new road - including mix of new and retained habitats.
- **L** Species-rich hedgerows.
- **M** Conserved and enhanced habitats at the Gagle Brook crossing - maintaining good connectivity along the brook.
- **N** Creation of wooded corridors that link to the Gagle Brook
- **O** Opportunities to provide a range of bat and bird boxes
- **P** Existing watercourse enhanced with complimentary planting and sympathetic management to provide a variety of bank top features and introduce microhabitats for local wildlife.
- **Q** Broader areas of native woodland and tree planting - providing connected habitats and links between existing surrounding woodlands and new foraging and nesting habitat for range of wildlife and new foraging and nesting habitat for a range of wildlife.
- **R** Broader area of native woodland and scrub - providing connected habitat from existing woodland (The Heath) to the south to the SSSI corridor in the north.
- **S** New sustainable drainage ponds, swales and features designed and managed to provide microhabitats for wildlife including tussocky or longer sward grassland around the margins and native aquatic plants.
- **T** Native woodland and tree planting on higher slopes with scrub and open grassland on lower slopes to provide continous green corridor.
- **U** Extensive area of calcarous grassland creation within the Conservation Target Area and opportunties to establish new populations of Meadow Clary
- **V** Extend existing woodland and trees and link to conserved habitats

NOISE

5.16. Surveys have been undertaken to determine the existing noise and vibration conditions at sensitive receptors around the proposed development. These include locations within Ardley, Middleton Stoney and Heyford Park as well as isolated dwellings.

5.17. The noise environment at the site is influenced by existing infrastructure in the area, including the M40 and Chiltern railway, as well as commercial activities in the immediate area.

5.18. The scheme has been designed to incorporate embedded features which will help to minimise the effects of noise. The approach to the layout of the main site includes extensive green space around the entire perimeter of the site, with built development and service yards set away from nearby sensitive receptors. Embedded features also include the earthworks, with the creation of extensive landscaped bunding around the site, and where appropriate adjacent to road corridors see figures 17 and 18. The noise assessment shows that this approach will assist in minimising adverse noise effects. To further mitigate the effects of the scheme, acoustic fencing is proposed in some specific areas on top of the landscape bunds.

5.19. There will be an increase in traffic on the local road network associated with vehicles travelling to and from the scheme. When added to the existing baseline flows on these roads, these vehicles are anticipated to result in a relatively modest increase in road traffic noise which is unlikely to be particularly noticeable at most nearby receptors. The assessment works indicates that most receptors are predicted to experience no more than a negligible effects.

5.20. The proposed Ardley bypass and the Middleton Stoney relief Road will result in the reduction in traffic travelling through those villages with a corresponding benefit in terms of noise at existing receptors in those villages. The approach to the design of the roads will be set out in a Highways Design Approach Document.

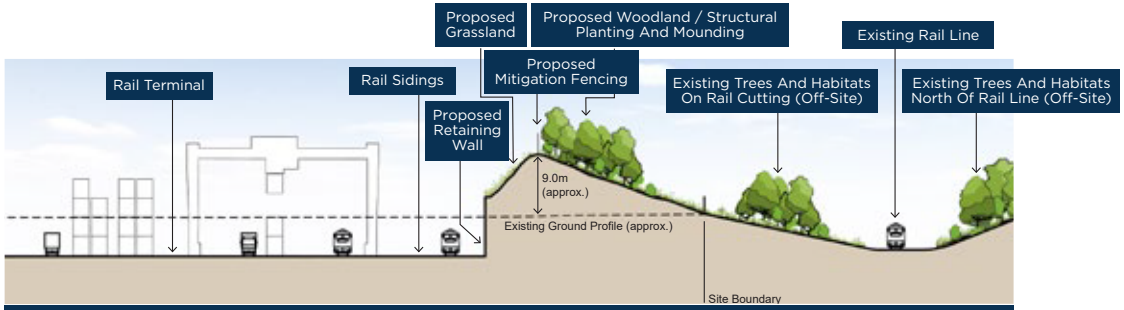


Figure 17 INDICATIVE CROSS SECTION OF THE RAIL TERMINAL AND CHILTERN MAIN LINE

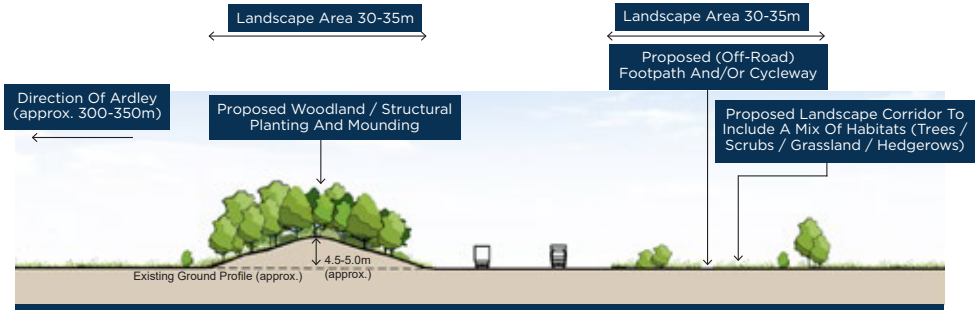


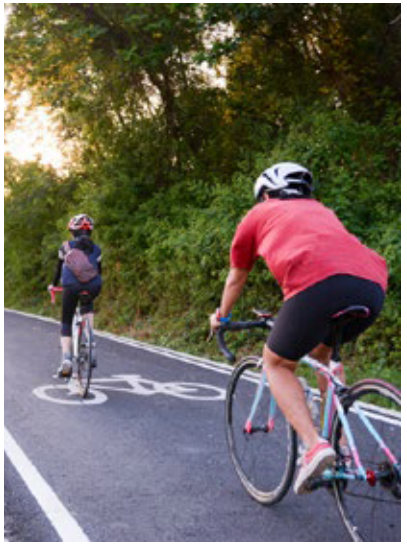
Figure 18 INDICATIVE CROSS SECTION ALONG THE ARDLEY BYPASS

LIGHTING

5.21. The design approach to the lighting of the scheme is set out in a Lighting Strategy which forms part of the Environmental Statement. The Lighting Strategy will determine the final lighting to be installed on the site once the position and number of buildings are known and as the rail terminal is operated and expanded over time. The Lighting Strategy will control decisions about the placing and type of lighting features installed to ensure that the proposed development will have minimal direct effects on neighbouring communities.

5.22. Part of the assessment process has included an assessment of the existing lighting context and any light pollution evident in views from the surrounding area. This shows that many nearby communities already experience 'sky-glow' and other lighting effects from road corridors, and from the villages themselves.

5.23. In accordance with industry standards and recommended best practice the Lighting Strategy is designed to prevent glare and light spill to locations off-site, including upward light that can contribute to sky glow. Furthermore, the landscaping and earthworks strategy will help minimise lighting on the site from being directly visible form outside the site and so will form part of the mitigation for lighting as well as other potential visual effects.







ACCESSIBILITY

Walking and Cycling

5.24. The design of the OxSRFI scheme has been informed by the aim to provide the necessary new and upgraded infrastructure to facilitate journeys to and within the Main Site by foot and cycle. Within the Main Site this includes facilities along the spine road but also, via the diversion of existing connections, across the site to create permeability through the site together with a loop around the landscaped areas of the site.

5.25. The approach to integrating the Main Site with the surrounding area seeks to build on improvements which have taken place or are proposed as part of the expansion of Heyford Park new village. Connections include a route over the Chiltern Main Line to link to existing bridleways and footpaths that run northwards to Ardley. There will also be footpath and cycle routes along the new roads with at grade crossings to provide continued access and connectivity. Additional infrastructure is proposed to form a continuous pedestrian and cycle route from the site to Bicester.

Public Transport

5.26. The public transport strategy for the proposed development will be focussed on providing a frequent bus service between the Main Site and Bicester. Services will also be explored connecting the scheme with Banbury. The improvements will coordinate with existing and proposed provision to and from Heyford Park.

5.27. The design of the Main Site therefore includes a southern access point which would be controlled for buses and emergency vehicles only. The inclusion of this access point will allow bus services to loop up the B430, through the Main Site before travelling on to Upper Heyford (or vice versa). Convenient locations for bus stops along the Main Estate road will be determined in response to the final layout of the site and position of buildings.



Other Travel Plan measures

5.28. Other measures will be incorporated in the design of the proposed development to help encourage sustainable modes of travel. Design details are set out in the Design Code at Section 7 and include parking allocations to encourage car sharing, appropriately located cycle parking and changing facilities, an EV charging system and passive provision for its extension.

ROADS

5.29. The main site is located adjacent to the B430 close to Junction 10 of the M40 where it intersects with the A43. The approach to the design of the highway infrastructure has been informed by the issues that exist on the existing network, the traffic flows anticipated from the development including both HGV movements and travel to work patterns and the environmental effects associated with new road building. The approach to the design of the highway infrastructure are set out in the Highways Design Approach Document.

5.30. A key component of the scheme design is the formation of access to the site from the B430 with a new direct link from this site access to Junction 10 (the Ardley bypass). This will deliver benefits to the village of Ardley by removing through traffic from the village as well as providing a commercially attractive access to the site. See Figure 20.

5.31. Travel to work patterns indicate that a large number of employees will originate from Bicester with many travelling from Bicester to the site on the B4030. The scheme therefore includes a relief road to Middleton Stoney which will have the benefit of helping to address existing traffic issues in the village. The relief road also has the potential to accommodate traffic travelling from Heyford Park to Bicester. See Figure 21.

5.32. The design of the scheme includes for the closure of Camp Road and the formation of a new road linking Heyford Park to the B430 (the Heyford Link road). This approach allows for the efficient and effective use of the land available together with a comprehensive approach to the design and landscaping of the southern area of the site. It enables appropriate landscape mitigation measure to be incorporated into the design of the scheme north of the new link road and therefore, together with a comprehensive approach to the landscaping of the southern area of the Main Site, creating an attractive route to and from Heyford Park along the southern part of the site. The proposed Heyford Relief road is designed to integrate with the Middleton Stoney Relief road and therefore will encourage traffic from Heyford Park to utilise this route. See concept sketches at Figure 19 and plan at Figure 21.

5.33. The scheme includes significant improvements to M40 J10 which will improve the capacity and journey times. See Figure 20. The improvements include enlarging Ardley roundabout, a new bridge over the M40, relocated and amended slip roads on and off the junction, widening of the A43 and enhancements to Cherwell, Padbury and Baynards Green roundabouts.

5.34. The package of highway improvements will provide betterment to the adjacent highway network providing a reduction in driver delay, improved journey times, and draw existing background traffic onto the strategic and principal road networks. In doing so, traffic flows on many of the surrounding local roads and villages would reduce.

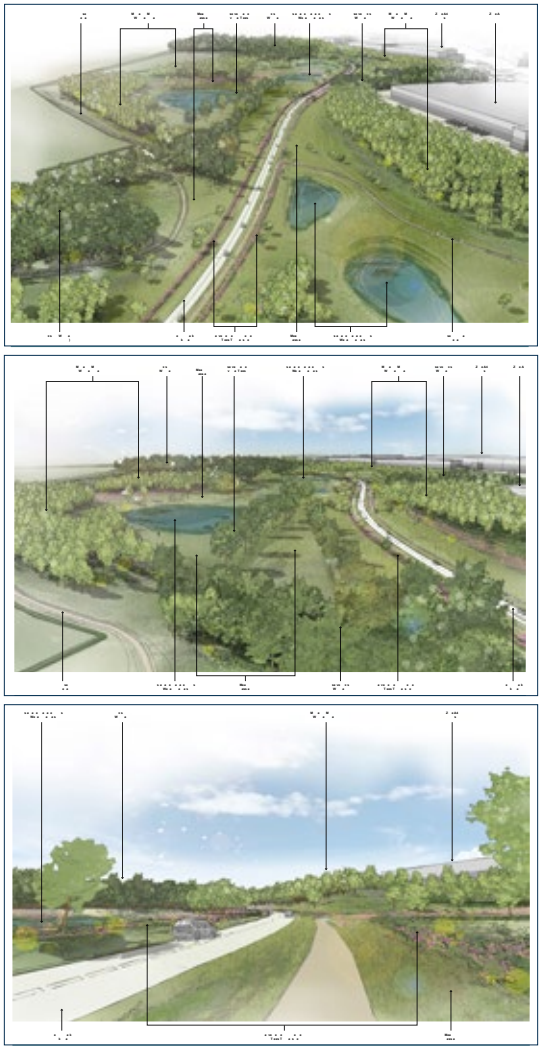


Figure 19 HEYFORD PARK LINK ROAD LANDSCAPE CORRIDOR DESIGN CONCEPT

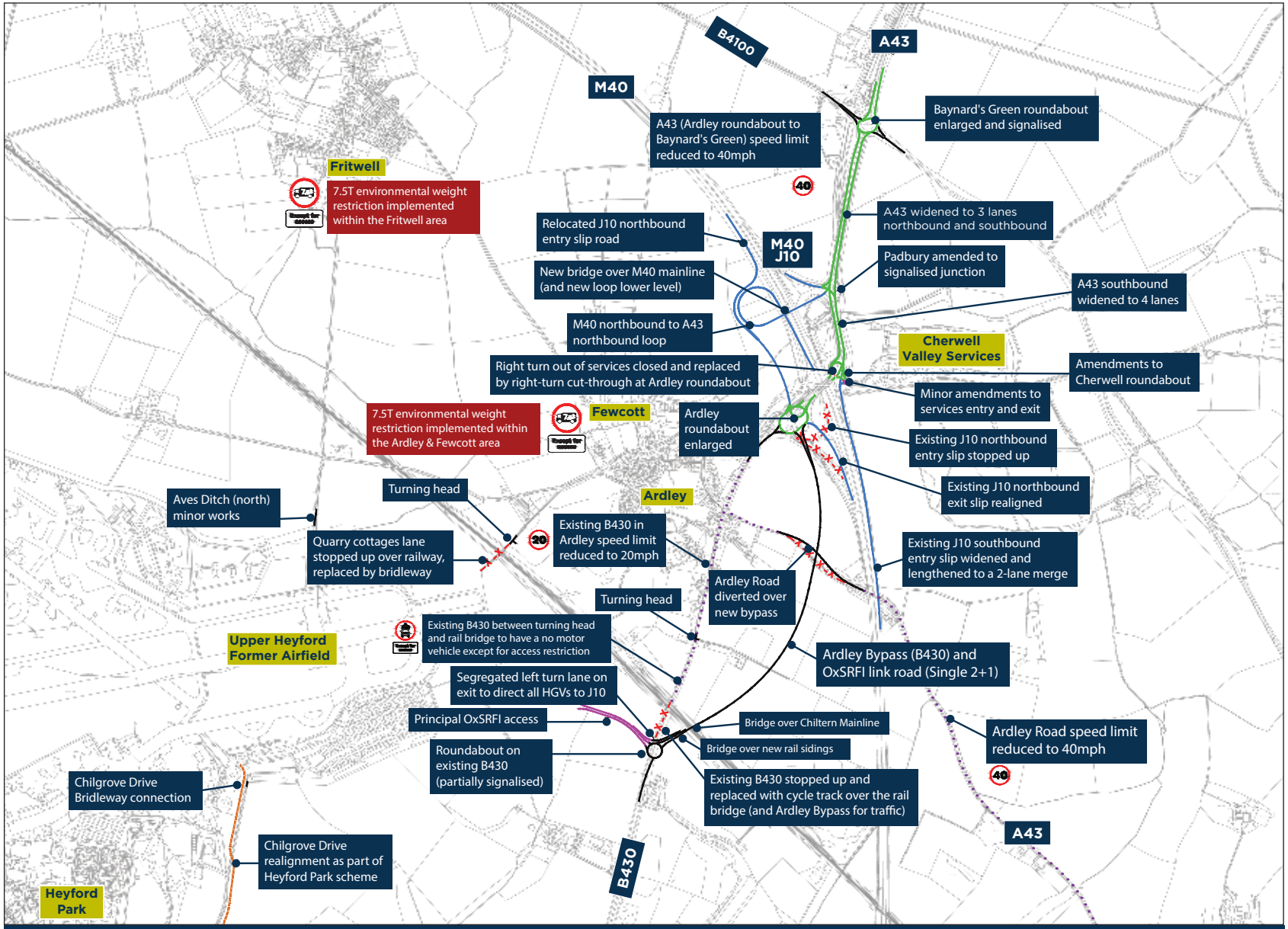


Figure 20 ARDLEY BYPASS AND J10 WORKS

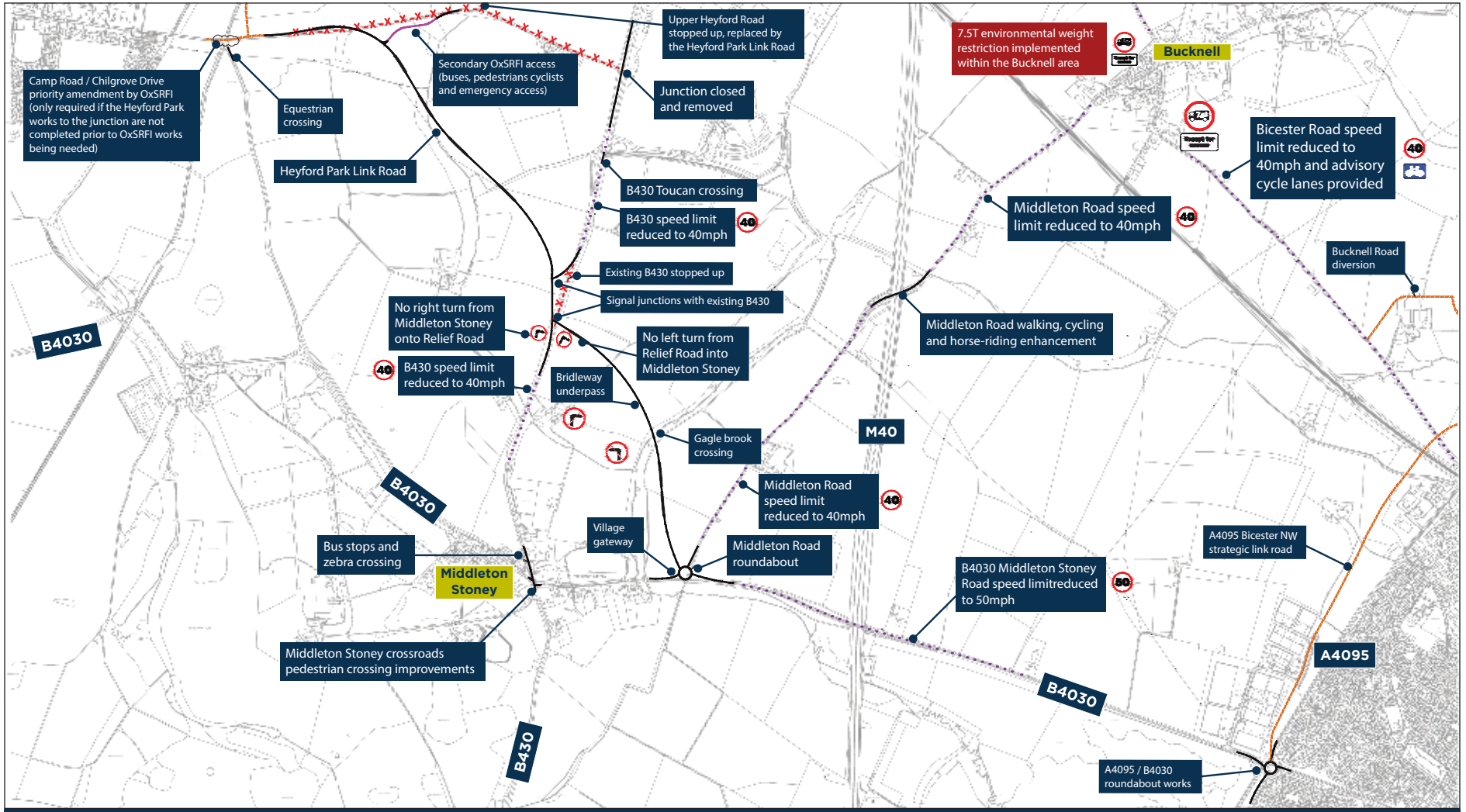


Figure 21 MIDDLETON STONEY AND HEYFORD PARK RELIEF ROADS

BUILDING DESIGN

5.35 Section 7 of this Document sets out a design code that will guide the detailed design of all on plot buildings. This establishes a cohesive and long term approach to building design and on plot landscaping.

The overarching design principles that have informed the design code are:

- the layout and orientation of each building should contribute to a sense of place and identity, including safe access and wayfinding throughout the site;
- buildings will be visually recessive to reduce the visual effects from long views into the site;
- offices, reception and stairwells should form strong and prominent features that animate and add interest to the public realm. Glazing areas should be maximised and further interest provided by architectural detailing and use of materials;
- buildings should avoid heavy shadowing at high levels and have clean lines to help minimise scale;
- striving for reduced embodied carbon in construction and assisting occupiers in reducing their operational carbon;
- each plot will include soft landscaping to enhance appearance of external areas, soften built form and help integration between plots;
- to coordinate the planting across all plots and to use native species;
- considering the health and wellbeing of employees on site through;
- to use high quality, durable and robust materials in the externals spaces;
- to provide safe and convenient pedestrian and cycle access to each unit;
- to provide appropriate levels of car and cycle parking and incorporate electric vehicle charging with the ability to expand in the future;
- to develop a safe and accessible place to work and move around in.







THE CENTRAL HUB

5.36 The design and layout of the Main Site has been influenced by the position of existing buildings included a listed threshing barn and associated farmhouse. The retention, rejuvenation and re-use of these existing buildings has been a key design decision, and they are proposed to be retained and incorporated into the scheme. The buildings are located broadly centrally to the Main Site and provide the opportunity to develop a central hub of uses which serve the whole site. A separate Design Approach Document has been prepared to explain the approach to the design of the Central Hub and how the existing buildings and landscape can be retained for beneficial use. Detailed plans have been prepared for the restoration and re-use of the listed threshing barn and the design approach for that building is also set out in the separate Central Hub Design Approach Document.

5.37 The overarching approach is to retain the existing farmhouse, threshing barn other buildings and cottages together with the immediate landscape around them to create a focal point for the scheme. The Central Hub will provide space for management functions together with uses that can meet the needs of the occupiers, workers and visitors on the site. The Illustrative masterplan at Figure 22 shows the design approach to the Central Hub and identifies the potential uses and landscape design that could take place there.

5.38 The proposals for the existing building will provide the opportunity to preserve the listed threshing barn and to bring it into long term use and maintenance. The proposals will therefore deliver positive heritage benefits.



Building Key

1. Welcome Building
2. Welcome Building Annexe
3. Creche
4. Management Offices
5. Cafe, Seating & WCs
6. Catering Kiosk
7. Storage
8. Gym
9. Changing Rooms
10. Equipment Store
11. Education & Training Hub
12. Landscape Management & Equipment
13. Rail & Estate Management

Landscape Key

A. Pedestrian Entrance
B. Pedestrian Walk
C. Vehicle Entrance
D. Car Park
E. Disabled Parking
F. Electric Vehicle Charging
G. Seated Courtyard
H. Pergola
I. Creche Playground
J. Staff Courtyard
K. Formal Garden
L. Catering Pergola
M. Cycle Parking
N. Courtyard
O. Maintenance Set Down
P. Limestone Wall (Retained)
Q. Barn Wall (Retained)
R. Rec. Area & Amphitheatre
S. New Tree & Hedge Screen
T. Wildlife Pond
U. Wildflower Meadow
V. Coppice
W. Orchard
X. Kitchen Garden

Footpath

Figure 22 CENTRAL HUB

CLIMATE

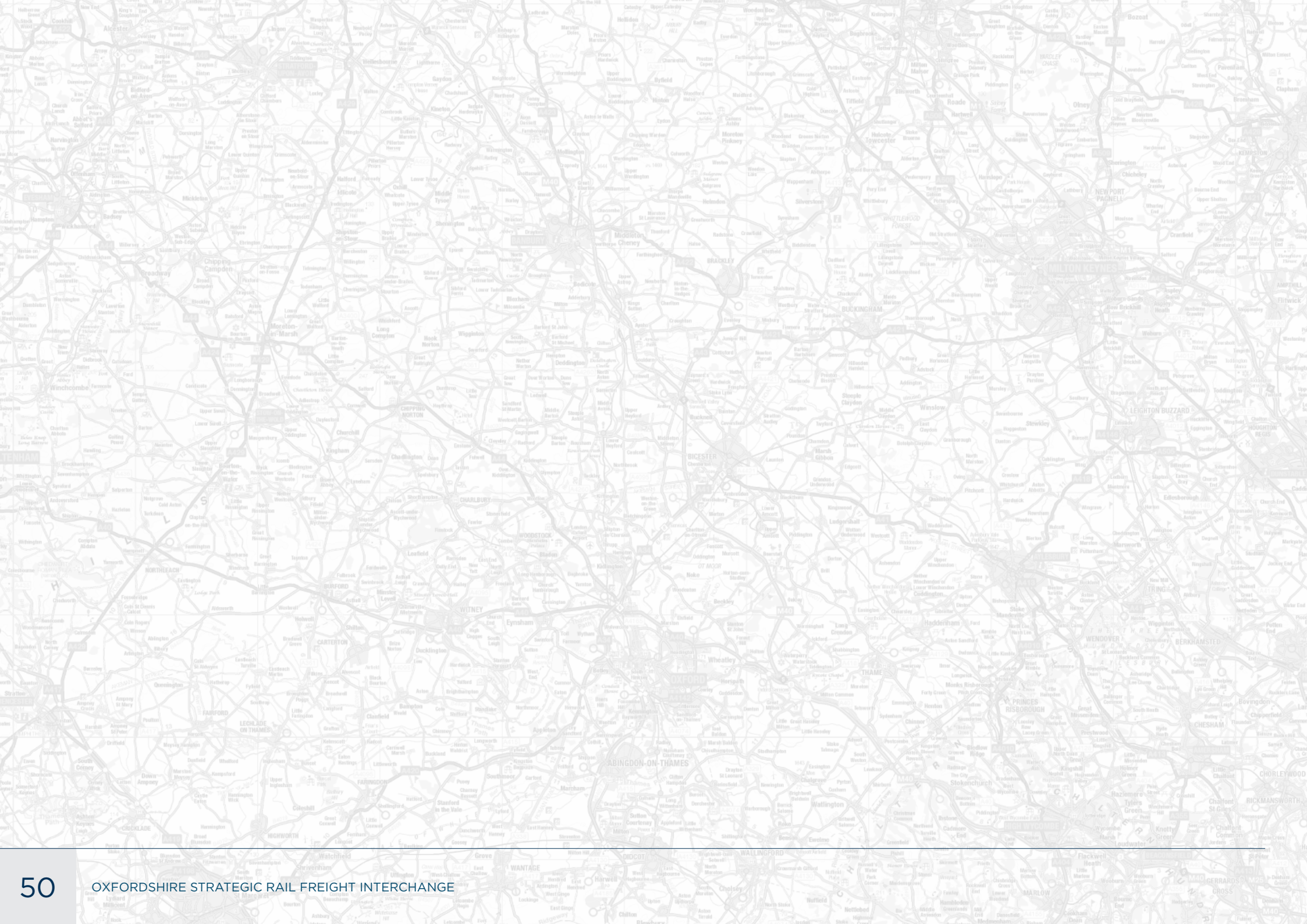
5.39 Mountpark is committed to delivering a high-quality multi modal logistics campus. This means creating an attractive working environment with responsible development as a guiding principle.

5.40 As an SRFI, the proposals will play a direct role in enabling the transition towards a more sustainable economy with rail freight currently estimated to be approximately 76% more carbon efficient than road freight, and so through enabling a further shift of freight from road to rail, the proposals will play a direct role in reducing the effect of transport and economic activity on climate change. In addition to this, the design approach for OxSRFI is based on key design principles focused on the creation of a high-quality built and natural environment for employees and visitors to the site, including delivering energy efficient buildings with a focus on reducing carbon footprints during both construction and operation.

5.41 A range of sustainability measures to support the above are detailed below:

- Building envelopes designed to limit heat/energy loss alongside high levels of air tightness and high efficiency;
- BREEAM 'Excellent' rating (minimum), targeting 'Outstanding' and Energy Performance Certificate (EPC) minimum A, targeting A+ -rating for all distribution buildings on-site (shell and core spec), and building management systems to enable monitoring and management of energy use by occupiers;
- Inclusion of Solar Photovoltaic Panels (PV) on roofs to reduce operational GHG emissions;
- The design of warehouse buildings to accommodate up to 100% solar PV on usable warehouse roof space;
- Air Source Heat Pumps (ASHP) for space heating/cooling and water heating in the office areas;
- Proportion and distribution of glazing to ensure good levels of daylight which promotes wellbeing and thereby reduces electricity consumption from artificial lighting;
- Intelligent LED light fittings to reduce energy consumption through daylight dimming and infra-red (movement based) controls;
- Use of water saving and monitoring/control devices to minimise water consumption including low flow rate showers, low flow dual flush WC's and flow restrictors on taps;
- 25% of car parking spaces to be EV charging spaces;
- Recycling of construction waste materials, to target a 90% diversion of waste from landfill.
- Allocation of on-site waste management zones for the use of occupiers.
- Extensive provision of new walking and cycling, as well a public transport access to the site to enable travel by means other than the car, and ease of movement around the site;
- Significant new green and blue infrastructure and tree planting, including 10% biodiversity net gain to be delivered, to aid habitat enhancement and to create shade and spaces for recreation and active travel;
- Inclusion of surface water attenuation to respond to the increasing requirements created by climate change.





SECTION 6

CONSTRUCTION COMPONENTS AND SCHEME DELIVERY

OxSRFI
OXFORDSHIRE
STRATEGIC RAIL FREIGHT INTERCHANGE

6.1. A Construction Environmental Management Plan (CEMP) has been prepared and is appended to Chapter 2 of the Environmental Statement. It sets out the systems and controls that will be adopted during the construction of the scheme to minimise any adverse environmental effects in accordance with the conclusions of the Environmental Statement and Construction Good Practice. It also sets out the anticipated construction programme and approach to the phased delivery of the scheme.

EARTHWORKS, DRAINAGE AND LANDSCAPING

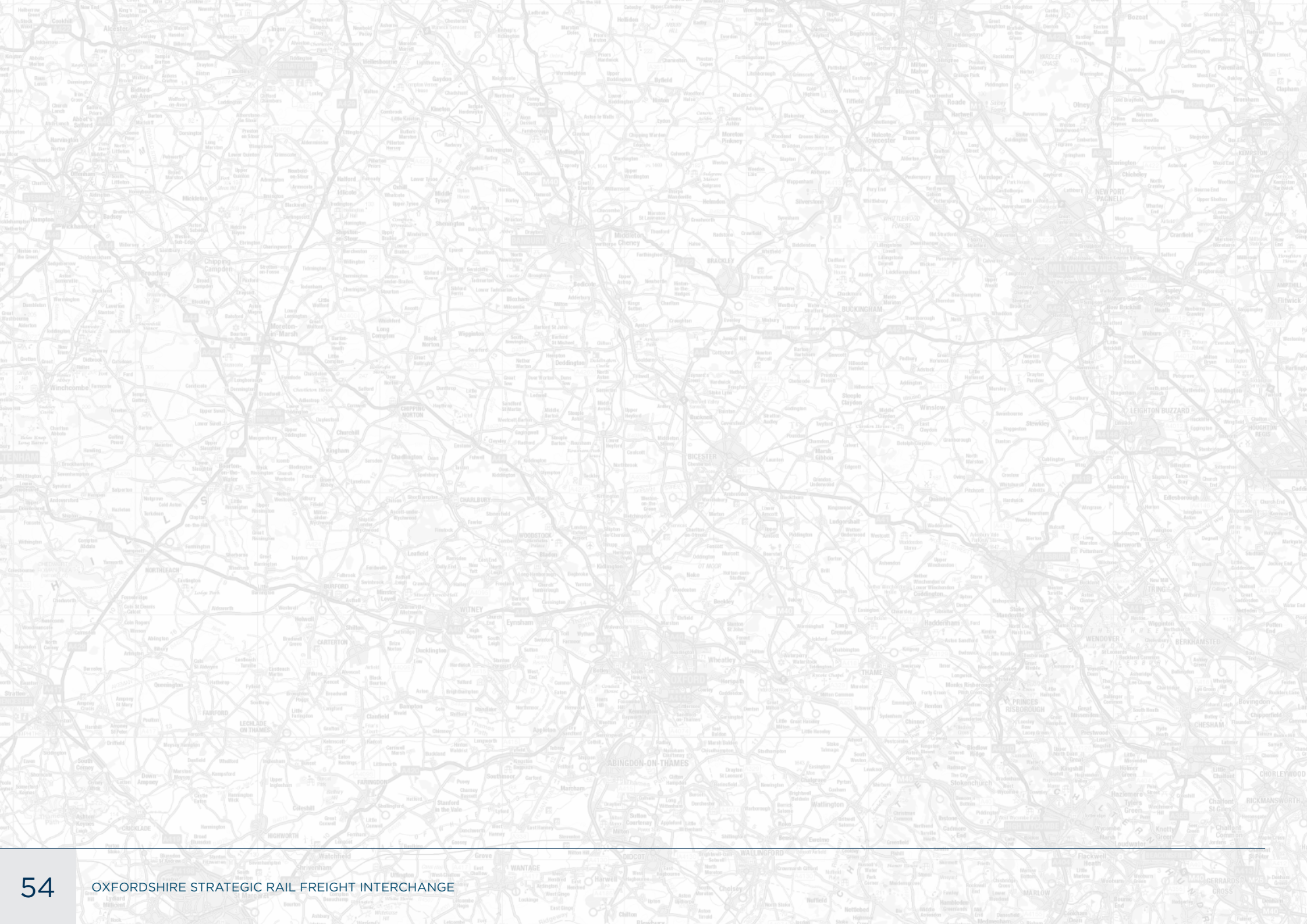
6.2. The construction process for the Main site will coordinate earthworks activities (ie creation of plateau and landscape mounding), drainage works and landscaping. The site will be developed in several phases, broadly working from north to south, although there will be an overall earthworks balance. Phasing is necessary given the scale of the main site but is also informed by the timing on the relocation of existing infrastructure including Camp Road, Thames Water mains and the closure of the IVC facility. Drainage will be put in place as earthworks are undertaken and strategic landscaping will be undertaken in the first available planting season post completion of earthworks.

HIGHWAY WORKS

6.3. There are a number of components to the highway works, and these will be described in a Highway Works Design Approach Document. These works are committed as part of the development with their delivery phasing controlled by requirements.

BUILDINGS

6.4. The warehouse buildings will be constructed on plots once the plateau has been formed. Buildings will be developed in response to occupier demand. Completion of buildings will be coordinated with the adjacent strategic landscaping, drainage and other necessary infrastructure. On plot landscaping, drainage and other infrastructure will be completed alongside the construction of individual buildings.



SECTION 7

DESIGN CODE

OxSRFI
OXFORDSHIRE
STRATEGIC RAIL FREIGHT INTERCHANGE

7. DESIGN CODE

INTRODUCTION

Purpose of the design code

7.1 The purpose of this section of the Design Approach Document is to set out the design codes that will guide the detailed design of development on each plot.

7.2 The aim is to:

- Set out the long term commitment to high quality design from the outset, for buildings, hard infrastructure and landscaping on each plot;
- Enable a cohesive building design strategy across the site, that builds on the design approach to strategic infrastructure and landscaping, in accordance with the parameters for each development zone;

Future detailed designs will demonstrate adherence to the principles set out in this document.

Approach to and structure of the design code

7.3 This section sets out a hierarchy of design codes for the development on each plot, addressing building design, plot infrastructure and public realm.

7.4 It is structured as follows:

- The design objectives and detailed guidance for building design, including layout and orientation, main building elements, roofscape, office elements and renewable energy.
- Design objectives and detailed guidance for plot infrastructure design, including on-plot roads and accesses, pedestrian footpaths and cycleways.
- Design objectives for on plot landscape design, including links to the public realm and internal plot landscaping.

WAREHOUSE BUILDING DESIGN

7.5 Working Buildings must be designed to meet operational and occupier requirements, as well as the necessary institutional standards for modern logistics buildings. Buildings will typically meet the following design standards:

- Building Proportion: Generally between 2:1 & 3:1 length: depth ratio will be typical.
- Haunch Height: The clear internal height of the building depending on size of the warehouse and occupier requirements.
- Offices: Generally over 2-3 floors and at circa 5% of warehouse floor area.
- Dock Levellers: generally: 1 per 10,000ft^2/929m^2.
- Level Access Doors: Minimum of 1no. door per units and generally at a ratio of 1: 10,000 - 20,000ft^2.
- Service Yards: Typically 50m depth to accommodate HGV loading, manoeuvring and parking.
- Sprinkler Tanks: A location for 2 sprinkler tanks and a pump house within the service yard.



Layout and Orientation of Warehouse Buildings

7.6 A key design objective is to create a sense of place and identity through developing a common architectural language and orientating buildings to provide visual permeability between the buildings. The layout and orientation of each building will contribute to a sense of place and identity.

7.7 Key layout principles include:

- Create visual interest and permeability along the main access roads by locating features such as service yards, landscape buffers and car parking to provide clear separation between buildings.
- Offices fronting the estate roads to create active frontage along a linear public realm, and to aid legibility and wayfinding.
- Ensure the buildings provide active frontages to the estate roads and public realm, allowing clear orientation to building users and the public.
- Where practical, service yards will be visually screened from the public realm by buildings, landscaping and car parking.
- Changes in elevation materials between the office and warehouses will add articulation and visual interest to the main road facing elevations.
- Provide safe, effective and legible access points into building plots from the estate road, allowing segregation of movement between cars, operational vehicles, cyclists and pedestrians.
- Provide a clear, legible, and where possible a segregated on plot vehicular movement strategy incorporating all entrances, loading, and vehicular parking areas.
- Landscaped car parking fronting the estate roads to visually soften the main road building frontages and to help maintain wide, landscaped boulevard style estate roads.

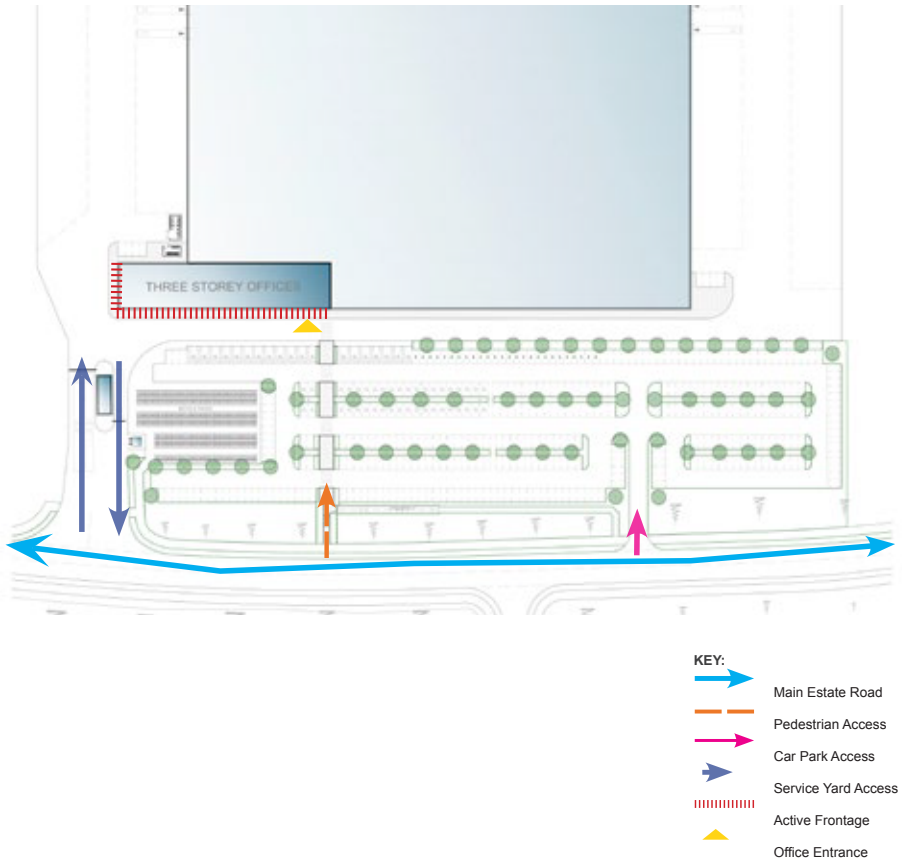


Figure 24 ILLUSTRATIVE LAYOUT EXAMPLE

Scale, Height & Massing

7.8 The development will establish buildings with a scale and size which are appropriate for their function and meet the long term needs of occupiers. The operational clear internal heights (haunch) and structural frame spans will provide open and flexible warehouse floorplates.

7.9 Key design considerations for the scale, height and massing of the buildings will be:

- Orientating buildings towards the central estate road to create a series of buildings with breaks for servicing between them.
- Clear distinction between the design of the office and warehouse elements to create functional legibility of the building volumes and operations.
- Offices to be projecting elements attached to the main building. This will help to step down the scale of the buildings from the large warehouse volumes down to the pedestrian scaled public realm.
- Break up long elevations with banding of cladding colours/profiles to reduce the perceived scale of warehouse volumes.
- Banding colours on the warehouse will grade from darkest, at ground level, up to the lightest colour at the parapet line to visually soften the building's form against the skyline.
- The form of the buildings is centred on operational efficiency and flexibility of internal operations. They need to be regular shape and the volumes need to be open and clear of structure where possible.

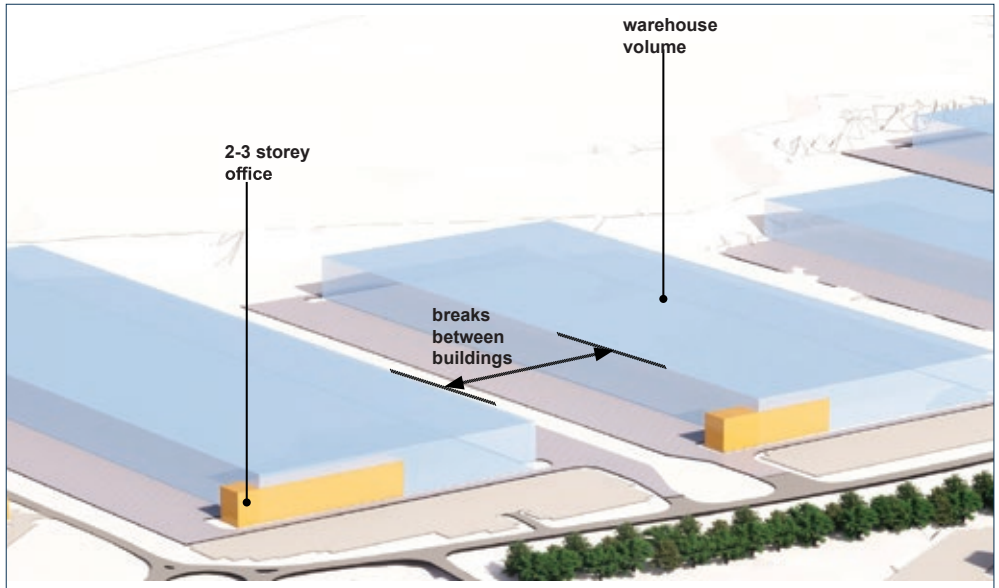


Figure 25 ILLUSTRATIVE SCALE AND MASSING DESIGN CONCEPT



Projecting 2 storey office



Building proportions typically between 2:1 & 3:1



Haunch height to suit size and use

Appearance and Materials: Warehouse / Operational Spaces

7.10 The overall design objective is to provide buildings which sit comfortably in the site whilst conveying a modern and consistent architectural language, using appropriate materials for the location and building typologies.

7.11 A limited range of proprietary cladding panel and sheet sizes will be used. A restricted palette of neutral complimentary colours utilising horizontal colour banding and bay detailing will be used together, to reduce the mass of units and provide a lasting and unifying design quality. Office and warehouse elements will be treated distinctly, while still utilising a unifying colour palette.

7.12 The approach to the colour palette and horizontal colour banding has been informed by the Environmental Colour Assessment (ECA)(attached to this Document at Appendix One), as well as overarching architectural design ambitions and the objectives for place making on the site. The ECA concludes that there is not a distinct colour in the local environmental and a range of colour options for the warehouse units could be appropriate, including a neutral colour palette. The approach to colour banding is shown in Figure 26. The approach seeks to:

- **Visual integration:** The dark-to-light gradient reduces the perceived mass of the warehouse by allowing the upper façade to visually blend with the sky and helping the building profile to recede in long-distance views.
- **Weathering and maintenance:** Darker tones at lower levels helps to conceal operational wear, maintaining the building's appearance over time and reducing visible maintenance.
- **Neutral architectural palette:** The grey tones provide a neutral backdrop, reflecting the conclusion of the ECA and also allowing occupier's branding and signage to be accommodated without competing with the building fabric.
- **Contextual balance:** The darker base visually anchors the building to the ground and surrounding landscape, while the lighter upper cladding relates to the open sky, creating a balanced transition between the site and its wider setting.

7.13 Materials selection and specification will:

- Be responsibly sourced to ensure materials and their associated processes minimise their environmental, ethical, and social impacts.
- Include coated metal cladding with a common palette of colours and cladding profiles.
- use off-site production processes and certifications to reduce the buildings embodied carbon.
- Have a durable finish that will not deteriorate with time and require minimal maintenance.
- Use cladding profiles and thickness to provide robust protection, to minimise operational damage.
- Ensure high levels of insulation and thermal efficiency to reduce energy usage in heating/ cooling.
- Provide ease of maintenance and cleaning.
- Utilise standard cladding panels and sheet sizes to minimise on-site waste.
- Include ribbon glazing over the loading areas, to provide natural daylight internally.
- Use coated metal roof parapet flashings to create a crisp, unbroken roofline around the building.
- Incorporate rooflights evenly distributed across the roof, to provide consistent and even daylight levels within the warehouse.
- Detailing of junction flashings will be crisp with a focus on clean building lines.
- Loading and personnel doors will be robust in their material specification and assembly, and will utilise the same colour palette as the building.

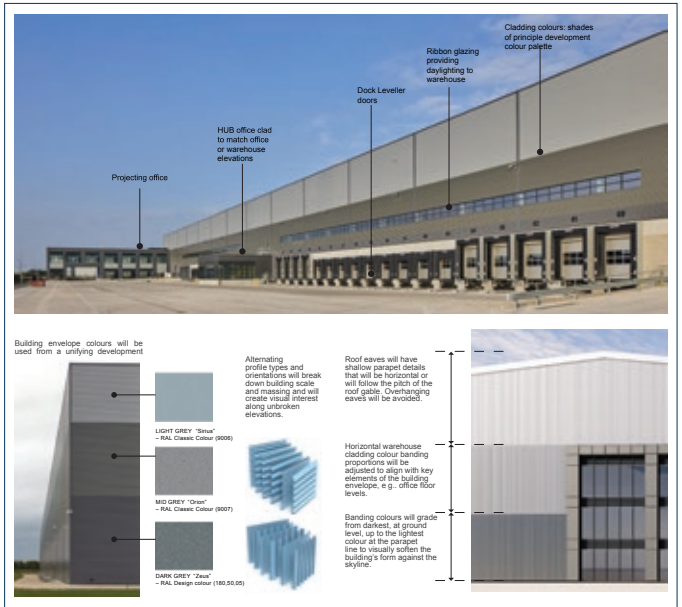


Figure 26

Appearance and Materials: Office

7.14 The architecture of the office elements including reception areas and stairwells will be designed to create an active road facing frontage, using large areas of glazing allowing views into the office activities.

7.15 Double height entrances with feature staircases will be designed to create strong and prominent features that animate and add interest along the public realm.

7.16 Offices will be distinctive and have more dynamic architectural forms and use of materials and detailing, including glazing, flat/microrib cladding panels and well-crafted junction and material transition detailing. Office elevations will relate to the human scale of the public realm.

7.17 The office design will incorporate large areas of glazing to provide excellent levels of natural daylight to open plan offices, promoting wellbeing and a healthy working environment.

7.18 Road facing offices, also aid legibility and wayfinding, therefore will be positioned and designed to be highly visible from the principle estate roads.

7.19 Offices, will in general be projecting elements attached to the main building. This will help to step down the scale of the buildings from the large warehouse volumes to the more pedestrian scaled public realm.

7.20 Where projecting offices are not appropriate, the office uses will have a design that contrasts with the main warehouse building elements.

7.21 Roof top plant will be set back from the façades and will be screened by louvred panels or parapets as necessary.

7.22 Where proposed, amenity roof terraces will be located over the projecting office element to create greater activity to the principle street elevations and to provide access for all building users.

Building Signage and Numbering

7.23 The proposed development will present a unified design character across the site. Therefore, it is important to incorporate the design principles and locations of occupiers signage and building numbering/identifiers as part of detailed design process.

7.24 Occupier/Development banding and signage will be located at key prominent corners of the warehouse to ensure a consistent estate wide design approach.

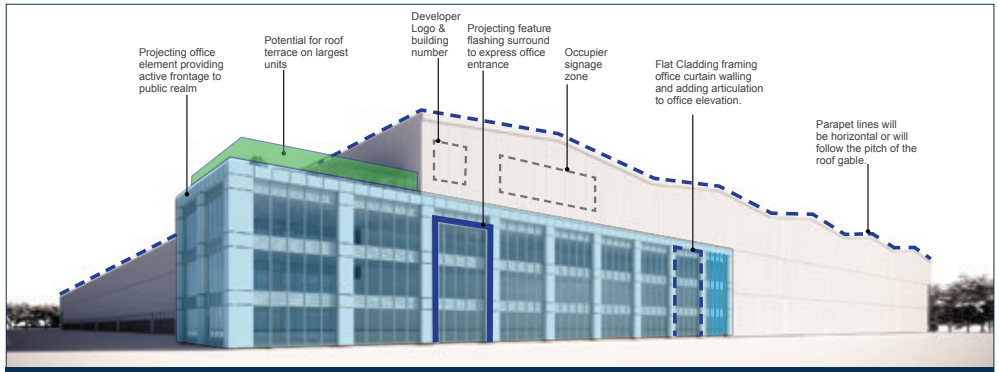


Figure 27 UNIT COMPONENTS (Illustrative)

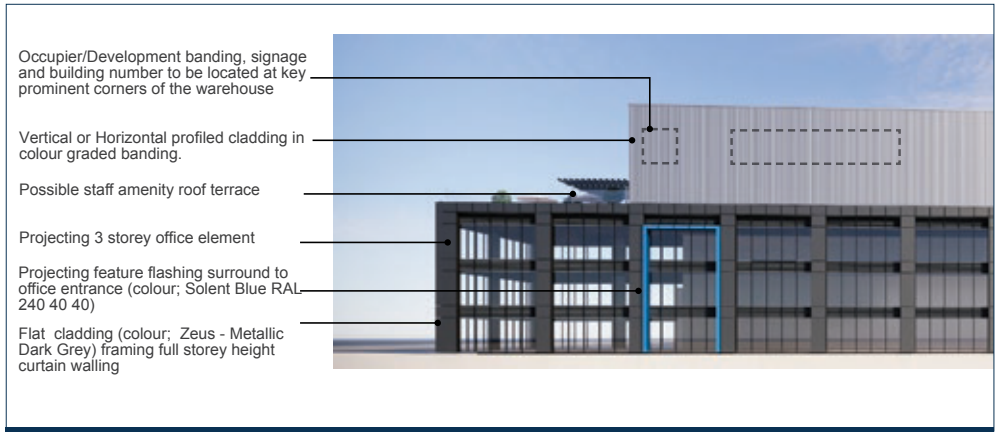


Figure 28 ILLUSTRATIVE THREE STOREY OFFICE WAREHOUSE - MAX. 25M RIDGE HEIGHT

Resources

7.25 Oxfordshire Railfreight Limited is committed to delivering a high-quality logistics development. This means designing efficient buildings, that will also create attractive working environments, with responsible development as a guiding principle of its design and operation.

7.26 All buildings are to be designed and constructed to minimize embodied and operational carbon emissions by;

- Following the energy hierarchy: Be lean: use less energy through passive and active measures in building designs Be clean: supply energy efficiently by selecting the most energy-efficient heating and cooling infrastructure Be green: use renewable energy and technologies such as roof mounted PV.
- Optimum building envelope thermal performance and air tightness.
- South facing office elevations to consider the use of passive measures to contribute toward heat gain mitigation.
- Roof mounted photovoltaic (PV) arrays providing onsite renewable energy
- Minimum roof lights (10% of warehouse floor area) and ribbon windows over the loading/marshalling area to maximise natural daylight penetration and reducing artificial lighting within the warehouse.
- Consider a mixed mode conditioning strategy to the open plan office spaces, that incorporates natural ventilation via openable windows. This will contribute to reducing energy demand and provide greater occupier control to their working environment.
- Incorporating highly energy-efficient Air Source Heat Pumps to provide heating and cooling to the office, circulation and core areas.
- LED lighting throughout the office and circulation areas and within the car park and service yard.
- Achieving a minimum of BREEAM “Excellent” certification and EPC “A” for each building.
- Providing EV charging for 25% of the proposed car parking spaces.



NATURAL DAYLIGHT TO WAREHOUSE



RESPONSIBLY SOURCED MATERIALS



MAXIMISE THERMAL ENVELOPE PERFORMANCE



ELECTRIC CAR CHARGING



ROOFTOP PV ARRAYS



HIGH EFFICIENCY AIR SOURCE HEAT PUMPS

HARD INFRASTRUCTURE

Car Parking

7.27 Staff and visitor parking will be allocated for each building and where possible, located in close proximity of the main entrance to each building.

7.28 Access to car parking areas will be direct from estate roads and will be separated from the service yard access roads.

7.29 For each unit, car parking will include 5% accessible parking spaces and 5% car share spaces positioned within close proximity of the office entrance.

7.30 Electric vehicle charging will be provided at 25% of the total car parking spaces. Electric charging spaces will be provided to those parking bays nearest the main entrance to the office.

7.31 Future provision for van electric charging spaces within the service yard areas will also be provided.

7.32 Car parking surfaces will be in tarmac and will accommodate landscape breaks along their length to accommodate rain gardens, low level ground cover planting and individual trees. Such linear landscape features should also partially screen service yards from public realm views.

7.33 Tree cover within car parks should be maximised to provide solar shading, assist with carbon sequestration and water infiltration and softening the appearance of hard surfacing.

7.34 Footpaths and cycle parking areas will be in block paving to maintain ped/cycle priority and to aid wayfinding.

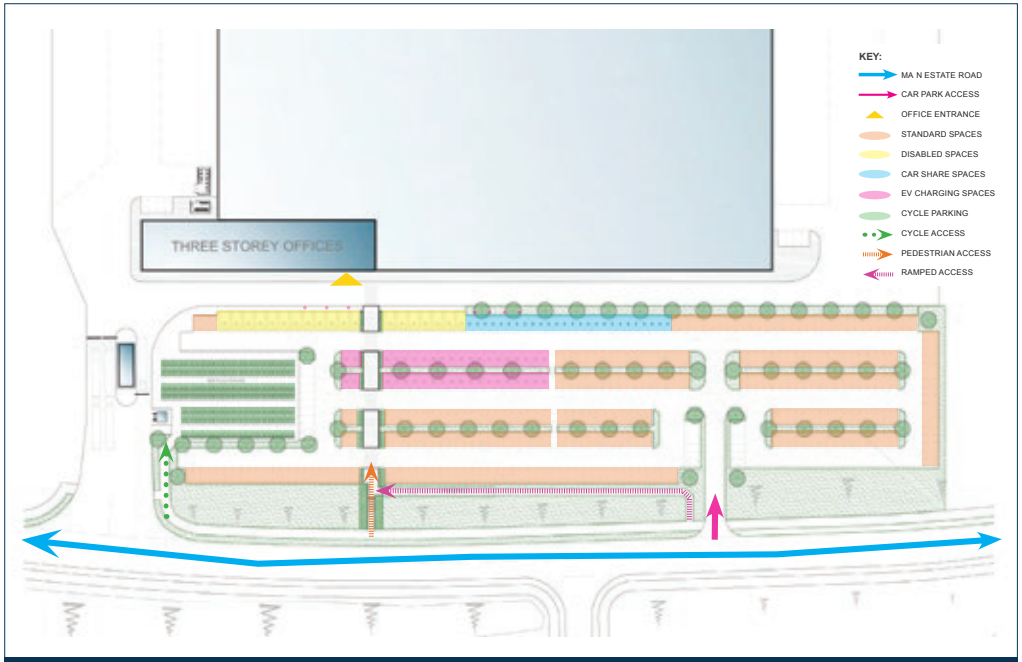


Figure 29 ILLUSTRATIVE SITE PLAN - CAR PARKING



CAR PARK LOCATED ALONG OFFICE ELEVATION



EV CHARGING



CAR PARKING IN TARMAC FINISH WITH WHITE LINING TO DEFINE SPACES



LANDSCAPED BREAKS BETWEEN PARKING ROWS

Service Yards

7.35 Units are likely to require 50m deep external service yards, secured by fences. Service yards provide spaces for level access and loading docks to each unit. The service areas allow enough space for HGV parking and on-site vehicle manoeuvring.

7.36 Access to all service yards will be direct from estate roads and will be separated from the car park access roads.

7.37 Refuse/recycle bin stores will be located within the service yard areas. These enclosures are to be constructed as galvanised or coated steel frames with hit and miss treated timber cladding.

7.38 External plant equipment will be housed in similar structures to the refuse/ recycle bin stores to ensure a common architectural language for free standing structures within the service yard area.

7.39 Other features within the Service Yards to include:

- Galvanised steel sprinkler tanks and pump house
- Brushed concrete yards laid to falls
- Precast concrete dock walls
- Galvanised steel pedestrian guarding with a minimum height 1.1m around dock walls and at pedestrian doors
- Galvanised steel wheel guards to all dock doors
- Galvanised steel armco barriers to areas vulnerable to operational vehicle impact
- Coated steel bollards to level access door reveals
- Pedestrian routes are to be defined with thermoplastic lining/hatching

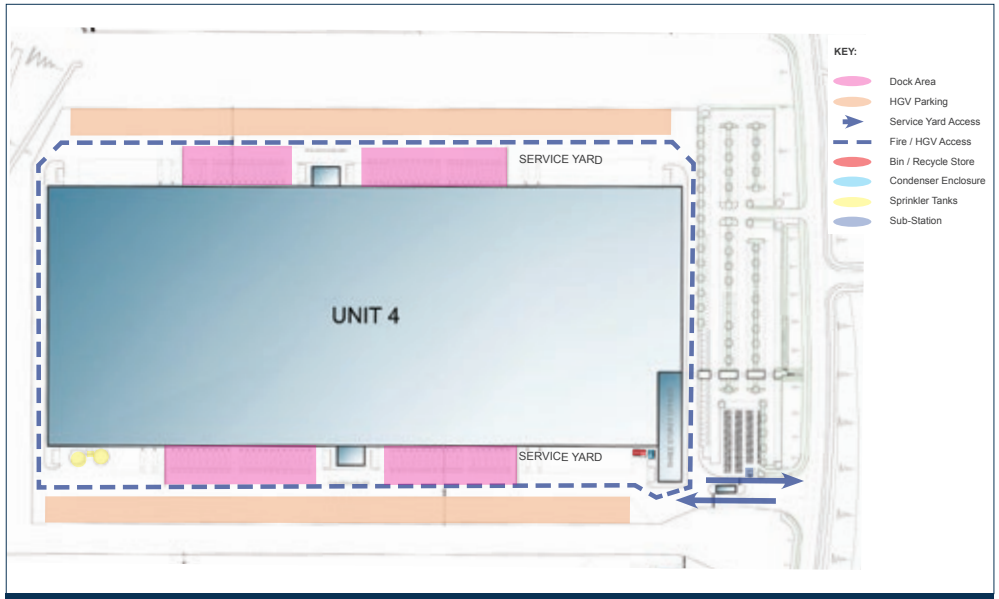


Figure 30 ILLUSTRATIVE SITE PLAN - SERVICE YARDS

Boundary Treatment & Security

7.40 Safe and convenient access for all users of the site will be achieved by the following:

- Security Fencing: Boundary protection around service yards and buildings will be 2.4-3m high coated weld mesh fencing - colour: Black.
- Gatehouses will be provided at the entrance to the service yard where required. External envelope cladding finishes will align with those of the main building elevations in both cladding colour and profile.
- Pedestrian routes will be clearly defined through contrasting surface materials such as block paving in the car park areas and whitelining within the service yard. Signage will also be used to aid wayfinding and identify pedestrian routes.
- Natural surveillance will be a key factor in the overall design of the site. Offices will overlook car and cycle parking and pedestrian access routes.

Retaining Features

7.41 Retaining features where required will be designed by a specialist with appropriate edge protection measures suitable for their placement and use. Any retaining structures visible from the public realm will be designed to mitigate visual impacts.



WELD MESH FENCING TO SERVICE YARDS



CCTV SURVEILLANCE



GABION WALL RETAINING IN PUBLIC REALM

Walking, Cycling & Cycle Parking

7.42 In order to reduce the need to travel by car and provide health and social benefits for the building users, each building plot will be linked to a site wide network of pedestrian and cycle routes.

7.43 On plot footpaths/cycle paths will be shared or with physical segregation, and access points to the wider network will be well defined with signage, a consistent approach to surface materials and with lighting for safety where appropriate.

7.44 Cycling will be encouraged through the provision of secure cycle shelters and by showers, changing and drying/storage facilities within the building.

7.45 Cycle shelters will be provided in close proximity to building entrances and should be modern in design and constructed of robust, high-quality materials such as coated steel frames and profiled metal or translucent polycarbonate roofs.

7.46 Cycle shelters will be located to ensure that they are visible from occupied space within the building such as offices and/or reception areas.

7.47 All footpaths and cycle paths should comply with the following:

- Footways designated for pedestrians will a be minimum 2m wide and will be block paved.
- Cycle access routes will be a minimum of 3m wide.
- Footpath/cycle paths will be constructed of bituminous material to continue materials used in the wider network into the plot and to the cycle shelter area .
- Where footpath/cycleways cross vehicle routes dropped kerbs and tactile paving will be provided.
- Crossing points will be positioned appropriately to reduce crossing widths and maintain desire lines.

On-Plot Amenity

7.48 The provision of staff facilities and amenities across the development will be shaped by the specific requirements of the end user for each individual building. These facilities play a key role in supporting the wellbeing, social interaction, staff retention and productivity and will be considered as an integral part of the design process from the earliest stages.



CYCLE PARKING LOCATED CLOSE TO BUILDING ENTRANCE



CYCLE MAINTENANCE



COVERED SECURE CYCLE PARKING



LOW LEVEL LIGHTING ALONG PEDESTRIAN ROUTES

7.49 All plots will incorporate an external staff breakout area, which may vary in form and scale depending on contextual and functional factors. The design intent for these spaces will be to create accessible, comfortable, and visually appealing outdoor environments that encourage informal use by staff throughout the working day.

7.50 The nature of the breakout area may range from, modest seating areas integrated into the soft landscape, to more formally designed hard and soft landscaped spaces. The selection and arrangement of landscape elements, seating, shade, and other features will be tailored to suit the anticipated staff numbers and their work pattern requirements.

7.51 The final form and layout of each breakout space will be informed by the following factors:

- The type of end user operations, number of staff, and user preferences.
- Larger plots will accommodate more extensive landscaped areas, or a range of breakout options, whereas more compact sites, will focus on smaller-scale amenity interventions.
- The positioning of the plot within the wider development and in particular its proximity to The Central Hub, will influence the amenities required to be provided on-plot.

7.52 Breakout areas should be strategically placed in prominent, convenient locations that benefit from natural surveillance, such as adjacent to main entrances or office and their design should reflect a human-scale approach.

7.53 Formal break out spaces will be defined through the use of enclosure elements, such as hedging, low walls, or screens, and enhanced with feature planting that uses a finer grain and greater variety than the broader on plot landscape strategy. This creates more intimate, comfortable environments that support social interaction, quiet reflection, or informal meetings.

7.54 Subject to occupiers requirements, the design of the building may look to incorporate a roof level amenity terrace. The location of a roof terrace is best suited over the projecting office element where it can be incorporated into the fabric and language of the building envelope.

7.55 Roof terraces will be adaptable to a range of uses, from informal staff breakout to meetings. Design considerations will also be given to :

- Access for all - level thresholds and lift access
- Privacy, views out and orientation
- Potential for partial cover or shading elements



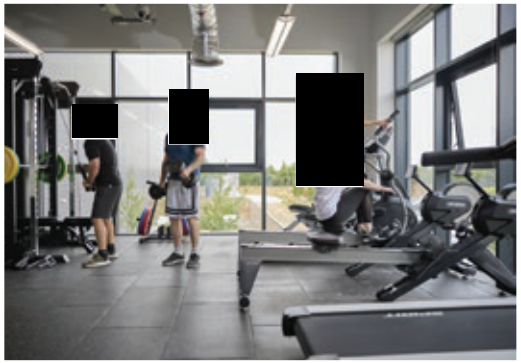
POTENTIAL FOR OUTDOOR AMENITY



OFFICE TEA POINT / BREAK OUT AREA



POTENTIAL FOR ROOF TERRACE AMENITY



FLEXIBLE LAYOUT DESIGN TO ACCOMMODATE OFFICE GYM

LANDSCAPE DESIGN

Soft Landscape

7.56 On Plot landscape designs will follow the design principles of the wider masterplan's Landscape Framework as set out in section 5 of this document.

7.57 On plot landscape will achieve the following:

- Soften the appearance of large scale built form with carefully designed and located soft landscaping features.
- Trees and hedges will serve as key structural elements, helping to shape spaces and support placemaking within the plots.
- Develop a well maintained and welcoming environment with positive landscape and visual amenity to promote wellbeing.
- Enhance biodiversity and wildlife habitat opportunities.
- SuDS solutions integrated into landscaped areas, these will include a mix of water tolerant planting.
- Tree cover within car parks will assist with water infiltration, solar shading and to soften the appearance of hard surfacing when viewed from above.

7.58 Each plot's landscape design will include a mix of native trees and hedgerows, and amenity planting such as shrubs, grasses and areas of flowering lawn grass.

7.59 Trees will be strategically located to enhance visibility at focal points such as entrances while also helping to visually soften the building. Tree and hedge planting will also help to screen car and operational vehicular activity.

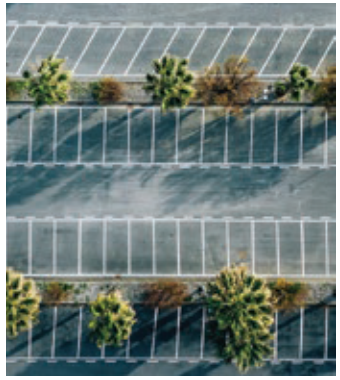
7.60 Amenity planting will contribute to a more pedestrian-friendly scale, particularly around parking areas, footpaths, and outdoor seating zones, creating a well-maintained and welcoming environment.

7.61 Trees proposed in soft landscape areas, will be adequately spaced to allow sufficient space for root development. Within hard landscaped paved and car parking area trees will be planted in appropriate tree pits.

7.62 Where possible and without compromising site security, hedges and ground cover planting will be used in place of fencing along the estate road boundary and entrances to parking areas, to contribute to a more natural and cohesive landscape appearance.



TREES AND HEDGES SEPARATING SPACES AND DEFINING ROUTES



TREES AND LANDSCAPE STRIPES BREAKING UP CAR PARKING AREAS



SOFT AND HARD LANDSCAPING DESIGNS TO DEFINE EDGES AND SEPARATE SPACES



TREES AND HEDGES PLANTING TO DEFINE BOUNDARY EDGES



LANDSCAPE SCREENING AND LAYERING TO PLOT FRONTAGES



TREE AND WILDFLOWER PLANTING TO SOFTEN PLOT BOUNDARY EDGES

Hard Landscaping

7.63 The hard landscaping strategy will create a well-connected network of linked multi-functional spaces that will promote active travel, recreation and wellbeing and aid wayfinding.

7.64 People friendly access routes will be developed which are clearly distinguishable through use of surfacing materials and planting beds. Street furniture will be positioned along routes and will consist of robust, low maintenance seating, picnic tables, and signage.

7.65 Care will be taken in designing pedestrian access to individual development plots and building entrances to minimise the number of vehicle routes crossings from the site boundary to buildings.

7.66 Inside individual plots, paths will lead from external walking and cycling routes and from the cycle parking and car park to each office main entrance. Routes will be wheelchair friendly, and use durable, well-chosen materials to enhance identity and provide smooth transitions between areas.

7.67 Materials for footpaths within each plot demise areas will be primarily block paving with contrasting colours / textures to break up long areas of continuous materials. Tactile paving and dropped kerbs will be provided at all changes in levels and at road crossings.

7.68 Each plot will have access to shared outdoor spaces designed for staff use and positioned near office entrances for ease of accessibility for all. Areas will include clusters of seating and benches to provide a range of outdoor seating opportunities for groups and individuals . Paving will be of a high quality and will be softened with planting to support placemaking, social interaction and wellbeing. Using material and colour differing palettes will create a sense of place and will help to differentiate amenity areas from the more utilitarian and operational areas.



CLEAR AND LEGIBLE PAVING DESIGN TO AID WAYFINDING AND CLEARLY DEFINE ROUTES



SEATING SET WITHIN SOFT LANDSCAPING



SEATING ALONG PEDESTRIAN ROUTES PROMOTING REST AND WELLBEING



PAVING TO ROUTES TO AID WAYFINDING AND IDENTIFY ENTRANCES



BLOCK PAVING DESIGN INTEGRATING SOFT LANDSCAPING TO DEFINE AND PRIORITISE PED/CYCLE ROUTES



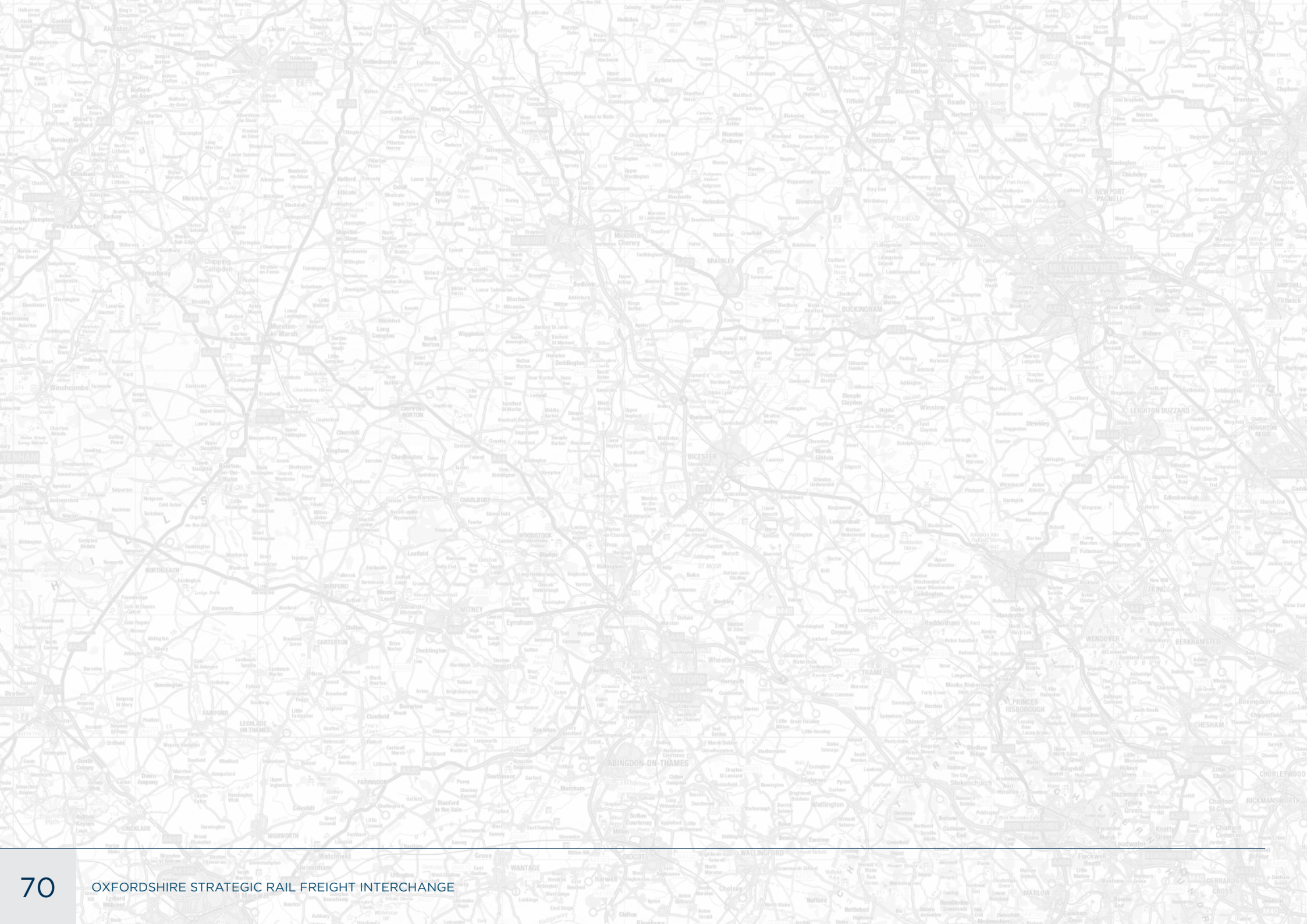
CONTRAST FINISHES TO FOOTPATHS AND PARKING AREAS

Conclusion

7.69 The Design Code illustrates the key design principles to be referenced within the design of each building and its plot layout. The proposed designs will provide buildings that relate to their uses in terms of their layout, orientation, and external appearance to deliver flexible, high quality operational spaces to suit a range of modern occupiers needs.

7.70 Responsible Development, high quality design, placemaking, connectivity and wellbeing will be the key drivers in the evolution of each building and plot design. The choice of building materials and overall appearance will be complimented by a well-crafted landscape strategy.





APPENDIX 1

ENVIRONMENTAL COLOUR ASSESSMENT

OxSRFI
OXFORDSHIRE
STRATEGIC RAIL FREIGHT INTERCHANGE

Environmental Colour Assessment

Oxfordshire Strategic Rail Freight Interchange



Prepared for Oxfordshire Railfreight Ltd by FPCR Environment and Design Ltd

March 2026

INTRODUCTION

Background, Scope and Purpose of this Study

The main site is located just north-west of Bicester, within Cherwell district and the county of Oxfordshire. The villages of Ardley to the north and Middleton Stoney to the south lie close to the main site. The M40 wraps around the site to the east and north, with the former Upper Heyford RAF airfield bounding the site to the west . The site is being promoted for development of a rail freight interchange by Oxfordshire Railfreight Ltd

To support the design process, and inform the Design Code for the main site, Oxfordshire Railfreight has commissioned an Environmental Colour Assessment (ECA) to ensure a landscape-led approach that responds to the local context.

Environmental Colour Assessments (ECA) are increasingly being requested through the development design process and are being carried out alongside Landscape and Visual Impact Assessments and Appraisals (LVIAs / LVAs), since the topics are closely related to one another. As such this study references high level findings from the LVIA and it should be read alongside the LVIA submitted as part of the planning application.

Environmental Colour Assessment

This study is informed by Landscape Institute Technical Information Note 04/2018 (TN) Environmental Colour Assessment. At para 1.2 the TN notes:

"Environmental Colour Assessment (ECA) is an objective process that helps to resolve many of the issues associated with colour selection and specification, especially in the external environment".

The colour findings set out within this study, along with the results of the site survey and observations around the setting of this site, are illustrated through a series of commercially available colour palettes.

Structure of the Document

This study is structured to provide an introduction, relevant background information, site and context colour surveys and a summary of the resultant colour palette. This in turn is then utilised to inform the development design recommendations and proposals.

Baseline Work

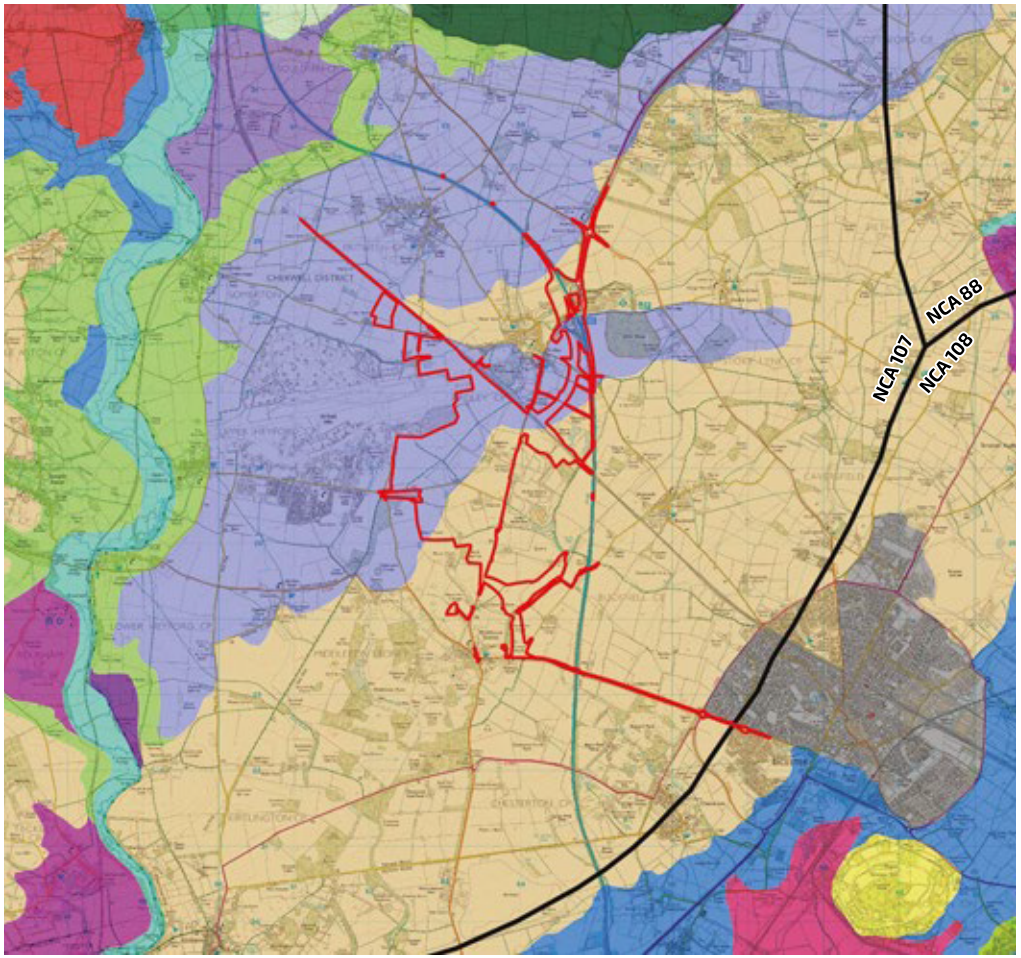
As part of the baseline appraisal the LVIA submitted with the application considered topography and landscape character. Extracts from the Topography and Landscape Character figures presented in the LVIA are included here for ease of reference.

On a county level (Oxfordshire), the landscape character plan extract shows that the site falls between two character areas: Wooded Estatelands and Farmland Plateau. On a district level the character plan shows that the majority of the site falls within the Oxforshire Estate Farmlands Character Area, with sections to the west located within the Upper Heyford Plateau Character Area.

The **Topography Plan** illustrates gently rolling landform rising to the north-west towards the former RAF airfield, before falling and forming a gentle valley around The River Cherwell. Similarly within the site itself, landform gently rises to the north and west. These changes in level contribute to a varied visual setting and influence how the site is experienced from different surrounding viewpoints.

A baseline **Visual Appraisal Plan** is reproduced in this study; it was undertaken as part of the LVIA, which explores the nature of the existing visual amenity of the area and seeks to establish the approximate visibility of the site from surrounding locations and receptors. Two photo viewpoints have been selected from the LVIA for colour and design analysis within this study. They have been selected on the basis of potential visibility and/or receptor sensitivity, from public roads and Public Rights of Way crossing the landscape within the wider context of the site. These locations offer representative visual experiences of the site, helping to inform a colour and design response that is sensitive to both the immediate and wider context.

Closer range views from the north and south of the site are partly filtered by vegetation, with some open views present along the sites boundary. Longer range views from the north and east are mostly filtered by vegetation and built form.



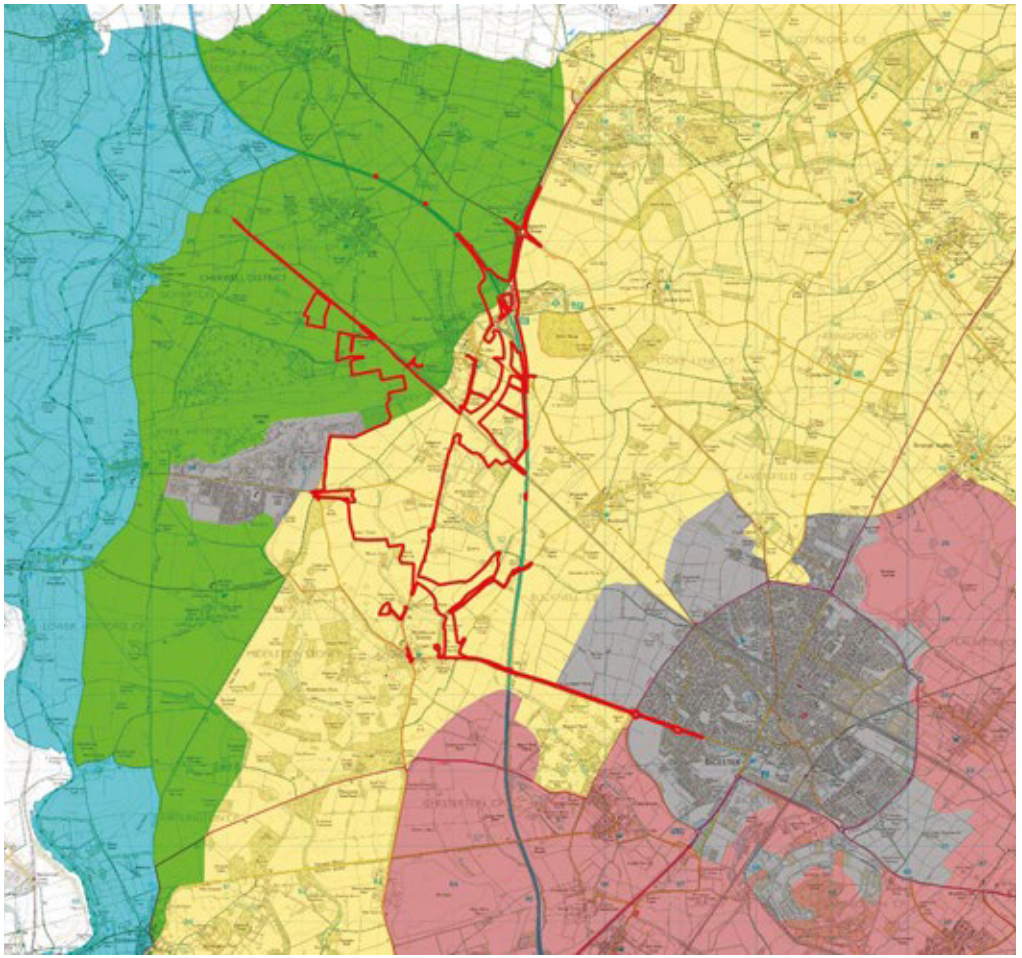
Draft Order Limits

National Character Areas
NCA 88: Bedfordshire and Cambridgeshire Claylands
NCA 107: Cotswolds
NCA 108: Upper Clay Thames Vales

Oxfordshire Wildlife and Landscape Study, 2004

Wooded Estatelands

Farmland Plateau



Draft Order Limits

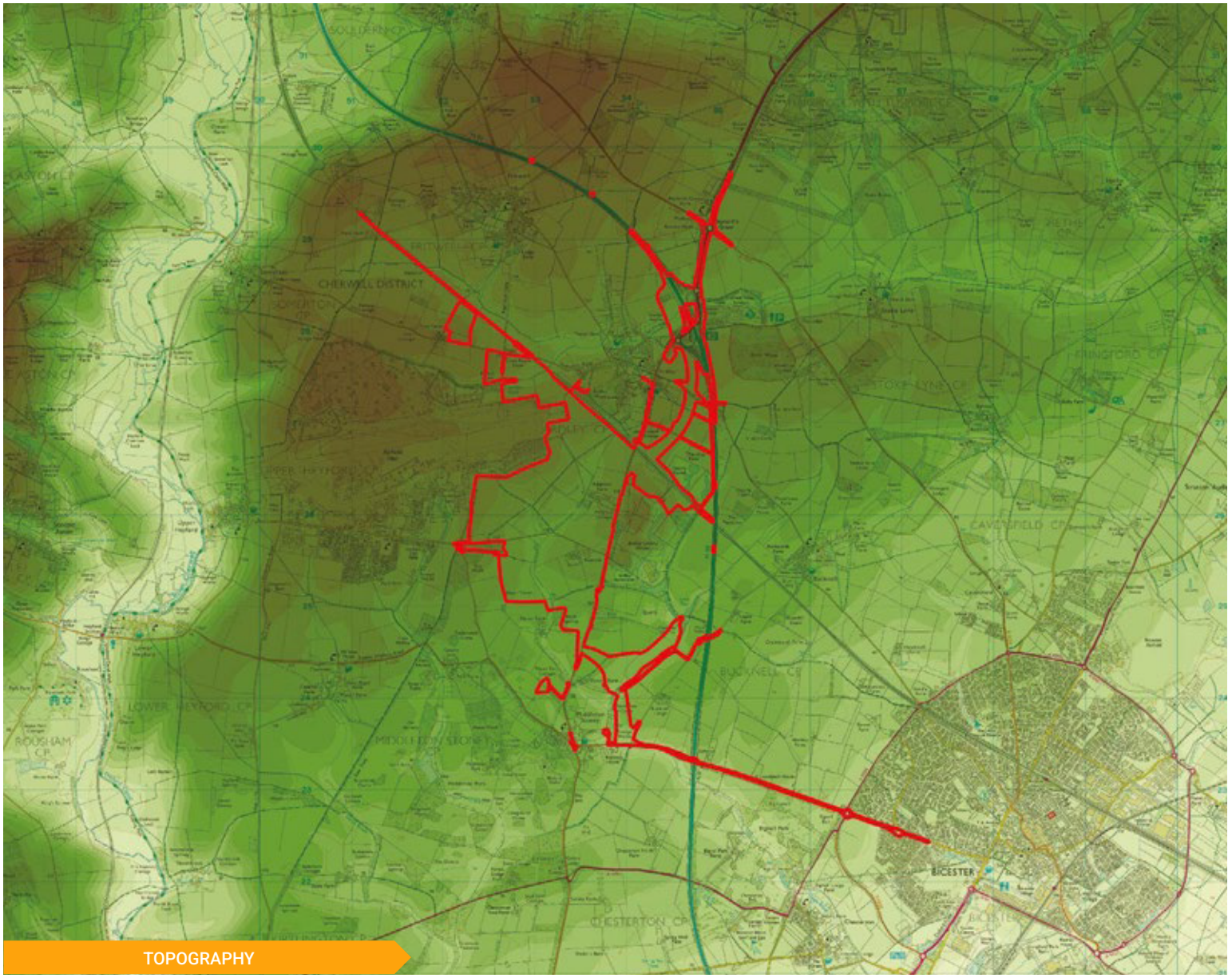
Landscape Character Assessment for Cherwell District, September 2024

Urban

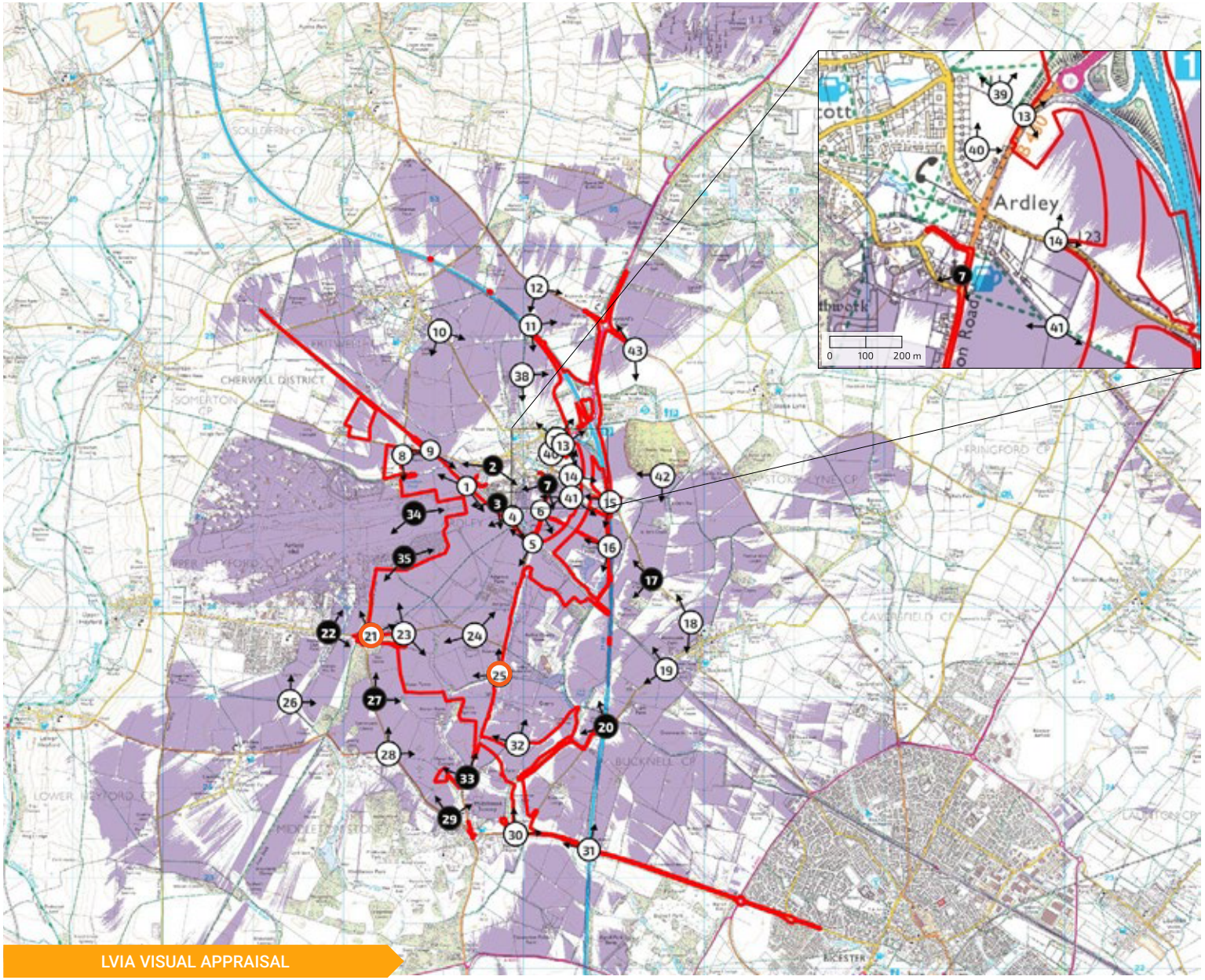
Oxfordshire Estate Farmlands

Upper Heyford Plateau

LANDSCAPE CHARACTER AREAS


Draft Order Limits
Topography
<= 60m AOD
60 - 65m AOD
65 - 70m AOD
70 - 75m AOD
75 - 80m AOD
80 - 85m AOD
85 - 90m AOD
90 - 95m AOD
95 - 100m AOD
100 - 105m AOD
105 - 110m AOD
110 - 115m AOD
115 - 120m AOD
120 - 125m AOD
125 - 130m AOD
130 - 135m AOD
135 - 140m AOD
140 - 145m AOD
145 - 150m AOD
> 150m AOD
BICESTER

TOPOGRAPHY



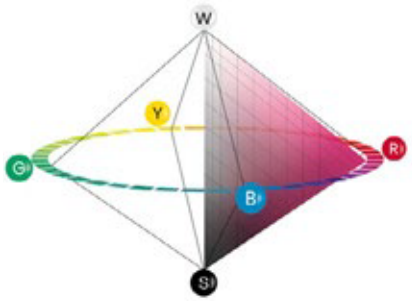
LVIA VISUAL APPRAISAL

NCS COLOUR SYSTEM

In order to accurately communicate the colours we see, we need a reference or notation system with the ability to pinpoint precise colour.

Six Elementary Colours are the basis for the Natural Colour System. These are White, Black, Yellow, Red, Blue and Green. The colours are shown below on the three dimensional model called the NCS Colour Space. Every colour in the Natural Colour System is contained within the NCS Colour Space, and can be described in terms of the six Elementary Colours.

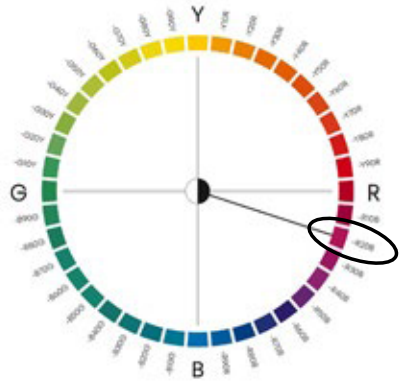
In order to more easily pinpoint colours within the NCS Colour Space, the NCS Colour Circle and NCS Colour Triangle are used.



NCS Colour Space

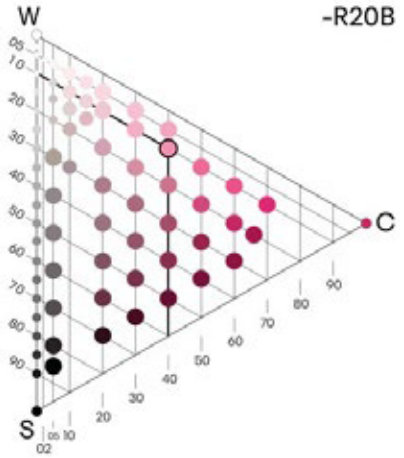
The NCS Colour Circle is a horizontal slice through the NCS Colour Space, and shows a progression from Yellow to Red to Blue to Green and back round to Yellow in 10% steps.

All the colours in the NCS System have a percentage of Whiteness or Blackness, and this is best illustrated using the NCS Colour Triangle. The NCS Colour Triangle is a vertical slice through the NCS Colour Space. C stands for maximum colour intensity or Chromaticness, W stands for White and S for Black. The scales for Chromaticness, Whiteness and Blackness are each divided into one hundred parts which can be interpreted as percentages.



NCS Colour Wheel

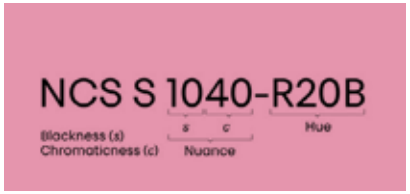
The NCS Colour Triangle and the NCS Colour Circle are used to pinpoint colours within the NCS System. The diagram below pinpoints a colour with 20% Blackness and 40% Chromaticness, with a location on the NCS Colour Circle of R20B. The complete NCS Colour Notation is S 1040-R20B.



NCS Nuance
(Blackness & Chromaticness)

Using the NCS Colour Notation it is easy to define the appearance of a colour. In the notation below 1040 indicates the Nuance of the colour. The Nuance describes the relationship of the colour to Black (S) and to maximum colour intensity or Chromaticness (C). The Whiteness is determined as 50%, as the sum of the values of the three attributes (Chromaticness, Whiteness and Blackness) must always be 100%. The Hue, R20B, describes the relationship of the colour to the Chromatic Elementary Colours, in this case R and B. R20B means Red with 20% Blue. The letter S preceding the NCS notation means that the colour is from NCS Edition 2.

Achromatic colours (Black, White and Grey) lack Hue and are only given Nuance notations, followed by -N for neutral. S 0500-N is White and is followed by S 1000-N, S 1500-N, S 2000-N and so on to S 9000-N, which is Black.

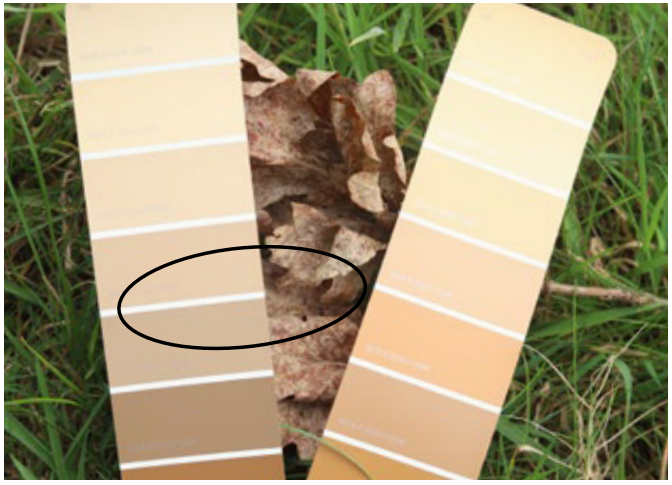


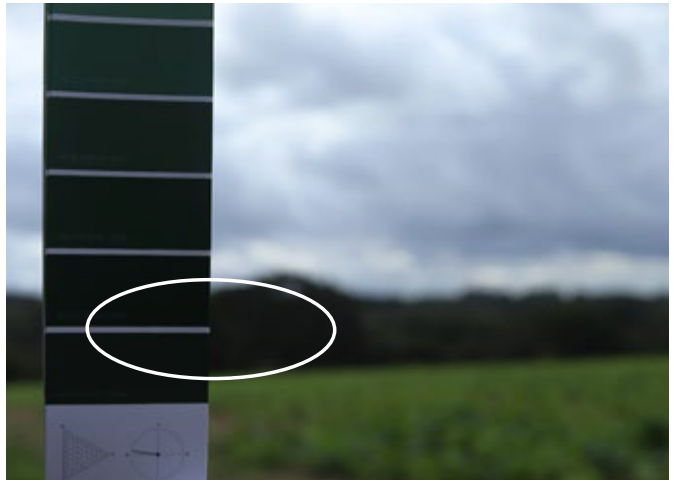
Example of how to read the colour code
(Blackness, Chromaticness then position on Colour Wheel)

Colours identified within this study have been confirmed on site by a Chartered Landscape Architect using a physical book of NCS colour swatches. Site based analysis is a key step in evidence gathering because sampling colours from photographs can be subject to variables. These can be introduced through different camera manufacturers hardware and software, the camera settings selected by photographers and the potential for a range of software settings and profiles to be used at a post production stage.

All representative photos in this document are purely illustrative and have been captured using a full frame Canon 6D DSL camera. The photos below show how physical colour swatch samples have been used during the site visit to identify colours present at a range of scales and distances.







Site based colour sampling using the NCS 2050 Index

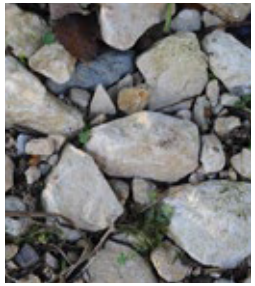
The Sites Colour Context

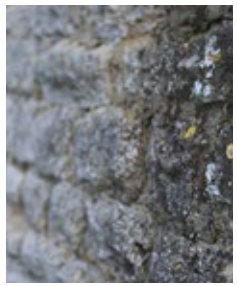
Built form and Materiality Colour

While the site itself is mostly agricultural, It's context features many scattered villages and other built forms constructed from local materiality.

Buildings within local Villages, such as Ardley and Middleton Stoney, are predominantly constructed from local limestone, which gives buildings a characteristic muted grey-brown colour with yellow tinges. Furthermore, historical structures such as Trow Pond Water Tower and field boundary walls are also constructed from the local limestone, with some drystone walls containing darker brown tones.

On the other hand, more modern buildings such as the waste recycling site facility, use a distinct colour palette with saturated feature panels. Furthermore, the newly constructed housing development on the edge of the site to the west, deviates from the local material palettes and tends to use brick as a dominant material.







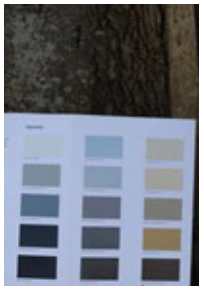


Vegetation and Natural Colour

The site and its surrounding context is predominantly composed of irregular, arable and pastoral farmland. The nature of this agricultural landuse means that vegetation is largely ephemeral, with seasonal changes in vegetation cover and type. Therefore, Summer views tend to be dominated by chromatic yellows and greens, while winter includes more muted greens and earthy browns. It is important to consider that winter views may produce a darker toned palette due to lower light conditions.

Hedgerow field boundaries, with scattered trees, enclose summer views with saturated greens, which turn to muted browns with red/ purple accents in winter. Furthermore, large pockets of mostly semi natural, deciduous woodland are present around the site. In summer, these provide a mid-dark toned green screen/ backdrop for the site, which transitions to grey-brown with red and yellow tinges in winter. Furthermore, there is a strong influence of evergreen woodland both within and in the sites context, providing more permanence to the palette.



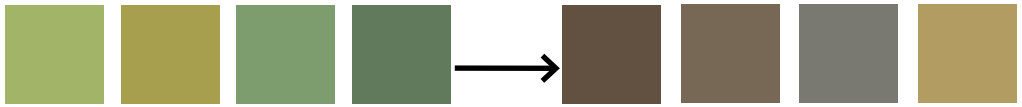








4030 G50Y 6010 Y30R 1005 Y30R



2040 G50Y 3040 G80Y 3030 G30Y 5020 G30Y 7010 Y30R 6010-Y10R 5502Y 3030Y

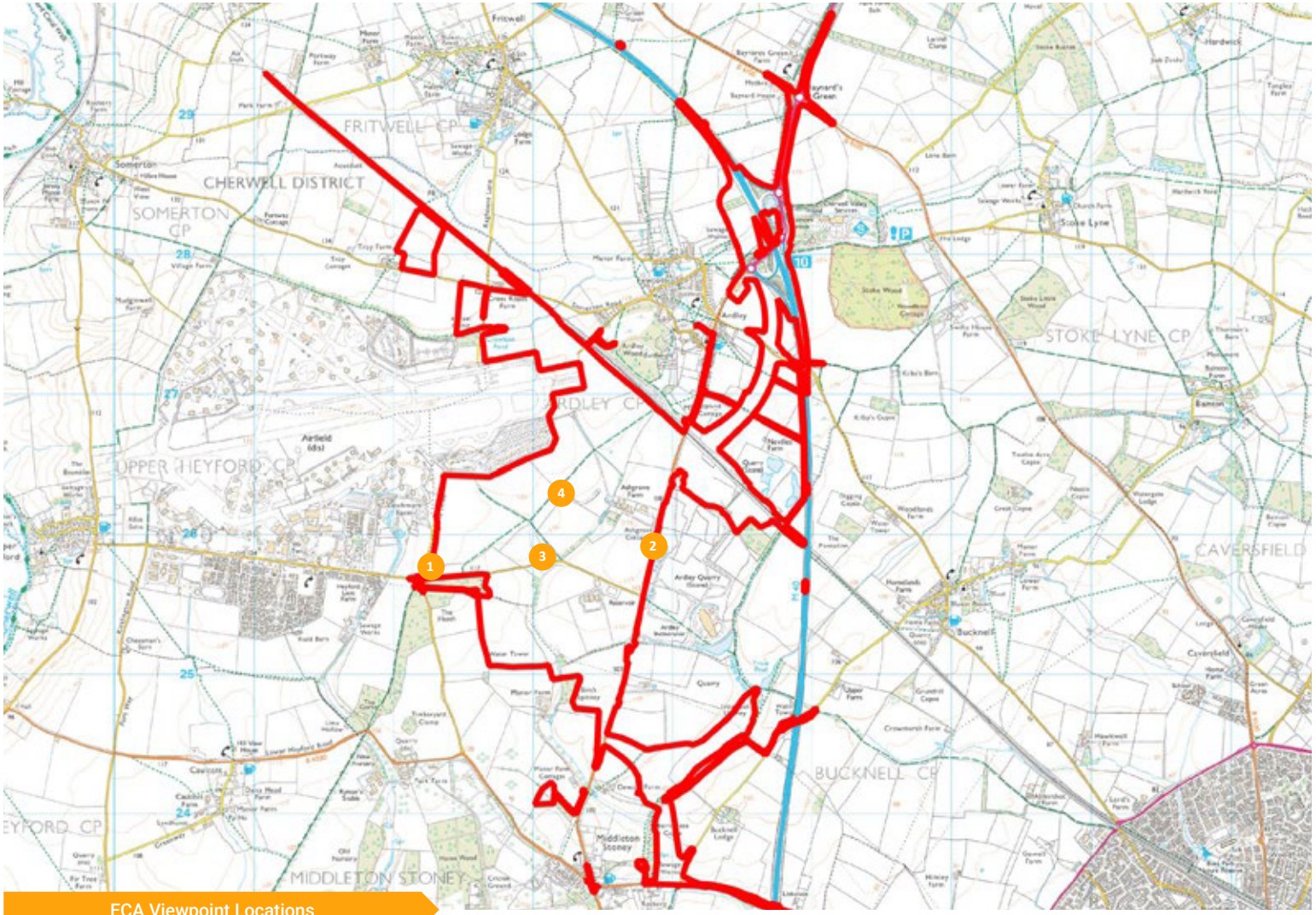
Examples of colours found in Summer and Winter views

It important to consider both built form and natural colours identified, to integrate the proposed development into the wider context and present memory association with important features.

For the Purpose of this ECA, 4 Viewpoints of the site have been selected. This Includes views from within the site and LVIA views from outside looking into the site from its surroundings.

Draft Order Limits

1 ECA Viewpoint Locations

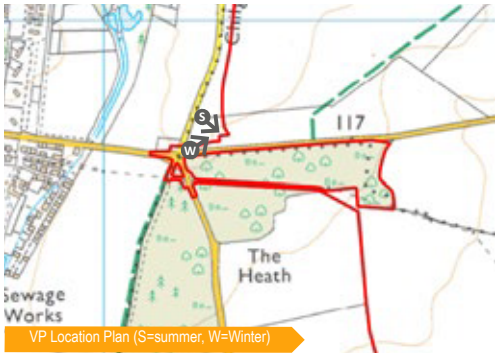


ECA Viewpoint Locations

Viewpoint 1 - Un-named Road / Chilgrove Drive (LVIA Viewpoint 21)



View facing north east, 09 March 2022



VP Location Plan (S=summer, W=Winter)



View facing south east, 26 May 2020

The majority of features in the view are subject to seasonal change including woodland, hedgerows and scattered trees. This provides a colour palette dominated by lush green hues with yellow tinges and high chromaticness in summer and transitions to darker toned greens, along with muted browns, with tinges of yellow and red in winter, due to bare stems.

Distant woodland and vegetation transitions to mid-darker toned neutrals on the horizon.

The grass present in the foreground of both views includes light toned green-yellow hues in summer, whereas in winter this shifts towards more muted yellows and darker, earthy green.



Detailed Views and on site colour analysis, 10 December 2025

8010 G90Y	8010 G50Y	7010 G10Y	4030 G70Y
3040 G50Y	3030 G30Y	2040 G50Y	2020 G70Y
7010 Y30R *	6010 Y10R *	4020 Y20R *	3030Y
3030 Y10R	8005 B80G	6000N	2000N *

* indicates that colour appears in other views/ locations

Viewpoint 2 - B430 (LVIA Viewpoint 25)



View facing north west, 09 March 2022



View facing north west, 26 May 2020



Detailed Views and on site colour analysis, 10 December 2025

Arable fields dominate the view, providing a transient landscape with chromatic green grass in summer and muted green-yellows with exposed, reddish-brown bare soil in winter. The background features distant woodland pockets, with colours becoming more muted and fading out to neutrals/ greys.

The Hedgerow present in the foreground is similarly transient, with more chromatic greens in summer which transition to reddish browns with lighter toned, grey-brown accents.

Built form is present in both views, including a composting facility that provides a muted green-yellow hue, which appears darker in the winter due to lower light conditions.



VP Location Plan (2=Summer & Winter)

8505 G20Y	7010 G50Y	6010 G70Y	5030 G50Y
5030 G70Y	4040 G50Y	3050 G40Y	8010 Y50R
7010 Y30R *	6020 Y20R	6010 Y10R *	3010 Y10R
8000N *	1010 R80B	1001 R	1000N *

* indicates that colour appears in other views/ locations

Viewpoint 3 - Bridleway 109/29/1 / Un-named Road



View facing north west, 10 December 2025



VP Location Plan (S=summer, W=Winter)



View facing north, 26 May 2020



Detailed Views and on site colour analysis, 10 December 2025

The large scale view is dominated by a grass, pastoral field which appears a muted green with yellow tinges in winter, transitioning to a more chromatic green-yellow, with yellow accents from wildflowers in summer.

The woodland in the centre of the views is highly subject to seasonal change, presenting mid toned greens with tinges of yellow in summer and neutrals/greys with very slight hints of yellow in winter.

Closer analysis of woodland reveals many yellow-greens, ranging in chromaticness, with accents of darker tones influenced by Ivy and reddish browns present from bark and winter Beech leaves.

8005 G50Y	6030 G50Y *	6020 G90Y	5020 G30Y
4020 G50Y	4020 G70Y	3040 G80Y	1510 G80Y
7010 Y30R *	7005 Y50R	5502Y	4020 Y40R
4010 Y10R	7500N	1020 R70B	1000N *

* indicates that colour appears in other views/ locations

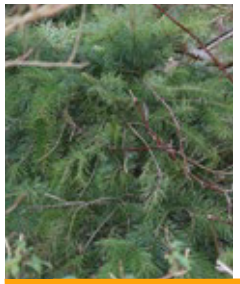
Viewpoint 4 - Bridleway 109/30/10

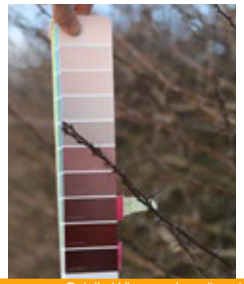


View facing south east , 10 December 2025

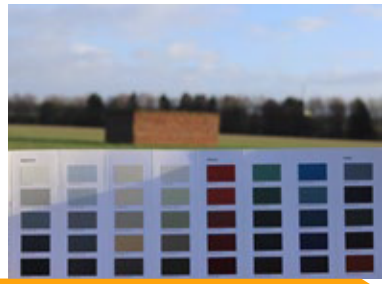


View facing north west, 26 May 2020









Detailed Views and on site colour analysis, 10 December 2025

Agricultural fields dominate views. Ephemeral crops are present in the summer, providing green-yellow hues with light toned, reddish brown soils. In winter, colour tonality becomes darker, offering green hues from grass and dark brownish soil with red tinges.

Pine trees within the site provide a more seasonally consistent colour palette, compared to deciduous woodland. This results in green hues with tinges of yellows, ranging in chromaticness.

Hedgerows appear a dark toned and purple-brown with reddish accents. Towards the horizon of views, colours fade to warm but dark neutrals, especially when light condition are poor in winter.



VP Location Plan (S=summer, W=Winter)

8010 G70Y	7020 G30Y	5040 G40Y	6030 G50Y *
4020 G10Y	3040 G30Y	3040 G70Y	8505 Y80R
8010 Y10R	6010 Y50R	5020R	6020 R10B
3030 Y20R	4020 Y20R *	8000N *	2000N *

* indicates that colour appears in other views/ locations

SAMPLED COLOUR

Viewpoint Summary

Whilst views are available within and towards the site, at varying distances and from two different defined Landscape Character Areas, much of the surrounding landscape context shares common attributes. The landscape is large-scale and open with horizons typically defined by vegetation (woodland or combined layers of tree cover).

Sampled Colour

The combined palette of colours observed and sampled are physically sampled and observed both from and within the viewpoints. They are presented opposite in a grid format to aid comparison.

Moving top to bottom, the colours transition from a maximum of 85% black down to just 5%. Light and dark nuances were both commonly observed on site, particularly 80% and 30% black.

Skies are very dynamic and changeable in nature. Given the flat nature of landform within the surrounding context of the main site, the sky can have a notable presence in panoramic views. Analysis was undertaken on two occasions, once in early March and once in later May. The changeable nature of cloud cover was evident during these site visits and can be observed within the photographs in this report. A common theme when sampling skies to inform a colour palette is the presence of just 5% - 20% blackness when sampling both clear blue skies and skies with light cloud cover. This is an important consideration where building have the potential to be viewed at close range, with rooflines evident against the sky.

Left to right the colours are grouped in green, yellow, red and blue columns. Almost all the swatches sit part way between two colours, rather than being a pure shade of a single colour.

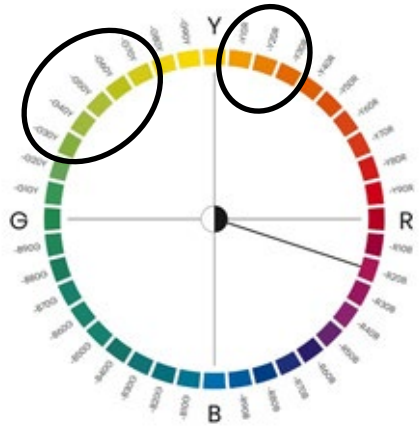
Colour Wheel Groupings

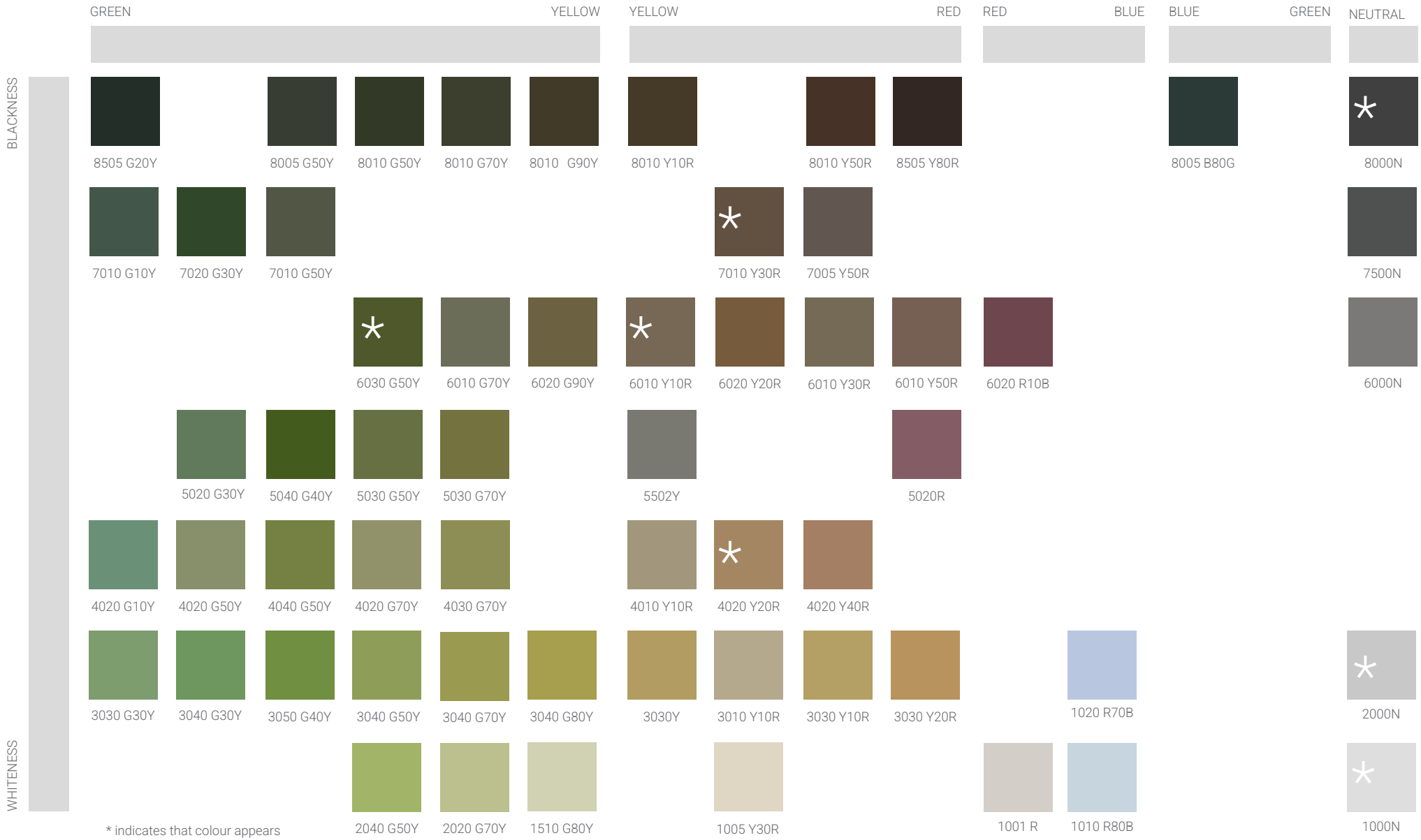
The main colour groupings, identified in the combined palette, are highlighted on the colour wheel. This shows that a range of hues are present within the landscape although they do tend to sit within specific colour bands. Whilst some colours may be ephemeral and highly seasonal, warmer, earthy colours are present year round through the soils, flints and stone, bark, stems and dry vegetation.

As can be expected from views across an agricultural landscape with urban influences, green-yellow and yellow-red were commonly occurring colour ranges. However, blue-green was only observed in deciduous, summer woodland, with very slight tinges of blue. Furthermore, red-blue was very rarely observed with some red with tinges of blue noted in winter hedgerows. Skies sit within a blue to neutral range, apart from at dawn and dusk, where ephemeral sunlight conditions can cast a warm hue across all colours within the landscape.

Colour Nuance

Increased levels of blackness was noted in vegetation, particularly within distant views, which are observed as warm greys. Whiteness was mostly present in details such as Lichen and tree bark, however en-mass these lighter elements subtly combine within wider views to brighten tree stems and woodland.





* indicates that colour appears in multiple views/ locations

RECOMMENDATIONS

Introduction

This ECA has identified that the landscape context is not designated, highly distinctive or overly sensitive. Colours identified in the landscape are varied, frequently seasonal and ephemeral in nature. Trends and themes have been identified within the sampled colours, but this study does not mandate that specific colours or combinations must be used. The summary NCS themes below identify a range of neutral and desaturated colour palettes. The following bullet points then explain how these can be applied and the Tata Steel Colorcoat cladding palettes overleaf show potential for commercial application.

Neutrals



7500N 5000N 2500N 1000N

Green-Yellow (G50Y)



6010 G50Y 3010 G50Y 1005 G50Y

Yellow-Red (Y10R)



6010 Y10R 3010 Y10R 1005 Y10R

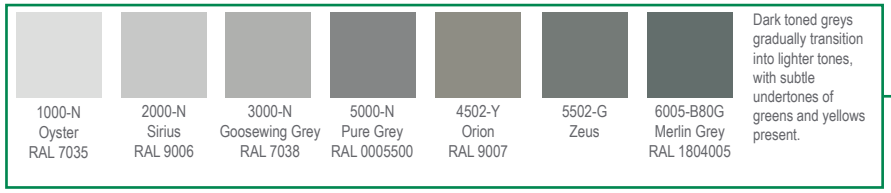
Commercial Cladding Recommendations

This ECA for the Oxfordshire Rail Freight Interchange has drawn a series of recommendations, which can be considered when selecting cladding for proposed buildings, in relation to the site.

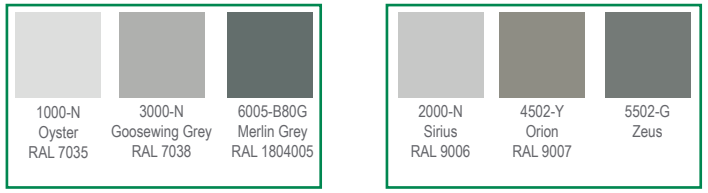
- Colour is explored within this document using the (best-practice) Natural Colour System. However, for ease of application, the colours have been translated to commercially available Colorcoat products, with RAL codes also included where available.
- Based on the assessment of identified colours, a neutral palette and/or a green/yellow and yellow/red palette, has been most commonly identified and is considered most appropriate.
- Given that colours observed on site are seasonally varied and ephemeral, it could make sense for the 'developed colour palette' to utilise more neutral colours that sit across the seasons. These would be achromatic colours, essentially grey shades that lack hue, which can provide a consistent and subtle visual character throughout the year.
- The site falls within both the Oxfordshire Estate Farmlands and Upper Heyford Plateau Character Areas, as part of the Cherwell District Landscape Character Assessment (2024). The scale of patterning/mosaic should respond to the landscape, which in this case is typically flat with large scale agricultural views with bands of hedgerows and pockets of woodland. This could lend itself to wide horizontal bands of gradated colours rather than a mosaic of smaller, more intricate colour patterns.
- Gradual colour gradation across elevations should feature darker, grounding tones placed towards the base which transitions to lighter tones towards the ridge as the building meets the sky. Regardless of whether the selected palette features neutral or desaturated colour swatches, a gradated transition of blackness should be maintained to ensure a smooth transition in cladding bands.
- The site experiences very gently rising landform to the north west, and thus the application of colour must therefore respond to differing perceptual backdrops. In particular, views to the north will feature a slight rising landform. Therefore, a higher proportion of the building may be viewed against the sky, which would suggest that a larger band of a light toned colour is appropriate towards the buildings eaves or a palette of colours that is lighter overall, compared to buildings located against woodland or bunds with structural planting.
- Due to the scale of buildings, it is likely that they will sit above surrounding vegetation in many views, particularly from close range or in the short term as mitigation planting grows and matures. As such, it will be important for buildings to assimilate well with skies and that colour bands do not finish at building eaves with dark colours that feature too much black.
- The uppermost colour band, that has potential to be visible against the sky, shouldn't be a 'pure' white. The example palettes finish with a grey containing just 10% - 20% black, enough to reduce contrast in most conditions. Although elevated vantage points were not noted in the context of the site, and therefore views of roofing finishes are unlikely, this principle should extend to the colour of roofing as well.
- Overall, a carefully managed gradation from darker tones at the base to lighter tones at the ridge is recommended, ensuring that the development remains visually integrated with both landform and sky and that buildings sit comfortably within the landscape.

Colour finishes available from the **TATA STEEL COLORCOAT** range

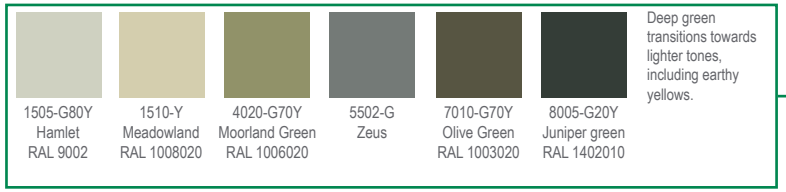
Neutrals



Neutrals (example simple palettes)



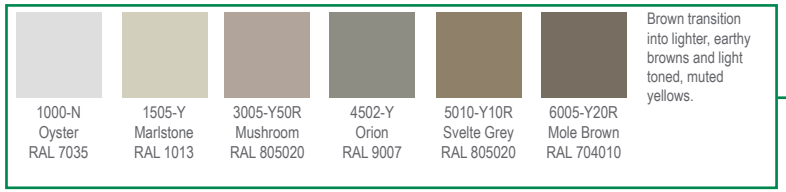
Green-Yellow



Green-Yellow (example simple palettes)



Yellow-Red



Yellow-Red (example simple palettes)



Although three colours have been shown within each of the simple palettes, they are for illustrative purposes only and custom banding arrangements can be created from across the full palettes as required, and in order to fully to respond to the contextual back drop of individual buildings.

PLEASE NOTE Colours will display differently on different screens/ printers and should not be matched from this document. Refer to RAL and NCS colour references and physical samples for a more accurate representation.



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STRATEGIC RAIL FREIGHT INTERCHANGE

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AFFINIUS CAPITAL

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