Document 6.2

The West Midlands Rail Freight Interchange Order 201X

ES - Vol 1 - Chapter 4: Description of the Proposed Development Regulation 5(2)(a)

Ramboll - July 2018

West Midlands Interchange

Four Ashes Ltd

4 DESCRIPTION OF THE PROPOSED DEVELOPMENT

Introduction

4.1 This Chapter of the ES provides a description of the Proposed Development for the purposes of identifying and assessing the likely environmental effects of the development proposals in the technical assessments of the ES.

The Proposed Development

4.2 The Site consists of the land necessary to deliver a SRFI together with landscaping, works associated with electricity pylons and highway works. The proposed highway works consist of road improvements to existing roads (A5, A449, Vicarage Road and Station Drive). New internal infrastructure roads will also be provided to access the development plots.

4.3 The development which is the subject of the application for a DCO comprises:

- An intermodal freight terminal with direct connections to the West Coast Main Line, capable of accommodating up to 10 trains per day and trains of up to 775m long, including container storage, Heavy Goods Vehicle ('HGV') parking, rail control building and staff facilities;
- Up to 743,200 square meters (gross internal area) of rail served warehousing and ancillary service buildings;
- New road infrastructure and works to the existing road infrastructure;
- Demolition and alterations to existing structures and earthworks to create development plots and landscape zones;
- Reconfiguring and burying of electricity pylons and cables respectively; and
- Strategic landscaping and open space, including alterations to public rights of way and the creation of new ecological enhancement areas and publicly accessible open areas.

4.4 The Site is approximately 297 ha in area.

4.5 This chapter of the ES provides a description of the development parameters and also provides an overview to help the reader in understanding the Proposed Development, however this chapter doesn't comprise an exhaustive description as details are included in other DCO documents. The chapter also includes details of embedded mitigation, again this is provided by way of overview as further details are included in other DCO documents and throughout technical chapters of the ES (chapters 6-16).

Development Parameters

4.6 A 'Parameters Approach' has been applied to the Proposed Development whereby the development is described in terms of clearly defined parameters with which future design development will comply, as described in more detail in Chapter 2: EIA Methodology, of this ES.

4.7 Three Parameter Plans (Documents 2.5 – 2.7 and extracts included as Figures 4.1-4.3 in Volume 2 of the ES) have been developed which encapsulate the scheme's concept and which will form the 'envelope' within which future detailed design proposals will need to evolve. These plans comprise:

- Development Zone Parameters Plan (Document 2.5);
- Floor Level and Building Heights Parameter Plan (Document 2.6); and
- Green Infrastructure Parameter Plan (Document 2.7).

4.8 The above three plans which accompany the suite of documents as part of the DCO application (collectively the 'Parameter Plans') form the basis of the assessment within the technical chapters. The Parameter Plans identify those elements of the scheme which are to be fixed or controlled as part of the DCO (i.e. the location of development plots and the framework of green infrastructure) and those elements which are subject to restrictions.

4.9 The Illustrative Masterplan (Document 2.8) has also been produced which demonstrates one way in which the WMI proposals could potentially come forward, in accordance with the controls set out in the Parameter Plans.

Development Zone Parameters

4.10 The Development Zone Parameters Plan defines Building Zones inside which the rail terminal and warehouse floorspace will be distributed. The buildings and associated hardstanding areas for access/circulation/servicing must be located within these areas. The respective Building Zones are summarised as follows:

- Zone B – Rail interchange, container storage, parking area and welfare facilities;
- Zone C – Rail corridor including new rail lines and landscaping; and
- Zones A1 to A7 – development areas for warehousing.

4.11 The Development Zone Parameters Plan also defines the areas which are committed as 'primary green infrastructure', or soft landscaping which will include the community parks, areas of planting, retained vegetation ecological enhancement areas and ponds/SuDS infrastructure (defined further under the Green Infrastructure Parameters Plan); the layout of new road infrastructure within the Site including improvements to the A449 and A5 access points; and the location of the estate management offices and welfare/amenity facilities.

4.12 The Development Zone Parameters Plan fixes the location of the rail terminal to the west of the West Coast Main Line (WCML), to be located within Zones B and C; the maximum floorspace coverage of buildings; and the layout and area coverage of green infrastructure.

Floor Levels and Heights Parameters

4.13 The Floor Level and Building Heights Parameters Plan establishes parameters for the maximum overall heights for buildings for each Development Zone, as measured from finished floor level (FFL) to the highest point of the building. FFLs in metres Above Ordnance Datum (AOD) for all development zones are shown on the Plan to allow comparison for actual building heights.

4.14 Generally, the maximum building heights are lower where the buildings are situated closer to receptors such as residents around the perimeter of the Site, and taller towards the centre and central-eastern parts of the Site where visual impact is less of an issue. Maximum building heights per Building Zone are summarised as follows:

- Zones B/C – Maximum building and stacked container height of 12m, with the exception of the gantry cranes within Zone B which would be up to 30m tall;
- Zones A1, A2, A6, A7(a, b and c) and the north-western portion of Zones A4a and A4b – Maximum building heights of 20m;
- Zones A5a and A5b, and the far eastern portion of Zone A4a adjacent to Calf Heath reservoir – Maximum building height of 24m; and
- Central and south-western portion of Zones A4a and A4b – Maximum building height of 30m.

Green Infrastructure Parameters

4.15 The Proposed Development will incorporate green infrastructure proposals. This will include retention of a significant area of existing habitats including woodland, trees, hedgerows, grassland and ponds. The conserved planting and habitats will be reinforced by significant new woodland, tree and shrub planting, hedgerows and other habitats. The Green Infrastructure Parameters Plan shows the layout of retained vegetation including hedgerows and trees, proposed landscaping areas, community parks, landscape embankments and SuDS infrastructure including ponds (retained and proposed), wetland areas and swales.

4.16 The aims of the landscape parameters are to integrate the Proposed Development harmoniously into the receiving landscape, provide ecological and biodiversity mitigation and enhancement and improve the interconnectivity of green infrastructure within and immediately adjacent to the Site whilst maintaining safe and enjoyable public access to the community parks. A key aim of the Green Infrastructure Parameter Plan is the retention, improvement and augmentation of existing boundary hedgerow features and existing trees.

4.17 The green infrastructure areas will extend to approximately 107 ha (approximately 36% of the Site area) and will include the creation and conservation of landscape corridors throughout the Proposed Development; the provision of new mixed habitats (including some small wetland areas / ponds as part of the sustainable drainage strategy) to satisfy biodiversity objectives; the formation of earthwork proposals and the establishment of high quality landscapes to the built development plots and surrounds; and the creation of two new community parks. These features are described in more detail below.

4.18 The parameter dimensions of the green infrastructure features are summarised as follows:

- The ‘green corridor’ connecting the Calf Heath Wood and Calf Heath Reservoir will be a minimum of 100m wide;
- The ‘green buffer’ between the A449 and development Zones A1 and A2 will be a minimum of 37.8 m increasing to 49.7 m in certain areas;
- The ‘green buffer’ between the A5 and development Zone A4a will be an average 74.8 m wide;
- The ‘green buffer’ between the Staffordshire and Worcestershire Canal and adjacent development zones will be a minimum of 80m; and
- The community park separating Calf Heath Village and development Zones A7a, A7b and A7c will be in the region of 159 m wide.

Illustrative Masterplan

4.19 A detailed Illustrative Masterplan has also been produced (Document 2.8). The Illustrative Masterplan demonstrates one way in which the Proposed Development could potentially come forward, in accordance with the controls set in the Parameter Plans described above.

Landscape Design and Biodiversity

Soft Landscaping

4.20 In total, 36% of the Site is proposed to be given over to green infrastructure. Soft landscaping will make up a large portion of the Proposed Development and will include the following:

- Woodland and tree belts - New woodland and tree belts will be planted throughout much of the Site. This planting will utilise native and locally occurring species and will be based upon good landscape and biodiversity practices. A number of different species mixes will be used to achieve and balance differing design and environmental objectives. In some places the focus may be on maximising biodiversity benefits and in others on visual screening and mitigation;
- Hedgerows - New native hedgerows including native hedgerow trees will be planted throughout the Site and will tie in with the conserved network of existing hedgerows and provide a well-connected framework of new and existing hedgerows across the Site;
- Open Space and Grasslands - New open space and grassland habitats will be provided throughout the Proposed Development. This will comprise predominantly meadow and species rich grassland in those areas associated with the community parks and woodlands/ tree belts; with more limited areas of general amenity grassland associated with development entrances and plot surrounds; and
- Wetland Areas and Habitats - New wetlands and water features will be created throughout the green infrastructure, largely to satisfy the Sustainable Drainage Strategy. These features will however also be designed to maximise their positive contribution towards the appearance and amenity of the landscape and to biodiversity objectives. Aquatic and surrounding planting will utilise native species for these features.

4.21 Further details regarding proposed biodiversity enhancements are outlined in the Framework Ecological Mitigation and Management Plan (FEMMP) (included as Technical Appendix 10.4).

4.22 All of the soft landscape areas including both new and conserved areas and features will be the subject of a comprehensive management regime that will ensure the successful establishment and subsequent thriving of the various planting, habitats and other green spaces.

4.23 Illustrative examples of the landscaping proposals are provided in Figure 4.1.

Figure 4.6 Illustrative Example Habitat Types

Clockwise from top left: Wetland habitat with walkway, open wetland/pond, grassland/meadow open space

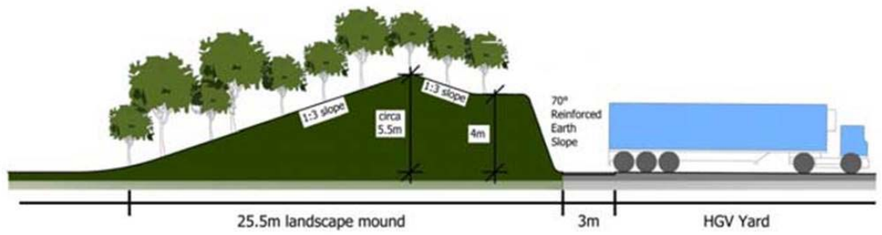
Landscape Buffer and Embankments

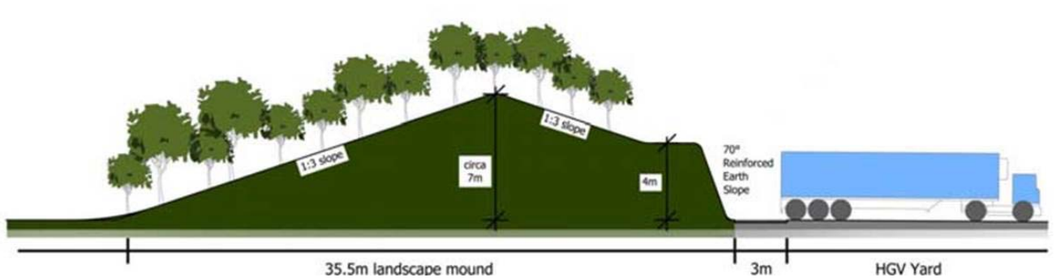
4.24 The Green Infrastructure Parameters allows for, where possible, the retention of boundary features including hedgerows and trees and the addition of a landscape buffer throughout the perimeter of the Site to provide ecological connectivity and screening.

4.25 The proposed landscape embankments will be created from site won material and will function as physical screens to mitigate visual and noise impacts of the Proposed Development on surrounding receptors. Where noise is a key factor the embankments will be located as close to the development zones (and therefore the source of the noise emissions) as possible.

4.26 The banks would utilise a reinforced earth slope or retaining wall to create a near vertical (70°) face on the development side of the bank, to maximise utilised space and noise mitigation; and a gently sloping face on the outward side to merge with the surrounding landscape. Typical cross sections of the embankments are shown in Figure 4.2.

Figure 4.7 Typical Landscape Embankment Cross Sections





4.27 The heights of the landscaped mounding are set so they are relative to the adjacent development zone finished floor level (FFL), this will ensure that the mounding will provide the screening required to the active elevation. Simply, if the warehouse FFL gets raised so will the landscape mounding height proportionally. As shown in the above diagram, as the height changes, the slope angle of the embankments will stay the same to maintain a consistent appearance, but the width of the embankment will change. Sufficient space has been allowed in the Parameter Plans to accommodate this.

4.28 As well as providing a physical screen, the embankments will be planted as part of the overall boundary landscaping, typically with trees to provide ecological benefits as well as additional visual screening.

Community Parks

4.29 The Proposed Development will include the creation and management of two new community parks that will be inclusive and accessible to the public. These parks will comprise predominantly natural and semi-natural landscape areas for informal recreation. They will also be designed and managed to maximise their biodiversity interest.

4.30 The proposed parks, Calf Heath Community Park, located to the south of the Site, and Croft Lane Community Park located in the north of the Site off the A5 will provide areas of open space and recreation that will benefit both the new occupants of the Site, but also the surrounding community. The community parks would include high-quality landscaping and landscaping features that will be easily accessible for nearby residents.

4.31 The community park areas will be informal in character (similar to a small scale 'Country Park', rather than an Amenity or Recreation Ground), with provision for walkers and other informal recreation. It is not proposed to provide any more formal play or activity uses at either of the identified parks.

4.32 In the north, the Croft Lane Community Park (approximately 21 ha in size) will be located to the west and south-west of Croft Lane. This park will extend between the A5 in the north and the canalside in the south. It will combine the conservation of existing woodland, trees, hedgerows and grassland with new native habitats and species. Notably it will include some new water features and wetland areas (associated with the Sustainable Drainage Strategy), which will add to the variety of wetland habitats on-site. The park will be publicly accessible and will include new pedestrian paths running through and around the park and with links to both Croft Lane and the canalside towpath.

4.33 In the south, Calf Heath Community Park (approximately 23 ha in size) will extend around the southern edge of the Site and straddle both sides of Straight Mile. This park will extend from close to the properties at the northern end of Kings Road (Calf Heath) to the western end of Straight Mile and will provide footpath links throughout the area. This park will provide the opportunity for walks to/from Calf Heath and the canalside towpath (at Long Molls Bridge). The parks will be similar in character to the Croft Lane Community Park and will include a mix of existing conserved and new habitats, including woodland, meadow grassland and wetlands.

4.34 The community parks be designed to be consistent with the principles outlined in the design and access statement (DAS) (Document 7.5) and the FEMMP (included as Technical Appendix 10.4).

Ecology: Embedded Mitigation / Enhancement

4.35 Extensive ecological surveys have been undertaken at the Site. A variety of protected species / habitat surveys have been undertaken which have informed findings including:

- Badger;
- Bats;
- Birds;
- Great crested newts;
- Hedgehog;
- Hedgerow;
- Invertebrates;
- Polecat;
- Reptiles;
- Veteran Trees; and
- Water vole.

4.36 For each development phase an Ecological Mitigation and Management Plan (EMMP) will be prepared (based on the principles of the FEMMP). A FEMMP has been prepared for the Proposed Development to provide an outline of the content and measures necessary for each EMMP. Each EMMP will cover both the construction and operational phases of the Proposed Development. The plan will detail incorporated measures intended to mitigate the impact of the Proposed Development on habitats and species present within the Site and adjacent areas. The FEMMP is included in Technical Appendix 10.4 of this ES. Full details of the ecology mitigation, enhancement and design features are provided within the FEMMP and within Chapter 10: Ecology and Nature Conservation of this ES.

Drainage

Surface Water

4.37 As part of the Proposed Development, a surface water drainage strategy for the Site has been prepared by Waldeck Consulting, included as Technical Appendix 16.3.

4.38 The general drainage philosophy for the overall development has been progressed in accordance with National Planning Policy Framework Technical Guidance and following the guidelines of the CIRIA C753 SUDS manual. The aim of the design is to manage the surface water run-off from the Site and minimise the impact on the quality and quantity of water discharging into receiving watercourses whilst maximising the potential for amenity and biodiversity. The proposed location of the surface water attenuation swales and lagoons can be seen on the Green Infrastructure Parameter Plan (Document 2.7). The drainage strategy has been designed to restrict surface water runoff rates to greenfield rates across the proposed outfalls.

4.39 It is proposed to drain all areas of hardstanding within the Site via a pipe network to a series of swales and surface detention ponds prior to discharge to various surface water outfalls. The surface water drainage across the Site is to be divided into three catchment areas, known as Catchments A, B and C (see Drainage Strategy, Technical Appendix 16.3, for further details). A single outfall to the tributaries of the River Penk is proposed for Catchments A and B, with two outfalls to the Staffordshire and Worcestershire Canal proposed for Catchment C.

4.40 A maximum discharge rate to the canal of 60 litres/second is proposed. Embedded mitigation within the drainage design includes proposals to restrict surface water runoff rates leaving the Site to greenfield rates, in line with the existing drainage regime at the Site. Embedded mitigation also includes attenuation storage to be provided for up to the 1-in-100 year storm, including allowances for the predicted effects of climate change. Attenuation storage and water treatment is proposed in the form of detention ponds and swales.

4.41 The development lifetime of the warehouse buildings is 25 years. In accordance with the Environment Agency Climate Change guidance issued in February 2016, for developments with a lifespan up to the year 2069, the ‘upper end’ climate change allowance is 20% and the ‘central’ climate change allowance is 10%. The Climate Change Guidance states that for "less vulnerable" development situated within Flood Zone 1 (which is the case for the Site), the impact of both the "upper end" and "central" climate change allowances should be assessed over the lifetime of the Proposed Development. To provide a conservative approach, the drainage strategy calculations provided by Waldeck Consulting include a climate change allowance of 30% applied to rainfall intensities over the lifetime of the Proposed Development.

4.42 In line with the existing situation, the drainage infrastructure serving the sections of existing highway within the Site boundary will remain separate from the drainage infrastructure serving the Proposed Development.

4.43 Further information on surface water drainage can be found in the Drainage Strategy (Technical Appendix 16.3).

Foul Water

4.44 The foul water drainage strategy for the Site involves splitting the drainage network between two discharge points located to the south-west and south-east of the Site. The point to the south-west is a Severn Trent Water manhole which currently receives a rising main which runs alongside the A449. The south-east discharge point is a Severn Trent water pumping station which feeds a rising main to the existing sewage treatment plant located on Deepmore Lane.

4.45 All plots located west of the WCML would be routed to the connection point to the south-west along with development zone A3 which is located directly east of the main line and above Gravelly way. All other plots located east of gravelly way are routed to the pumping station located to the south-east. A series of pumping stations and rising mains are proposed to prevent excessive depths on the drainage runs especially to the east of the Site where the direction of flow goes against the slope of the overlying land.

4.46 The viability of discharging to these manholes has been discussed through consultation with Severn Trent Water, details of which are included within the Drainage Strategy (Technical Appendix 16.3).

Freight Terminal and Rail Infrastructure

4.47 The Proposed Development will include the provision of Rail Infrastructure. The Rail infrastructure would comprise up to 8km of new rail track between 6 through sidings, 3 dead end sidings and connection spurs to/from the WCML. Details below describe the outline proposals for the rail infrastructure.

4.48 Trains can therefore arrive and depart in either direction of travel direct to/from the WCML, with passive provision for 2 of the 6 full-length sidings to be capable of being electrified in future if required. Once in the handling sidings, container handling operations would be undertaken either by reach stackers in the first phase (working off the 2 nearest sidings to the apron) and/or overhead rail-mounted gantry cranes in future phases. Additional sidings are provided to the north of the intermodal terminal, providing additional stabling space, a headshunt capability for shunting trains to and from the intermodal terminal, and access for conventional wagons into the adjacent warehousing.

4.49 The freight terminal would be designed to accommodate up to 10 trains of up to 775m in length per day within 6 sidings. The freight terminal will include connection to the WCML, allowing for the transfer of freight from road to rail, and vice versa, and in addition to serving the operators located on Site, would also serve a wider market, enabling the transfer, and storage as required, of containers at the Proposed Development’s freight terminal facility. Refer to the Rail Operations Report (Document7.3) for further detail.

4.50 As installed, the rail-mounted gantry cranes would span the 4 handling sidings and the entire width of the intermodal terminal, allowing containers to be moved between trains, intermediate storage areas and HGVs as required. The container storage area would be capable of stacking containers up to 4 high, the stacks stepped down in height alongside the main HGV transfer area for safety reasons.

Rail Access

4.51 The Proposed Development is bisected by the WCML section via Penkridge (also referred to as the Bushbury to Stafford Line). This section forms the western branch of the WCML between Rugby and Stafford. The main line is double-track formation (Down Main to Stafford and Up Main to Birmingham).

4.52 The WCML links London and the South East with the Midlands, North West and Scotland, and is the principal route for movement of north-south intermodal and conventional wagon rail traffic of relevance to the small network of existing SRFI. The WCML forms a core part of the Trans-European Network (TEN-T), and south of Crewe to London is one of the few sections of the national network already cleared for 775m length trains, this being extended south to Southampton by the end of 2019.

4.53 The Proposed Development will also have onward access via the WCML to the principal deep-sea ports of Felixstowe, Southampton and London Gateway, and additional ports and SFRI locations in London, the South West; South Wales, the Midlands, Yorkshire and Humberside, the North West, North East and Scotland.

4.54 Freight trains destined for the Site would arrive at new signals controlling access to the new crossovers and connections into the Site. With a suitable signal aspect displayed, trains would cross over the main line tracks as required and into one of the reception sidings. Once clear of the main line, the signals and pointwork would be reset to allow other trains to proceed along the main line in either direction.

4.55 The majority of trains would be expected to be formed of intermodal services arriving and departing to the south or north on the WCML. A train arriving into the Site would be routed either directly into one of four full-length sidings within the intermodal terminal (to facilitate the fastest possible turnaround of intermodal services), or into one of two adjacent reception sidings provisioned for overhead electrification.

4.56 Diesel-hauled trains could access any of these six sidings, whilst electrically-hauled trains could access the outer two reception sidings, from where on-site diesel shunter locomotives would then shunt the train into the intermodal terminal. The latest electric freight locomotives being introduced onto the network (Class 88) have built-in diesel engines that could undertake such shunting manoeuvres without requiring a separate diesel shunter.

4.57 Train movements within the Site (i.e. excluding movements to and from the main line) would be restricted to slow speeds (5-10mph) for safety reasons. In common with best practice for SRFI, all reception and loading/unloading sidings will be laid on level grade for safety reasons.

4.58 Access from the intermodal terminal to the north connection on the WCML will be via a single-track line approximately 700m in length and falling towards the connection turnout at a gradient of approximately 1 in 100. A more detailed overview of the rail access arrangements can be found in the Rail Operations Report (Document 7.3).

HGV Access to Rail Terminal

4.59 The rail terminal will be subject to particular security standards as a 'Restricted Zone' under Department for Transport Channel Tunnel security requirements, where only authorised vehicles and people can be admitted.

4.60 HGVs arriving at the intermodal terminal would park ahead of the gatehouse as required, the parking area provided with driver amenity facilities and provision for overhead inspection gantries to allow drivers to check and secure containers prior to departure by rail. HGVs would then draw up to the gatehouse, any HGVs with missing or incorrect documentation or having arrived at the Site by mistake can be turned back to the highway via an escape lane ahead of a second gate line protecting access to the intermodal terminal. HGVs would then pass south alongside the handling sidings, allowing close proximity to effect fast transfer of containers directly between trains and HGVs. The HGVs would then turn at the southern end of the terminal and travel north, exiting the Restricted Zone back to the highway network.

4.61 It is anticipated that the freight terminal and rail tracks would be delivered in 2 separate phases and comprise:

Initial Rail Terminal

- Approximately 5.8km of rail track, spilt into 4 through sidings of 1km, a dead-end siding of 720m, a cripple siding and the connection spurs to/from the main line;
- Vehicular access / egress to the north of Plot 1020 via Gravelly Way;
- Up to 75no. HGV parking bays;
- Driver amenity / welfare block;
- Security gates / fencing, gatehouse and escape lane to prevent unauthorised vehicular access;
- Storage for up to 648 twenty-foot equivalent units (TEU) over three 4-high stacking lanes;
- Reach stackers; and
- HGV circulatory turning area.

Expanded Rail Terminal

- An additional 2.2km of rail track, providing an additional 2 through sidings (totalling 6 through sidings) and 2 additional dead-end sidings;
- Segregated access and egress lanes (2 northbound and 2 southbound carriageways) for HGV vehicles, eliminating the need for circulatory turning;
- The installation of gantry cranes and running rails for unloading / loading of TEU containers; and
- Increased storage capacity for up to 3,960 TEU over 9 lanes, ranging from 4-high stacking to 2x high stacking.

Built Design

4.62 The large warehouse units will typically be constructed from either prefabricated composite insulated metal panels or sheets of profiled steel or aluminium, cladding at higher levels will require less protection and can be constructed of lighter coloured metal cladding materials.

4.63 The steel used in relatively simple structures of this nature can be easily dismantled and recycled multiple times without any loss of quality or strength, which along with the minimal waste that is generated as the components are fabricated under factory conditions and the main Site activity is assembly make it a very sustainable form of construction.

4.64 The SRFI buildings will be designed to high environmental and quality standards. They will be designed to the latest environmental and energy efficiency performance and an exemplar approach is being proposed based on low energy design principles. The SRFI buildings will be designed to achieve a Very Good rating under the 'Building Research Establishment Environmental Assessment Method' (BREEAM) criteria, incorporating measures to reduce energy demand and carbon dioxide emissions, promote sustainable drainage and limit effects on biodiversity.

4.65 The overall scale of the Proposed Development and the provision of perimeter landscaped zones will allow high bay warehouses of 26m clear internal dimensions (to underside of haunch), to be located towards the centre of the Site. The Parameters Plans identify a zone of smaller scale development plots adjacent to boundaries which are closer to residential areas and the canal corridor, which would generally provide sites for units with smaller footprint areas and standard lower clear internal heights below 24m, but does not preclude the development of high bay warehouses.

4.66 The warehouse buildings would typically have a minimum design life of 25 years (after which the buildings would likely be refurbished). The infrastructure would have a design life of 120 years.

Building Design – Roof and Elevations

4.67 The elevational treatment will be designed to minimise the visual impact of the buildings toward sensitive views, while allowing for interest and activity at the entrances to the Proposed Development. A range of external materials and colour palettes are available to enhance building elevations and to soften the appearance and break up the visual proportions of larger building elevations. The elevations will respond to the relevant background that can be seen, so this will mean in some instances when viewing from low levels such as the canal footpath the buildings will be against a lighter blue/grey sky so the elevations in these locations will be from the lighter palette of colours. When the scheme is viewed from a distance at a higher point such as Shoal Hill then the backdrop to the buildings will be the dark green landscape, and therefore the building elevations can respond to this with colours from a darker palette.

4.68 Further consideration of the design treatment for the building elevations and roof treatments will be undertaken and the subsequent detailed design stage. Particular attention will be paid to the design and colour treatments and measures to mitigate and minimise as far as practicable the visual effects of the buildings from surrounding viewpoints.

4.69 Relevant best design practice will be drawn upon, including the use of guidelines such as 'Guidance on the Selection and Use of Colour in Development' by Malvern Hills AONB Partnership[1].

4.70 Although this particular guidance refers to a different landscape it includes helpful design principles in terms of the approach to the use of colour in development.

Hard Landscaping and External Areas

Hard Landscaping

4.71 The hard landscape proposals within the GI areas will largely relate to new paths and pedestrian access measures.

4.72 New fencing and any related pedestrian access measures associated with these areas are likely to be of a similar 'Country Park' or countryside design style, using timber post and rails.

External Areas

4.73 HGV and car parking standards for the development are based upon industry standards and the avoidance of parking on the internal estate roads.

4.74 Security gatehouses will be designed to accommodate incoming queuing goods vehicles whilst maintaining a free flow of cars and cycles to designated parking areas. Tenants will be responsible for on-site security of the development plots. Fencing to the perimeter of each plot will be designed to be unobtrusive within the perimeter of the landscaped zone, with the minimal amount of impact on landscaping.

4.75 No parking will be permitted on the estate roads, therefore early HGV arrival bays will be provided on each plot to allow the safe parking of any HGVs prior to entry onto the plots, this will therefore remove the need for HGV parking on the existing road network. Rail/park shunting services for the delivery of containers to and from the rail terminal operations will also be provided.

Sustainability

4.76 The buildings will be designed targeting BREEAM 'Very Good' rating, which will drive the sustainable design and use of the buildings and associated infrastructure across a range of objectives including energy efficiency, climate change, materials and waste, ecology, pollution and water resources, transport and health and wellbeing.

4.77 The precise mix of sustainability measures will be decided as the design and parallel BREEAM assessment progresses.

Waste Management

4.78 An Operational Waste Technical Note (Technical Appendix 2.4) has been prepared primarily to consider the capacity of waste management facilities locally to receive wastes from the Proposed Development once operational.

4.79 The Waste Technical Note concludes that the local waste management infrastructure has the capacity to receive the waste streams and volumes that will be produced by the Proposed Development.

4.80 Precise waste volumes, streams and management measures cannot be ascertained at this stage as they will be largely dependent on the end users of each individual development plot, and not governed on a development-wide basis. Each commercial unit will have their own waste management systems, storage areas and waste contracts with licensed handlers and disposal facilities. There will be no industrial processes or producers at the Site, and the Proposed Development will comprise typical warehousing and rail/road freight use that will be managed in line with current and developing standards for waste management. The majority of waste streams will be packaging related and therefore managed in accordance with the UK Packaging Waste Regulations[2], which will maximise recycling rates.

4.81 There will be limited facilities for maintenance, refuelling and/or cleaning of plant, equipment and vehicles within each warehouse unit that might produce small quantities of hazardous wastes such as oils/fuels/solvents/batteries. These materials will be stored and handled in line with all relevant legislation and standards and disposed of via licensed contractors for recycling and recovery where possible.

4.82 There will be licensed waste disposal or handling facilities on-site, and all wastes will be disposed of/recycled via off-site licensed contractors.

Indicative Phasing

4.83 The assessment of the Proposed Development is based on an indicative phasing comprising 5 separate phases. The phasing of the Proposed Development is currently indicative and is dependent upon occupier requirements. It is currently anticipated that the construction of the scheme will take place over 15 years. Phased works will be made up of a number of elements to include infrastructure (roads, bridges, drainage etc.), two phases of the rail freight terminal and individual warehouse buildings, with relevant earthworks, landscaping and utilities works to be undertaken in each phase. The works are phased to serve the delivery of the principal warehouse buildings which would respond to market demand.

4.84 The indicative phasing strategy is shown in Table 4.1 and illustrated in Figure 4.5 (included in Volume 2 of the ES), below. Prior to the commencement of any works for any given phase, the required ecological and environmental surveys and investigations would be undertaken where required for the works in that phase. The indicative phasing of the Proposed Development will be subject to the agreed Schedule 1 DCO Requirements, should consent be granted.

Table 4.1: Indicative Phasing Strategy

Phase	From	To	Indicative Description of Works
1	2020	2026	Infrastructure works to be undertaken in Phase 1 include the construction of the Initial Rail Terminal, formation of the new A5 and A449 roundabouts, the adopted link road, the bridges over the Canal and the railway and the construction of on-site access roads. Phase 1 would also include the construction of the warehousing units in the area shown on the Phasing Plan. Landscaping, earthworks and works to Croft Lane Community Park, to minimise the impact of the warehousing, would also be undertaken in Phase 1. The required utilities diversions would also be undertaken in this phase.
2	2026	2029	Infrastructure works to be undertaken in Phase 2 include the commencing of construction of the site access road, together with the construction of the Expanded Rail Terminal and the construction of on-site access roads.

[1] Malvern Hills AONB Partnership (2016) *Guidance on the Selection and Use of Colour in Development* [online] Available: http://www.malvernhillsaonb.org.uk/wp-content/uploads/2015/02/guidance_on_colour_use_screen-1.pdf [date accessed: 30/11/2017]

[2] The Producer Responsibility Obligations (Packaging Waste) Regulations 2007 (as amended) transpose the EU Packaging Waste Directive. The Regulations place requirements on producers and handlers of waste to achieve and document certain re-use and recycling rates.

Table 4.1: Indicative Phasing Strategy			
			Phase 2 would include the construction of the warehousing units in the area shown on the Phasing Plan. Landscaping, earthworks and works to Calf Heath Community Park, to minimise the impact of the warehousing, would also be undertaken in Phase 2.
3	2029	2030	Infrastructure works to be undertaken in Phase 3 include the construction of on-site access roads. Phase 3 would include the construction of the warehousing units in the area shown on the Phasing Plan. Landscaping and earthworks, to minimise the impact of the warehousing, would also be undertaken in Phase 3.
4	2030	2033	Infrastructure works to be undertaken in Phase 4 include the completion of the site access road, the formation of the roundabout on Vicarage Road and the construction of on-site access roads. Phase 4 would include the construction of the warehousing units in the area shown on the Phasing Plan. Landscaping and earthworks, to minimise the impact of the warehousing, would also be undertaken in Phase 4.
5	2033	2035	Phase 5 would include the construction of the warehousing units in the area shown on the Phasing Plan and the construction of on-site access roads. Landscaping, earthworks and further works to Calf Heath Community Park, to minimise the impact of the warehousing, would also be undertaken in Phase 5.

Demolitions

4.85 To accommodate the Proposed Development, a number of structures will be required to be demolished. The location of the buildings to be demolished is shown on the Demolition Plan (Figure 4.4, included in Volume 2 of the ES). The buildings are predominantly residential in nature, with a number of associated farm structures and out-buildings also being demolished. The nature of the buildings to be demolished is summarised as follows:

- To allow for the construction on Zone A1 and associated landscaping off the A449 in the west of the Site, 8 buildings will be demolished; including a 2-storey residential property, 2 outbuildings and 5 steel frame buildings;
- In the north-west of the Site off Croft Lane, 7 buildings will be demolished; including a residential property and 6 steel frame buildings;
- To the south-east of the residential property off Croft Lane, three low-rise agricultural buildings will be demolished that will form part of the landscaping in the southern section of the Croft Lane Community Park;
- In the north of the Site off the A5, 5 buildings will be demolished, including a 3-storey residential property and associated low-scale outbuildings. These buildings will make way for a new access point, including a roundabout, into the Site;
- In the south of the Site at the intersection of Vicarage Road and Straight Mile, five 2 storey residential properties and outhouses will be demolished. This will form part of the landscaping adjacent to Zone A7;
- Further to the north off Vicarage Road and adjacent to Calf Heath Wood, 6 buildings will be demolished that will form part of Zone A5. The buildings include one single storey residential property and outbuildings;
- In the east of the Site, 9 buildings will be demolished that will form part of Zone A7a; including a 2-storey residential property and associated low-rise farm / storage buildings; and
- Demolition of three existing bridges, two crossing the WCML and one crossing the canal. In addition, two steel pipe bridges over the canal will be removed.

4.86 Further details on the demolition phase of the Proposed Development are provided in Chapter 5: Demolition and Construction, of this ES.

Civils and Earthworks, Including Bridges

Earthworks

4.87 The built development zones will include large warehouse buildings. Earthworks are proposed to form the plateau for the buildings and to help create the proposed bunding and screening as described earlier in this chapter, to create the development platform for the rail terminal at the level of the WCML, and to create the ditches, swales and ponds for the drainage strategy. The earthworks will also include levelling of any existing excavations caused by the quarrying at the Site.

4.88 Current proposals achieve a 1:1 cut/fill balance meaning no earth needs to be imported or exported from the Site, minimising traffic numbers accordingly. It is considered that there is ample flexibility, given the size of the Site and through the landscaping design, to maintain a 1:1 cut/fill balance as the design continues to develop.

4.89 Further information on the earthworks is provided in Chapter 5: Demolition and Construction.

Substructures

4.90 The ground investigations carried out indicate that the use of traditional mass concrete (pad and strip) foundations is a viable option over the majority of the Site. Where significant depths of fill are required, the engineered earth placement solution will be designed to provide suitable bearing capacity and settlement characteristics for traditional foundation pads. However, further investigation is required once cut/fill levels have been fully established to confirm this.

4.91 Piling is not expected to be required for typical general warehousing use.

Bridges

4.92 Four bridges are proposed as part of the Proposed Development: to carry the new road across the new rail sidings; over the WCML; over the SI Group link road; and over the Staffordshire and Worcestershire Canal. The road is proposed to be carried on an embankment with the road level set approximately 6m above existing ground levels at its highest point. The bridges will be constructed to standards which will allow them to be adopted by the local highway authority and it is envisaged that these will be integral bridges of composite construction, with the exception of the bridge crossing the Staffordshire and Worcestershire Canal. Abutments for the bridges may require piled foundations to support the appropriate highway loading. Road drainage from the bridges will be directed into the wider surface water drainage network for the Proposed Development.

4.93 The rail and link road crossings are summarised as follows:

- Bridge over proposed rail line – Approximately 6m clearance from the proposed rail level to the bridge soffit, with an approximate 8.5m span, concrete abutments;
- Bridge over existing WCML – Approximate 29m span to avoid existing embankments, with soffit set at approximately 10m above rail level (approximately 5m above existing ground level), vertical concrete walls; and

- Bridge over SI Group Link Road – approximately 9m clearance from proposed road level to bridge soffit, vertical concrete walls.

4.94 Current proposals for the new bridge crossing the Staffordshire and Worcestershire Canal are for a concrete beam bridge, with concrete abutments clad in red brick, with steel rail parapets constructed to the relevant Highways standard. The brick cladding will include all faces of the bridge abutments/walls to provide an appearance in keeping with the canal setting from all viewpoints. The finish, along with other details of the bridge would be confirmed at the detailed design stage in consultation with the Canal & River Trust and the local highway authority. The bridge abutments would be situated entirely outside Canal & River Trust land and allow for the existing access track to the properties at Gravelly Farm (to be retained for office use), resulting in an approximate 20m span.

Lighting

4.95 External lighting will provide a safe and secure environment for staff and other users after dark. It is recognised that lighting has the potential to intrude into night time views and may adversely affect ecological receptors such as bats, and therefore measures will be taken to ensure the lighting is appropriate to its context and that effects are minimised.

4.96 An assessment of the existing conditions in the area has revealed the extent of existing light sources and this information has been used in the preparation of a Lighting Strategy for the Proposed Development that mitigates adverse lighting effects as far as possible.

4.97 The Lighting Strategy is founded on the following principles:

- Lighting will be directional and downward focussed;
- Over-lighting will be avoided – illumination levels will be kept as low as is consistent with safety requirements;
- At the outer edge of the SRFI, lighting will be carefully designed to minimise its visibility in views towards the SRFI; and
- Extra measures will be incorporated where necessary to minimise adverse effects on green infrastructure, especially where bats and other light sensitive fauna might otherwise be affected.

4.98 The Lighting Strategy will ensure that all forms of light pollution will be minimised and, in many instances, prevented altogether. Further details are outlined in the lighting strategy included as Technical Appendix 12.8.

Electricity Pylons and Cables

4.99 The Proposed Development would include the repositioning and under-grounding of the existing electricity overhead lines within the Site. This would comprise the replacement and under-grounding the existing overhead line which consists of 7 pylons that currently cross the Site, plus the removal and replacement of two pole mounted substations and under-grounding of the existing circuits currently fed by 34 wood poles within the Site.

4.100 All the overhead line circuits will be replaced by underground cables which would be installed within the proposed path of the highways infrastructure. These works would be undertaken in stages, predominately before each phase of construction works, to minimise any constraints on warehouse buildings being brought forward.

4.101 This would be undertaken in conjunction with the relevant utility provider.

Access Arrangements

Road Access

4.102 There are a number of highway works proposed to serve the scheme and provide improvements for existing road users. These aspects of the strategy will ensure that appropriate access is provided for WMI traffic, ensure that the Proposed Development does not have an adverse impact upon the existing transport network and also provide improvements for some existing road users.

Access to Site

4.103 In order to facilitate highway access to the Site, it is proposed to construct the following three new roundabout junctions:

- A5 Access (north of Site) – Construction of a new three arm roundabout from the A5;
- A449 Access (west of Site) – Construction of a new four arm roundabout from the A449 into Gravelly Way at Crateford Lane. This will replace the newly constructed traffic signal junction; and
- Vicarage Road Access (south of Site) - Construction of a new four arm roundabout from Vicarage Road.

A5 Access

4.104 Given the proximity to M6 junction 12, the northern access on the A5 is the key access to the development for vehicular traffic. The junction configuration will consist of a three-arm roundabout with a diameter of approximately 60 metres.

4.105 Localised widening of the A5 would be required to accommodate flared approaches to the junction. The access to Calf Heath Quarry will be closed; however, this junction with the A5 will be amended to retain the access to Avenue Cottages, with the left in / left out arrangements enforced through the implementation of kerb line arrangements. The existing priority junction of A5 / Harrisons Lane will be converted to a left in / left out only arrangement. This will be physically enforced through the implementation of the kerb line arrangements. Flared exits are provided on all arms of the junction. Two access points to the south of the A5 serving an existing property and agricultural land will be closed as part of the access works via the A5.

4.106 The roundabout is off set to the south to facilitate the necessary entry path deflection and kerb radii. This will also assist with the construction of the junction as around 75% of the works will be offline. This will mean that the existing A5 carriageway can be kept open during the majority of the works (see Chapter 5: Demolition and Construction for more details).

4.107 The introduction of the A5 roundabout would require the closure of the existing A5 laybys. However, it is proposed to relocate these laybys so that they are adjacent to the A449.

4.108 New 3m footway/cycleways are to be provided to the west of the new junction and the existing 2m footways are to be reconfigured to the east of the junction to tie in with the new arrangement.

A449 Access

4.109 To provide access to the new development from the A449 dual carriageway it is proposed to modify the existing arrangement at the existing junction with Gravelly Way and Crateford Lane. The existing junction is a four-arm traffic signal controlled cross roads. It is proposed to replace this junction with a four-arm roundabout with a diameter of approximately 60 metres.

4.110 The junction has recently been the subject of highway works due to the current consented development along Gravelly Way and involved the replacement of a priority crossroads with a traffic signal junction. It is proposed to replace this junction with a four-arm roundabout in order to serve the additional traffic generated by both the Bericote Development and the Proposed Development.

4.111 The proposed junction arrangement would be off set to the east in order to accommodate the necessary entry path deflection. However, the A449 arms would not require widening on the approaches to the junction. Two lane exits on the A449 arms of the junction would be retained. To the west, it is proposed to convert Crateford Lane to one way in a west to east direction. The eastern arm within the Site would be flared on the approach to the junction, with a flared

single lane exit provided. The access to the rail terminal will be 100 metres further to the east of the roundabout and is served by a ghost island right turn lane.

4.112 A 3m wide footway/cycleway is proposed to the eastern side of the A449 and the existing 2m wide footway to the west is proposed to be reconfigured to tie in with the new arrangement. Uncontrolled pedestrian crossings are proposed at the southern, eastern and western arms of the new roundabout.

Vicarage Road Access

4.113 A third vehicular access is proposed from Vicarage Road to the south-east of the Site. This access junction would serve the southern part of the Proposed Development and development land south of Vicarage Road. This junction would take the form of a four-arm roundabout and would facilitate access to land either side of Vicarage Road.

4.114 The junction configuration would be offset to the north of Vicarage Road in order to facilitate the necessary entry path deflection and kerb radii as well as allowing the retention of a number of mature oak trees. This will assist with the construction of the junction as around 75% of the implementation of this arrangement will be able to be carried out offline (see Chapter 5: Demolition and Construction for more details).

4.115 3m wide footway/cycleways are proposed to the northern and southern arms to provide access between development zones at either side of Vicarage Road. A new 3m footway is also proposed to the north of the western arm. Uncontrolled crossings are proposed to all arms of the new roundabout.

Adopted Route through the Site

4.116 The proposed development would provide a link road connecting the A5 and A449. This will be a 30 mph public highway to be adopted and maintained by SCC. It will be available for use by public traffic at all times and would be a signed route between M6 Junction 12 and the A449.

4.117 The route will be a 7.3 m carriageway together with a 3 m shared use cycle footway provided adjacent to the east and north bound carriageway. The width of the route will widen in order to facilitate right turn lanes to serve development plots.

4.118 Pedestrian crossing islands will be provided in the vicinity of the access junctions to the development plots and a 24 hour clearway will be provided along the route in order to prevent parking on the carriageway.

4.119 New bridges will be provided in order to cross both the WCML and the Staffordshire and Worcestershire Canal. The provision of the new rail bridge will enable the closure and removal of the existing Gravelly Way railway bridge. All existing land along Gravelly Way that is adopted and which is not required to accommodate highway infrastructure will be stopped up. This route will be both an access to the Site and a major element of highway infrastructure that will provide the opportunity for some existing traffic to bypass the Gailey Roundabout, thereby giving motorists a choice of routes at busy times.

4.120 The existing Gravelly Way canal road bridge (Bridge 72a) will be retained for pedestrian use only. Pedestrian use of bridges 72 and 72a will be retained. Further details on the proposals for the canal infrastructure including the bridges is provided later in this chapter.

4.121 A new 3 arm roundabout is proposed approximately mid-way between the canal crossing and the new A5 junction, this will provide access from the adopted highway to the main body of the WMI development and on to Vicarage Road.

Non-Adopted Route through the Site

4.122 In addition to the adopted route through the Site, a further traffic route will be provided to the south-east towards Vicarage Road. The two routes will connect via a new three arm roundabout located within the Site approximately 500 metres to the south of the A5.

4.123 Whilst this route will not be offered for adoption by SCC, it will be provided to adoptable standards.

4.124 The route is proposed as a 7.3 metre carriageway, which would widen at the development zone access junctions in order to provide right turn lanes. A four-arm roundabout is to be provided approximately 250m from the Vicarage Road junction to provide efficient access/egress from the development zones and a new bus layby is proposed immediately north-west of this in line with the Site Wide Travel Plan (an appendix to the Transport Assessment, included as Technical Appendix 15.1).

4.125 3 metre wide, shared cycleway/footways are proposed adjacent to both sides of the carriageway and at grade uncontrolled crossings are provided at critical points, including pedestrian refuge islands.

Access for Gravelly Way Users

4.126 There are existing employment uses which use Gravelly Way and the associated bridge structures for access to their sites; this includes SI Group who operate the chemical works to the west and the B2/B8 industrial development to the east of the Staffordshire and Worcestershire Canal (Bericote Development).

4.127 Access to SI Group will be via the proposed access located to the east of the WCML and to the west of the canal. This new access arrangement is shown to pass beneath the proposed A449 / A5 Link Road Bridge as it heads to the south before tying into the existing site access. The height of the proposed bridge is sufficient to ensure HGV's can pass beneath it order to reach SI Group.

4.128 The Bericote Development will be served via the existing four-arm Hoppe roundabout that is located to the south of the new A449 / A5 Link Road.

Station Drive

4.129 A right turn ban into Station Drive is proposed for northbound traffic on the A449 along with an HGV turning area on the west side of the railway bridge on Station Drive.

4.130 Currently the junction of Station Drive and the A449 is subject to peak period queuing. Station Drive and Station Road also have a number of properties with direct frontage and there is a low railway bridge which can give rise to problems of over height vehicles. In addition, the Station Drive / Vicarage Road corridor is known to experience rat running traffic travelling towards the A5 in order to avoid Gailey Roundabout.

4.131 The implementation of the right turn ban will prevent rat running traffic from the south being able to reach the A5 by using Station Drive and Vicarage Road. Vehicles requiring direct access to existing properties along Station Drive or the Four Ashes Trading estate will be able to undertake a U turn further north at the proposed A449 roundabout. Traffic wishing to access the A5 will have the opportunity to avoid Gailey Roundabout by the introduction of the proposed adopted route through the Site.

4.132 Banning this right turn will reduce the level of existing traffic using Station Drive, it will also ensure that WMI traffic from the south will not be able to access the development from this route and instead will need to use the A449 junction.

4.133 In addition to the right turn ban the provision of a turning area on the west side of the railway bridge on Station Drive will mean that any HGVs which do inadvertently turn into Station Drive can turn around without striking the bridge or causing traffic disruption trying to turn or reverse back out of Station Drive.

New Laybys, A449

4.134 The introduction of the A5 access roundabout requires the removal of the existing laybys from the A5. It is proposed that these will be replaced on the northbound and southbound carriageways of the A449, between the Gravelly Way/Crateford Road junction and Gailey Roundabout.

4.135 The existing 2m footway adjacent the northbound carriageway is to be diverted around the layby and tied in with that existing. To the southbound carriageway the proposed 3m shared footway/cycleway is to be installed to the rear edge of the layby.

4.136 The existing bus stops to the north of Crateford Land and South of Gravelly Way on the A449 are to be replaced with improved layby arrangements. The layby bus stops will be constructed off the side of the carriageway and will tie in across the 1m hard strips.

Pedestrian and Cycle Access

4.137 To improve the main pedestrian and cycle route connections to the Site a number of measures and improvements are proposed.

4.138 The existing shared use cycleway/footway to the east of A449 between Gailey Roundabout and the junction with Station Drive to the south will be upgraded to a 3m wide shared cycleway/footway.

4.139 There will be pedestrian crossing facilities at the proposed A449 Site access roundabout and an upgraded footway on the west side of the A449 to facilitate access to bus facilities on the A449.

4.140 The existing footway adjacent to the north of the A5 will be improved with new signs and widened to a 3 m wide shared cycleway/footway except where constraints such as bridge widths and land availability do not allow. This will be introduced along the A5 between Gailey Roundabout and the proposed site access from the north.

4.141 There will be a new cycleway adjacent to Vicarage Road between the existing bridge over the canal and the proposed Site access. Pedestrian crossing facilities will be provided at the new four arm site access roundabout junction with Vicarage Road.

4.142 In addition to the external facilities all the roads within the Site will have shared use cycle/footways which will provide further opportunities for movement by these modes. These routes will be supplemented by a network of permissive paths, which will provide access to the areas of open space that the Proposed Development will provide. The permissive paths will, where possible, link to the canal towpath as well as the specific car parking areas that are proposed, and will provide replacement facilities for the footpath that will be closed to accommodate the Proposed Development.

4.143 The provision of this network of pedestrian facilities will ensure access to the areas of public open space will be possible for those existing residents who may wish to visit these areas.

Travel Planning and Public Transport Access

4.144 Occupier-Specific Travel Plans will be implemented before occupation of each warehouse (for employers with at least 50 employees). These will need to follow the guidelines set out in the Site Wide Travel Plan (an appendix to the Transport Assessment, included as Technical Appendix 15.1) and will take advantage of new public transport measures.

Travel Planning

4.145 In line with national and local policies the Occupier-Specific Travel Plans will seek to minimise the overall proportion of single-occupancy car trips associated with commuting to and from the Site, reduce the overall need to travel to and from the Proposed Development by private car, facilitate and encourage the use of healthy, low carbon and sustainable transport options amongst employees and visitors to the Site, and ensure that the differing transport needs of all Site users are taken into account as far as practicable.

4.146 The Travel Plans will be implemented and operated in partnership with the local planning and highway authorities, and other key stakeholders locally, to achieve both Site-specific and area-wide reductions in single-occupancy car-based commuting.

4.147 The four main strands of the Site Wide Travel Plan measures are; improving sustainable transport services and facilities, promotion and marketing, promoting more efficient car use and introducing smart working practices.

4.148 The Occupier-Specific Travel Plans for the Proposed Development will operate under a specific brand identity which will be promoted to employees and a single online website portal will bring together transport information for the Site, to promote sustainable transport and enable employees to make an informed choice on their mode of travel to the Site. This will be supported by Personalised Travel Planning sessions which will be delivered to businesses at WMI. To promote more efficient use of car journeys, a car sharing portal will be created and promoted to employees. Occupiers will be encouraged to offer a 'guaranteed ride home scheme'. Smarter working practices, including flexible and/or staggered working hours and remote/home working will be promoted and discussed with employers at WMI to reduce car borne trips.

Public Transport

4.149 Details of the existing public transport network serving the Site are provided in Chapter 15: Transport, of this ES (and within the Sustainable Transport Strategy included as an appendix to the Transport Assessment, Technical Appendix 15.1).

4.150 It is proposed to improve the existing public bus services to the Site, this could include an additional two new buses and an enhanced service frequency between Wolverhampton City Centre and the Site. These improvements would enhance the existing Service 54 to provide a half hourly service between the Site and Wolverhampton.

4.151 In addition to improvements to the existing service, it is proposed that a shuttle bus service would provide a supplementary service between a number of locations in Wolverhampton, Walsall and Cannock. This service would initially be provided by one vehicle, increasing to three once the Proposed Development is fully built out or alternatively with a combination of dedicated employer buses.

4.152 The Shuttle bus arrivals and departures are proposed to be timed to coincide with shift patterns and office hours. Bus stops would be provided on the A449/A5 Link Road, in the vicinity of the internal roundabout as well as on the Vicarage Road Link Road.

4.153 Passenger rail services would not be provided from the Proposed Development.

Emergency Access

4.154 The nearest hospitals with A&E services are County Hospital, Stafford (8am to 10pm) and New Cross Hospital Wolverhampton (24 hours). The nearest fire service station is located at Brewood to the west of the Site, with larger facilities at Wolverhampton to the south-east and Cannock to the East. Emergency vehicles would be able to access the Site via the proposed new access points that would be provided to the north off the A5, to the east off Vicarage Road and to the west off the A449. It is not envisaged that a separate emergency access will be required. Once within the Site, each of the Proposed Development plots will be easily accessible via the proposed new road infrastructure.

Staffordshire and Worcestershire Canal Corridor

4.155 This section summarises the works to be undertaken within the Staffordshire and Worcestershire Canal corridor, and is the result of extensive consultation with the Canal & River Trust (CRT) in relation to new crossings, demolitions and improvements works for the canal towpath and other associated infrastructure.

4.156 Through discussions with CRT and in accordance with the Parameter Plans, a Canal Enhancement Scheme will be agreed and secured through a DCO Requirement. The improvements and mitigation measures included in the Canal Enhancement Scheme will only relate to the section of the canal which is located within the WMI Order Limits. The scheme will include improvements and mitigation measures such as:

- The towpath would be surfaced with a suitable bound/compacted gravel surface (e.g. Breedon gravel type) to provide an appropriate surface capable of dealing with an increased level of use where needed for connectivity to the Proposed Development footpath routes;

- Two new pedestrian connections to the towpath from the Croft Lane Community Park permissive paths are shown on the Illustrative GI Strategy Plan (Figure 12.11). Pedestrian access points at the A5, Hoppe Roundabout and Station Road would be improved;
- The introduction of wayfinding and information signage in appropriate locations along the canal and, in particular, at the access points. The signage would identify routes and provide information on local heritage, ecology and points of interest;
- Fishing pegs could be installed at agreed locations;
- The proposed car parking areas within the Community Parks would be available for canal users; and
- Specific ecological mitigation included in the FEMMP (Technical Appendix 10.4).

4.157 The Canal corridor will not be illuminated and lighting at the various crossings will be designed with ecological receptors including bats in mind, as detailed within the FEMMP.

4.158 It is proposed to retain the existing Gravelly Way canal bridge (CRT Bridge No. 72a) and the existing pedestrian bridge (Bridge No. 72). The latter will be maintained with pedestrian access, and the former closed to vehicular use and maintained for pedestrian use only.