

LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

Volume 2 | Map books

CFA24 | Birmingham Interchange and Chelmsley Wood

November 2013

ES 3.2.2.24



Department
for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

A report prepared for High Speed Two (HS2) Limited:

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Contents

Mapping explanatory notes

Data dictionary and definitions

Map series name	Map series description
CT-05 – Construction Phase	These maps show the land potentially required during construction, the construction features, access requirements and infrastructure associated with construction of the Proposed Scheme. The maps also show the construction phase arrangements for public access using Public Rights of Way. The base mapping is reflective of 2013 Ordnance Survey (OS) data.
CT-06 – Proposed Scheme	These maps show permanent features, infrastructure, restored land, and areas for landscaping, screening and ecological mitigation associated with the Proposed Scheme. The base mapping is reflective of 2013 Ordnance Survey (OS) data.
CT-10 – Environmental Baseline	The Environmental Baseline maps display a range of environmental data layers.
LV-01 – Photomontages	Photomontages illustrating the Proposed Scheme during construction and operation.
LV-14 – Architects Visualisations	Artist’s impressions of the HS2 stations.
LV-15 – Aerial Visualisations	Aerial visualisations along parts of the Proposed Scheme.
CT-20 – Sections and Elevations	Cross sections and long sections of the HS2 stations.
LV-03 – Construction Phase Significantly Affected Viewpoints	Maps showing the viewpoint locations from which the Proposed Scheme has been assessed to give rise to significant effects during the construction phase.
LV-04 – Operational Phase Significantly Affected Viewpoints	Maps showing the viewpoint locations from which the Proposed Scheme has been assessed to give rise to significant effects during the operational phase.
SV-05 – Operational Airborne Noise and Vibration Impacts and Likely Significant Effects	SV-05 presents the direct operational noise impacts and likely significant effects of the scheme. The SV-05 figure series contains a large amount of information relating to the operational noise and vibration assessment. It is designed to communicate visually the assessment process from the prediction of impacts to the determination of likely residual significant effects. The corresponding text is included in Vol2.

Mapping explanatory notes

Copyright statements

Copyright statements are presented in the data dictionary and definitions section at the front of the map book, due to limited space to include this on the individual maps themselves.

Ordnance Survey data

All maps produced as part of the London-West Midlands Environmental Statement (ES) contain Ordnance Survey (OS) data. HS2 Ltd uses the most up-to-date mapping available, where possible, supplied by the OS. As such, we cannot be held responsible for any inaccuracies within this data.

As part of our licence conditions, all digital maps carry a watermark.

Chainage

Most of the maps presented as part of the ES have a chainage value shown next to the alignment. Chainage is presented on the maps in black font, in the form of XX+YYY, for example: 77+000.

Chainage (known as reference chainage) is referenced from Euston station, which is 0+000, and the value presented is in metres. For example, 77+000 refers to the point 77,000m, or 77km, from Euston station. Chainage values increase in intervals dependant on the map scale. For maps at 1:50,000, scale chainage is shown at 5km intervals. For maps at 1:25,000, scale chainage is shown at 2km intervals. For maps at 1:10,000, 1:5,000 and 1:2,500 scales, chainage is shown at 1km intervals.

Chainage has been included on the maps as a useful tool for comparing map sets showing the different environmental themes or engineering plans, due to map sets having different scales and therefore showing differing amounts of alignment on the map.

Map orientation

The majority of the maps presented in these map books are presented with the railway alignment running horizontally across the page. The direction of travel to London would be following the alignment to the right hand side of the page, and the West Midlands to the left.

The exceptions to this are map series LV-02, LV-03, LV-04, LV-07 and LV-08, which present the alignment running from the bottom to the top of the page. This is to allow more of the modelled outputs to be shown at the appropriate map scale. In this instance, the direction of travel to London would be to the bottom of the page, and the West Midlands to the top.

Map books

There are a total of 76 map books in the ES, spread across Volumes 2, 4 and 5. A list of the titles is provided in the table below for reference.

Name	Name
Volume 2 Map Books Community Forum Area: 01 Euston – Station and Approach	Volume 5 Map Books: Ecology – Community Forum Area: 05 Northolt Corridor
Volume 2 Map Book s Community Forum Area: 02 Camden Town and HS1 Link	Volume 5 Map Books: Ecology – Community Forum Area: 06 South Ruislip to Ickenham
Volume 2 Map Books Community Forum Area: 03 Primrose Hill to Kilburn (Camden)	Volume 5 Map Books: Ecology – Community Forum Area: 07 Colne Valley
Volume 2 Map Books Community Forum Area: 04 Kilburn (Brent) to Old Oak Common	Volume 5 Map Books: Ecology – Community Forum Area: 08 The Chalfonts and Amersham
Volume 2 Map Books Community Forum Area: 05 Northolt Corridor	Volume 5 Map Books: Ecology – Community Forum Area: 09 Central Chilterns
Volume 2 Map Books Community Forum Area: 06 South Ruislip to Ickenham	Volume 5 Map Books: Ecology – Community Forum Area: 10 Dunsmore, Wendover and Halton
Volume 2 Map Books Community Forum Area: 07 Colne Valley	Volume 5 Map Books: Ecology – Community Forum Area: 11 Stoke Mandeville and Aylesbury
Volume 2 Map Books Community Forum Area: 08 The Chalfonts and Amersham	Volume 5 Map Books: Ecology – Community Forum Area: 12 Waddesdon and Quainton
Volume 2 Map Books Community Forum Area: 09 Central Chilterns	Volume 5 Map Books: Ecology – Community Forum Area: 13 Calvert, Steeple Claydon, Twyford and Chetwode
Volume 2 Map Books Community Forum Area: 10 Dunsmore, Wendover and Halton	Volume 5 Map Books: Ecology – Community Forum Area: 14 Newton Purcell to Brackley
Volume 2 Map Books Community Forum Area: 11 Stoke Mandeville and Aylesbury	Volume 5 Map Books: Ecology – Community Forum Area: 15 Greatworth to Lower Boddington
Volume 2 Map Books Community Forum Area: 12 Waddesdon and Quainton	Volume 5 Map Books: Ecology – Community Forum Area: 16 Ladbroke and Southam
Volume 2 Map Books Community Forum Area: 13 Calvert, Steeple Claydon, Twyford and Chetwode	Volume 5 Map Books: Ecology – Community Forum Area: 17 Offchurch and Cubbington
Volume 2 Map Books Community Forum Area: 14 Newton Purcell to Brackley	Volume 5 Map Books: Ecology – Community Forum Area: 18 Stoneleigh, Kenilworth and Burton Green
Volume 2 Map Books Community Forum Area: 15 Greatworth to Lower Boddington	Volume 5 Map Books: Ecology – Community Forum Area: 19 Coleshill Junction
Volume 2 Map Books Community Forum Area: 16 Ladbroke and Southam	Volume 5 Map Books: Ecology – Community Forum Area: 20 Curdworth to Middleton
Volume 2 Map Books Community Forum Area: 17 Offchurch and Cubbington	Volume 5 Map Books: Ecology – Community Forum Area: 21 Drayton Bassett, Hints and Weeford
Volume 2 Map Books Community Forum Area: 18 Stoneleigh, Kenilworth and Burton Green	Volume 5 Map Books: Ecology – Community Forum Area: 22 Whittington to Handsacre
Volume 2 Map Books Community Forum Area: 19 Coleshill Junction	Volume 5 Map Books: Ecology – Community Forum Area: 23 Balsall Common and Hampton-in-Arden
Volume 2 Map Books Community Forum Area: 20 Curdworth to Middleton	Volume 5 Map Books: Ecology – Community Forum Area: 24 Birmingham Interchange and Chelmsley Wood
Volume 2 Map Books Community Forum Area: 21 Drayton Bassett, Hints and Weeford	Volume 5 Map Books: Ecology – Community Forum Area: 25 Castle Bromwich and Bromford
Volume 2 Map Books Community Forum Area: 22 Whittington to Handsacre	Volume 5 Map Books: Ecology – Community Forum Area: 26 Washwood Heath to Curzon Street
Volume 2 Map Books Community Forum Area: 23 Balsall Common and Hampton-in-Arden	Volume 5 Map Books: Land Quality
Volume 2 Map Books Community Forum Area: 24 Birmingham Interchange and Chelmsley Wood	Volume 5 Map Books: Landscape and Visual – Euston and London Metropolitan
Volume 2 Map Books Community Forum Area: 25 Castle Bromwich and Bromford	Volume 5 Map Books: Landscape and Visual – Country South
Volume 2 Map Books Community Forum Area: 26 Washwood Heath to Curzon Street	Volume 5 Map Books: Landscape and Visual – Country North
Volume 4 Map Books Off Route Effects	Volume 5 Map Books: Landscape and Visual – West Midlands Metropolitan
Volume 5 Map Books: Agriculture, Forestry and Soils	Volume 5 Map Books: Socio-Economic
Volume 5 Map Books: Air Quality	Volume 5 Map Books: Sound, Noise and Vibration – Euston and London Metropolitan
Volume 5 Map Books: Community	Volume 5 Map Books: Sound, Noise and Vibration – Country South
Volume 5 Map Books: Cultural Heritage – Euston and London Metropolitan	Volume 5 Map Books: Sound, Noise and Vibration – Country North
Volume 5 Map Books: Cultural Heritage – Country South	Volume 5 Map Books: Sound, Noise and Vibration – West Midlands Metropolitan
Volume 5 Map Books: Cultural Heritage – Country North	Volume 5 Map Books: Traffic and Transport
Volume 5 Map Books: Cultural Heritage – West Midlands Metropolitan	Volume 5 Map Books: Water Resources – Euston and London Metropolitan
Volume 5 Map Books: Ecology – Community Forum Area: 01 Euston - Station and Approach	Volume 5 Map Books: Water Resources – Country South
Volume 5 Map Books: Ecology – Community Forum Area: 02 Camden Town and HS1 Link	Volume 5 Map Books: Water Resources – Country North
Volume 5 Map Books: Ecology – Community Forum Area: 03 Primrose Hill to Kilburn (Camden)	Volume 5 Map Books: Water Resources – West Midlands Metropolitan
Volume 5 Map Books: Ecology – Community Forum Area: 04 Kilburn (Brent) to Old Oak Common	Volume 5 Map Books: Cross Topic Appendix 1: Committed Developments

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Data dictionary and definitions

Data dictionary and definitions

Legend features	Definition	Source	Copyright
5m contours	A contour line showing points of equal elevation (height) above a reference level, such as mean sea level, and therefore giving an indication of the topography, showing valleys and hills, and the steepness of slopes. Spaced at intervals of 5m.	High Speed Two (HS2) Ltd	
Airborne sound study area	This defines the area within which operational airborne sound impacts of the scheme have been quantitatively assessed. This area is defined as within 1km of surface sections of the route in rural areas and within 500m of surface sections of the route in urban areas.	High Speed Two (HS2) Ltd	
Ancient Woodland	Ancient Woodland Inventory. Ancient Woodland is land that has had continuous woodland cover since at least AD1600.	Natural England	© Natural England copyright 2013 Contains Ordnance Survey data © Crown copyright and database right 2013. All rights reserved. Ordnance Survey Licence number 100022021. http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf
Balancing pond	The proposed location and extent of balancing ponds for drainage attenuation and infiltration. Outer boundary represents the perimeter.	High Speed Two (HS2) Ltd	
Chainage	<p>Chainage (known as reference chainage) is referenced from Euston Station, which is 0+000, and the value presented is in metres. E.g. 77+000 refers to the point, 77,000m, or 77km, from Euston Station. Chainage values increase in intervals dependant on the map scale. For maps at 1:50,000 scale chainage is shown at 5km intervals. For maps at 1:25,000 scale, chainage is shown at 2km intervals. For maps at 1:10,000, 1:5,000 and 1:2,500 scale, chainage is shown at 1km intervals.</p> <p>Chainage has been included on the maps as a useful tool for comparing different map sets showing the different environmental themes or engineering plans, due to map sets having different scales and therefore showing differing amounts of alignment on the map.</p>	High Speed Two (HS2) Ltd	
Committed developments	<p>This informs the assessment of the future baseline.</p> <p>Committed consents are unimplemented but committed developments or Local Plan development allocations that are likely to be largely built out prior to commencement of the Proposed Scheme.</p> <p>Cumulative development is unimplemented but committed developments or Local Plan development allocations that are likely to be largely built out during implementation of the Proposed Scheme and give rise to potential cumulative effects, when considered alongside the Proposed Scheme.</p>	High Speed Two (HS2) Ltd	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.

Legend features	Definition	Source	Copyright
Community Forum boundary	The Environmental Statement has been split into 26 sections called Community Forum Areas.	High Speed Two (HS2) Ltd	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.
Conservation area	Areas considered worthy of preservation or enhancement because of their special architectural or historic interest. Conservation Areas have been captured and digitised from desktop based studies using publically available local authority information. Accuracy of the data is dependent upon that of the individual data source and areas are provided as indicative site boundaries only.	Local Authorities	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.
Construction compounds	See main construction compounds.	High Speed Two (HS2) Ltd	
Construction traffic route	Public highways which may be used for HGV construction traffic.	High Speed Two (HS2) Ltd	
County boundary	County boundaries from Ordnance Survey boundary mapping.	Ordnance Survey	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.
Depot, station, headhouse or portal building	Extends to cover operational footprint of each depot and station and the footprint of each tunnel vent shaft and headhouse at surface level. Excludes any ancillary buildings associated with these structures.	High Speed Two (HS2) Ltd	
District/Borough boundary	Ordnance Survey local authority boundary mapping.	Ordnance Survey	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.
Ditches – new	The proposed location and extent of drainage ditches.	High Speed Two (HS2) Ltd	
Ecological mitigation pond	Ponds whose primary function is to provide ecological mitigation. This could be a standalone pond or part of a wider wetland habitat creation plan.	High Speed Two (HS2) Ltd	
Electricity substation	Includes all auto-transformers and feeder stations.	High Speed Two (HS2) Ltd	
Engineering earthworks	Engineering (structural) earthworks which include railway slopes and crossings (roads etc).	High Speed Two (HS2) Ltd	
Engineering earthworks: cutting	Cuttings created in the construction of the railway and associated works such as highways.	High Speed Two (HS2) Ltd	
Engineering earthworks: embankment	Embankments created in the construction of the railway and associated works such as highways.	High Speed Two (HS2) Ltd	
Envisaged mitigation to avoid/reduce significant noise effects	<p>Landscaping and/or fence barriers: These lines represent the envisaged mitigation provided specifically to reduce sound levels from the Proposed Scheme at sensitive receptors in order to reduce or remove likely operational significant noise effects. Examples include noise fence barriers or earth bunds (non-engineering earthworks) acting as noise barriers. These features are labelled with the height of the top of the barrier/bund above rail level.</p> <p>Engineering e.g. cuttings (green tunnels marked separately): These lines represent engineering features of the route which reduce sound levels from the Proposed Scheme at potentially significant sensitive receptors. These features, therefore, serve a material purpose in reducing or avoiding likely significant noise effects. Examples include engineering cuttings near to sensitive receptors. These features are labelled with the height of the top of the feature above rail level.</p>	High Speed Two (HS2) Ltd	
Envisaged mitigation further reducing noise effects	Other environmental features e.g. landscaping: These lines represent environmental mitigation features provided for reasons	High Speed Two (HS2) Ltd	

Legend features	Definition	Source	Copyright
	<p>other than noise mitigation which also reduce sound levels from the Proposed Scheme to the surrounding environment. These features are not placed specifically to reduce or remove a likely significant noise effect. Examples include landscaping and visual mitigation earthworks (non-engineering earthworks).</p> <p>Engineering e.g. cuttings: These lines represent engineering features which reduce sound levels from the Proposed Scheme to the surrounding environment but are not placed specifically to reduce or remove a likely significant noise effect. Examples include cuttings and safety barriers on viaducts which are not close to sensitive receptors.</p>		
Existing public right of way (PRoW)	See Public Rights of Way.	See Public Rights of Way.	See Public Rights of Way.
Existing watercourse	See Watercourse.	See Watercourse.	See Watercourse.
Existing woodland and tree belts	A dataset showing large areas of trees that are likely to have an impact on whether the scheme is visible during construction and vegetation. It was used in the ZTV as part of the base models.	High Speed Two (HS2) Ltd	
Grassed areas	Any other area grassed not included in landscaped earthworks or ecological habitat.	High Speed Two (HS2) Ltd	
Grassland habitat creation	Soft landscape design that can include any seeded areas for the purpose of creating grassland except for the engineering earthworks.	High Speed Two (HS2) Ltd	
Ground-borne sound & vibration study area (highly sensitive non-residential)	This defines the area within which direct operational ground-borne sound and vibration impacts of the scheme at highly sensitive non-residential receptors have been quantitatively assessed. This area is defined as within 200m of the route.	High Speed Two (HS2) Ltd	
Ground-borne sound & vibration study area (residential and non-residential)	This defines the area within which direct operational ground-borne sound and vibration impacts of the scheme at residential and non-residential receptors have been quantitatively assessed. This area is defined as within 85m of the route.	High Speed Two (HS2) Ltd	
Hedgerow habitat creation	Ecological mitigation to provide new hedgerow planting, connectivity enhancements to existing areas and areas for ecological management. This level does not include screening planting for visual mitigation purposes.	High Speed Two (HS2) Ltd	
HS2 access road	Access road to HS2 infrastructure such as electricity substations, balancing ponds and maintenance access points to the railway.	High Speed Two (HS2) Ltd	
Land drainage area	Provision of land to attenuate or infiltrate overland flows at or beyond the HS2 railway boundaries; for example, where existing land drainage systems are altered by the HS2 works, where the existing landform is reshaped by landscape earthworks or where surface water from third party land is intercepted by the HS2 perimeter drainage system.	High Speed Two (HS2) Ltd	
Land potentially required during construction	Boundary defining the maximum possible extent of construction works required to build HS2 as far as the current level of design allows. This only covers surface works and includes all tunnel portals, vent shafts and headhouses, but does not apply to wholly tunnelled sections or to air rights. It also encompasses associated highway, access, drainage and utility works.	High Speed Two (HS2) Ltd	

Legend features	Definition	Source	Copyright
Landscape earthworks	Landscape earthworks to provide permanent landscape, visual or acoustic mitigation.	High Speed Two (HS2) Ltd	
Landscape mitigation planting (scrub / woodland)	Screening planting, using woodland, for visual mitigation and landscape integration purposes.	High Speed Two (HS2) Ltd	
Listed building Grade I	Buildings and structures in England of special architectural or historic interest. In some instances the source data for individual buildings is grouped under a single grid reference; in these instances the data may have been interrogated further to identify addresses of individual buildings with Listed Building status so that these can be displayed individually on the map. The Listed Building data consists of approximately 375,000 standing structures. The information has been converted from paper records georeferenced to digital mapping. A small percentage of the data was manually located. The data is subject to continuous review and regularly updated as new structures are designated and positional accuracy improves.	English Heritage	Contains, or is based upon, English Heritage's National Heritage List for England data © English Heritage.
Listed building Grade II*	Buildings and structures in England of special architectural or historic interest. In some instances the source data for individual buildings is grouped under a single grid reference; in these instances the data may have been interrogated further to identify addresses of individual buildings with Listed Building status so that these can be displayed individually on the map. The Listed Building data consists of approximately 375,000 standing structures. The information has been converted from paper records georeferenced to digital mapping. A small percentage of the data was manually located. The data is subject to continuous review and regularly updated as new structures are designated and positional accuracy improves.	English Heritage	Contains, or is based upon, English Heritage's National Heritage List for England data © English Heritage.
Listed building Grade II	Buildings and structures in England of special architectural or historic interest. In some instances the source data for individual buildings is grouped under a single grid reference; in these instances the data may have been interrogated further to identify addresses of individual buildings with Listed Building status so that these can be displayed individually on the map. The Listed Building data consists of approximately 375,000 standing structures. The information has been converted from paper records georeferenced to digital mapping. A small percentage of the data was manually located. The data is subject to continuous review and regularly updated as new structures are designated and positional accuracy improves.	English Heritage	Contains, or is based upon, English Heritage's National Heritage List for England data © English Heritage.
Local Nature Reserve (LNR)	An LNR is a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949 by principal local authorities. Data supplied has the status of Declared. The boundaries are interpreted from material gathered from the local authorities and does not currently cover all LNRs. This national dataset is indicative not definitive. Definitive information can only be provided by individual local authorities and you should refer directly to their information for all purposes that require the most up to date and complete dataset.	Natural England	© Natural England copyright 2013 Contains Ordnance Survey data © Crown copyright and database right 2013. All rights reserved. Ordnance Survey Licence number 100022021. http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf

Legend features	Definition	Source	Copyright
Local Wildlife Site (LWS) - county/metropolitan value	<p>Local Wildlife Sites (LWS) are identified and selected for their local nature conservation value. They protect threatened species and habitats acting as buffers, stepping stones and corridors between nationally-designated wildlife sites.</p> <p>Local Wildlife Sites (LWS) are local non-statutory nature conservation sites. They were formerly referred to as County Wildlife Sites.</p> <p>In some cases Local Wildlife data is not shown as this is still being verified.</p>		Data supplied by Ecorecord, Warwickshire BRC & Birmingham use (© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.)
		Supplied by Ecorecord, Warwickshire County Council, Birmingham Council	Map derived from GiGL data 2013 (where a map shows information derived from GiGL data).This data incorporates biodiversity data supplied to HS2 by Northamptonshire Biodiversity Records Centre and The Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire (Wildlife Trust BCN), and is copyright to Wildlife Trust BCN and/or its partners.
		Greenspace Information for Greater London (GiGL)	
		Northamptonshire County Council	This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Buckinghamshire County Council Licence No. 100021529, 2012.
		Buckinghamshire County Council	Incorporates biodiversity data supplied by Thames Valley Environmental Records Centre (TVERC). This data are copyright to TVERC and/or its partners.
			Incorporates biodiversity data supplied to High Speed Two (HS2) by Hertfordshire Biological Records Centre and is copyright to Hertfordshire County Council, Hertfordshire Biological Records Centre and/or its partners.
		Thames Valley Ecological Records Centre c/o Oxfordshire County Council (TVERC)	
		Hertfordshire Biological Record Centre	
		Staffordshire Ecological Record (SER)	Copyright © Staffordshire Ecological Record Partnership, 2013. The information is reproduced from, or based upon information supplied by Staffordshire Ecological Record (SER) and reproduced with the permission of the SER Partnership. Individual records within the data are copyright their original recorders and provided under licence via SER. All data supplied by SER is to the best of SER's knowledge correct at the time of production. However, the precision or accuracy of SER data is usually based upon the original information supplied by the recorder and although SER strives to ensure all records are checked and validated, SER cannot be held responsible for any errors or omissions. The presence of a marked boundary within SER information does not imply any rights of public

Legend features	Definition	Source	Copyright
			access.
Local Wildlife Site (LWS) - less than county/metropolitan value			Data supplied by Ecorecord, Warwickshire BRC & Birmingham use (© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.)
		Supplied by Ecorecord, Warwickshire County Council, Birmingham Council. Greenspace Information for Greater London (GiGL)	Map derived from GiGL data 2013 (where a map shows information derived from GiGL data).
		Northamptonshire County Council	This data incorporates biodiversity data supplied to HS2 by Northamptonshire Biodiversity Records Centre and The Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire (Wildlife Trust BCN), and is copyright to Wildlife Trust BCN and/or its partners.
	Local Wildlife Sites (LWS) are identified and selected for their local nature conservation value. They protect threatened species and habitats acting as buffers, stepping stones and corridors between nationally-designated wildlife sites.	Buckinghamshire County Council	This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Buckinghamshire County Council Licence No. 100021529, 2012.
	Local Wildlife Sites (LWS) are local non-statutory nature conservation sites. They were formerly referred to as County Wildlife Sites.		Incorporates biodiversity data supplied by Thames Valley Environmental Records Centre (TVERC). This data are copyright to TVERC and/or its partners.
	In some cases Local Wildlife data is not shown as this is still being verified.	Thames Valley Ecological Records Centre c/o Oxfordshire County Council (TVERC)	Incorporates biodiversity data supplied to High Speed Two (HS2) by Hertfordshire Biological Records Centre and is copyright to Hertfordshire County Council, Hertfordshire Biological Records Centre and/or its partners.
		Hertfordshire Biological Record Centre	
		Staffordshire Ecological Record (SER)	Copyright © Staffordshire Ecological Record Partnership, 2013. The information is reproduced from, or based upon information supplied by Staffordshire Ecological Record (SER) and reproduced with the permission of the SER Partnership. Individual records within the data are copyright their original recorders and provided under licence via SER. All data supplied by SER is to the best of SER's knowledge correct at the time of production. However, the precision or accuracy of SER data is usually based upon the original information supplied by the recorder and although SER strives to ensure all records are checked and validated, SER cannot be held responsible for any errors or

Legend features	Definition	Source	Copyright
			omissions. The presence of a marked boundary within SER information does not imply any rights of public access.
Main construction compound	Construction compounds in which main contractors offices and welfare facilities will be located.	High Speed Two (HS2) Ltd	
Main utility works	Represents all new major utility installations (included in the hybrid Bill) and also modifications to existing utilities required to construct the scheme. Includes water, electricity, telecommunications and gas.	High Speed Two (HS2) Ltd	
Minor ground-borne noise or vibration impact	Buildings at which a minor operational ground-borne sound or vibration impact is predicted from the Proposed Scheme.	High Speed Two (HS2) Ltd	
National Nature Reserve (NNR)	A National Nature Reserve (NNR) is the land declared under the National Parks and Access to the Countryside Act 1949 or Wildlife and Countryside Act (1981) as amended.	Natural England	© Natural England copyright 2013 Contains Ordnance Survey data © Crown copyright and database right 2013. All rights reserved. Ordnance Survey Licence number 100022021. http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf
New, diverted or realigned PRoW	New, realigned or diverted Public Rights of Way (PRoW).	High Speed Two (HS2) Ltd	
Noise fence barrier	Denotes fence-style barriers provided as part of the noise mitigation measures. Note that other noise barriers have also been included in the form of landscaping and engineering cuttings - see the SV map series for more detail on noise mitigation.	High Speed Two (HS2) Ltd	
Non-engineering earthworks: cutting	Cuttings created in the construction of landscape features and mitigation measures.	High Speed Two (HS2) Ltd	
Non-engineering earthworks: embankment	Embankments created in the construction of landscape features and mitigation measures.	High Speed Two (HS2) Ltd	
Operational airborne sound impacts at buildings	The buildings shown on SV-02 and SV-05 are colour-coded according to the magnitude of the predicted noise impacts of the Proposed Scheme. Noise impacts are calculated by comparing the sound levels predicted if the Proposed Scheme did not go ahead with those if it did (details of this process can be found in Volume 5: Appendix SV001-000). Panel B on SV-02/SV-05 contains a key showing the colours used with the corresponding impact categories. The impacts presented are the greatest (i.e. worst-case) of the impacts predicted for daytime and night-time.	High Speed Two (HS2) Ltd	
Photomontage location	Shows the locations from which verifiable photomontages have been produced. The locations are based on a fully surveyed point.	High Speed Two (HS2) Ltd	
Proposed tree planting	A dataset showing proposed planting that may have an impact on whether the scheme is visible during construction and operation. It was used in the operation year 15 ZTV.	High Speed Two (HS2) Ltd	
Public realm	Specifically provided to show areas to be used for public realm. This layer is mainly associated with station sites and is to be used to indicate general areas for designed soft and hard landscaping.	High Speed Two (HS2) Ltd	
Public Rights of Way	Public rights of way are highways which can be used for the following purposes:	Buckinghamshire County Council Birmingham City Council	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.

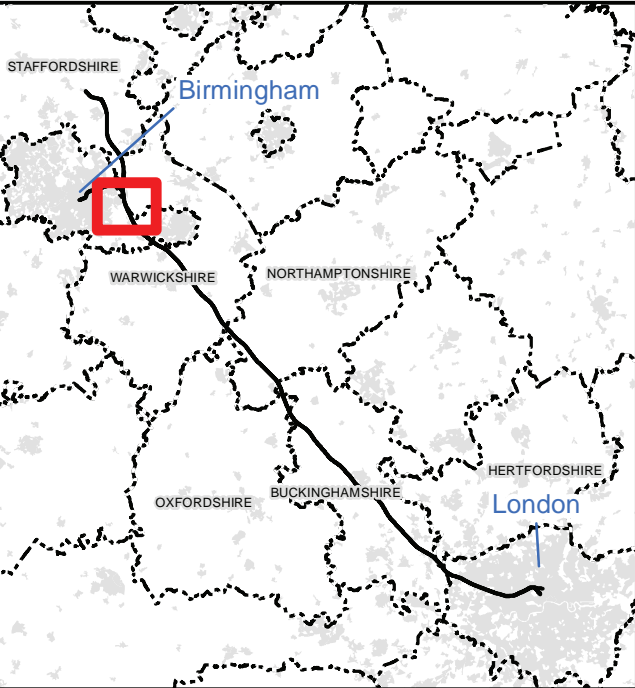
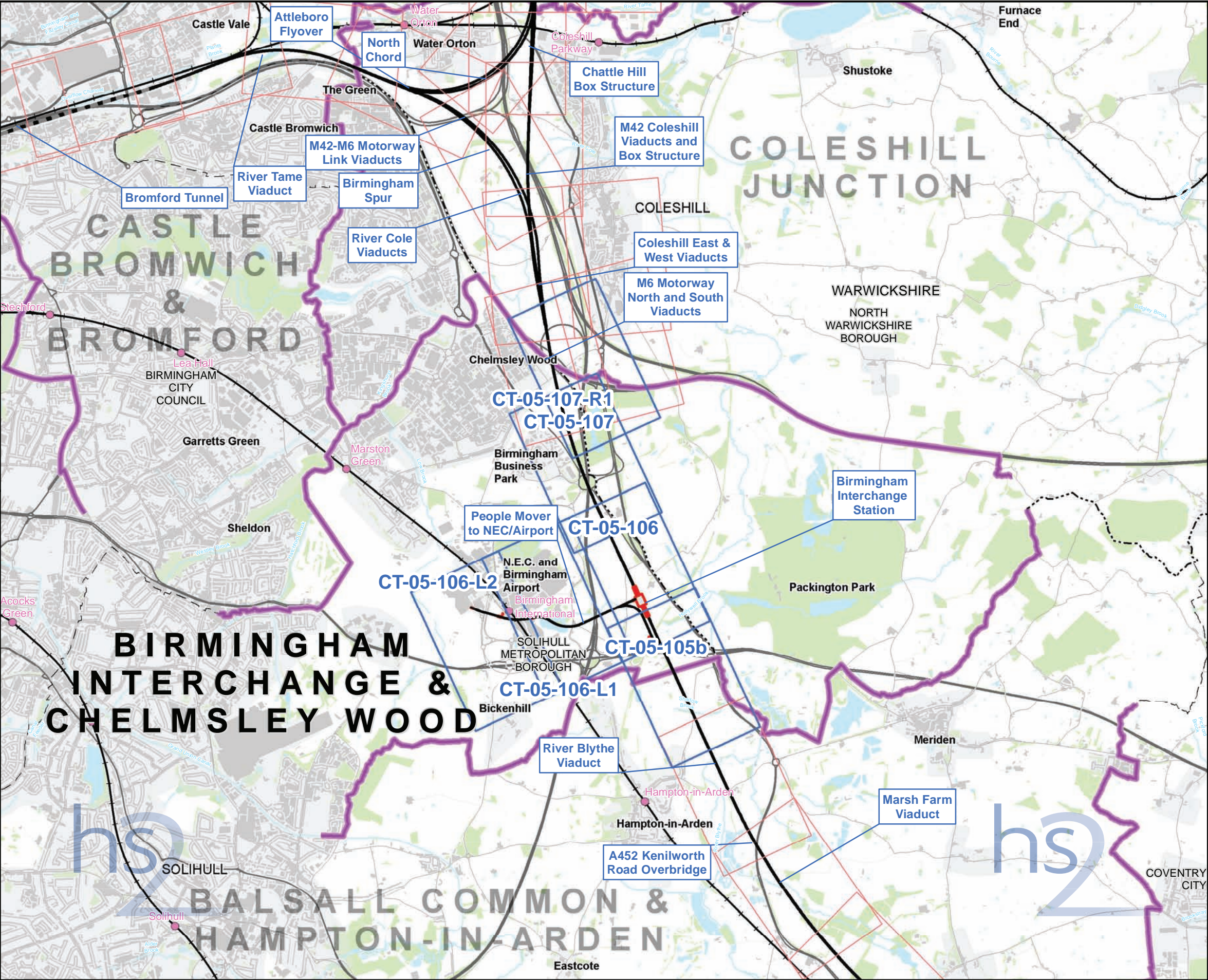
Legend features	Definition	Source	Copyright
	<ul style="list-style-type: none">- Footpaths - pedestrians only- Bridleways - pedestrians, cyclists and equestrians- Restricted byways - as bridleways plus non-motorised vehicles- Byways open to all traffic. Definitive Map data supplied by surveying authorities (i.e. county councils, London Boroughs and metropolitan borough councils in the West Midlands).	Coventry City Council City of Westminster Hertfordshire County Council London Borough of Brent London Borough of Camden London Borough of Ealing London Borough of Hammersmith & Fulham London Borough of Hillingdon Northamptonshire County Council Oxfordshire County Council Royal Borough of Kensington & Chelsea Solihull Metropolitan Borough Council Staffordshire County Council Warwickshire County Council	<p>This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Buckinghamshire County Council Licence No. 100021529, 2012. Copyright Buckinghamshire County Council.</p> <p>© Copyright Coventry City Council</p> <p>© Northamptonshire County Council</p>
Rail alignment	Longitudinal geometry of the tracks consisting of a series of straights and curves.	High Speed Two (HS2) Ltd	
Rail alignment formation	The space required to accommodate the railway infrastructure which typically includes the tracks, overhead line equipment, drainage, line-side access paths and cable routes for electrification and communication systems.	High Speed Two (HS2) Ltd	
Registered Park or Garden	<p>Parks and Gardens of special historic interest.</p> <p>Supplied by English Heritage. Of the 1,590 Registered Parks and Gardens, over 91% were captured against the 1:10,000 Ordnance Survey Raster product. 135 records are potentially subject to movement under Positional Accuracy Improvement (PAI).</p>	High Speed Two (HS2) Ltd	Contains, or is based upon, English Heritage's National Heritage List for England data © English Heritage.
Replacement floodplain storage	Provision of storage to replace floodplain occupied by the Proposed Scheme. Equivalent storage is provided for events up to the 1 in 100 (1%) annual probability event with an allowance for climate change.	High Speed Two (HS2) Ltd	
Returned to suitable development use	Post construction, land will be reinstated to enable potential future development.	High Speed Two (HS2) Ltd	
Route in tunnel Route on surface	Represents the proposed route of HS2, split into route on surface and tunnelled sections.	High Speed Two (HS2) Ltd	
Satellite construction compound	Represents satellite construction compounds which serve local works for major construction elements within a main contract.	High Speed Two (HS2) Ltd	
Scheduled Monument	A schedule has been kept since 1882 of monuments considered to be of national importance by the government. The current legislation, the Ancient Monuments and Archaeological Areas Act 1979, supports a formal system of Scheduled Monument Consent for any work to a designated monument. The Scheduled Monument layer consists of approximately 22,380 monuments tied into the Ordnance Survey. The majority of these are fixed; however, a small number of records may be updated as digital positional accuracy improves. The data is subject to continuous review and regularly updated as new monuments are designated.	English Heritage	Contains, or is based upon, English Heritage's National Heritage List for England data © English Heritage.
Significantly affected viewpoint	This dataset shows the locations of the visual receptors from which the scheme's visual impact has been assessed and shows	High Speed Two (HS2) Ltd	

Legend features	Definition	Source	Copyright
	whether or not the impact is significant or non-significant during construction and operation.		
Site of Special Scientific Interest (SSSI)	A Site of Special Scientific Interest (SSSI) is the land notified as an SSSI under the Wildlife and Countryside Act (1981), as amended.	Natural England	© Natural England copyright 2013 Contains Ordnance Survey data © Crown copyright and database right 2013. All rights reserved. Ordnance Survey Licence number 100022021. http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf
Stopped-up PRoW	Public right of way that will be closed due to construction of the scheme.	High Speed Two (HS2) Ltd	
Sustainable placement	The on-site placement for disposal of surplus excavated material to avoid causing environmental effects (e.g. transport) that would otherwise be associated with the off-site disposal of that material. 'On-site' in this context means within the land required for the purposes of the Proposed Scheme and 'off-site' means external land (or landfill site) which is not specifically required for the purposes of the Proposed Scheme.	High Speed Two (HS2) Ltd	
Temporary highway diversion / realignment	Indicative temporary highway diversion layouts during the construction phase.	High Speed Two (HS2) Ltd	
Temporary material stockpile	Represents temporary stockpiling of topsoil, subsoil and other excavated materials to be used for reinstatement purposes, and also stockpile areas for managing movement of excavated materials during construction.	High Speed Two (HS2) Ltd	
Temporary PRoW diversions/ realignments	Indicative temporary diversions to public rights of way as a result of construction of the scheme. These will vary depending on construction phase and local conditions.	High Speed Two (HS2) Ltd	
Tunnel portal	The footprint of a tunnel portal.	High Speed Two (HS2) Ltd	
Tunnel's external extent	The external excavated extent of each tunnel bore.	High Speed Two (HS2) Ltd	
Water body	Based on Ordnance Survey Vector Map District.	Ordnance Survey	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.
Watercourse	The Detailed River Network (DRN) is the only large-scale, accurate and fully attributed digital river centreline covering England and Wales.	Environment Agency	Contains Environment Agency information © Environment Agency and database right.
Watercourse diversion	Includes rivers, streams, ditches and other open channels, diversions to these, together with any new culverts required.	High Speed Two (HS2) Ltd	
Wetland habitat creation	Ecological mitigation area to provide new wetland habitat creation, enhancements to existing areas and areas for ecological management. This level does not include screening planting for visual mitigation purposes.	High Speed Two (HS2) Ltd	
Woodland	Woodland areas derived from Ordnance Survey mastermap data.	Ordnance Survey	© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.
Woodland habitat creation	Ecological mitigation area to provide new woodland planting, connectivity enhancements to existing areas and areas for ecological management. This level does not include screening planting for visual mitigation purposes.	High Speed Two (HS2) Ltd	

LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

CT-05 – Construction Phase

CT-06 – Proposed Scheme



Map Series Information:

These plans show the land potentially required during construction, the construction features, access requirements and infrastructure associated with construction of the Proposed Scheme. The plans also show the construction phase arrangements for public access using Public Rights of Way.

The base mapping shown on the plans is reflective of 2013 Ordnance Survey (OS) data.

- Main Map Legend**
- Route in tunnel
 - Route on surface
 - Depot, station, headhouse or portal building
 - Community forum boundary
 - County boundary
 - District/Borough boundary
 - Map sheets included in this community forum
 - Map sheets not included in this community forum

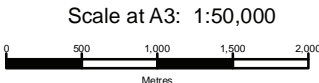
Map Number	CT-05-INDEX-CFA24
Map Name	Index Map of: Construction Phase
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood	

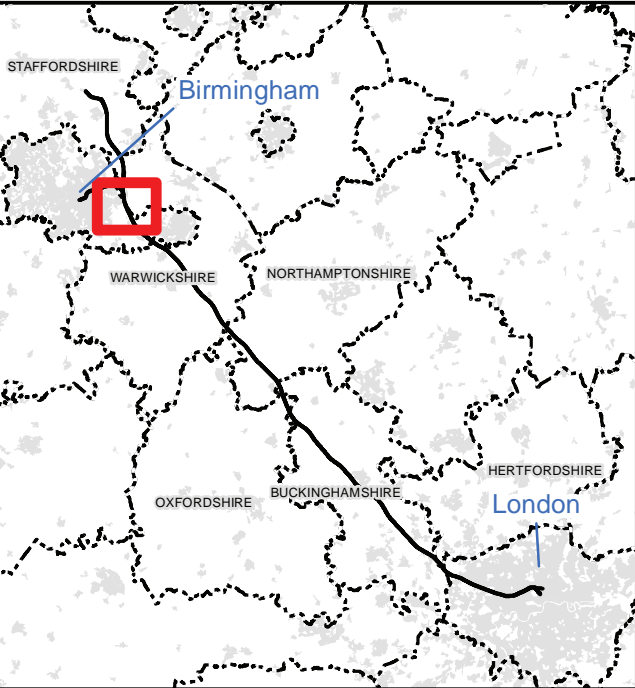
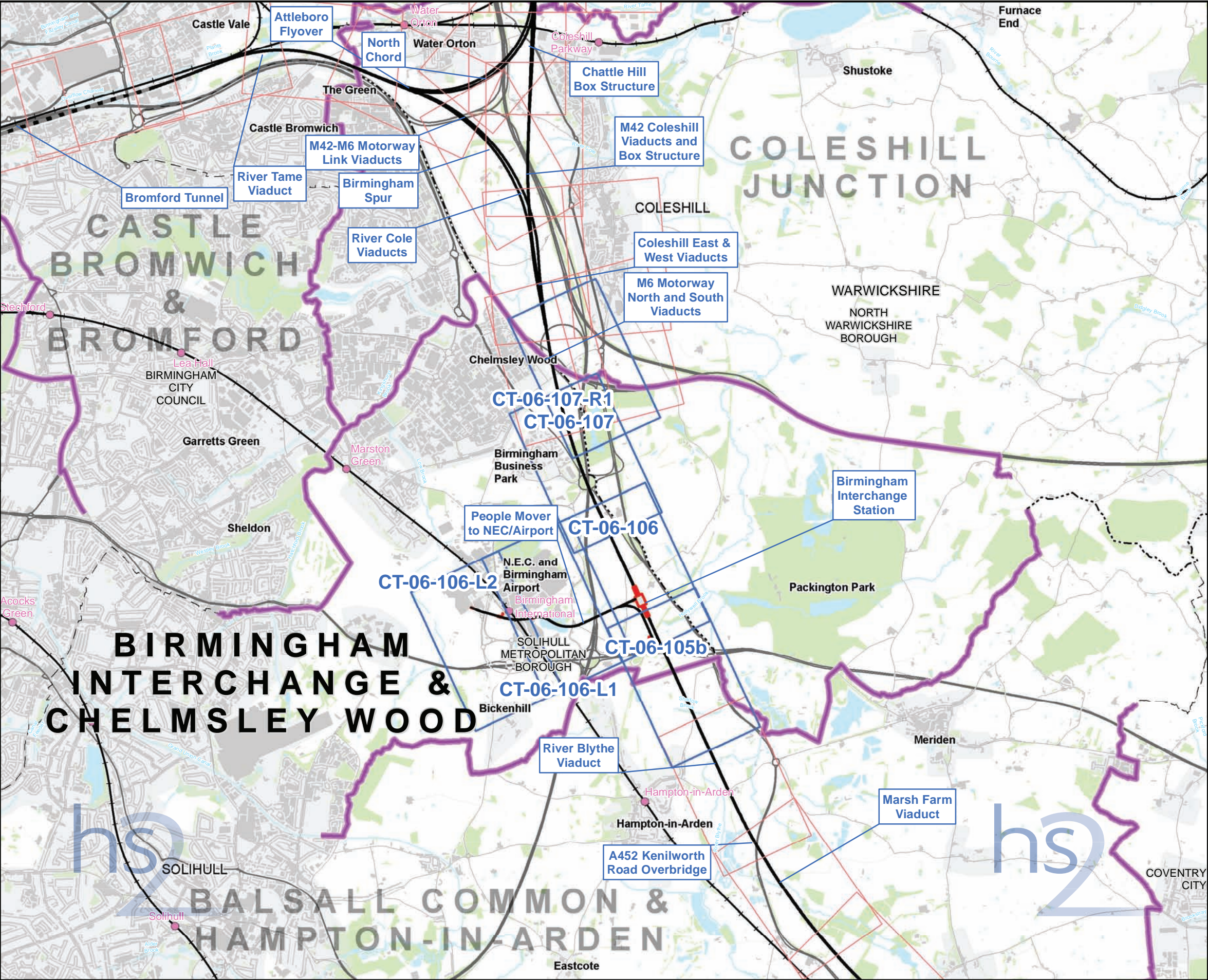


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Map Series Information:


These maps show permanent features, infrastructure, restored land, and areas for landscaping, screening and ecological mitigation associated with the Proposed Scheme.

The base mapping is reflective of 2013 Ordnance Survey (OS) data.

Note: Not all data layers in the legend are represented on every map.

- Main Map Legend**
- Route in tunnel
 - Route on surface
 - Depot, station, headhouse or portal building
 - Community forum boundary
 - County boundary
 - District/Borough boundary
 - Map sheets included in this community forum
 - Map sheets not included in this community forum

Map Number	CT-06-INDEX-CFA24
Map Name	Index Map of: Proposed Scheme
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood	




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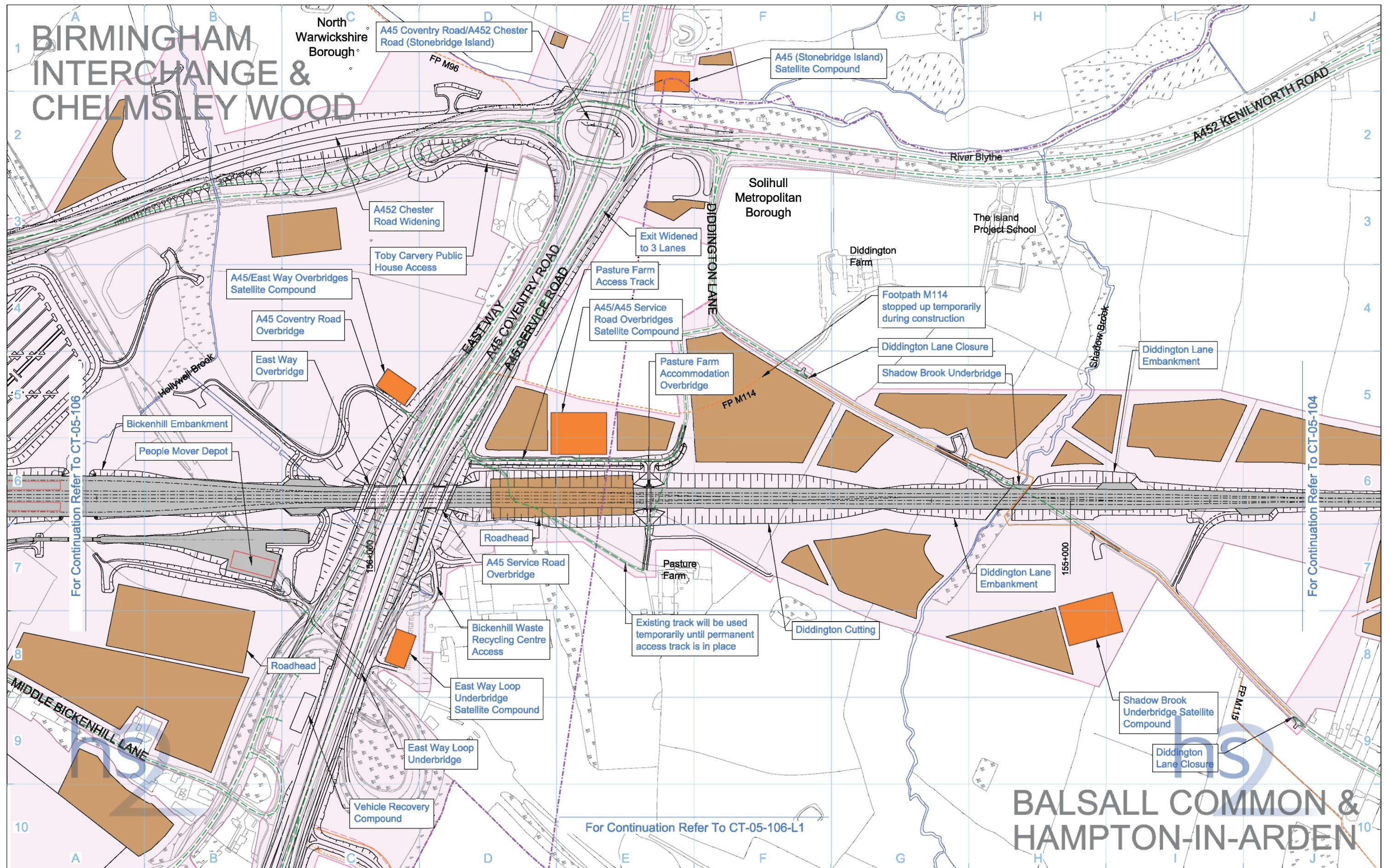
Doc Number: C250-ARP-EV-MAP-000-004237--P06.00



Scale at A3: 1:50,000



Date: 29/10/13



Legend		Community forum boundary		Stopped-up PRoW		Chainage (e.g. 10+000)	
Depot, station, headhouse or portal building	Rail alignment formation	Existing watercourse	Temporary PRoW diversion / realignment	10+000	Chainage (e.g. 10+000)		
Tunnel portal	Landscape earthworks	Tunnels external extent	Temporary highway diversion / realignment				
Main construction compound	Engineering earthworks	Construction traffic route	UT - Main utility works				
Satellite construction compound	County boundary	Existing public right of way (PRoW)					
Temporary material stockpile	Borough / District boundary	New, diverted or realigned PRoW					
	Land potentially required during construction						

Map Number: CT-05-105b

Map Name: Construction Phase

Community Forum Area: CFA24

Birmingham Interchange and Chelmsley Wood

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Doc Number: C224-ARP-EV-DPL-040-205105 P06 Date: 29/10/13

BIRMINGHAM INTERCHANGE & CHELMSLEY WOOD

North Warwickshire Borough

A452 Coventry Road/A452 Chester Road (Stonebridge Island)

FP M96

A452 Chester Road Widening

Toby Carvery Public House Access

Exit Widened to 3 Lanes

Solihull Metropolitan Borough

Pasture Farm Accommodation Overbridge

Pasture Farm Access Track

FP M114

Diddington Lane Closure

Diddington Farm

The Island Project School

FP M115

FP M116

FP M117

FP M118

FP M119

FP M120

FP M121

FP M122

FP M123

FP M124

FP M125

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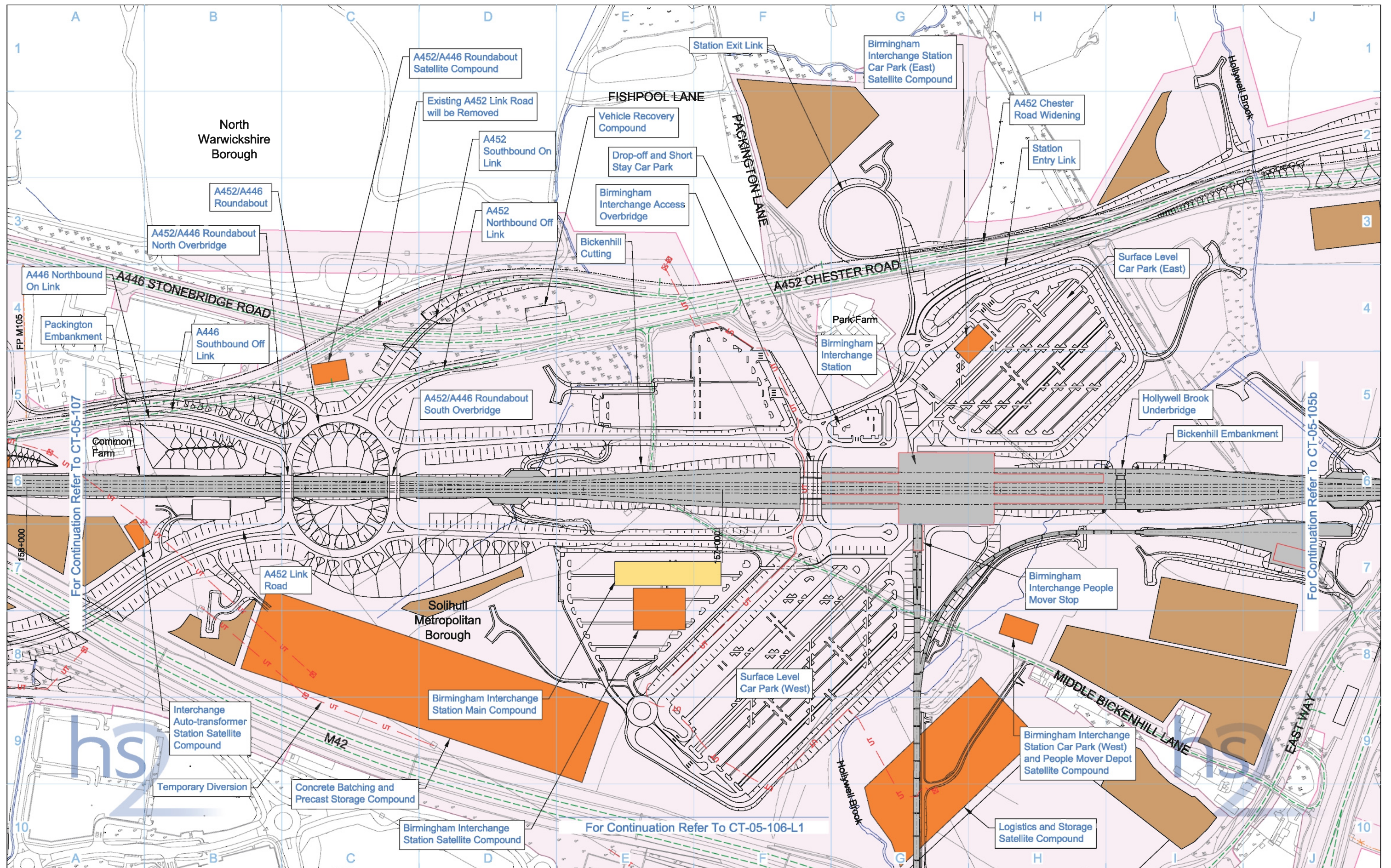
FP M446

FP M447

FP M448

FP M4

<p>Legend</p> <table border="0"> <tr> <td></td> <td>Depot, station, headhouse or portal building</td> <td></td> <td>Public realm</td> <td></td> <td>Stopped-up PRoW</td> </tr> <tr> <td></td> <td>Tunnel portal</td> <td></td> <td>Engineering earthworks</td> <td></td> <td>Tunnels external extent</td> </tr> <tr> <td></td> <td>Electricity substation</td> <td></td> <td>Landscape earthworks</td> <td></td> <td>Rail alignment</td> </tr> <tr> <td></td> <td>Land drainage area</td> <td></td> <td>Rail alignment formation</td> <td></td> <td>HS2 Access road</td> </tr> <tr> <td></td> <td>Ecological mitigation pond</td> <td></td> <td>Returned to suitable development use</td> <td></td> <td>Noise fence barrier</td> </tr> <tr> <td></td> <td>Balancing pond</td> <td></td> <td>County boundary</td> <td></td> <td>Chainage (e.g. 10+000)</td> </tr> <tr> <td></td> <td></td> <td></td> <td>Borough / District boundary</td> <td></td> <td></td> </tr> </table>				Depot, station, headhouse or portal building		Public realm		Stopped-up PRoW		Tunnel portal		Engineering earthworks		Tunnels external extent		Electricity substation		Landscape earthworks		Rail alignment		Land drainage area		Rail alignment formation		HS2 Access road		Ecological mitigation pond		Returned to suitable development use		Noise fence barrier		Balancing pond		County boundary		Chainage (e.g. 10+000)				Borough / District boundary			<p>Map Number CT-06-105b</p> <p>Map Name Proposed Scheme</p> <p>Community Forum Area CFA24 Birmingham Interchange and Chelmsley Wood</p>			<p>HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.</p> <p>Registered in England. Registration number 06791686 Registered office: Eland House, Bressenden Place, London SW1E 6DU</p> <p>Scale at A3: 1:5,000</p> <p>0 50 100 150 200 250 Metres</p> <p>© Crown copyright and database rights 2013. Ordnance Survey Licence Number 100049190.</p> <p>Doc Number: C224-ARP-EV-DPL-040-206105 P06 Date: 29/10/13</p>		
	Depot, station, headhouse or portal building		Public realm		Stopped-up PRoW																																													
	Tunnel portal		Engineering earthworks		Tunnels external extent																																													
	Electricity substation		Landscape earthworks		Rail alignment																																													
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	Balancing pond		County boundary		Chainage (e.g. 10+000)																																													
			Borough / District boundary																																															



Legend

Chainage
(e.g. 10+000)

10+000

Rail alignment

Map Number
CT-05-106

Map Name
Construction Phase

Community Forum Area
CFA24
Birmingham Interchange and Chelmsley Wood

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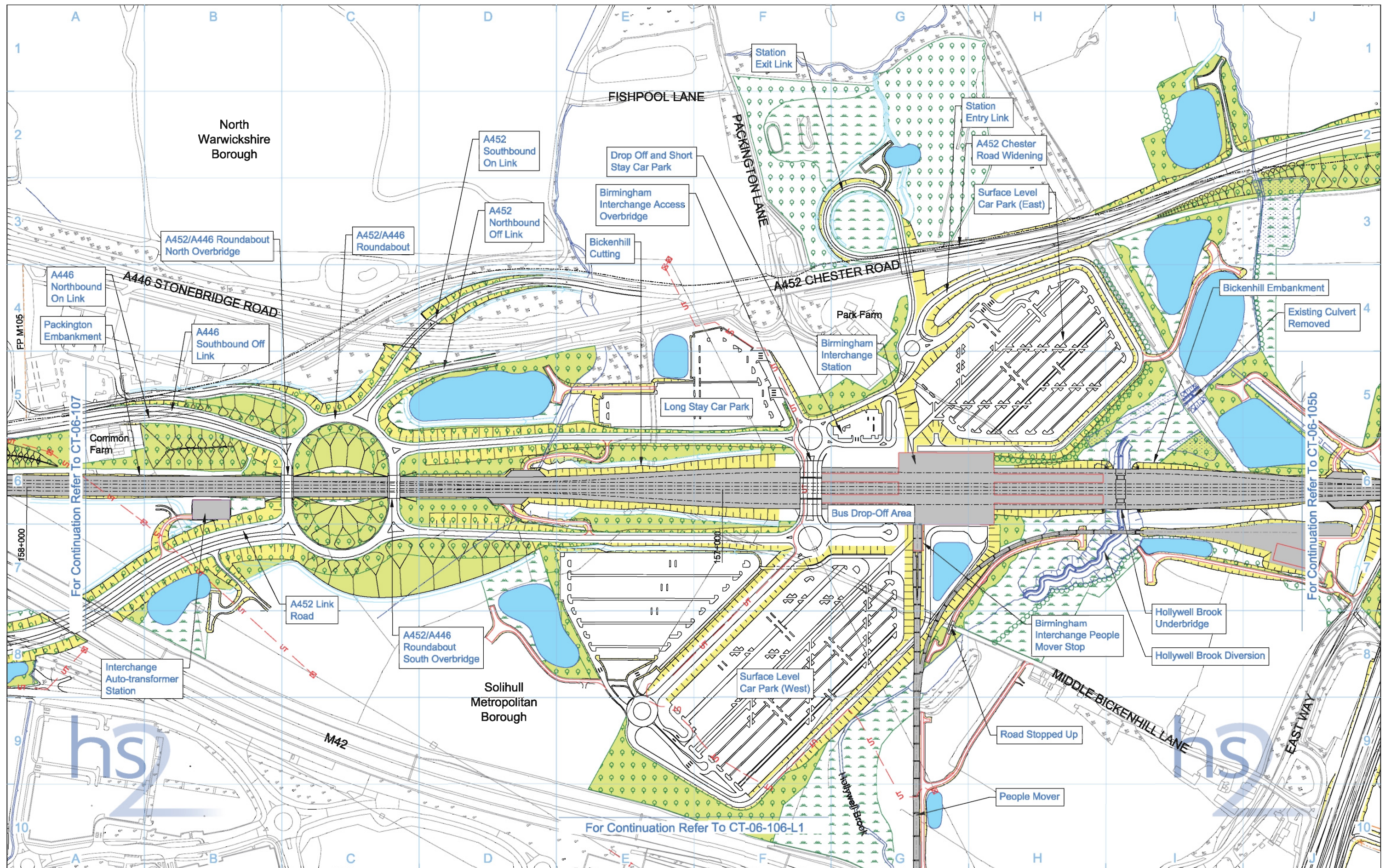
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Legend

Depot, station, headhouse or portal building	Replacement floodplain storage	Public realm
Tunnel portal	Woodland habitat creation	Engineering earthworks
Electricity substation	Wetland habitat creation	Landscape earthworks
Land drainage area	Grassland habitat creation	Rail alignment formation
Ecological mitigation pond	Landscape mitigation planting (scrub / woodland)	Returned to suitable development use
Balancing pond	Grassed areas	County boundary
	Sustainable placement	Borough / District boundary

Community forum boundary

Watercourse diversion

Existing watercourse

Ditches - new

Hedgerow habitat creation

Main utility works

Existing public right of way (PRoW)

New, diverted or realigned PRoW

Stopped-up PRoW

Tunnels external extent

Rail alignment

HS2 Access road

Noise fence barrier

Chainage (e.g. 10+000)

Map Number: CT-06-106

Map Name: Proposed Scheme

Community Forum Area: CFA24
Birmingham Interchange and Chelmsley Wood

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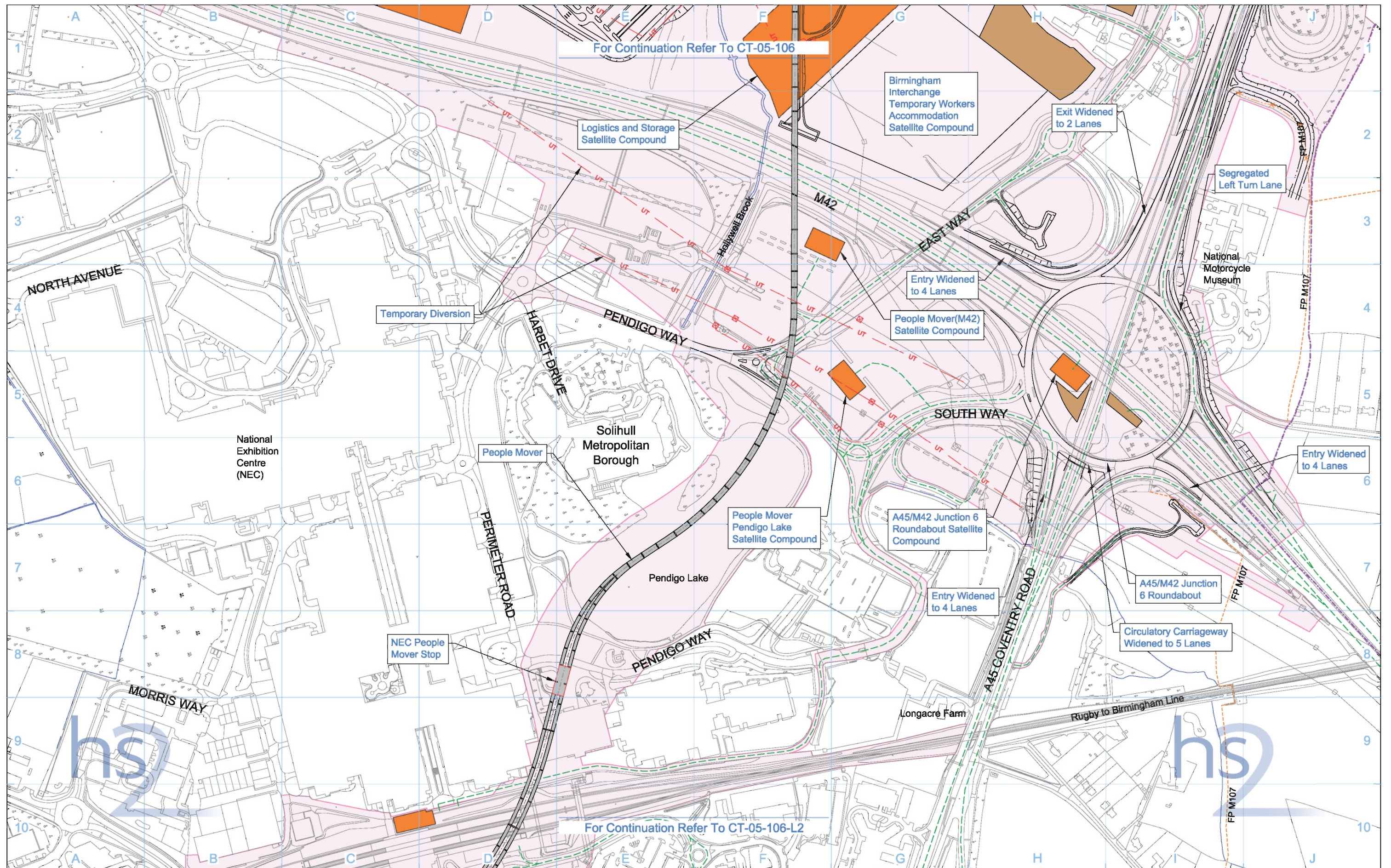
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Legend

Depot, station, headhouse or portal building	Rail alignment formation	Community forum boundary	Stopped-up PRoW
Tunnel portal	Landscape earthworks	Existing watercourse	Temporary PRoW diversion / realignment
Main construction compound	Engineering earthworks	Tunnels external extent	Temporary highway diversion / realignment
Satellite construction compound	County boundary	Construction traffic route	Existing public right of way (PRoW)
Temporary material stockpile	Borough / District boundary	New, diverted or realigned PRoW	Main utility works
	Land potentially required during construction		

Map Number
CT-05-106-L1

Map Name
Construction Phase

Community Forum Area
CFA24
Birmingham Interchange and Chelmsley Wood

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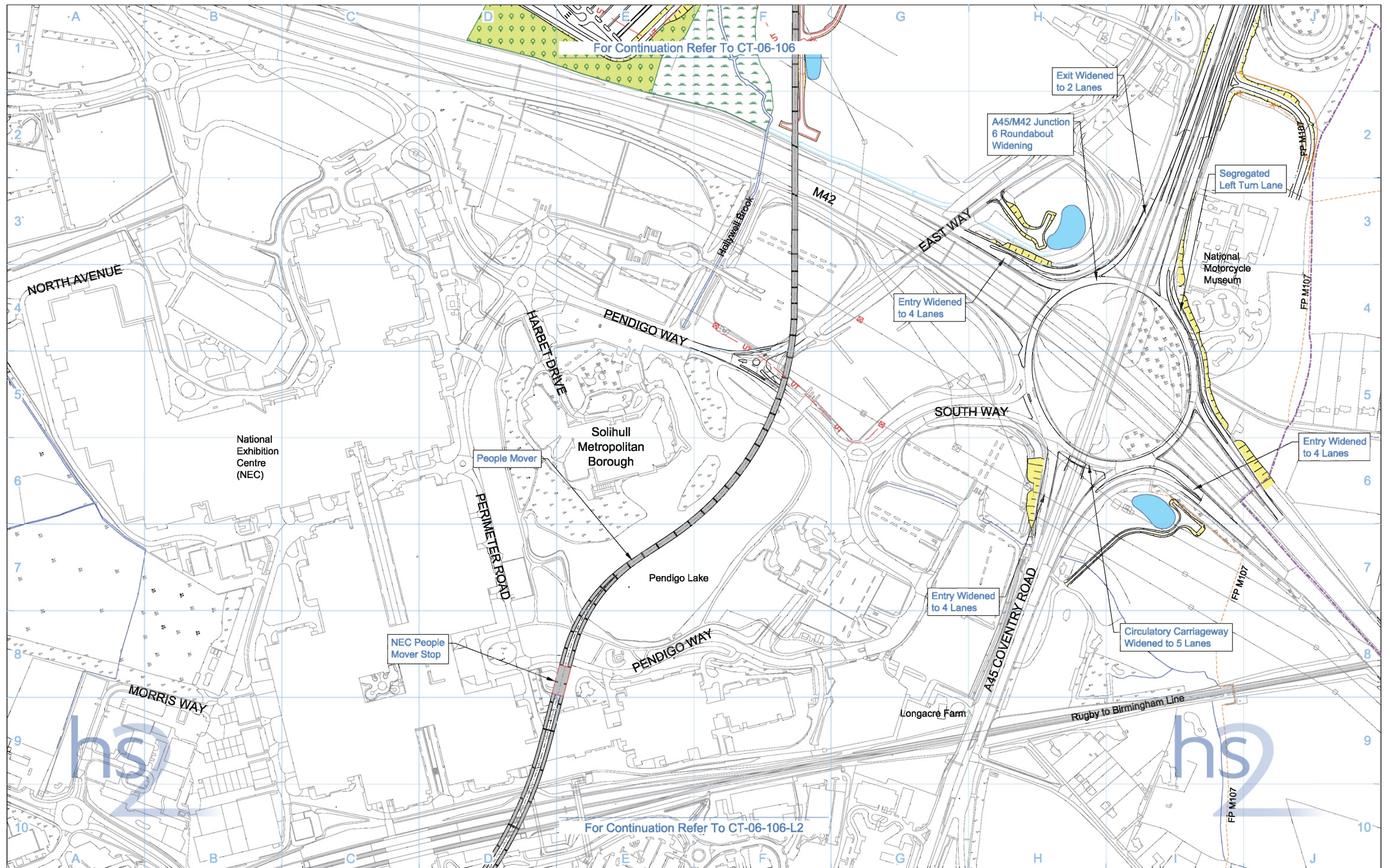
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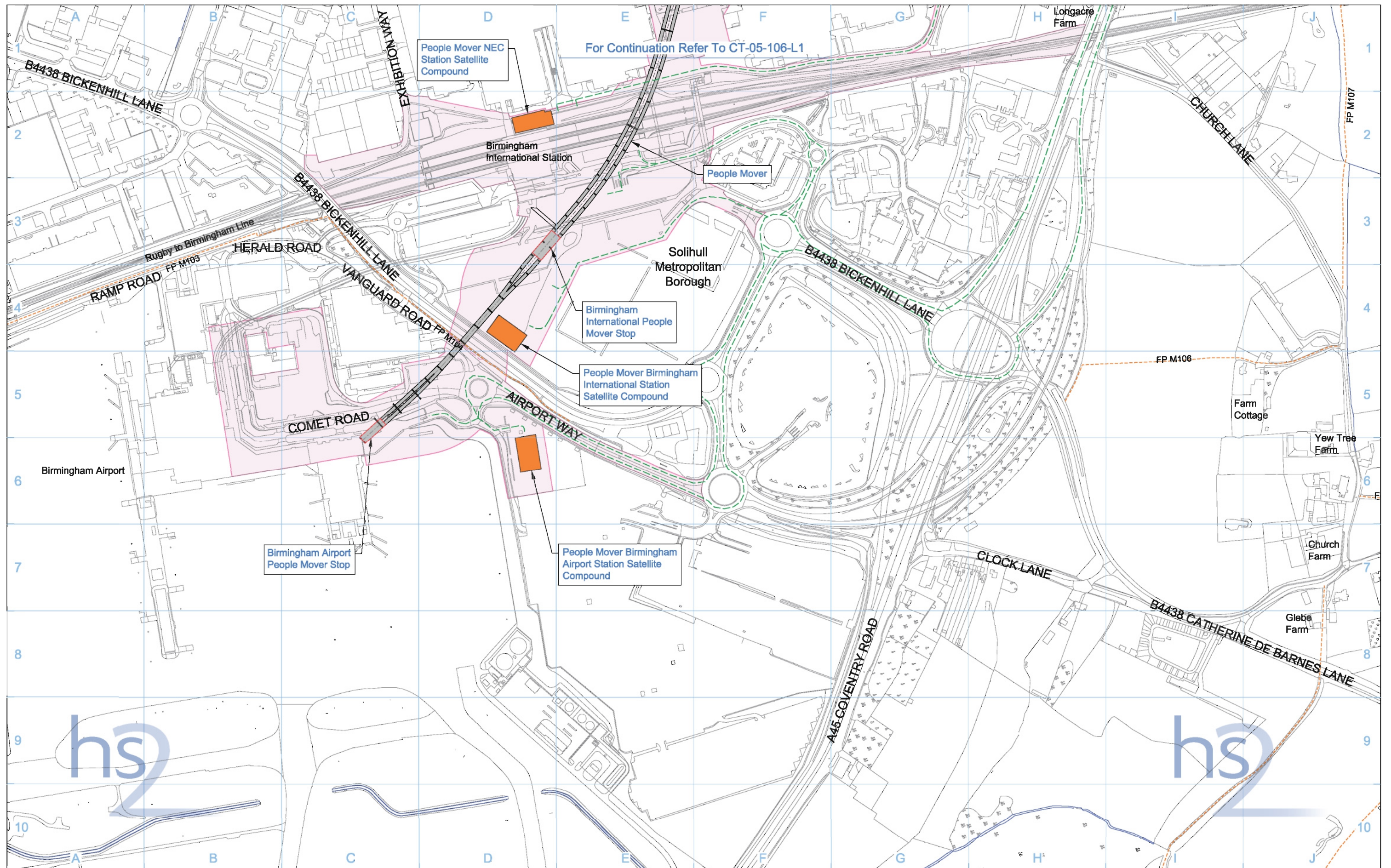
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Doc Number: C224-ARP-EV-DPL-040-205206 **P06** **Date:** 29/10/13



Legend	<ul style="list-style-type: none">Replacement floodplain storageWoodland habitat creationWetland habitat creationGrassland habitat creationLandscape mitigation planting (scrub / woodland)Grassed areasSustainable placement	<ul style="list-style-type: none">Public realmEngineering earthworksLandscape earthworksRail alignment formationReturned to suitable development useCounty boundaryBorough / District boundary	<ul style="list-style-type: none">Community forum boundaryWatercourse diversionExisting watercourseDitches - newHedgerow habitat creationMain utility worksExisting public right of way (PRoW)New, diverted or realigned PRoW	<ul style="list-style-type: none">Stopped-up PRoWTunnels external extentRail alignmentHS2 Access roadNoise fence barrierChainage (e.g. 10+000)	<div>Map Number CT-06-106-L1</div> <div>Map Name Proposed Scheme</div> <div>Community Forum Area CFA24 Birmingham Interchange and Chelmsley Wood</div>	<div> HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.</div> <div>Registered in England. Registration number 06791688 Registered office: Eland House, Bressenden Place, London SW1E 6DU</div> <div>Scale at A3: 1:5,000 0 50 100 150 200 250 Metres</div> <div>© Crown copyright and database rights 2013. Ordnance Survey Licence Number 100048190.</div> <div>Doc Number: C224-ARP-EV-DPL-040-206206 P06 Date: 29/10/13</div>
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Legend			

Chainage (e.g. 10+000)

10+000

Rail alignment

Map Number

CT-05-106-L2

Map Name

Construction Phase

Community Forum Area

CFA24

Birmingham Interchange and Chelmsley Wood

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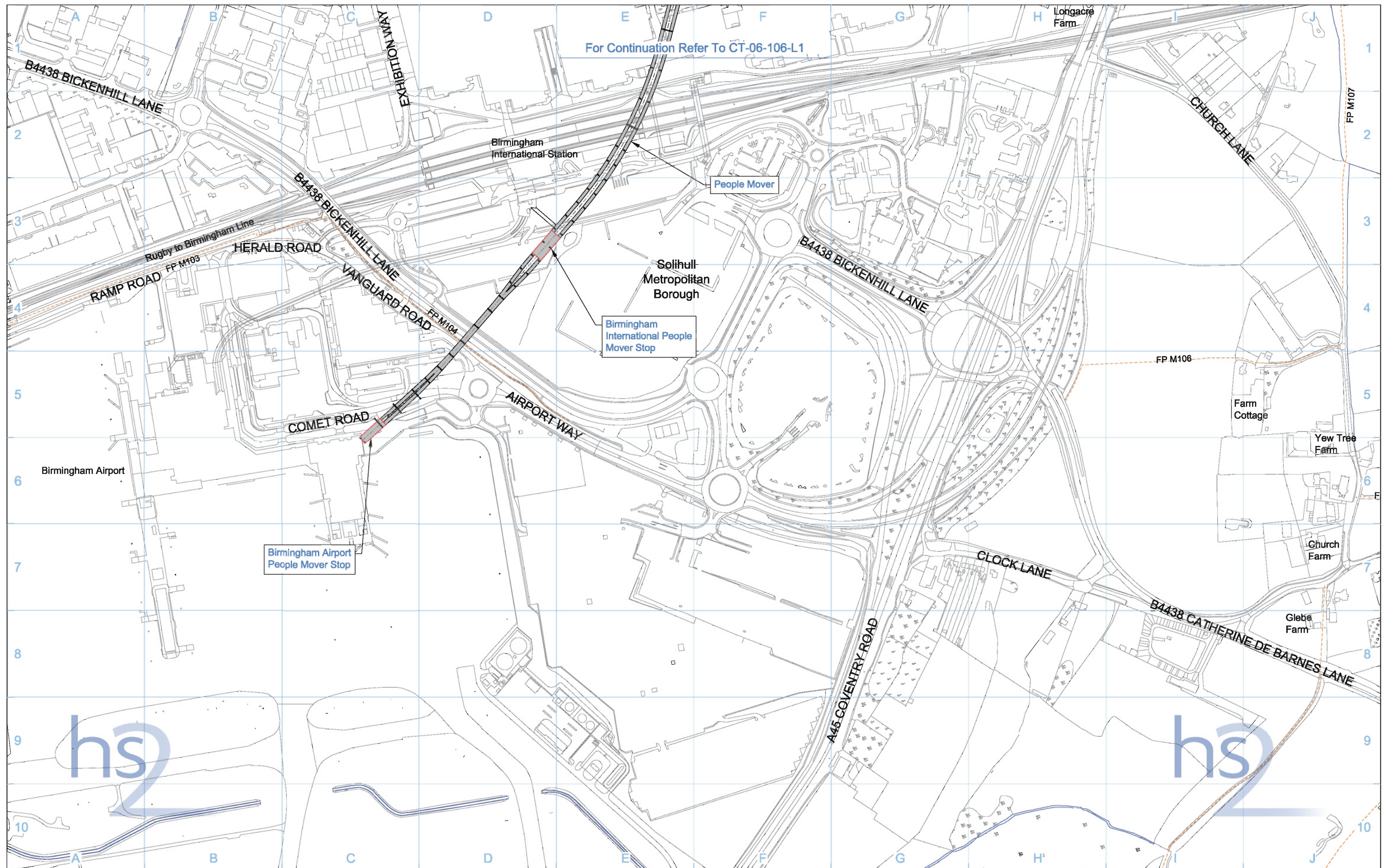
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Metres

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Legend			

Map Number	CT-06-106-L2
Map Name	Proposed Scheme
Community Forum Area	CFA24 Birmingham Interchange and Chelmsley Wood

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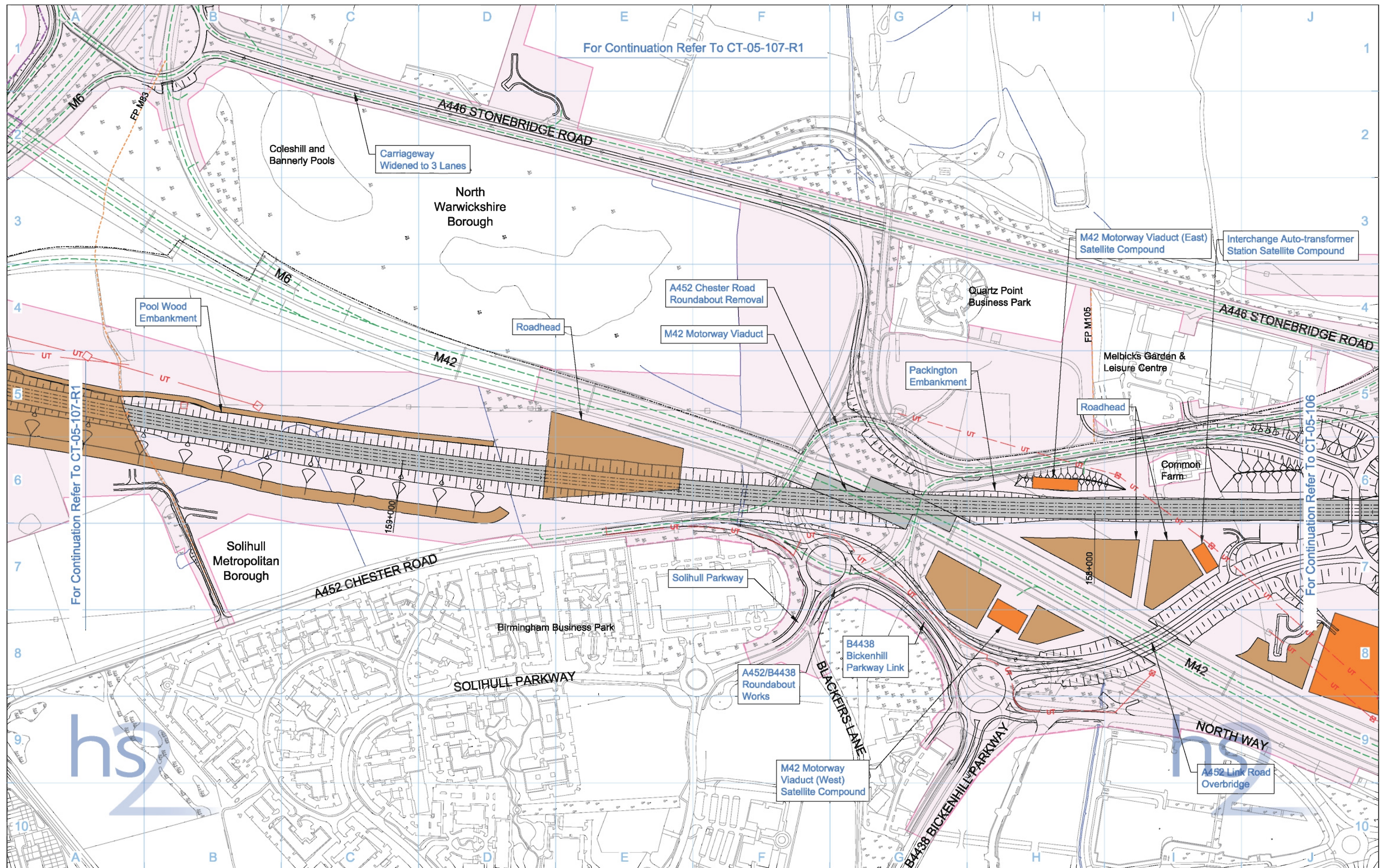
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Legend

Depot, station, headhouse or portal building	Landscape earthworks	Community forum boundary	Stopped-up PRoW
Tunnel portal	Engineering earthworks	Existing watercourse	Temporary PRoW diversion / realignment
Main construction compound	County boundary	Tunnels external extent	Temporary highway diversion / realignment
Satellite construction compound	Borough / District boundary	Construction traffic route	Existing public right of way (PRoW)
Temporary material stockpile	Land potentially required during construction	New, diverted or realigned PRoW	Main utility works

Chainage (e.g. 10+000)

Rail alignment

Map Number
CT-05-107

Map Name
Construction Phase

Community Forum Area
CFA24
Birmingham Interchange and Chelmsley Wood

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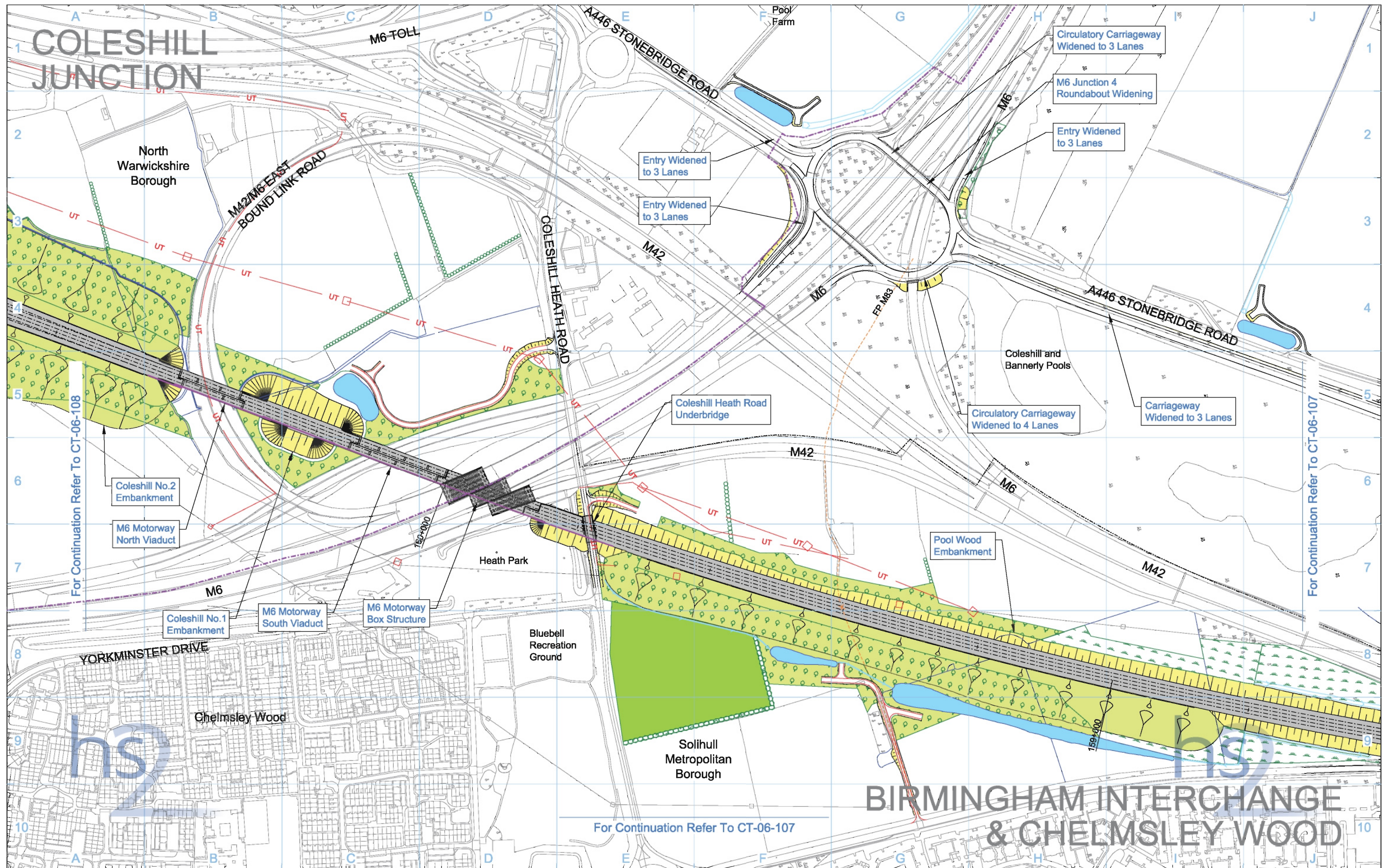
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Scale at A3: 1:5,000

0 50 100 150 200 250 Metres

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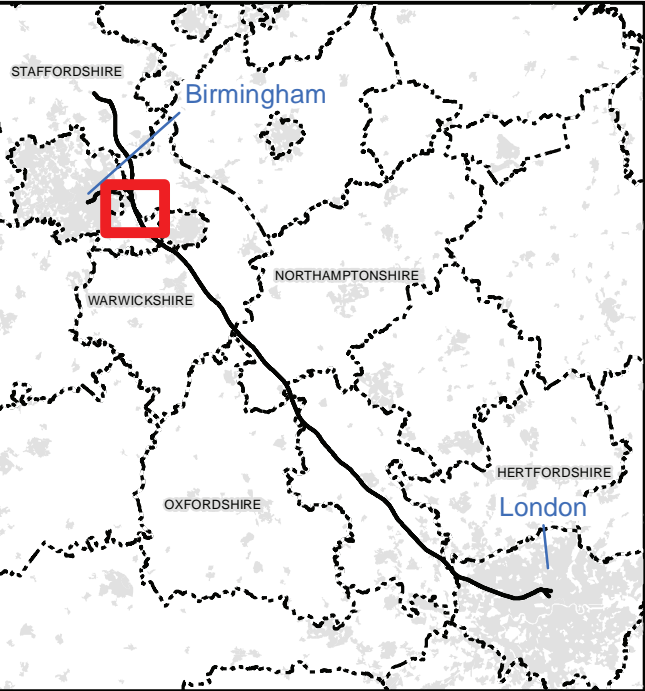
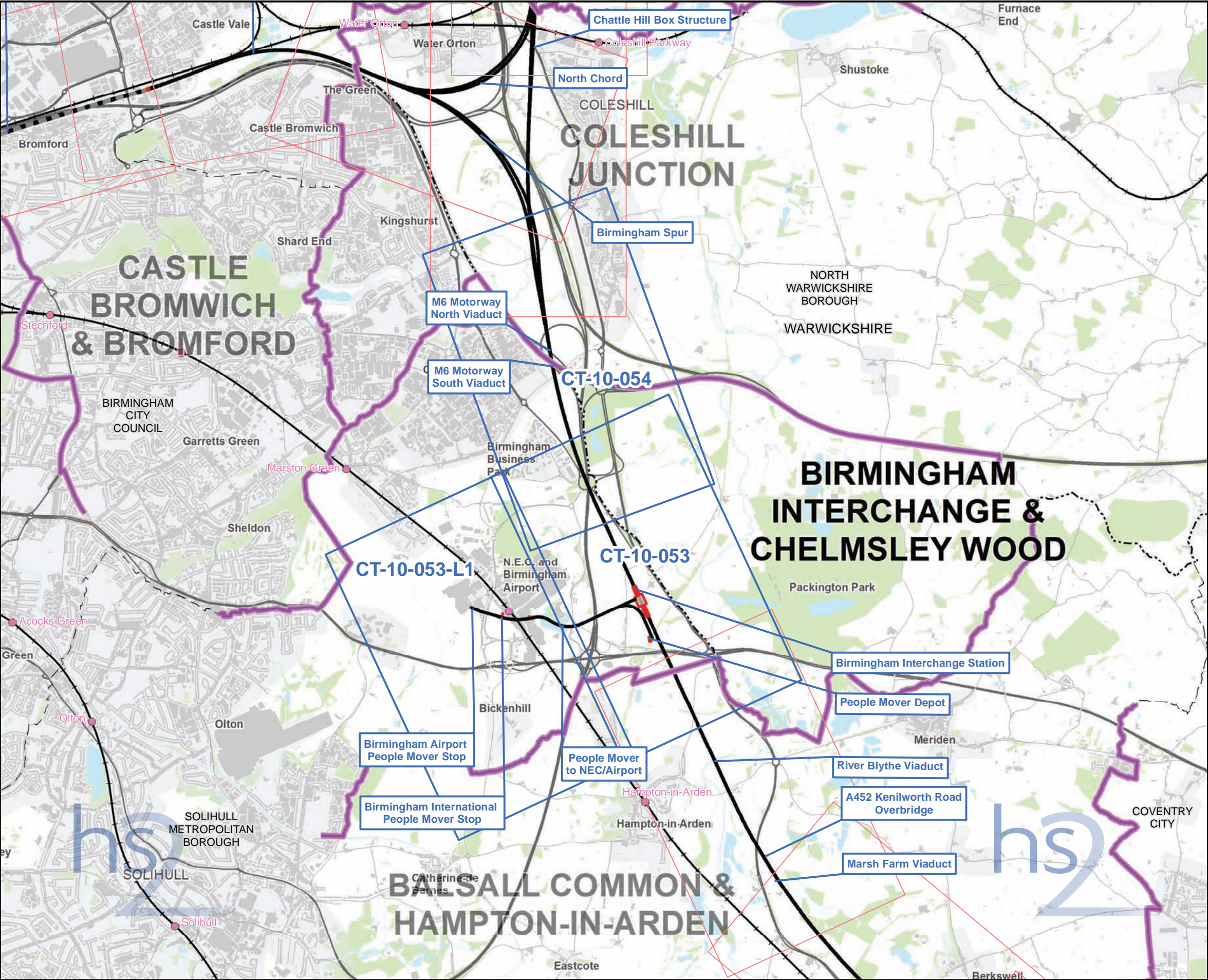


Legend		Community forum boundary		Stopped-up PRoW		Map Number CT-06-107-R1	Map Name Proposed Scheme		<p>HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.</p>		
						Community Forum Area CFA24 Birmingham Interchange and Chelmsley Wood		<p>Registered in England. Registration number 06791688 Registered office: Eland House, Bressenden Place, London SW1E 6DU</p> <p>Scale at A3: 1:5,000</p>			
						Doc Number: C224-ARP-EV-DPL-040-206207 P06 Date: 29/10/13					

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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

CT-10 – Environmental Baseline



Map Series Information:

The Environmental Baseline maps display a range of environmental data layers.

Note: Not all data layers in the legend are represented on every map.

- Main Map Legend**
- Route in tunnel
 - Route on surface
 - Depot, station, headhouse or portal building
 - Community forum boundary
 - Existing railway station
 - County boundary
 - District/Borough boundary

- Map sheets included in this community forum
- Map sheets not included in this community forum

Map Number CT-10-INDEX-CFA24

Map Name Index Map of:
Environmental Baseline

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood



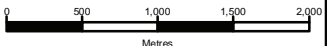
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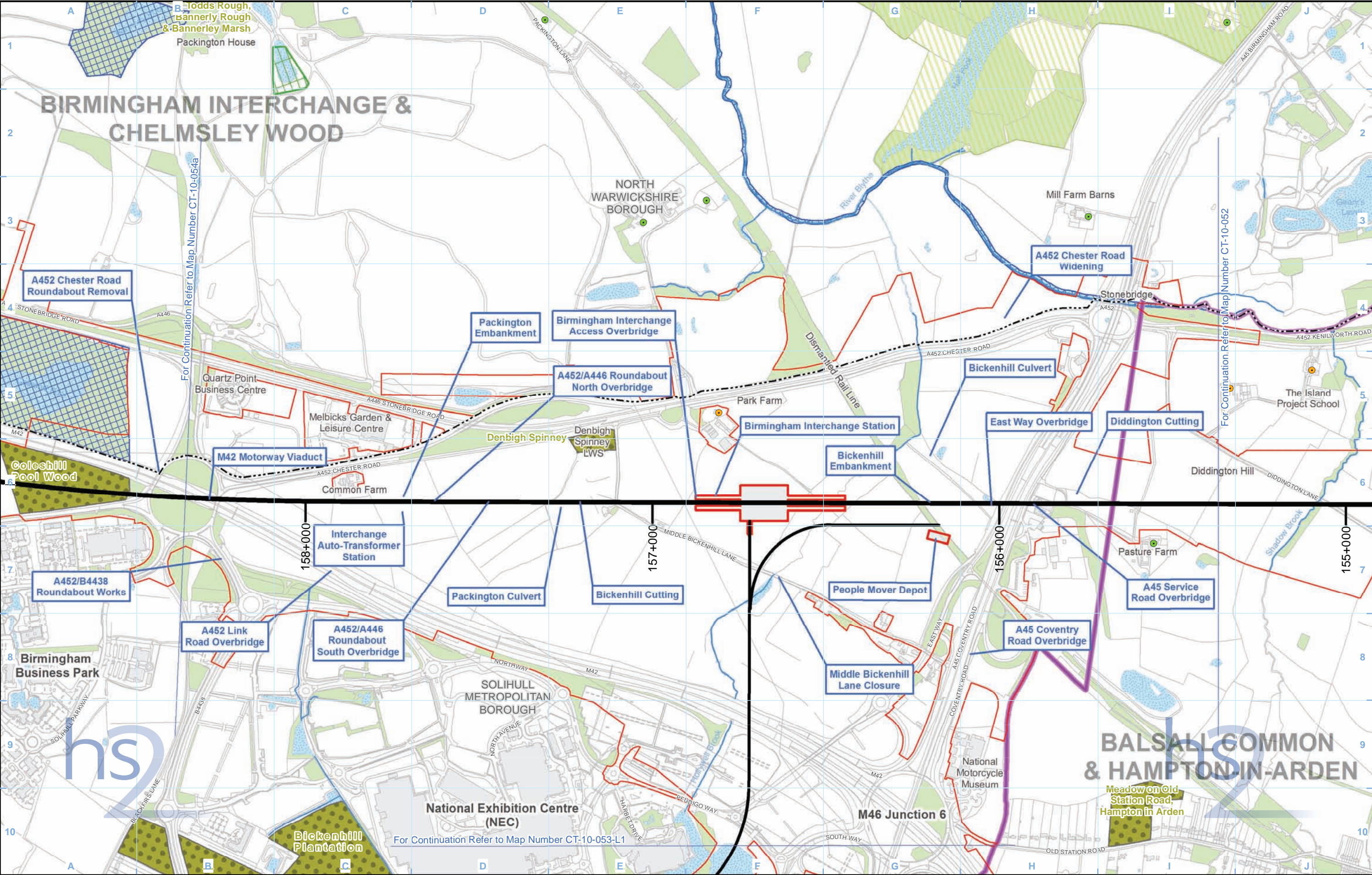
Doc Number: C254-ARP-EV-MAP-040-600002-P06.00



Scale at A3: 1:50,000



Date: 25/10/13



Legend

Route in tunnel

Route on surface

Depot, station, headhouse or portal building

Land potentially required during construction

Community forum boundary

County boundary

District/Borough boundary

Watercourse

Water body

Woodland

Conservation area

Scheduled monument

Listed building Grade I

Listed building Grade II*

Listed building Grade II

Registered park or garden

Site of Special Scientific Interest (SSSI)

National Nature Reserve (NNR)

Local Nature Reserve (LNR)

Local Wildlife Site (LWS) - county/metropolitan value

Local Wildlife Site (LWS) - less than county/metropolitan value

Ancient woodland

Map Number

CT-10-053

Map Name

Environmental Baseline

Community Forum Area CFA24:

Birmingham Interchange & Chelmsley Wood

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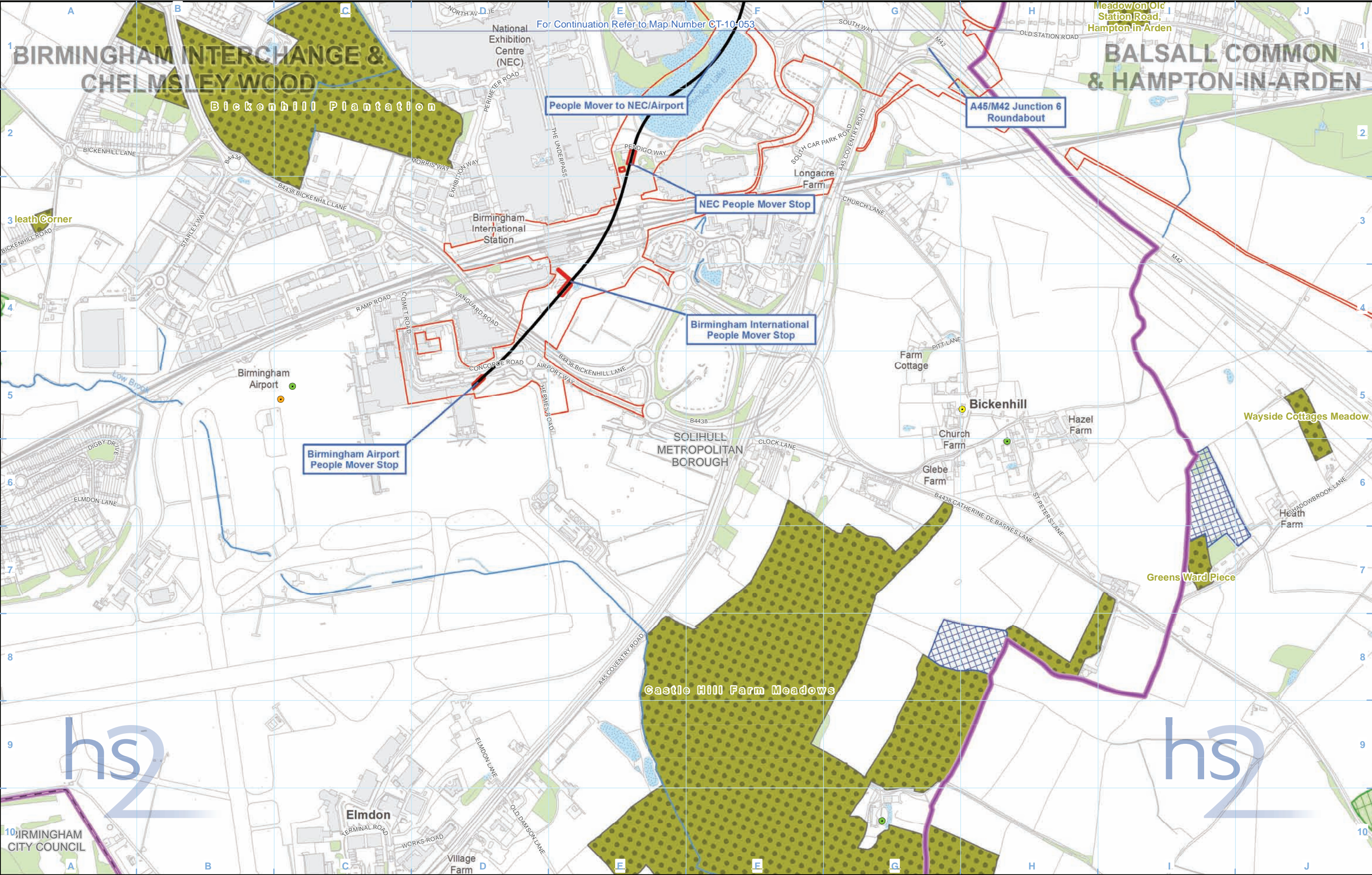
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Scale at A3: 1:10,000

Metres

Date: 24/10/13



Legend

Route in tunnel	Watercourse	Conservation area	Site of Special Scientific Interest (SSSI)
Route on surface	Water body	Scheduled monument	National Nature Reserve (NNR)
Depot, station, headhouse or portal building	Woodland	Listed building Grade I	Local Nature Reserve (LNR)
Land potentially required during construction		Listed building Grade II*	Local Wildlife Site (LWS) - county/metropolitan value
Community forum boundary		Listed building Grade II	Local Wildlife Site (LWS) - less than county/metropolitan value
County boundary		Registered park or garden	Ancient woodland
District/Borough boundary			

Map Number
CT-10-053-L1

Map Name
Environmental Baseline

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

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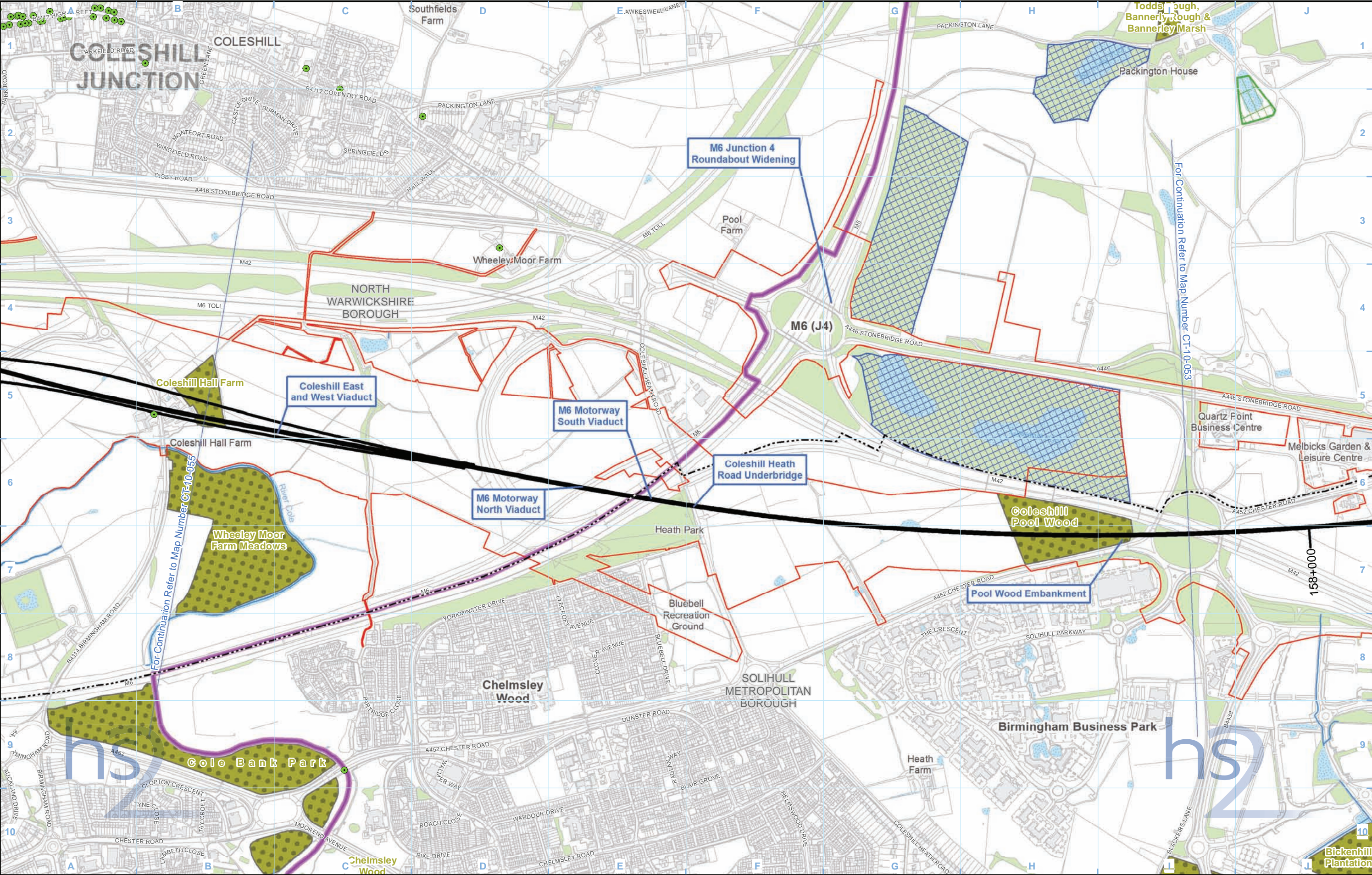
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Doc Number: C254-ARP-EV-MAP-040-210153-P06.00

Date: 24/10/13

Scale at A3: 1:10,000

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Metres



Legend

Route in tunnel

Route on surface

Depot, station, headhouse or portal building

Land potentially required during construction

Community forum boundary

County boundary

District/Borough boundary

Watercourse

Water body

Woodland

Conservation area

Scheduled monument

Listed building Grade I

Listed building Grade II*

Listed building Grade II

Registered park or garden

Site of Special Scientific Interest (SSSI)

National Nature Reserve (NNR)

Local Nature Reserve (LNR)

Local Wildlife Site (LWS) - county/metropolitan value

Local Wildlife Site (LWS) - less than county/metropolitan value

Ancient woodland

Map Number

CT-10-054a

Map Name

Environmental Baseline

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

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Scale at A3: 1:10,000

0

100

200

300

400

Metres

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Doc Number: C254-ARP-EV-MAP-040-210054-P06.00

Date: 24/10/13

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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

LV-01 - Photomontages

LV-14 - Architect Visualisations

LV-15 - Aerial Visualisations



CT-20 - Sections and Elevations

Current baseline (2013)



Operation Year 1 (2026) - Winter verifiable photomontage



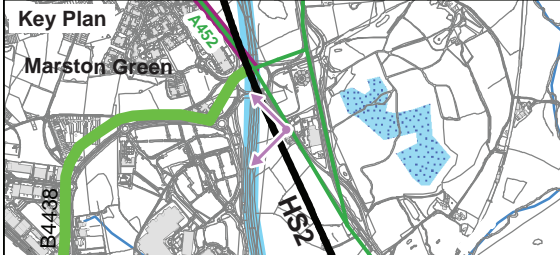

<p>Technical Information Location: Viewpoint 300-3-001: Long view south-west across Church Farm farmland from PRoW M96.</p> <p>Date taken: 13/03/13 Time taken: 08:28 Focal length: 57.296mm</p> <p>Viewpoint location shown on Map LV-04-081. For key plan legend refer to map series LV-04.</p>	<p>This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2026 (the opening year). The design of the Proposed Scheme may be subject to design development in response to consultation. Design development will not result in any significant adverse change in the environmental effects detailed in the photomontages of the Proposed Scheme. Where new planting is proposed, it has been shown as immature plants which would mature over time to further integrate the Proposed Scheme into the landscape.</p>	<div><div><p>Key Plan</p></div><div><table><tr><td>Figure Number</td><td>LV-01-170</td></tr><tr><td>Figure Name</td><td>Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 300-3-001</td></tr><tr><td></td><td>Community Forum Area CFA24: Birmingham Interchange and Chelmley Wood</td></tr></table></div></div>	Figure Number	LV-01-170	Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 300-3-001		Community Forum Area CFA24: Birmingham Interchange and Chelmley Wood	<div><div><p>HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in anyway.</p><p><small>Registered in England. Registration number 06791686. Registered office: Eland House, Bressenden Place, London SW1E 5DU.</small></p><p><small>© Crown copyright and database rights 2012 Ordnance Survey Licence Number 100049190</small></p><p>Doc Number: C250-ARP-EV-PHO-000-001169-P01</p><p>Date: 10/10/13</p></div></div>
Figure Number	LV-01-170								
Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 300-3-001								
	Community Forum Area CFA24: Birmingham Interchange and Chelmley Wood								

Current baseline (2013)



Operation Year 1 (2026) - Winter verifiable photomontage



<p>Technical Information Location: Viewpoint 302-4-002: View south-west across farmland from the A452 Chester Road.</p> <p>Date taken: 30/01/13 Time taken: 09:08 Focal length: 57.296mm</p> <p>Viewpoint location shown on Map LV-04-081. For key plan legend refer to map series LV-04.</p>	<p>This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2026 (the opening year). The design of the Proposed Scheme may be subject to design development in response to consultation. Design development will not result in any significant adverse change in the environmental effects detailed in the photomontages of the Proposed Scheme. Where new planting is proposed, it has been shown as immature plants which would mature over time to further integrate the Proposed Scheme into the landscape.</p>		<table><tr><td>Figure Number</td><td>LV-01-171</td></tr><tr><td>Figure Name</td><td>Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 302-4-002</td></tr><tr><td></td><td>Community Forum Area CFA24: Birmingham Interchange and Chelmley Wood</td></tr></table>	Figure Number	LV-01-171	Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 302-4-002		Community Forum Area CFA24: Birmingham Interchange and Chelmley Wood	<div><div></div><div><p>HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in anyway.</p><p><small>Registered in England. Registration number 06791686. Registered office: Eland House, Bressenden Place, London SW1E 5DU. © Crown copyright and database rights 2012 Ordnance Survey Licence Number 100049190 Doc Number: C250-ARP-EV-PHO-000-001170-P01</small></p></div></div>	Date: 17/10/13
Figure Number	LV-01-171										
Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 302-4-002										
	Community Forum Area CFA24: Birmingham Interchange and Chelmley Wood										

Current baseline (2013)



Operation Year 1 (2026) - Winter verifiable photomontage

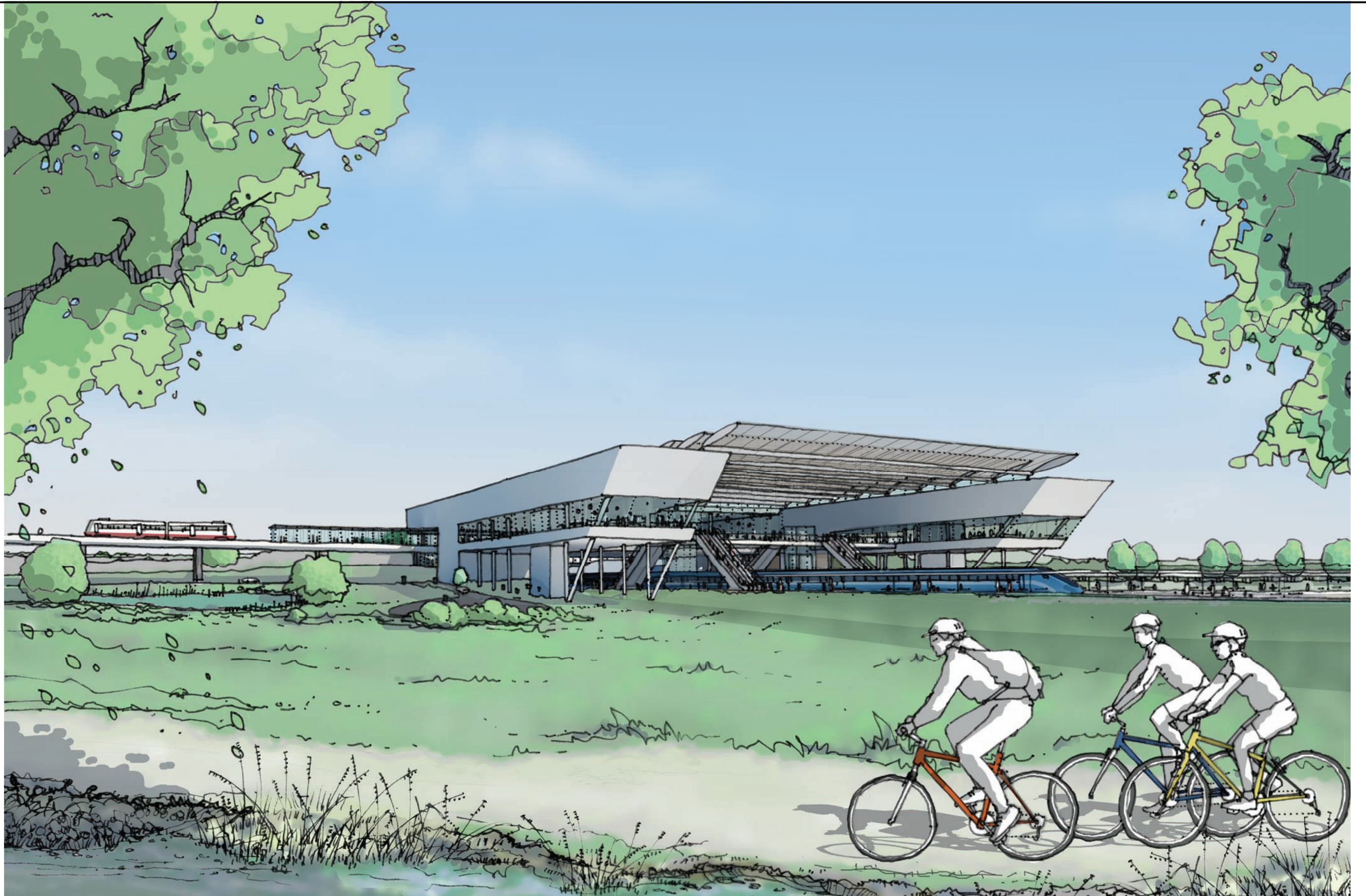


<p>Technical Information Location: Viewpoint 305-2-006: View east across Bluebell recreation ground from residences on Bluebell Drive/Lycroft Avenue. Date taken: 13/03/13 Time taken: 16:58 Focal length: 57.296mm</p> <p>Viewpoint location shown on Map LV-04-082a. For key plan legend refer to map series LV-04.</p>	<p>This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2026 (the opening year). The design of the Proposed Scheme may be subject to design development in response to consultation. Design development will not result in any significant adverse change in the environmental effects detailed in the photomontages of the Proposed Scheme. Where new planting is proposed, it has been shown as immature plants which would mature over time to further integrate the Proposed Scheme into the landscape.</p>	<p>Key Plan map showing the location of the viewpoint and the proposed scheme. The map includes labels for Chelmsley Wood, M42, M6, and HS2.</p>	<table><tr><td>Figure Number</td><td>LV-01-172</td></tr><tr><td>Figure Name</td><td>Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 305-2-006</td></tr><tr><td></td><td>Community Forum Area CFA24: Birmingham Interchange and Chelmsley Wood</td></tr></table>	Figure Number	LV-01-172	Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 305-2-006		Community Forum Area CFA24: Birmingham Interchange and Chelmsley Wood	<div><p>hs2</p></div> <p>Registered in England. Registration number 06791686. Registered office: Eland House, Bressenden Place, London SW1E 5DU. © Crown copyright and database rights 2012 Ordnance Survey Licence Number 100049190 Doc Number: C250-ARP-EV-PHO-000-001171-P01</p>	<p>Date: 10/10/13</p>
Figure Number	LV-01-172										
Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 305-2-006										
	Community Forum Area CFA24: Birmingham Interchange and Chelmsley Wood										



View of Birmingham Interchange Station from the south-east

	<div>Figure Number</div> <div>LV-14-009</div> <div>Figure Name</div> <div>Illustration of Birmingham Interchange Station: view from south-east</div> <div>Community Forum Area CFA 24: Birmingham Interchange & Chelmsley Wood</div>	<div> <div>hs2</div> <div> <p>HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in anyway.</p> <p>Registered in England. Registration number 06791686. Registered office: Eland House, Bressenden Place, London SW1E 5DU. © Crown copyright and database rights 2012 Ordnance Survey Licence Number 100049190 Doc Number: C220-ARP-EV-SKE-040-000001</p> </div> </div> <div>Date: 01/11/13</div>
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View of Birmingham Interchange Station from the south-west

Figure Number	LV-14-010
Figure Name	Illustration of Birmingham Interchange Station: view from south-west
Community Forum Area CFA 24: Birmingham Interchange & Chelmsley Wood	



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Date: 01/11/13



View of Birmingham Interchange Station from the north-west

Figure Number	LV-14-011
Figure Name	Illustration of Birmingham Interchange Station: view from north-west
	Community Forum Area CFA 24: Birmingham Interchange & Chelmsley Wood



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Doc Number: C220-ARP-EV-SKE-040-000003

Date: 01/11/13



Technical Information

Location: Aerial visualisation of Birmingham Interchange Station looking north-west from Stonebridge.


Date taken: 24/04/13
Time taken: 13:25
Focal length: 57.296mm

For key plan legend refer to map series LV-04.

This aerial visualisation provides an illustration of how the Proposed Scheme may look in 2041 (15 years after opening). The design of the Proposed Scheme may be subject to design development in response to consultation. Where new planting is proposed, it has been shown as semi-mature trees which have put on 15 years of growth to illustrate how the Proposed Scheme will further integrate into the landscape over time.



Figure Number	LV-15-008
Figure Name	Birmingham Interchange Station Aerial Visualisation
Community Forum Area CFA24: Birmingham Interchange and Chelmsley Wood	

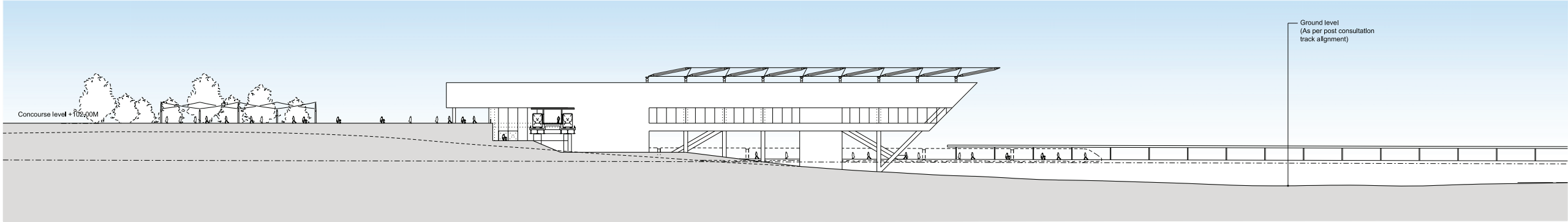


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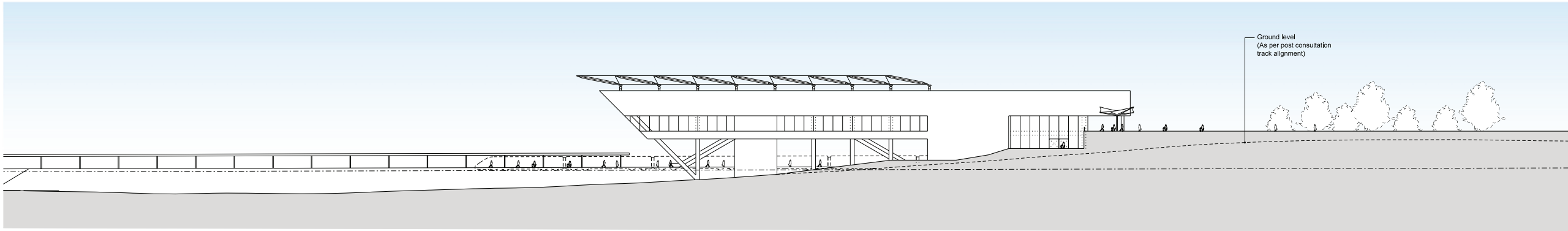
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Date: 24/10/13

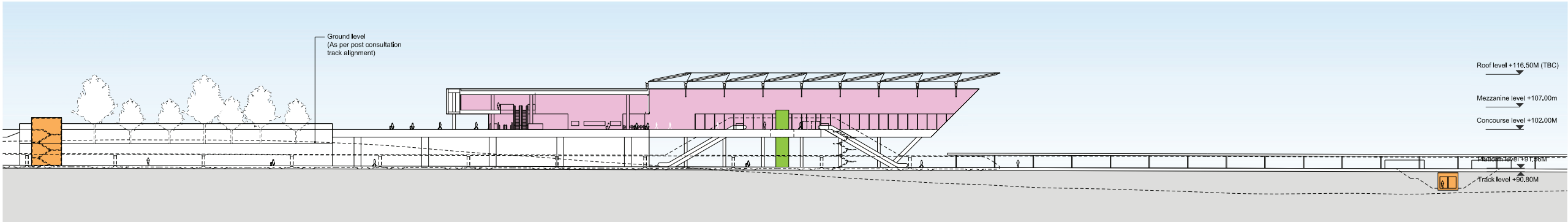
Birmingham Interchange Station
Long Elevations and Sections



01 Elevation 01



02 Elevation 02



03 Elevation 03



Key

- | | | | |
|---------------|------------|----------------------|-------------------------------|
| HS2 Platforms | Lifts | Concourse | Staff and Stations Facilities |
| APM Platforms | Escalators | Passenger Facilities | Entrances |

Key Plan



Figure Number

CT-20-016

Figure Name

Birmingham Interchange Station
Long Elevations and Sections

Community Forum Area CFA24:
Birmingham Interchange Station



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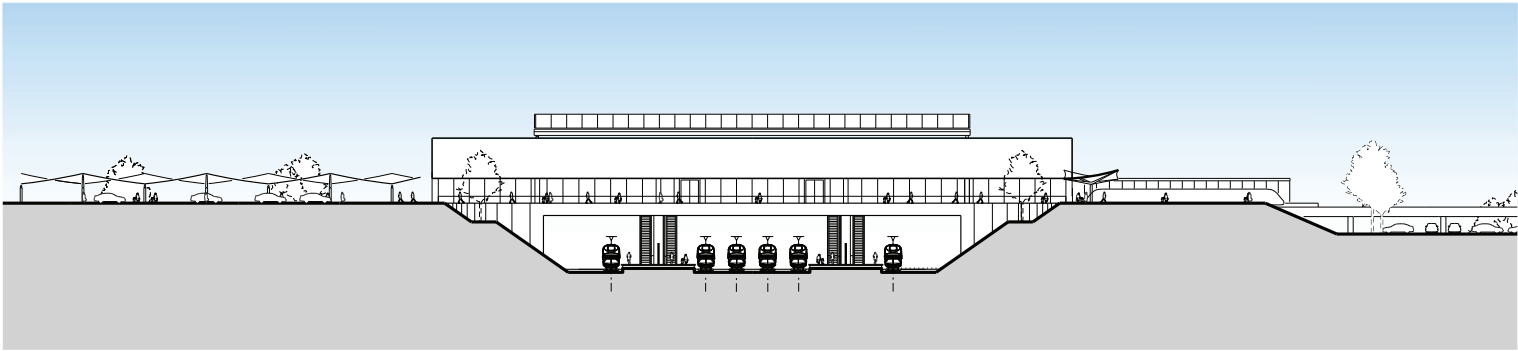
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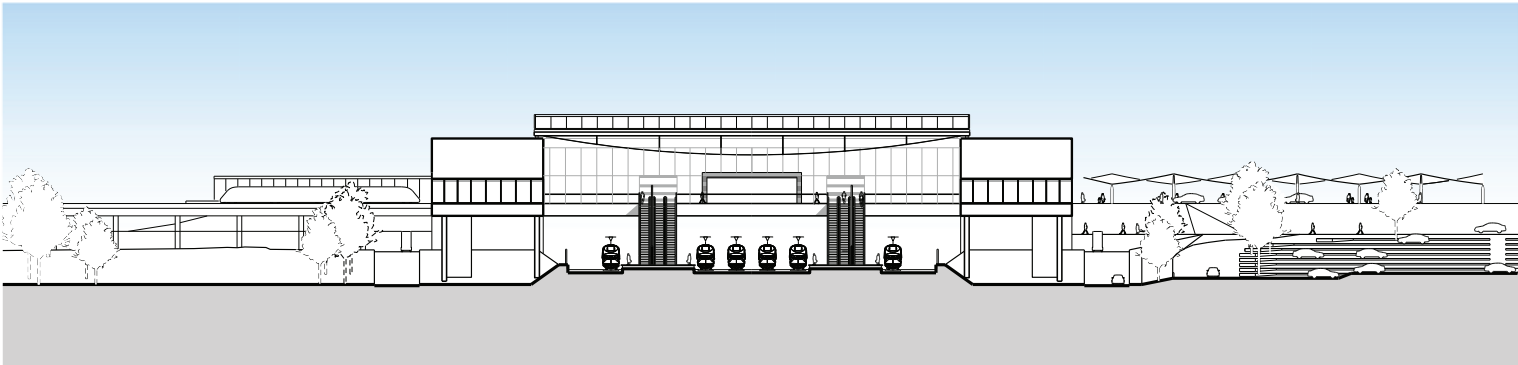
Date: 09/10/13

Birmingham Interchange Station
Cross Elevations and Section

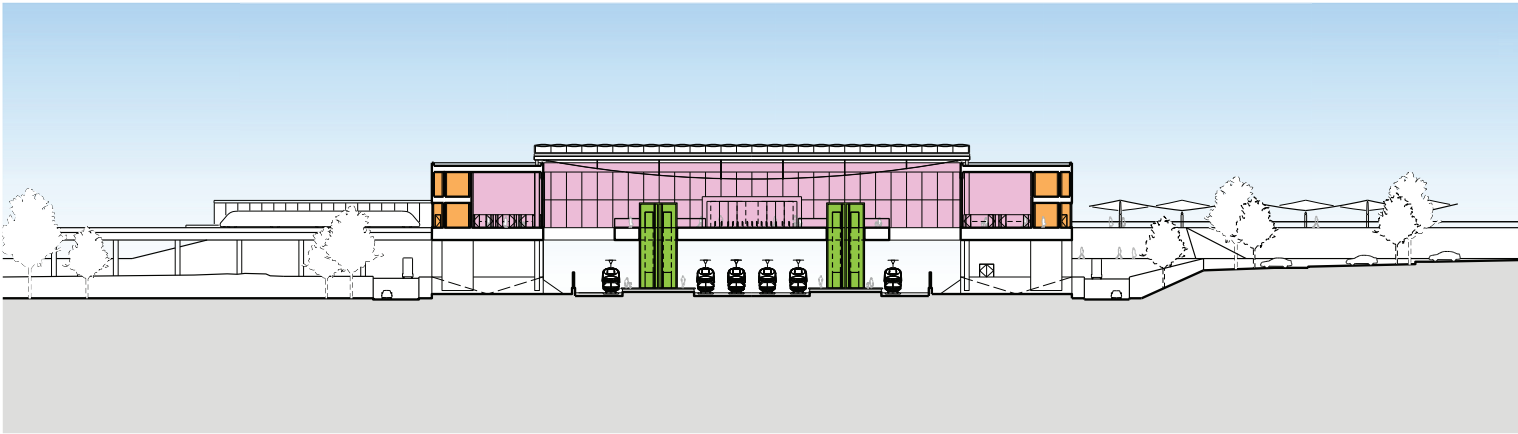
01 Elevation 01



02 Elevation 02



03 Elevation 03



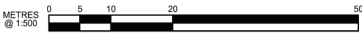
Roof level +116.50M (TBC)

Mezzanine level +107.00m

Concourse level +102.00M

Platform level +92.06M

Track level +91.30M



Key

- | | | | |
|---|--|--|---|
| ■ HS2 Platforms | ■ Lifts | ■ Concourse | ■ Staff and Stations Facilities |
| ■ APM Platforms | ■ Escalators | ■ Passenger Facilities | ▶ Entrances |

Key Plan

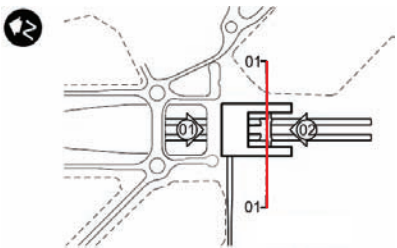


Figure Number

CT-20-017

Figure Name

Birmingham Interchange Station
Cross Elevations and Sections

Community Forum Area CFA24:
Birmingham Interchange Station



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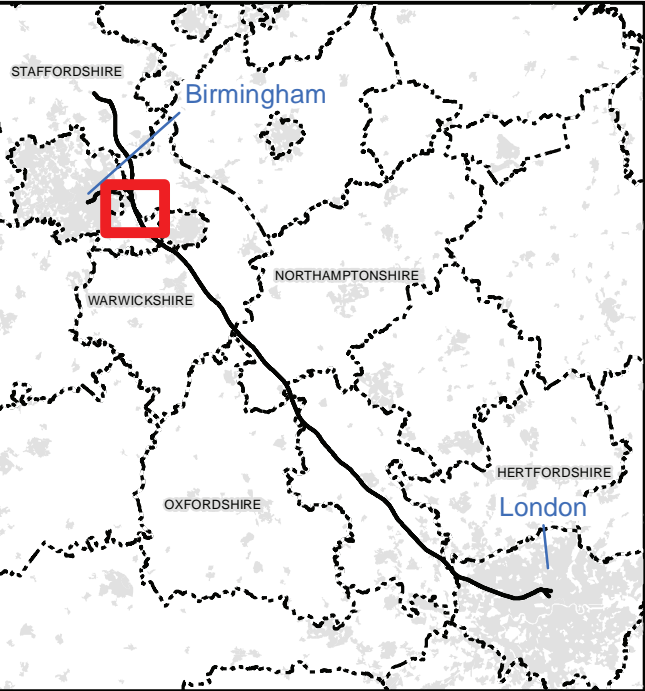
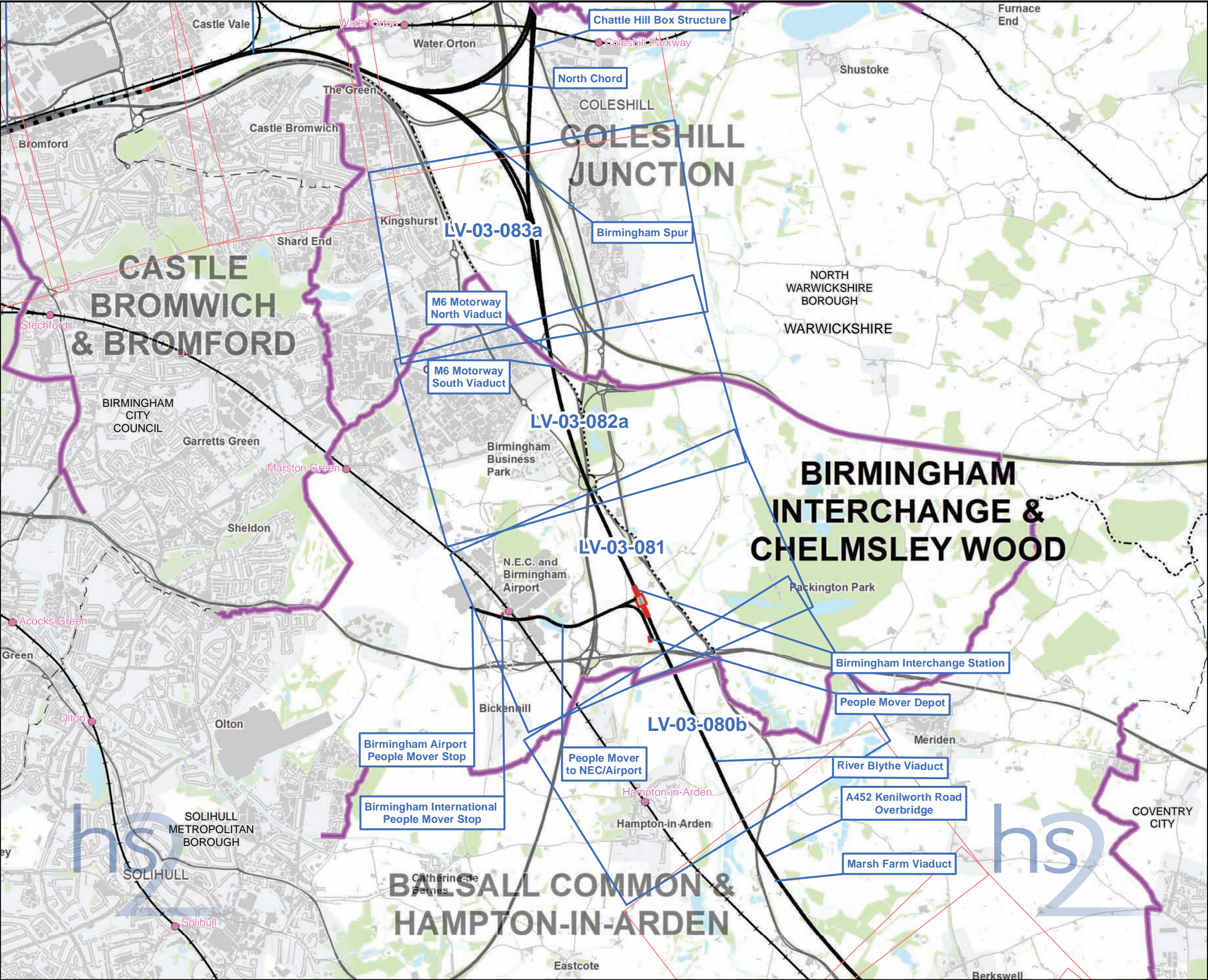
Doc Number: C224-ARP-EV-SKE-000-000005

Date: 09/10/13

LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

LV-03 - Construction Phase Significantly Affected Viewpoints

LV-04 - Operational Phase Significantly Affected Viewpoints



Map Series Information:

Maps showing the viewpoint locations from which the Proposed Scheme has been assessed to give rise to significant effects during the construction phase.

Note: Not all data layers in the legend are represented on every map.

Main Map Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community forum boundary
- Existing railway station
- County boundary
- District/Borough boundary

- Map sheets included in this community forum
- Map sheets not included in this community forum

Map Number

LV-03-INDEX-CFA24

Map Name

Index Map of:
Construction Phase Significantly Affected Viewpoints

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

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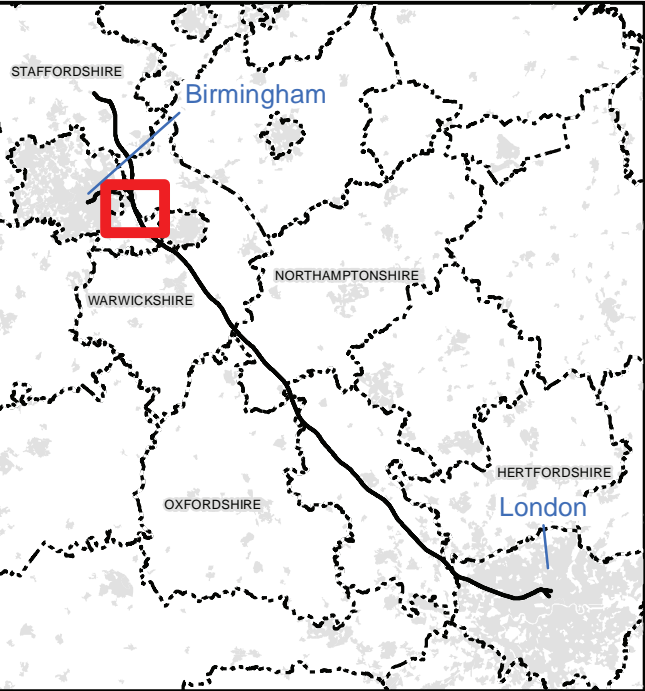
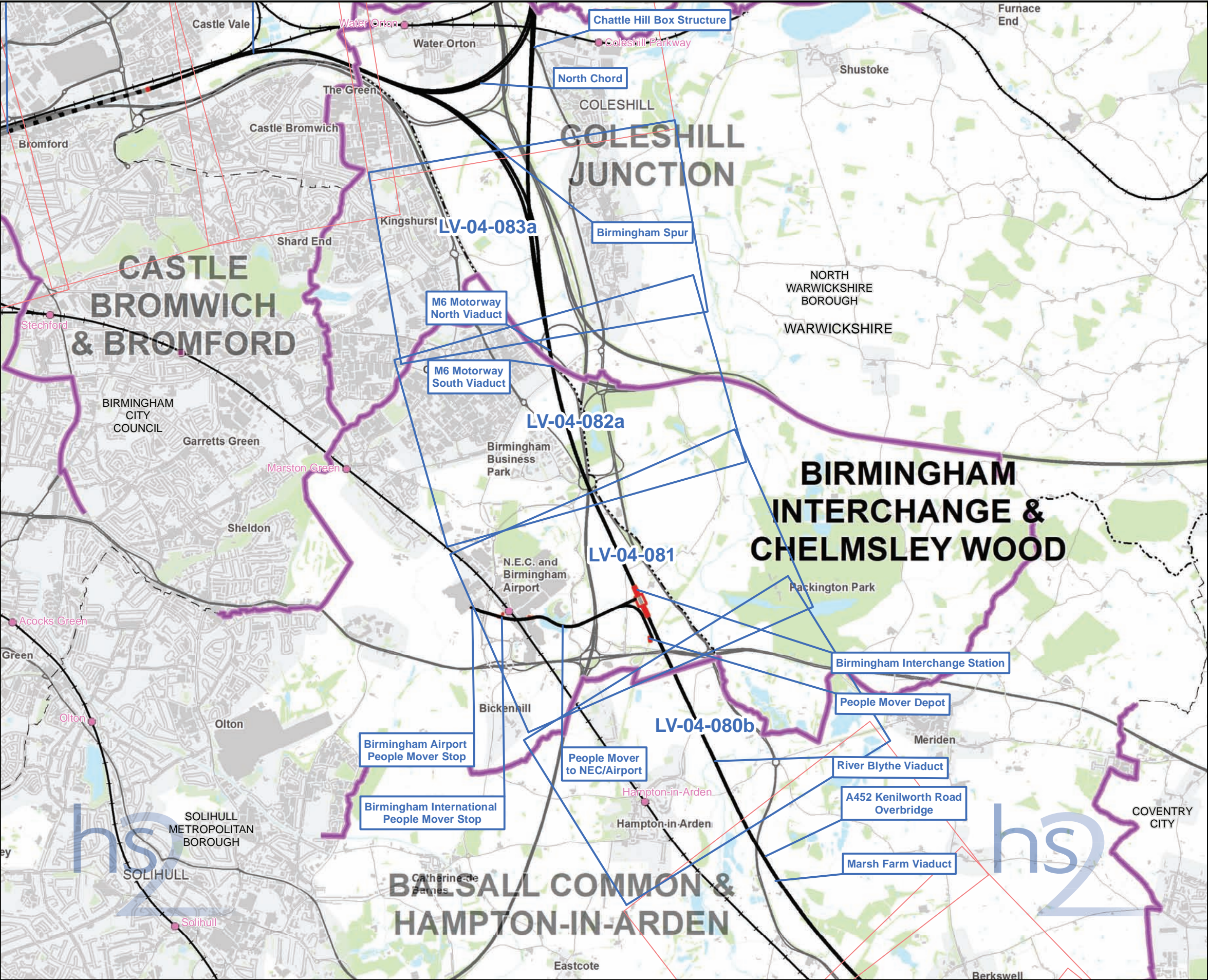
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Scale at A3: 1:50,000

Date: 25/10/13



Map Series Information:

Maps showing the viewpoint locations from which the Proposed Scheme has been assessed to give rise to significant effects during the operational phase.

Note: Not all data layers in the legend are represented on every map.

- Main Map Legend**
- Route in tunnel
 - Route on surface
 - Depot, station, headhouse or portal building
 - Community forum boundary
 - Existing railway station
 - County boundary
 - District/Borough boundary

- Map sheets included in this community forum
- Map sheets not included in this community forum

Map Number	LV-04-INDEX-CFA24
Map Name	Index Map of: Operational Phase Significantly Affected Viewpoints
Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood	



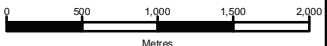
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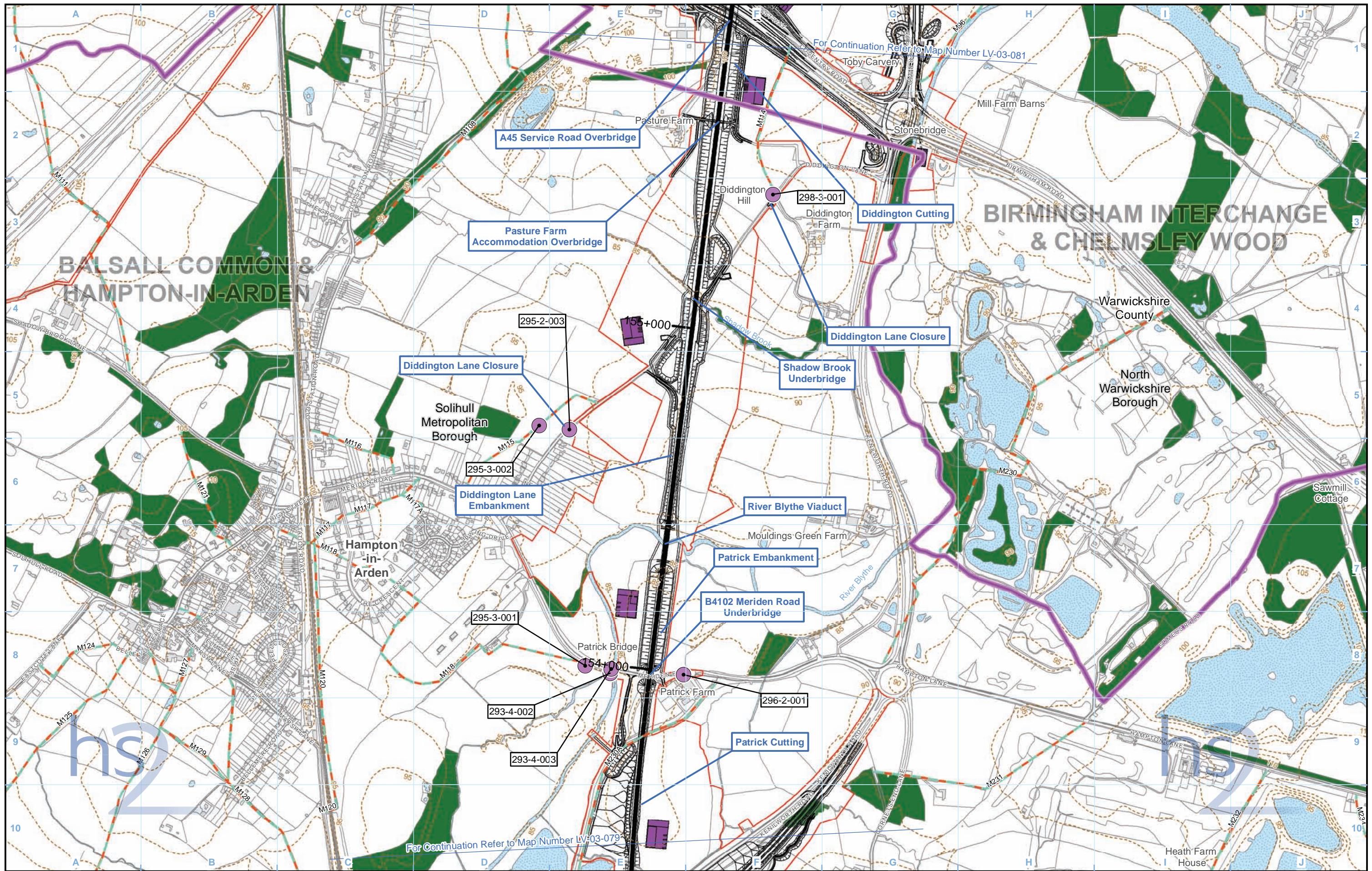
Doc Number: C254-ARP-EV-MAP-040-634002-P06.00



Scale at A3: 1:50,000



Date: 25/10/13



Legend

Route in tunnel

Route on surface

Depot, station, headhouse or portal building

Land potentially required during construction

Community forum boundary

County boundary

District/Borough boundary

Public Rights of Way

5m contours

Water body

Watercourse

Existing woodland and tree belts

Construction compounds

Significantly affected viewpoint

Photomontage location

Viewpoint number

001-1-001

Engineering earthworks:

Embankment

Cutting

Non engineering earthworks:

Embankment

Cutting

Map Number: LV-03-080b

Map Name: Construction Phase Significantly Affected Viewpoints

Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood

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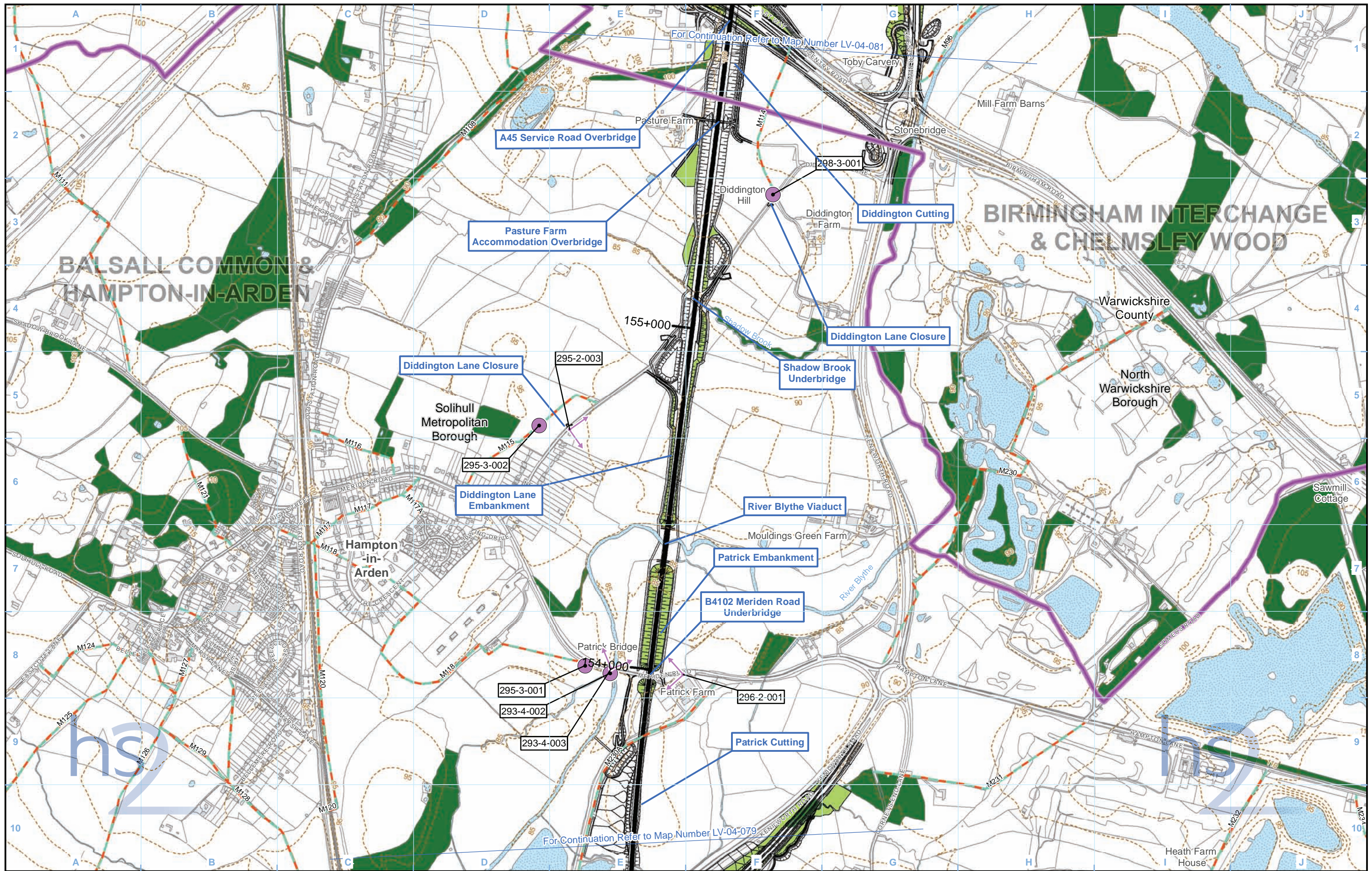
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Doc Number: C254-ARP-EV-MAP-040-000221-P06

Date: 28/10/13

Scale at A3: 1:10,000

0 100 200 300 400 Metres



Legend

Route in tunnel

Route on surface

Depot, station, headhouse or portal building

Community forum boundary

County boundary

District/Borough boundary

Public Rights of Way

5m contours

Water body

Watercourse

Existing woodland and tree belts

Proposed tree planting

Significantly affected viewpoint

Photomontage location

Viewpoint number

Engineering earthworks:

Embankment

Cutting

Non engineering earthworks:

Embankment

Cutting

Map Number

LV-04-080b

Map Name

Operational Phase Significantly Affected Viewpoints

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

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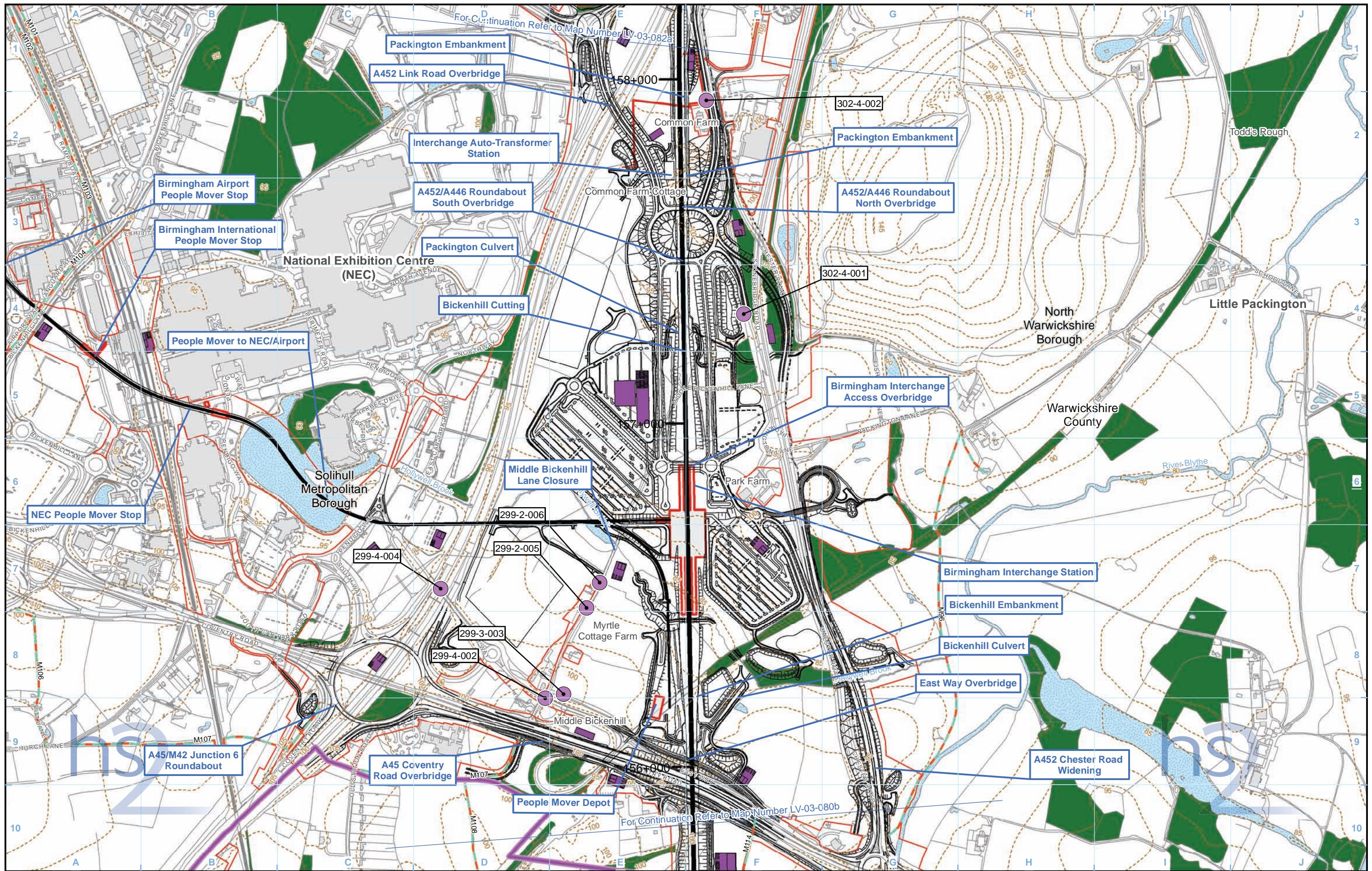
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Doc Number: C254-ARP-EV-MAP-040-000235 -P06

Scale at A3: 1:10,000

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Metres

Date: 28/10/13



Legend

			Engineering earthworks:
			Non engineering earthworks:

Map Number: LV-03-081

Map Name: Construction Phase Significantly Affected Viewpoints

Community Forum Area CFA24:
Birmingham Interchange & Chelsley Wood

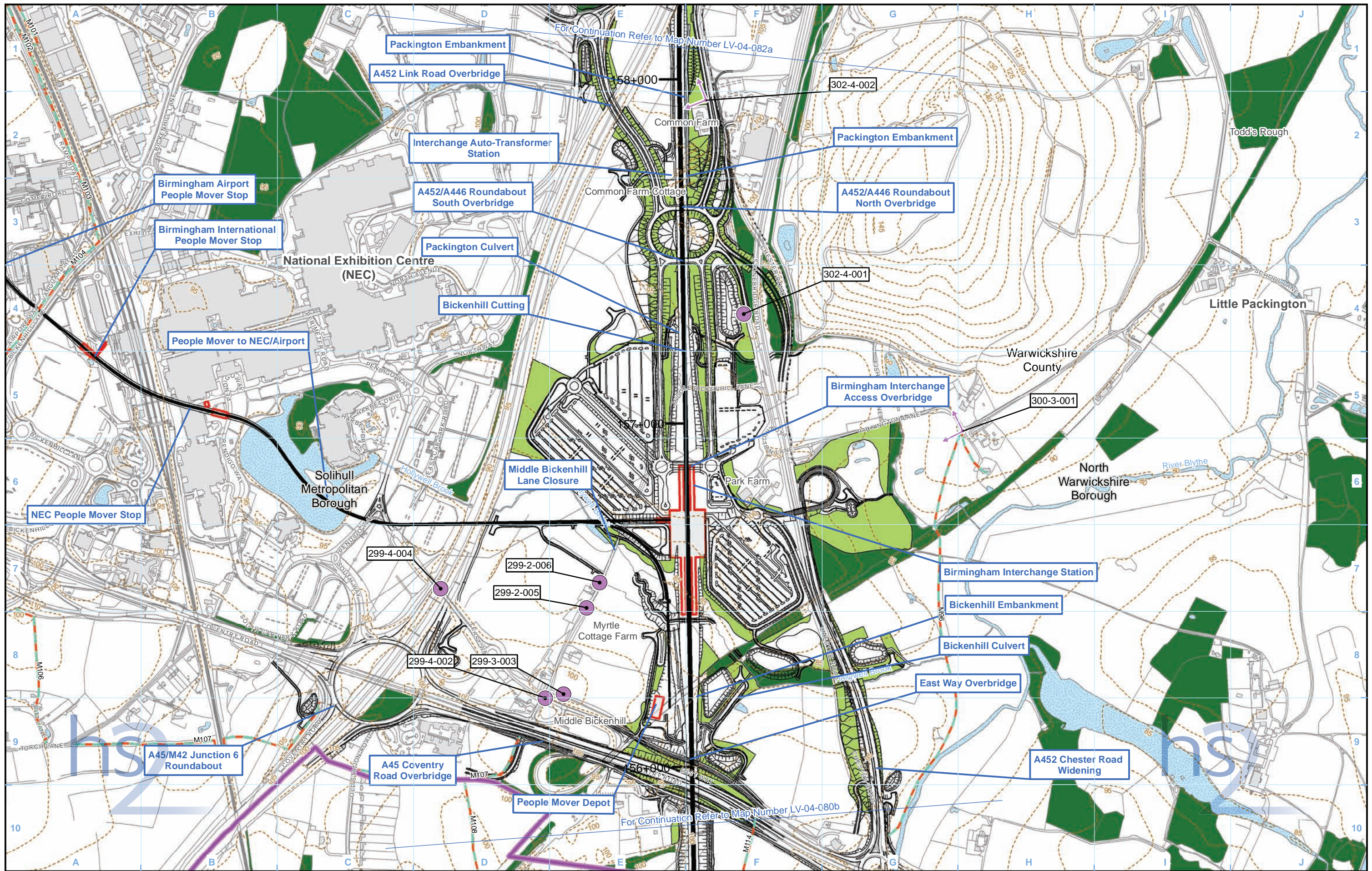
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Doc Number: C254-ARP-EV-MAP-040-000222-P06

Date: 28/10/13



Legend

Route in tunnel	Public Rights of Way	Significantly affected viewpoint	Engineering earthworks:
Route on surface	5m contours	Photomontage location	Embankment
Depot, station, headhouse or portal building	Water body	Viewpoint number	Cutting
Community forum boundary	Watercourse		Non engineering earthworks:
County boundary	Existing woodland and tree belts		Embankment
District/Borough boundary	Proposed tree planting		Cutting

Map Number: LV-04-081

Map Name: Operational Phase Significantly Affected Viewpoints

Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood

hs2

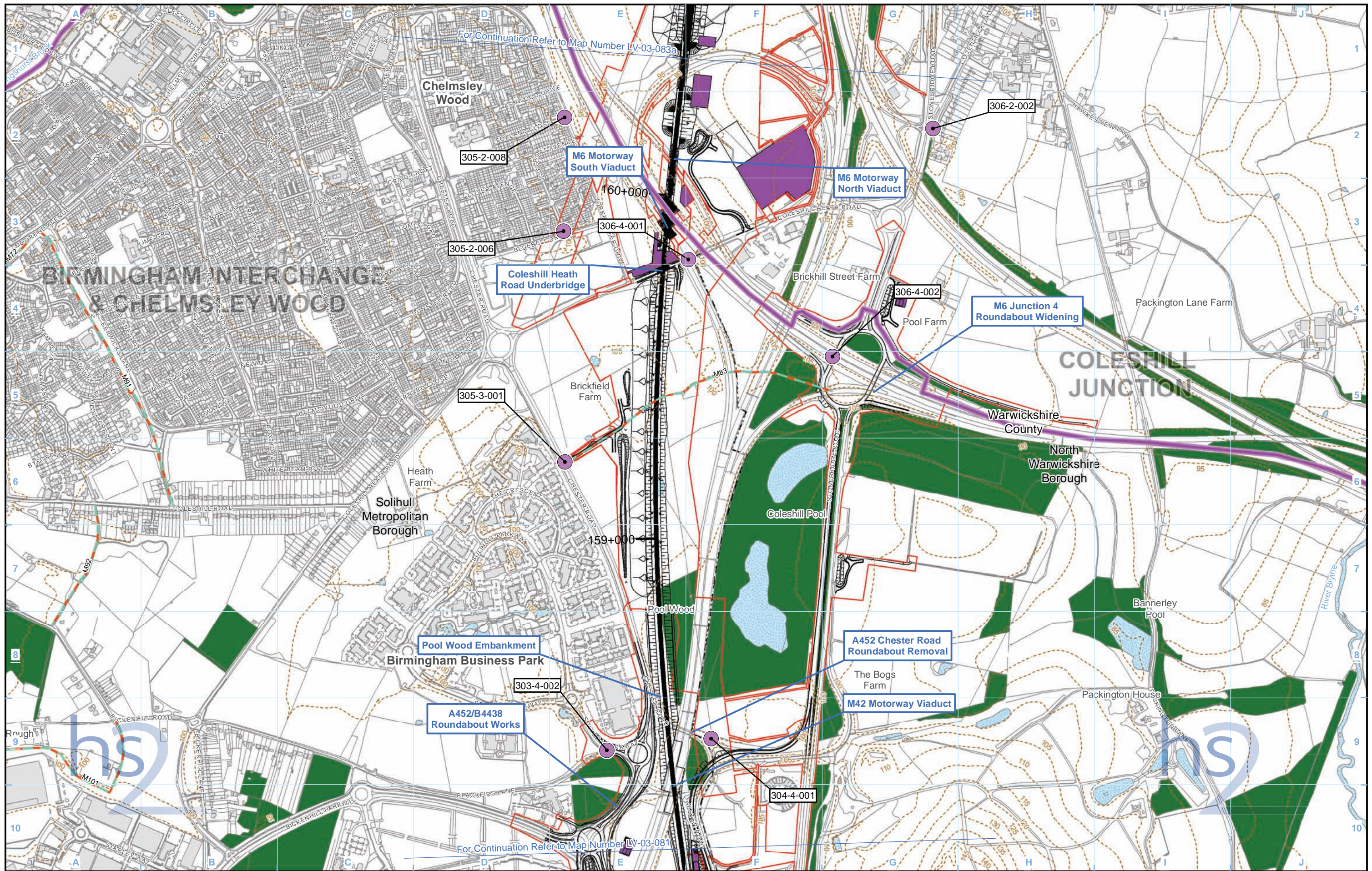
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Doc Number: C254-ARP-EV-MAP-040-000236 -P06

Date: 28/10/13



Legend

			Engineering earthworks:
			Non engineering earthworks:

Map Number: LV-03-082a

Map Name: Construction Phase Significantly Affected Viewpoints

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

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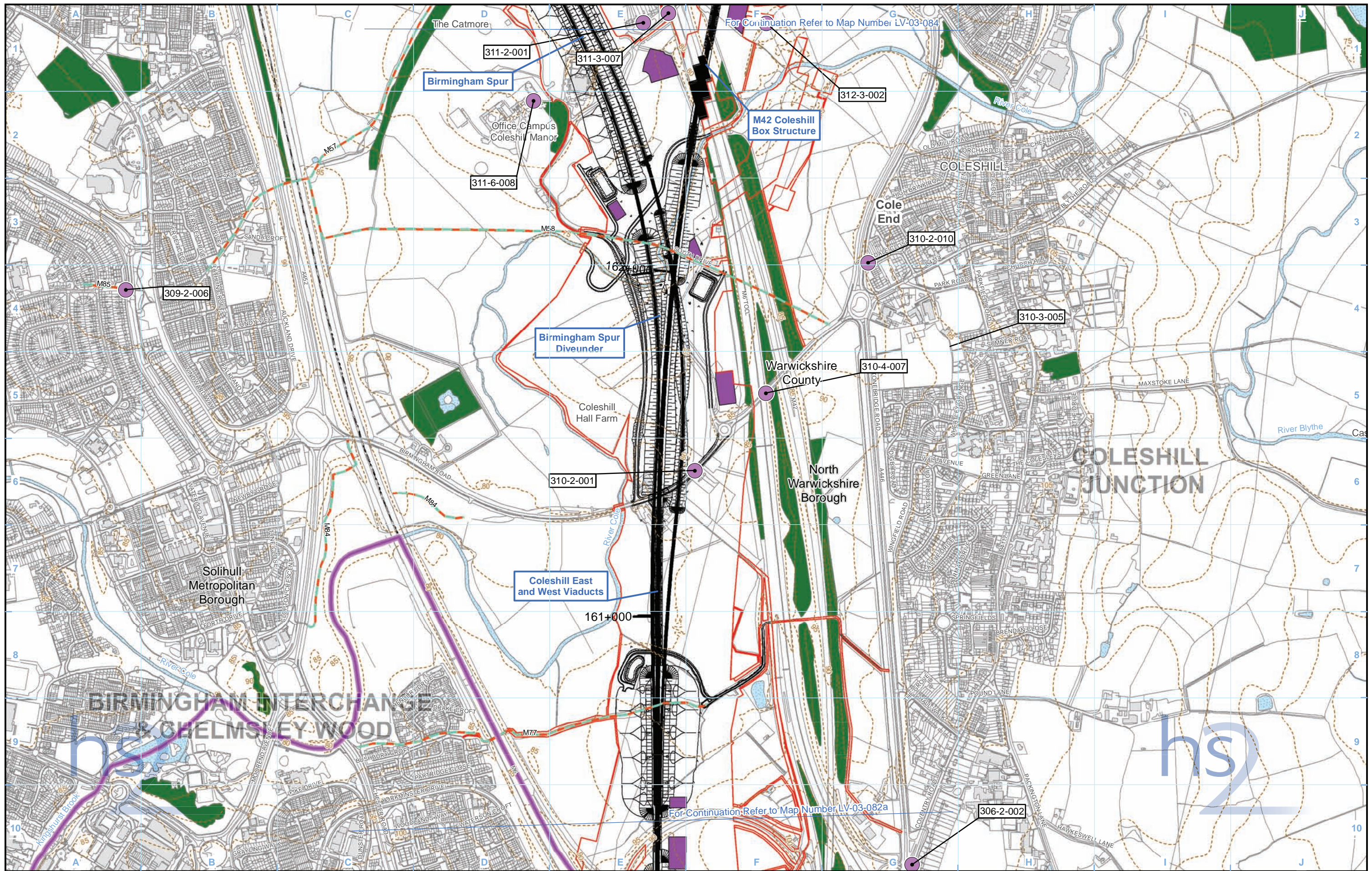
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Doc Number: C254-ARP-EV-MAP-040-000223-P06

Date: 28/10/13



Legend

Route in tunnel

Route on surface

Depot, station, headhouse or portal building

Land potentially required during construction

Community forum boundary

County boundary

District/Borough boundary

Public Rights of Way

5m contours

Water body

Watercourse

Existing woodland and tree belts

Construction compounds

Significantly affected viewpoint

Photomontage location

Viewpoint number

Engineering earthworks:

Embankment

Cutting

Non engineering earthworks:

Embankment

Cutting

Map Number

LV-03-083a

Map Name

Construction Phase Significantly Affected Viewpoints

Community Forum Area CFA24:

Birmingham Interchange & Chelmsley Wood

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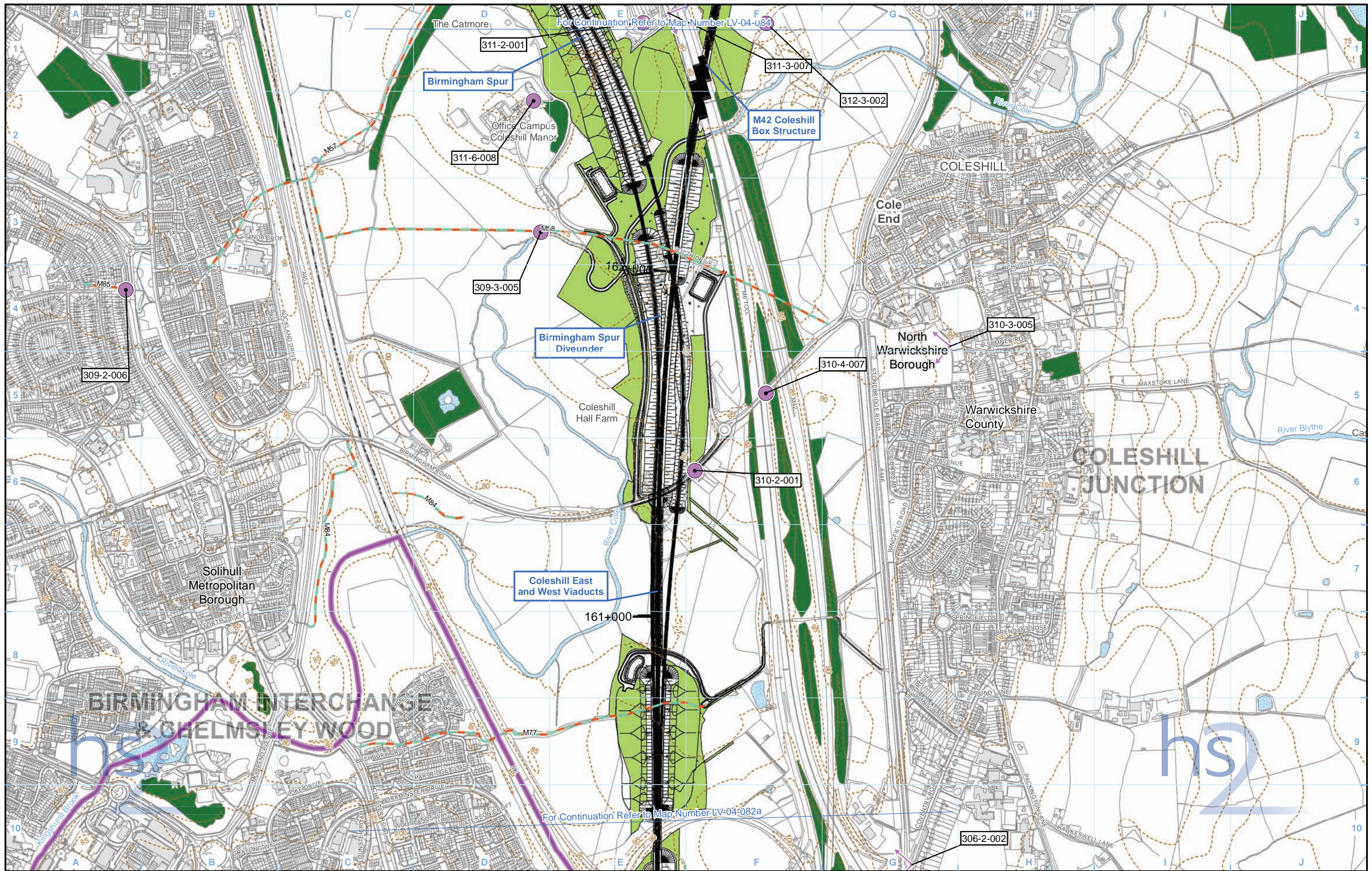
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Doc Number: C254-ARP-EV-MAP-040-000224-P06

Scale at A3: 1:10,000

0 100 200 300 400
Metres

Date: 28/10/13



Legend

			Engineering earthworks:
			Non engineering earthworks:

Map Number
LV-04-083a

Map Name
Operational Phase Significantly Affected Viewpoints

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

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Doc Number: C254-ARP-EV-MAP-040-000238 -P06

Date: 28/10/13

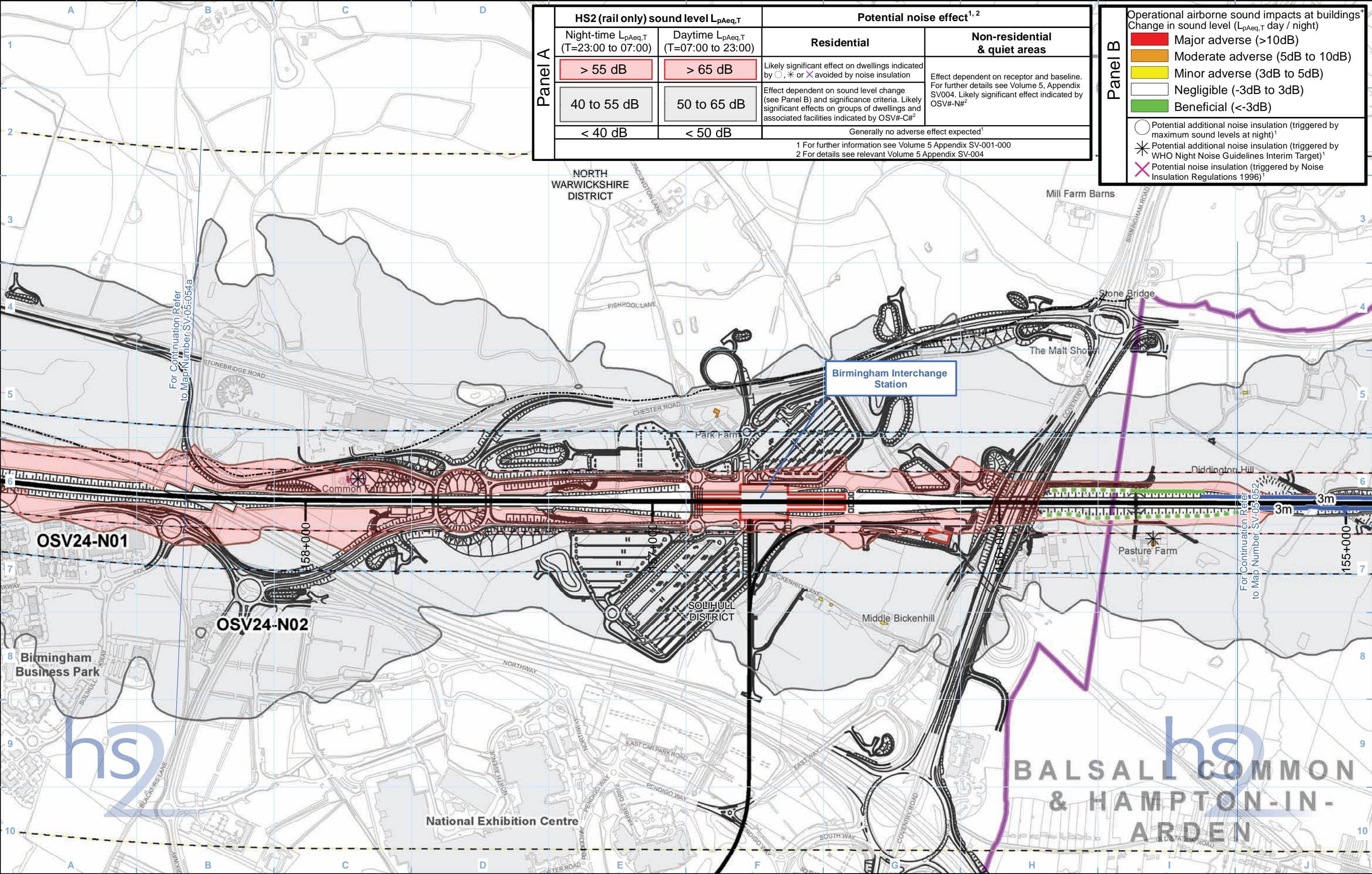
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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

SV-05 - Operational Sound and Vibration Impacts and Likely Significant Effects



Panel A	HS2 (rail only) sound level $L_{pAeq,T}$		Potential noise effect ^{1, 2}	
	Night-time $L_{pAeq,T}$ (T=23:00 to 07:00)	Daytime $L_{pAeq,T}$ (T=07:00 to 23:00)	Residential	Non-residential & quiet areas
	> 55 dB	> 65 dB	Likely significant effect on dwellings indicated by ○, ✱ or ✕ avoided by noise insulation	Effect dependent on receptor and baseline. For further details see Volume 5, Appendix SV004. Likely significant effect indicated by OSV#-N# ²
	40 to 55 dB	50 to 65 dB	Effect dependent on sound level change (see Panel B) and significance criteria. Likely significant effects on groups of dwellings and associated facilities indicated by OSV#-C# ²	
	< 40 dB	< 50 dB	Generally no adverse effect expected ¹	
	1 For further information see Volume 5 Appendix SV-001-000 2 For details see relevant Volume 5 Appendix SV-004			

Panel B	Operational airborne sound impacts at buildings ⁺ Change in sound level ($L_{pAeq,T}$ day / night)	
	Major adverse (>10dB)	
	Moderate adverse (5dB to 10dB)	
	Minor adverse (3dB to 5dB)	
	Negligible (-3dB to 3dB)	
		Beneficial (<-3dB)
		○ Potential additional noise insulation (triggered by maximum sound levels at night) ¹
		✱ Potential additional noise insulation (triggered by WHO Night Noise Guidelines Interim Target) ¹
		✕ Potential noise insulation (triggered by Noise Insulation Regulations 1996) ¹

Legend - General features

- Route in bored tunnel
- Route in green tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community forum boundary
- District/Borough boundary
- County boundary

- Engineering earthworks:
- Embankment
 - Cutting
- Non engineering earthworks:
- Embankment
 - Cutting
- * Residential buildings only
* Labelled with total barrier height above rail level

Legend - Sound related features

- Committed developments (labelled as CFA#/#)
- Envisaged mitigation to avoid / reduce significant noise effects:
 - Landscaping and/or fence barriers*
 - Engineering e.g. cuttings (green tunnels separately marked)
- Envisaged measures further reducing noise effects:
 - Other environmental e.g. landscaping
 - Engineering e.g. cuttings
- Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Minor ground-borne noise or vibration impact*

Map Number: SV-05-053

Map Name: Operational Noise and Vibration Impacts and Likely Significant Effects

Community Forum Area CFA24: Birmingham Interchange & Chelmsley Wood

hs2

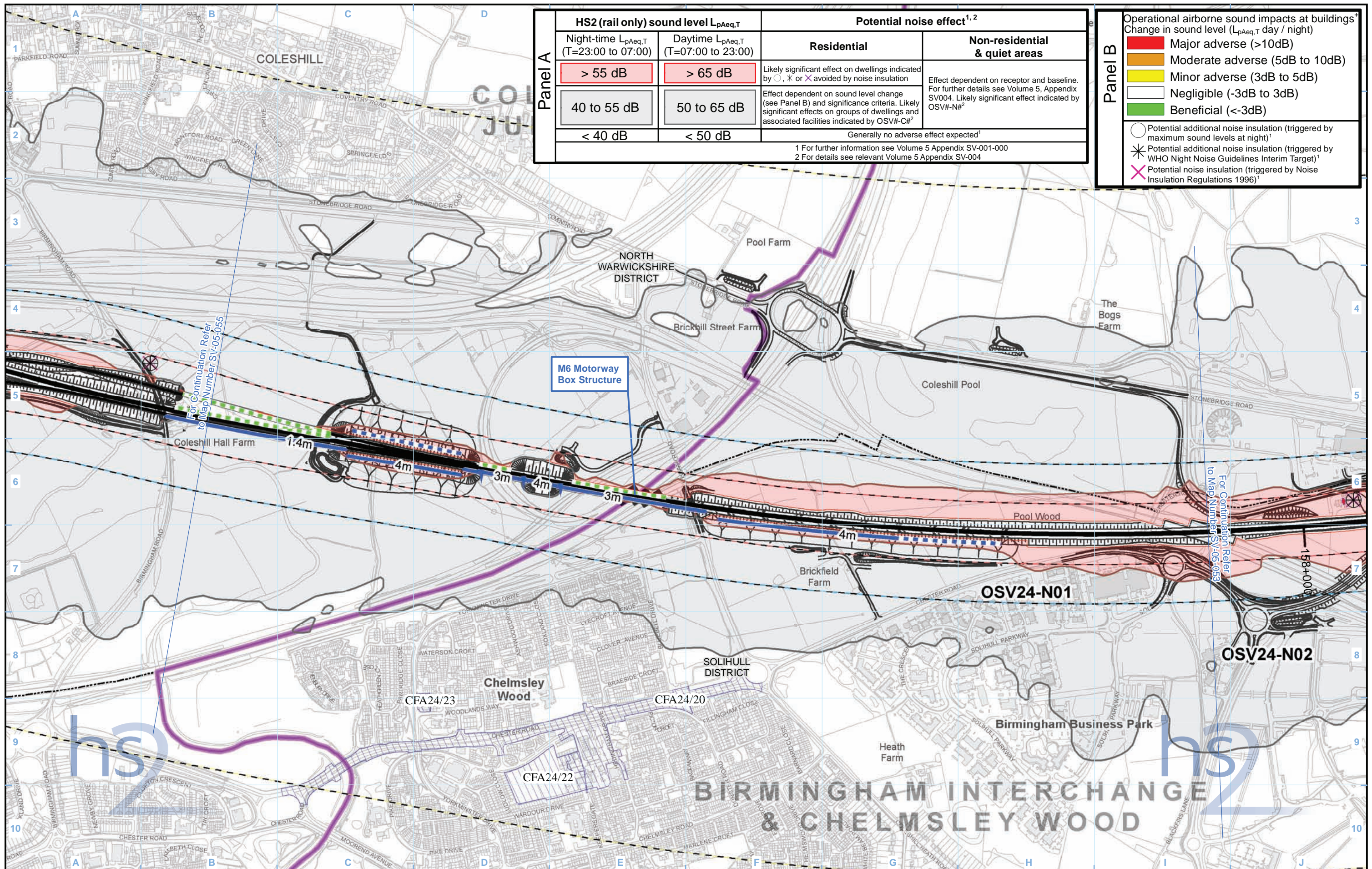
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Scale at A3: 1:10,000

0 100 200 300 400 Metres

Doc Number: C250-ARP-EV-MAP-000-004029

Date: 29/10/13



Panel A	HS2 (rail only) sound level $L_{pAeq,T}$		Potential noise effect ^{1, 2}	
	Night-time $L_{pAeq,T}$ (T=23:00 to 07:00)	Daytime $L_{pAeq,T}$ (T=07:00 to 23:00)	Residential	Non-residential & quiet areas
	> 55 dB	> 65 dB	Likely significant effect on dwellings indicated by ○, ✱ or ✕ avoided by noise insulation	Effect dependent on receptor and baseline. For further details see Volume 5, Appendix SV004. Likely significant effect indicated by OSV#-N# ²
	40 to 55 dB	50 to 65 dB	Effect dependent on sound level change (see Panel B) and significance criteria. Likely significant effects on groups of dwellings and associated facilities indicated by OSV#-C# ²	
	< 40 dB	< 50 dB	Generally no adverse effect expected ¹	
	1 For further information see Volume 5 Appendix SV-001-000 2 For details see relevant Volume 5 Appendix SV-004			

Panel B

Operational airborne sound impacts at buildings⁴
Change in sound level ($L_{pAeq,T}$ day / night)

Major adverse (>10dB)

Moderate adverse (5dB to 10dB)

Minor adverse (3dB to 5dB)

Negligible (-3dB to 3dB)

Beneficial (<-3dB)

○

Potential additional noise insulation (triggered by maximum sound levels at night)¹

✱

Potential additional noise insulation (triggered by WHO Night Noise Guidelines Interim Target)¹

✕

Potential noise insulation (triggered by Noise Insulation Regulations 1996)¹

Legend - General features

Route in bored tunnel

Route in green tunnel

Route on surface

Depot, station, headhouse or portal building

Community forum boundary

District/Borough boundary

County boundary

Engineering earthworks:

Embankment

Cutting

Non engineering earthworks:

Embankment

Cutting

* Residential buildings only

* Labelled with total barrier height above rail level

Legend - Sound related features

Committed developments (labelled as CFA#/#)

Envisaged mitigation to avoid / reduce significant noise effects:

Landscaping and/or fence barriers*

Engineering e.g. cuttings (green tunnels separately marked)

Envisaged measures further reducing noise effects:

Other environmental e.g. landscaping

Engineering e.g. cuttings

Airborne sound study area

Ground-borne sound & vibration study area (residential and non-residential)

Ground-borne sound & vibration study area (highly sensitive non-residential)

Minor ground-borne noise or vibration impact*

Map Number

SV-05-054a

Map Name

Operational Noise and Vibration Impacts and Likely Significant Effects

Community Forum Area CFA24:
Birmingham Interchange & Chelmsley Wood

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Doc Number: C250-ARP-EV-MAP-000-004030

Scale at A3: 1:10,000

0

100

200

300

400

Metres

Date: 29/10/13