

LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

Volume 2 | Map books

CFA23 | Balsall Common and Hampton-in-Arden

November 2013

ES 3.2.2.23



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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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-15 – Aerial Visualisations	Aerial visualisations along parts of the Proposed Scheme.
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 Books 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
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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
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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

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	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. 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.	High Speed Two (HS2) Ltd	
Committed developments	This informs the assessment of the future baseline. 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. 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.	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	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. 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.	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>	<p>Supplied by Ecorecord, Warwickshire County Council, Birmingham Council</p> <p>Greenspace Information for Greater London (GiGL)</p> <p>Northamptonshire County Council</p> <p>Buckinghamshire County Council</p> <p>Thames Valley Ecological Records Centre c/o Oxfordshire County Council (TVERC)</p> <p>Hertfordshire Biological Record Centre</p> <p>Staffordshire Ecological Record (SER)</p>	<p>Data supplied by Ecorecord, Warwickshire BRC & Birmingham use (© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.)</p> <p>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.</p> <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.</p> <p>Incorporates biodiversity data supplied by Thames Valley Environmental Records Centre (TVERC). This data are copyright to TVERC and/or its partners.</p> <p>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.</p> <p>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</p>

Legend features	Definition	Source	Copyright
			access.
Local Wildlife Site (LWS) - less than 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>	<p>Supplied by Ecorecord, Warwickshire County Council, Birmingham Council. Greenspace Information for Greater London (GiGL)</p> <p>Northamptonshire County Council</p> <p>Buckinghamshire County Council</p> <p>Thames Valley Ecological Records Centre c/o Oxfordshire County Council (TVERC)</p> <p>Hertfordshire Biological Record Centre</p> <p>Staffordshire Ecological Record (SER)</p>	<p>Data supplied by Ecorecord, Warwickshire BRC & Birmingham use (© Crown Copyright and database rights 2013 Ordnance Survey Licence Number 100049190.)</p> <p>Map derived from GiGL data 2013 (where a map shows information derived from GiGL data).</p> <p>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.</p> <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.</p> <p>Incorporates biodiversity data supplied by Thames Valley Environmental Records Centre (TVERC). This data are copyright to TVERC and/or its partners.</p> <p>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.</p> <p>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</p>

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.

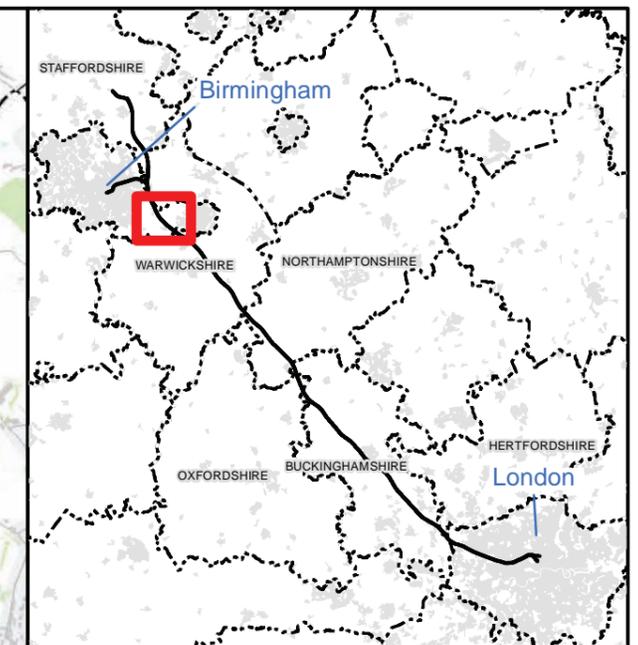
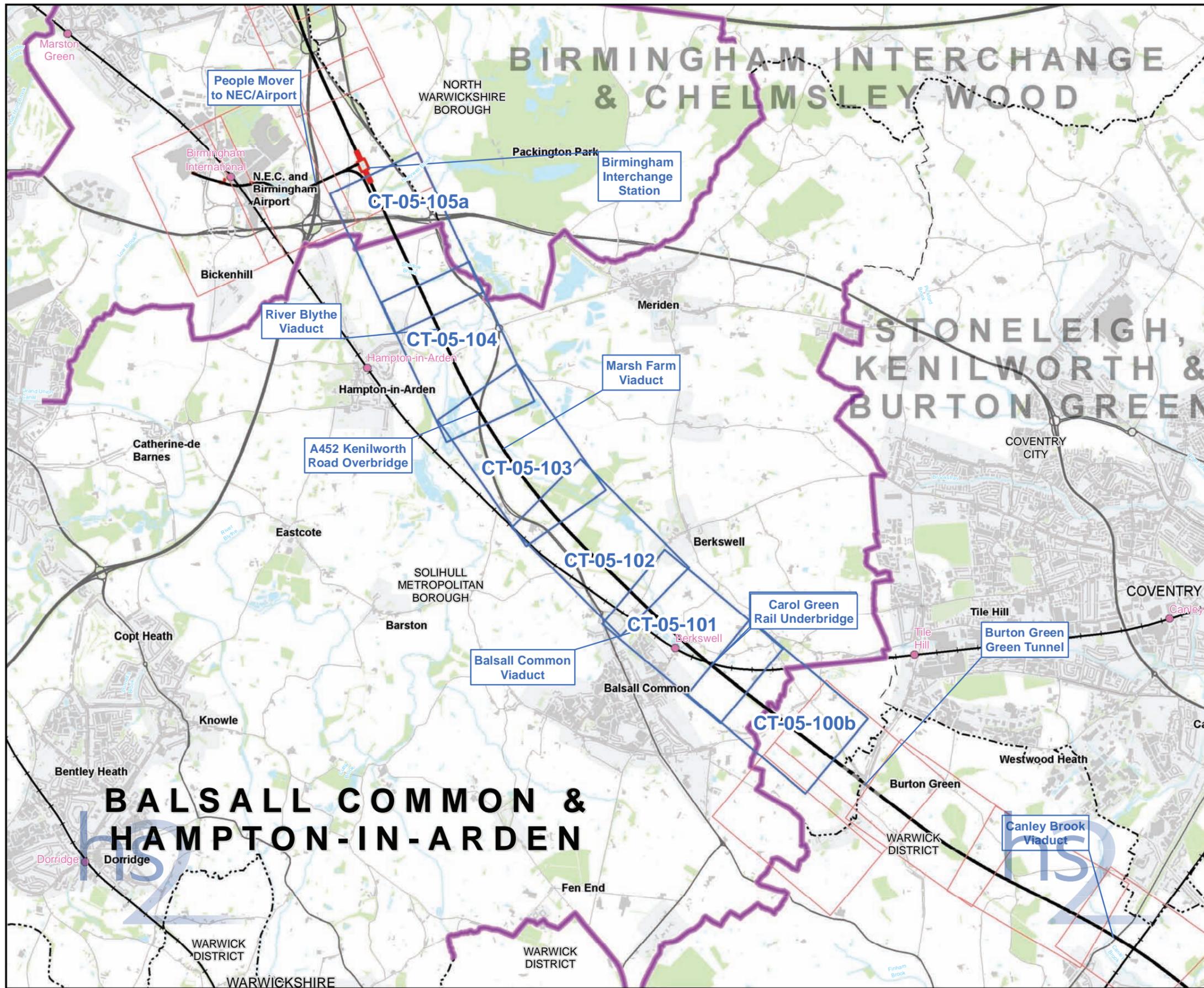
Legend features	Definition	Source	Copyright
	<ul style="list-style-type: none"> - Footpaths - pedestrians only - Bridleways - pedestrians, cyclists and equestrians - Restricted byways - as bridleways plus non-motorised vehicles - Byways open to all traffic. Definitive Map data supplied by surveying authorities (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	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. © Copyright Coventry City Council © Northamptonshire County Council
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	Parks and Gardens of special historic interest. 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).	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	Map sheets included in this community forum
Route on surface	Map sheets not included in this community forum
Depot, station, headhouse or portal building	
Community forum boundary	
County boundary	
District/Borough boundary	

Map Number	CT-05-INDEX-CFA23
Map Name	Index Map of: Construction Phase
Community Forum Area CFA23:	Balsall Common & Hampton in Arden

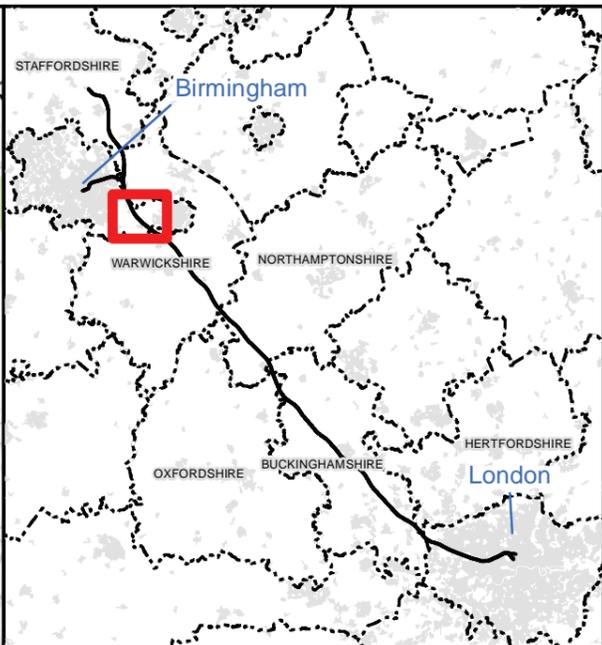
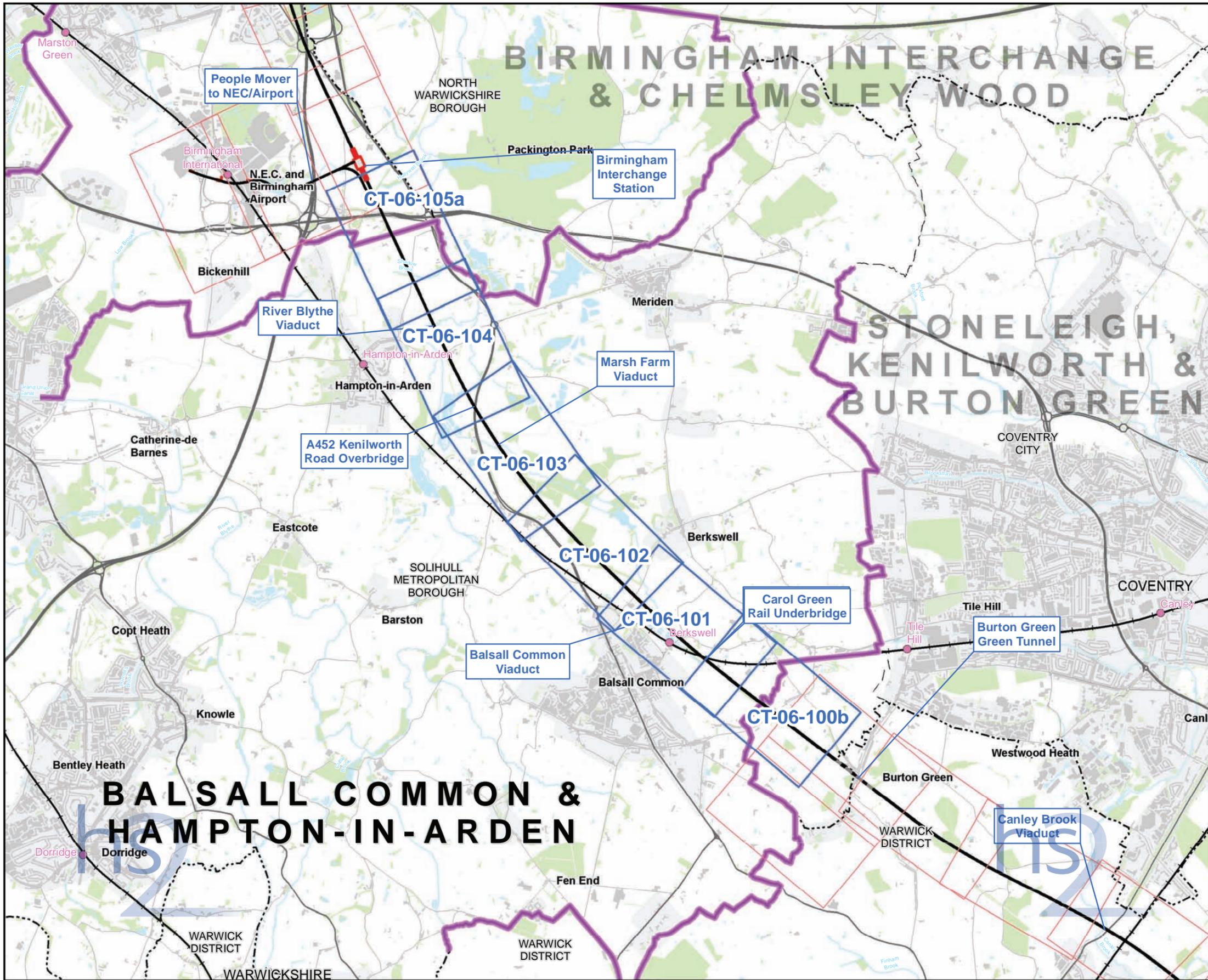
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Map Series Information:

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.

Main Map Legend

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

Map Number	CT-06-INDEX-CFA23
Map Name	Index Map of: Proposed Scheme
Community Forum Area CFA23:	Balsall Common & Hampton in Arden

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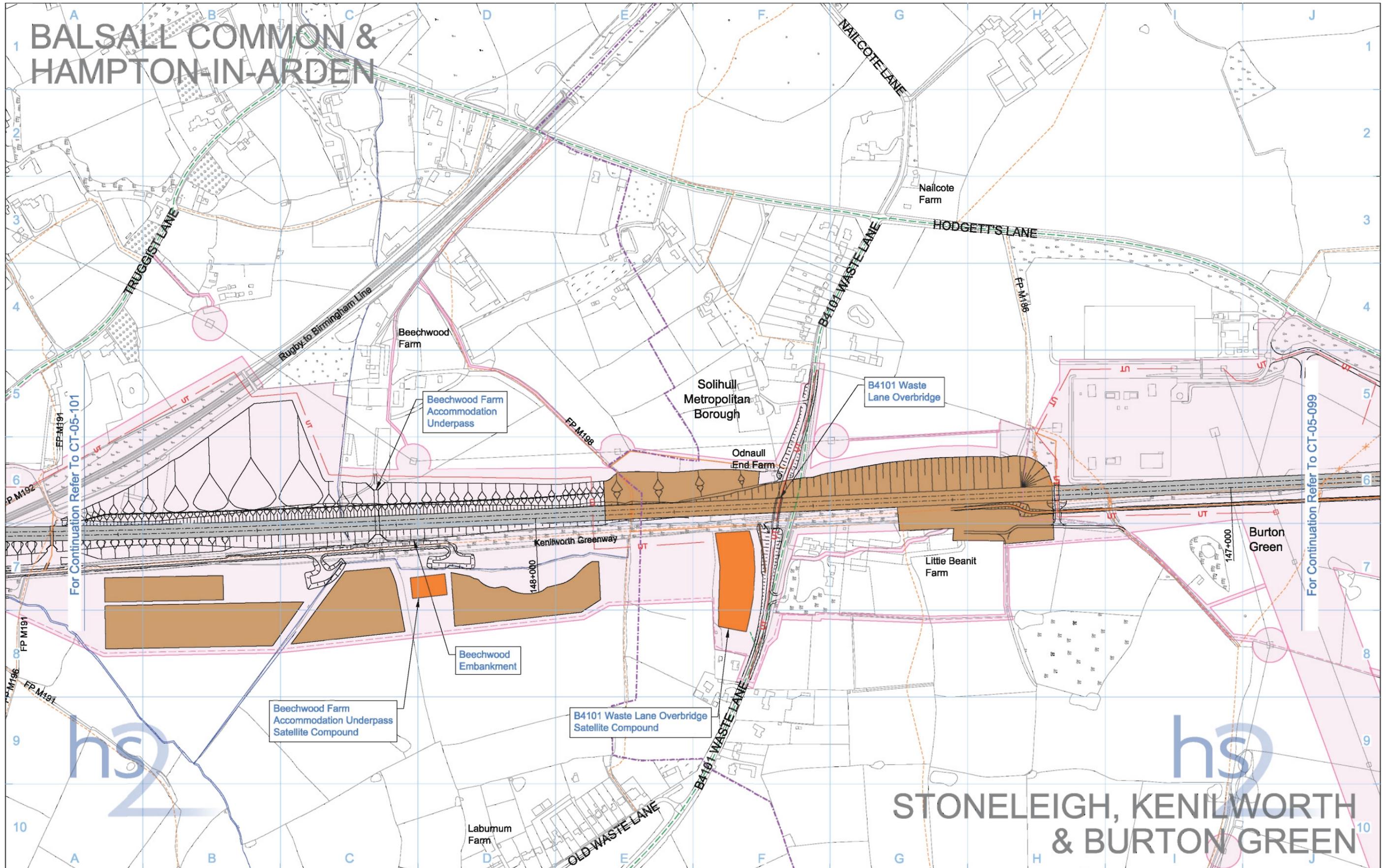
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BALSALL COMMON & HAMPTON-IN-ARDEN



STONELEIGH, KENILWORTH & BURTON GREEN

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

Map Number	CT-05-100b
Map Name	Construction Phase
Community Forum Area	CFA23 Balsall Common and Hampton in Arden

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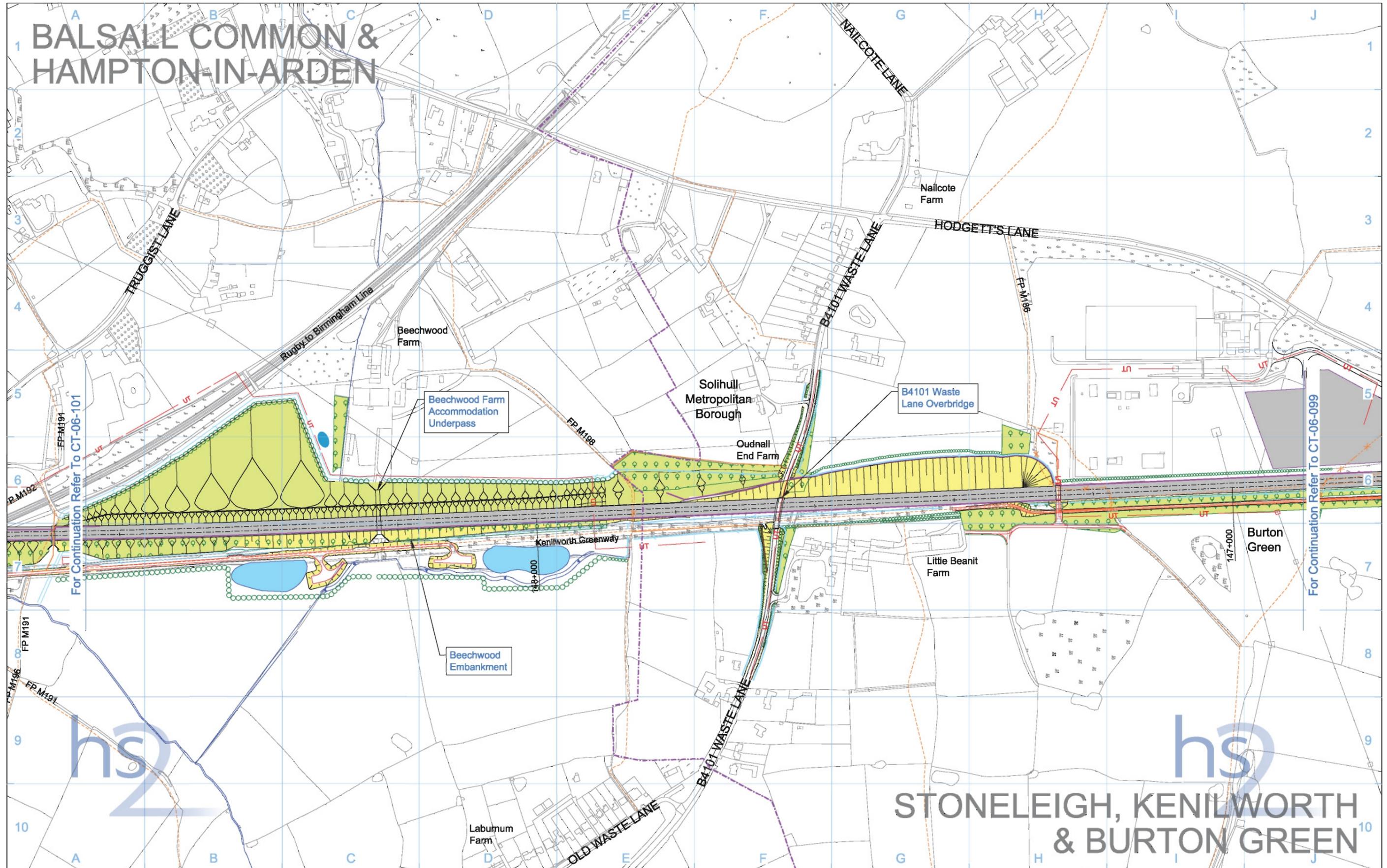
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BALSALL COMMON & HAMPTON-IN-ARDEN



Legend

	Depot, station, headhouse or portal building
	Tunnel portal
	Electricity substation
	Land drainage area
	Ecological mitigation pond
	Balancing pond

	Replacement floodplain storage
	Woodland habitat creation
	Wetland habitat creation
	Grassland habitat creation
	Landscape mitigation planting (scrub / woodland)
	Grassed areas
	Sustainable placement

	Public realm
	Engineering earthworks
	Landscape earthworks
	Rail alignment formation
	Returned to suitable development use
	County boundary
	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-06-100b
Map Name	Proposed Scheme
Community Forum Area	CFA23 Balsall Common and Hampton in Arden

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STONELEIGH, KENILWORTH & BURTON GREEN

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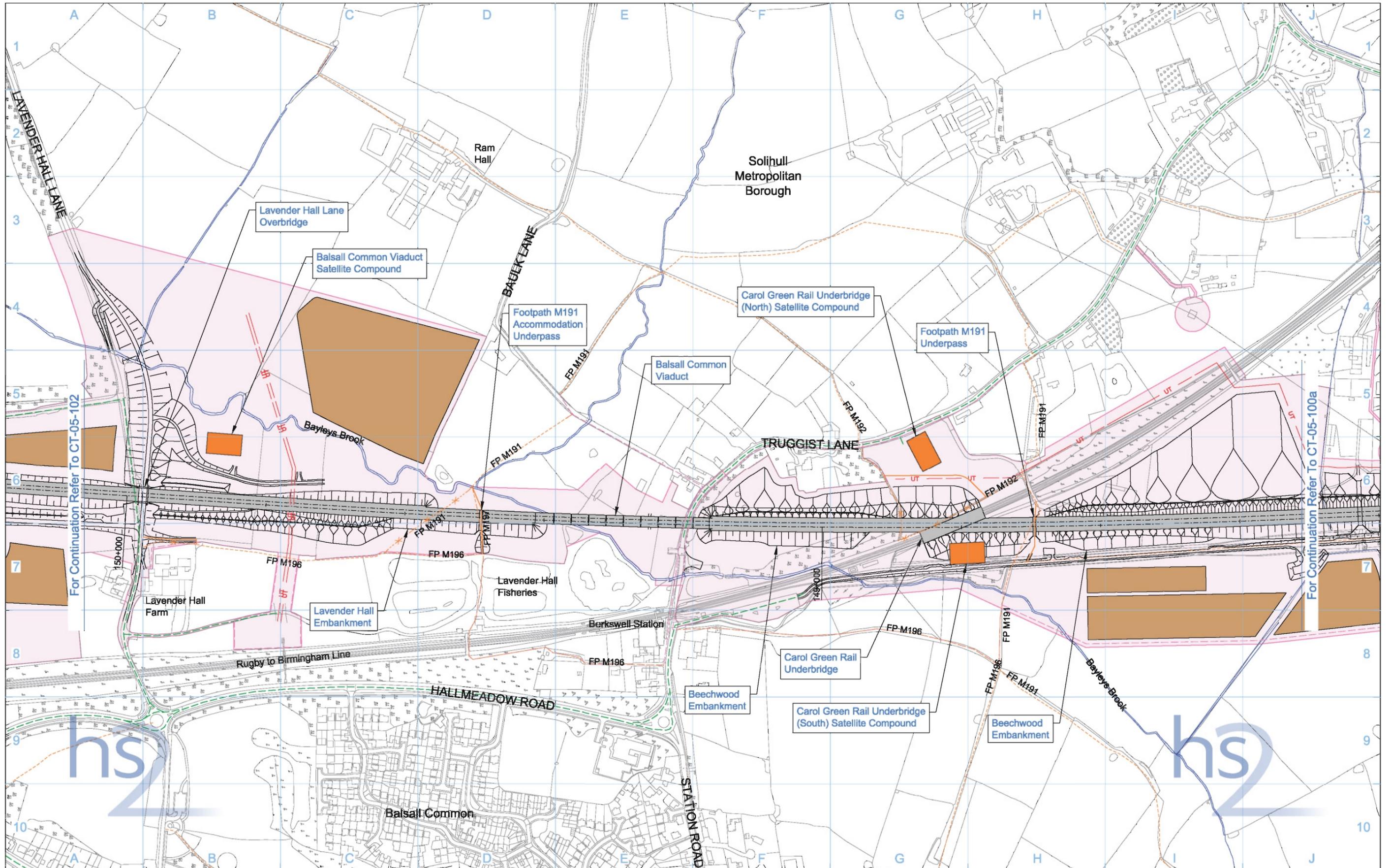
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Legend	
	Depot, station, headhouse or portal building
	Tunnel portal
	Main construction compound
	Satellite construction compound
	Temporary material stockpile
	Rail alignment formation
	Landscape earthworks
	Engineering earthworks
	County boundary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

Map Number	CT-05-101
Map Name	Construction Phase
Community Forum Area	CFA23 Balsall Common and Hampton in Arden

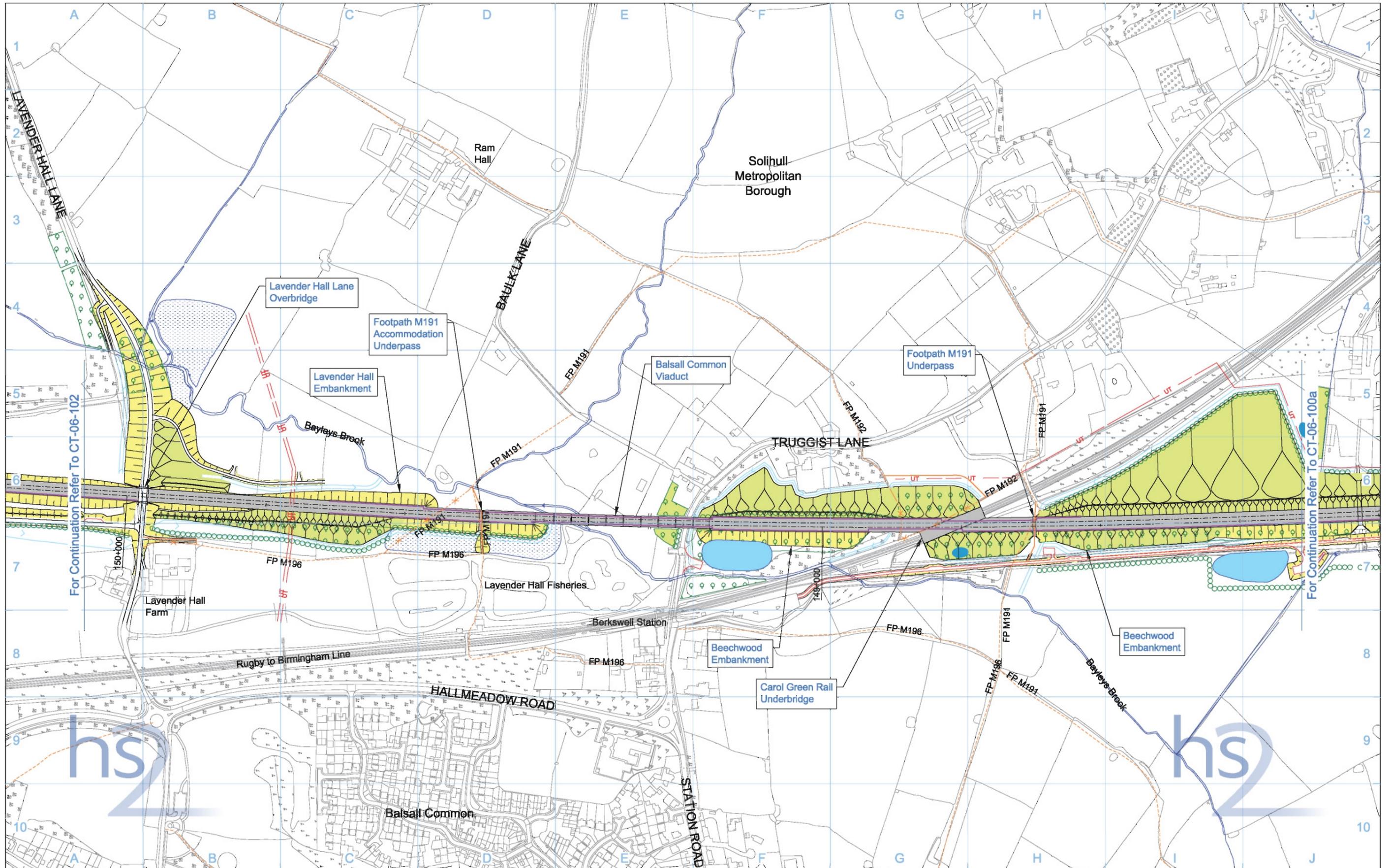
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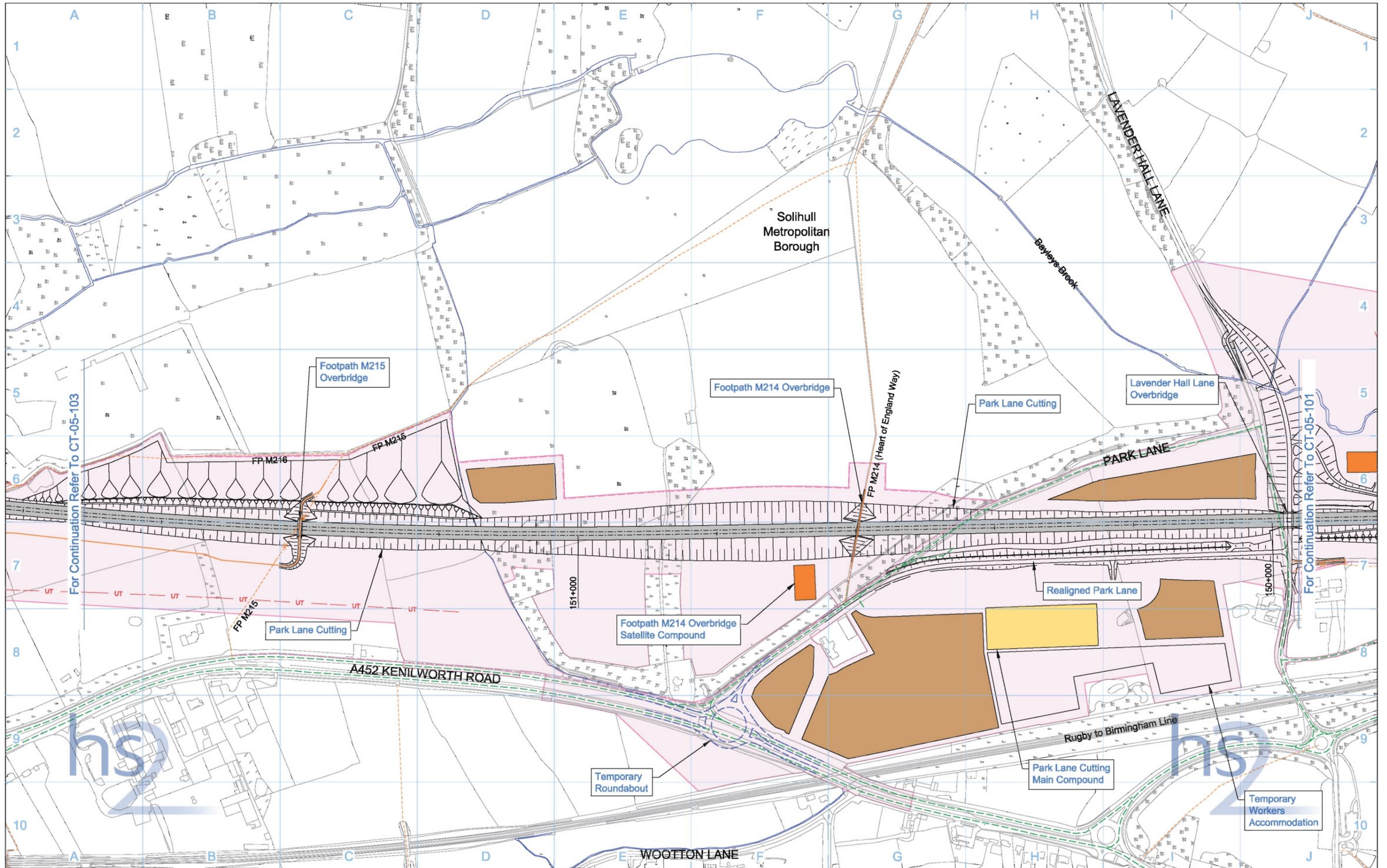
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Legend 		Map Number CT-06-101 Map Name Proposed Scheme Community Forum Area CFA23 Balsall Common and Hampton in Arden	 HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way. Registered in England, Registration number 06791688 Registered office: Eland House, Bressenden Place, London SW1E 6DU Scale at A3: 1:5,000 0 50 100 150 200 250 Metres © Crown copyright and database rights 2013. Ordnance Survey Licence Number 100049190. Doc Number: C224-ARP-EV-DPL-040-206101 P06 Date: 29/10/13
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Legend	
	Depot, station, headhouse or portal building
	Tunnel portal
	Main construction compound
	Satellite construction compound
	Temporary material stockpile
	Rail alignment formation
	Landscape earthworks
	Engineering earthworks
	County boundary
	Borough / District boundary
	Land potentially required during construction
	Community forum boundary
	Existing watercourse
	Tunnels external extent
	Construction traffic route
	Existing public right of way (PRoW)
	New, diverted or realigned PRoW
	Stopped-up PRoW
	Temporary PRoW diversion / realignment
	Temporary highway diversion / realignment
	Main utility works
	Chainage (e.g. 10+000)
	Rail alignment

Map Number	CT-05-102
Map Name	Construction Phase
Community Forum Area	CFA23 Balsall Common and Hampton in Arden

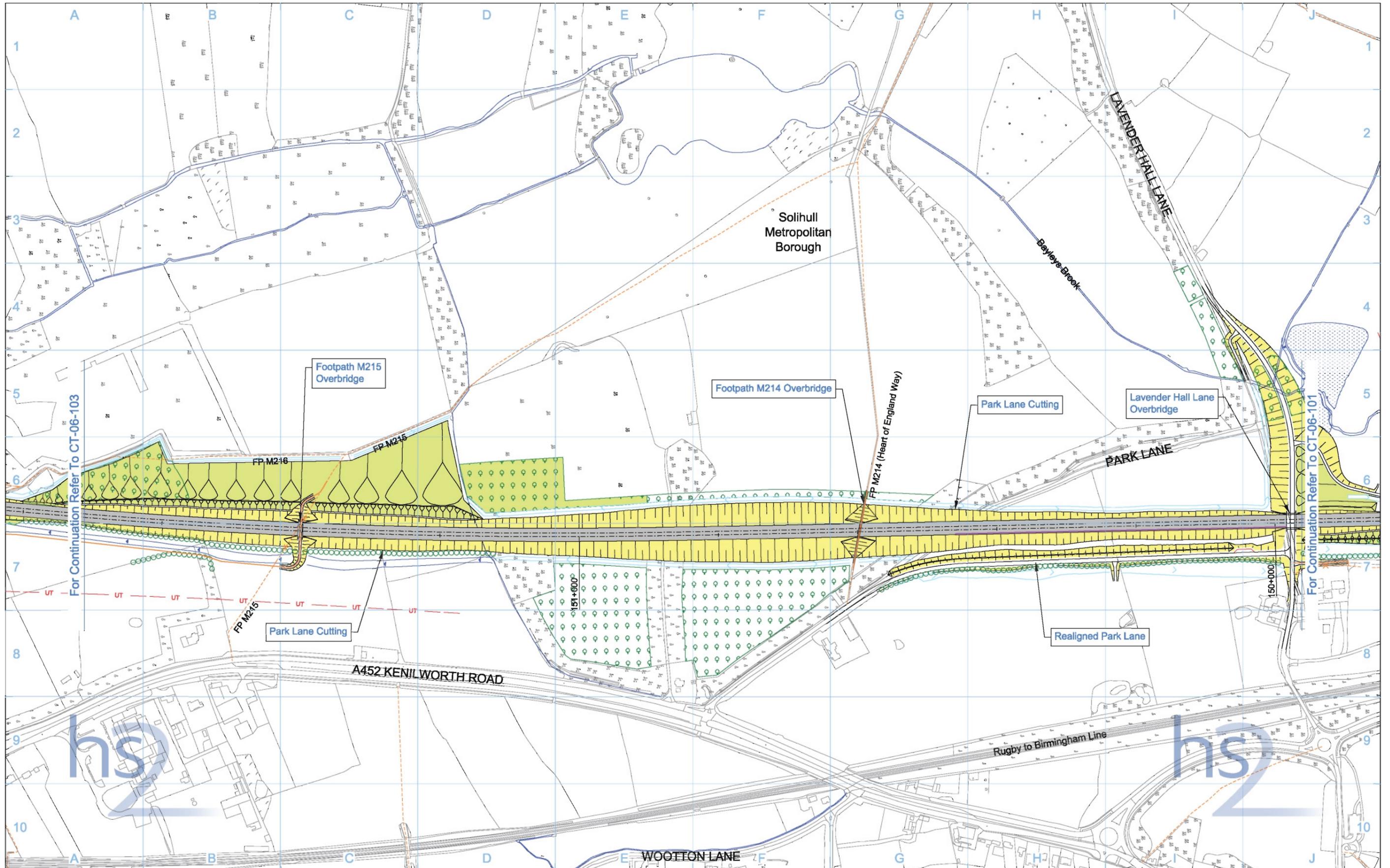
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Legend	
	Depot, station, headhouse or portal building
	Tunnel portal
	Electricity substation
	Land drainage area
	Ecological mitigation pond
	Balancing pond
	Replacement floodplain storage
	Woodland habitat creation
	Wetland habitat creation
	Grassland habitat creation
	Landscape mitigation planting (scrub / woodland)
	Grassed areas
	Sustainable placement
	Public realm
	Engineering earthworks
	Landscape earthworks
	Rail alignment formation
	Returned to suitable development use
	County boundary
	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-06-102
Map Name	Proposed Scheme
Community Forum Area	CFA23 Balsall Common and Hampton in Arden

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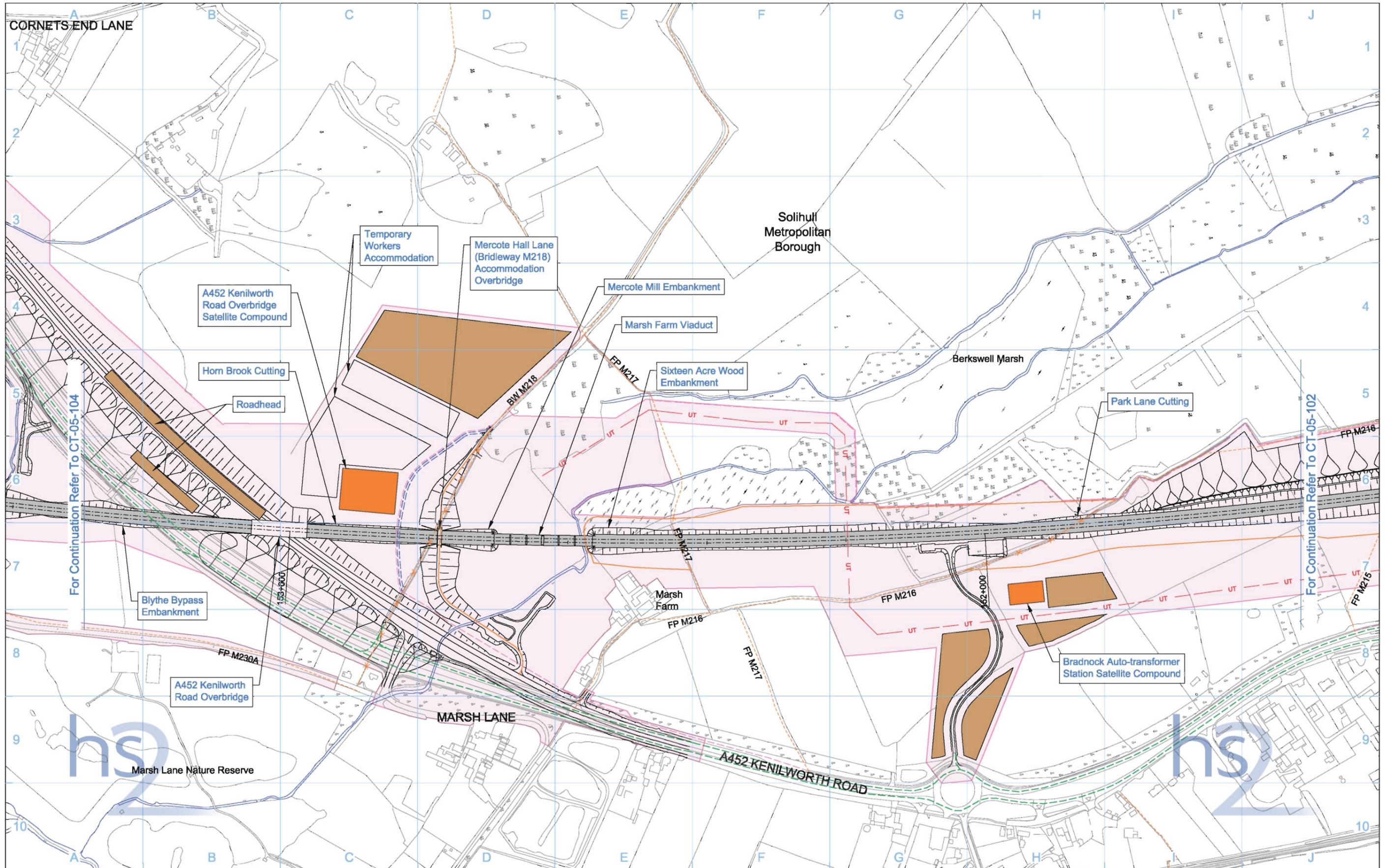
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Legend	
	Rail alignment formation
	Depot, station, headhouse or portal building
	Main construction compound
	Satellite construction compound
	Temporary material stockpile
	Landscape earthworks
	Engineering earthworks
	County boundary
	Borough / District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

Map Number	CT-05-103
Map Name	Construction Phase
Community Forum Area	CFA23 Balsall Common and Hampton in Arden

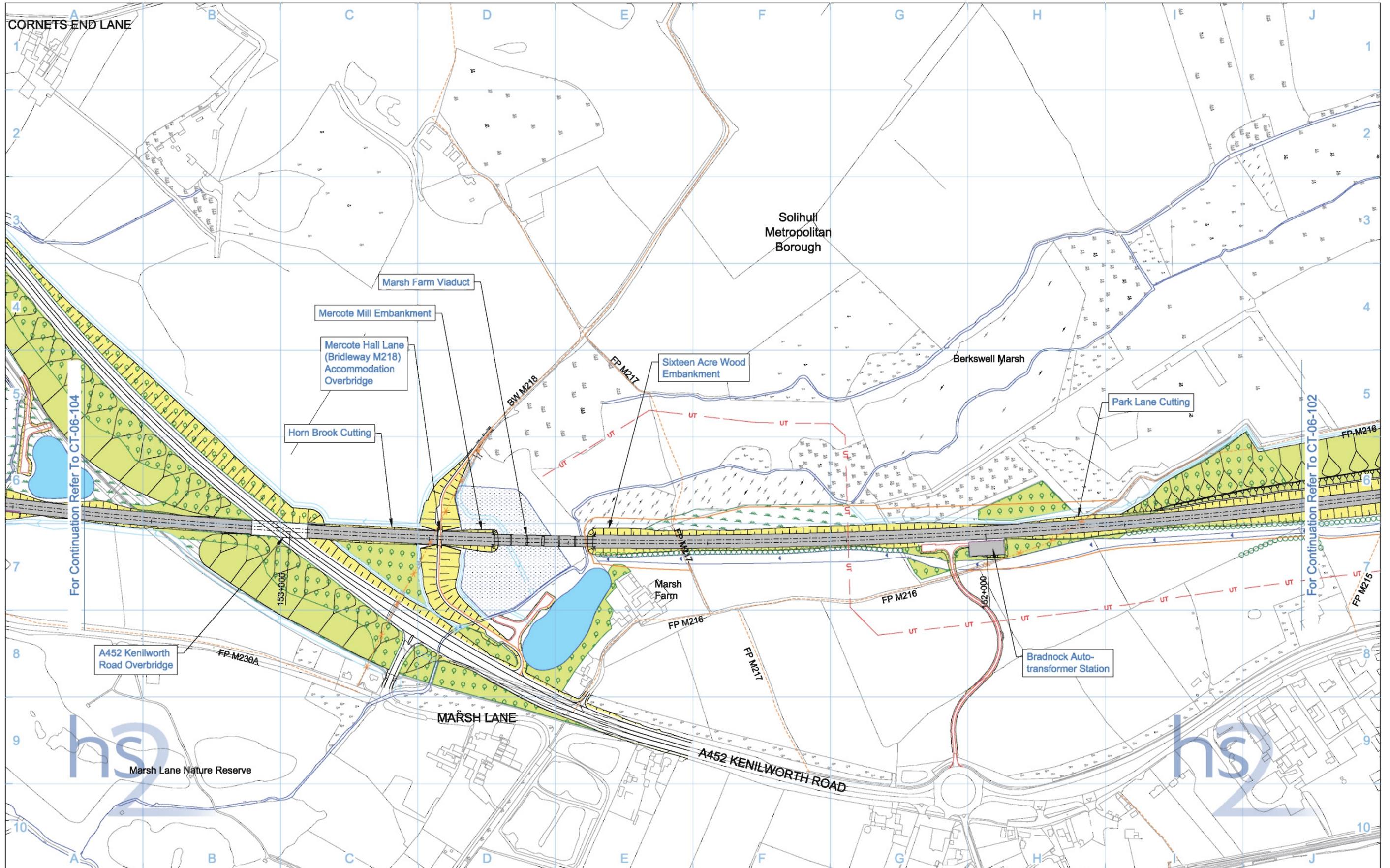
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Legend

	Depot, station, headhouse or portal building
	Tunnel portal
	Electricity substation
	Land drainage area
	Ecological mitigation pond
	Balancing pond

	Replacement floodplain storage
	Woodland habitat creation
	Wetland habitat creation
	Grassland habitat creation
	Landscape mitigation planting (scrub / woodland)
	Grassed areas
	Sustainable placement

	Public realm
	Engineering earthworks
	Landscape earthworks
	Rail alignment formation
	Returned to suitable development use
	County boundary
	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-06-103
Map Name	Proposed Scheme
Community Forum Area	CFA23 Balsall Common and Hampton in Arden

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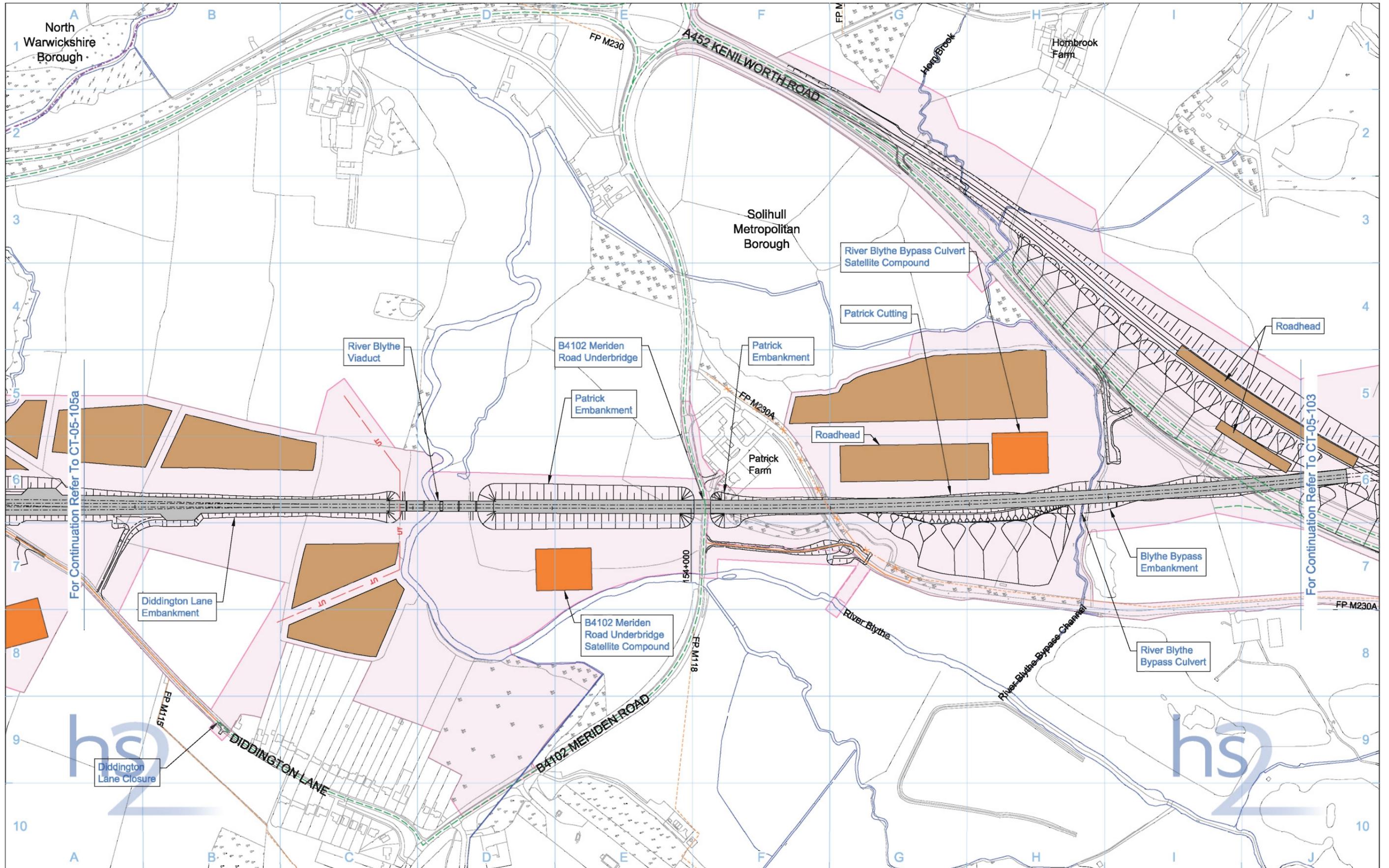
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Legend	
	Depot, station, headhouse or portal building
	Tunnel portal
	Main construction compound
	Satellite construction compound
	Temporary material stockpile
	Rail alignment formation
	Landscape earthworks
	Engineering earthworks
	County boundary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

Map Number	CT-05-104
Map Name	Construction Phase
Community Forum Area	CFA23 Balsall Common and Hampton in Arden

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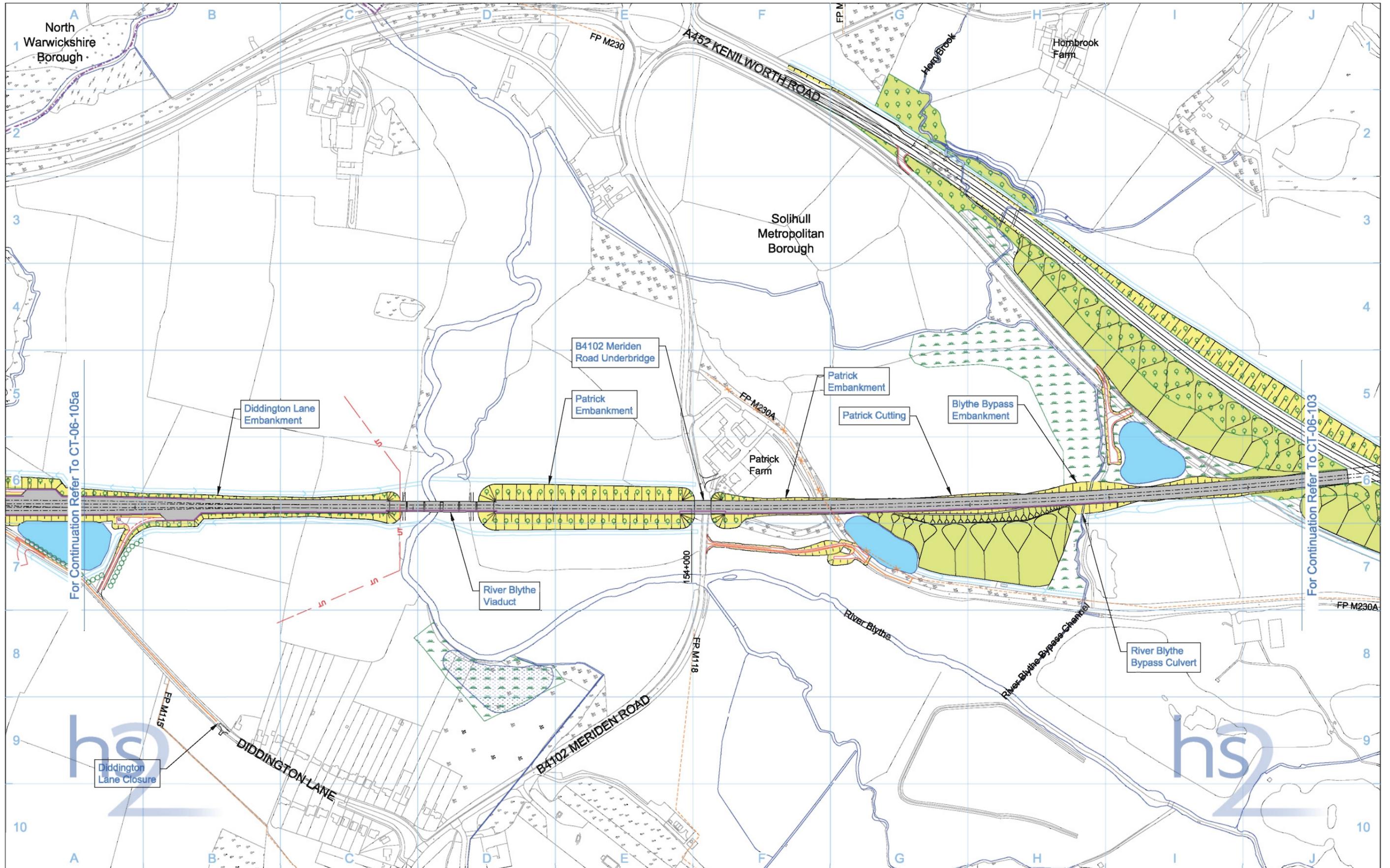
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Legend 		Map Number CT-06-104 Map Name Proposed Scheme Community Forum Area CFA23 Balsall Common and Hampton in Arden	 HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way. Registered in England. Registration number 06791688 Registered office: Eland House, Bressenden Place, London SW1E 6DU Scale at A3: 1:5,000 © Crown copyright and database rights 2013. Ordnance Survey Licence Number 100049190. Doc Number: C224-ARP-EV-DPL-040-206104 P06 Date: 29/10/13
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BIRMINGHAM INTERCHANGE & CHELMSLEY WOOD

North Warwickshire Borough

A45 Coventry Road/A452 Chester Road (Stonebridge Island)

A45 (Stonebridge Island) Satellite Compound

Solihull Metropolitan Borough

A452 Chester Road Widening

Toby Carvery Public House Access

Exit Widened to 3 Lanes

Pasture Farm Access Track

The Island Project School

A45/East Way Overbridges Satellite Compound

A45 Coventry Road Overbridge

East Way Overbridge

A45/A45 Service Road Overbridges Satellite Compound

Pasture Farm Accommodation Overbridge

Footpath M114 stopped up temporarily during construction

Diddington Lane Closure

Shadow Brook Underbridge

Diddington Lane Embankment

Bickenhill Embankment

People Mover Depot

Roadhead

A45 Service Road Overbridge

Existing track will be used temporarily until permanent access track is in place

Diddington Cutting

Diddington Lane Embankment

Bickenhill Waste Recycling Centre Access

East Way Loop Underbridge Satellite Compound

East Way Loop Underbridge

Shadow Brook Underbridge Satellite Compound

Diddington Lane Closure

Vehicle Recovery Compound

For Continuation Refer To CT-05-106-L1

BALSALL COMMON & HAMPTON-IN-ARDEN

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

Map Number	CT-05-105a
Map Name	Construction Phase
Community Forum Area	CFA23 Balsall Common and Hampton in Arden

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BIRMINGHAM INTERCHANGE & CHELMSLEY WOOD

North Warwickshire Borough

A45 Coventry Road/A452 Chester Road (Stonebridge Island)

A452 Chester Road Widening

Toby Carvery Public House Access

Exit Widened to 3 Lanes

The Island Project School

Diddington Farm

Diddington Lane Closure

Pasture Farm Accommodation Overbridge

Diddington Lane Embankment

East Way Overbridge

Pasture Farm Access Track

FP M114

For Continuation Refer To CT-06-106

For Continuation Refer To CT-06-104

People Mover Depot

Bickenhill Embankment

Bickenhill Waste Recycling Centre Access

A45 Coventry Road Overbridge

East Way Loop Underbridge

Pasture Farm

A45 Service Road Overbridge

Diddington Cutting

Shadow Brook Underbridge

Diddington Lane Embankment

155+000

Diddington Lane Closure

For Continuation Refer To CT-06-106-L1

BALSALL COMMON & HAMPTON-IN-ARDEN

- Legend**
- Depot, station, headhouse or portal building
 - Tunnel portal
 - Electricity substation
 - Land drainage area
 - Ecological mitigation pond
 - Balancing pond

- Replacement floodplain storage
- Woodland habitat creation
- Wetland habitat creation
- Grassland habitat creation
- Landscape mitigation planting (scrub / woodland)
- Grassed areas
- Sustainable placement

- Public realm
- Engineering earthworks
- Landscape earthworks
- Rail alignment formation
- Returned to suitable development use
- County boundary
- 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-06-105a**

Map Name: **Proposed Scheme**

Community Forum Area: CFA23
Balsall Common and Hampton in Arden

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0 50 100 150 200 250 Metres

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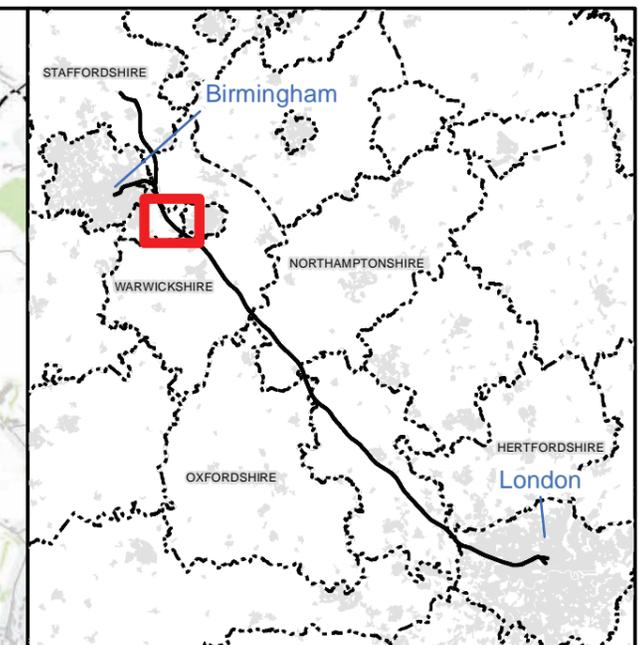
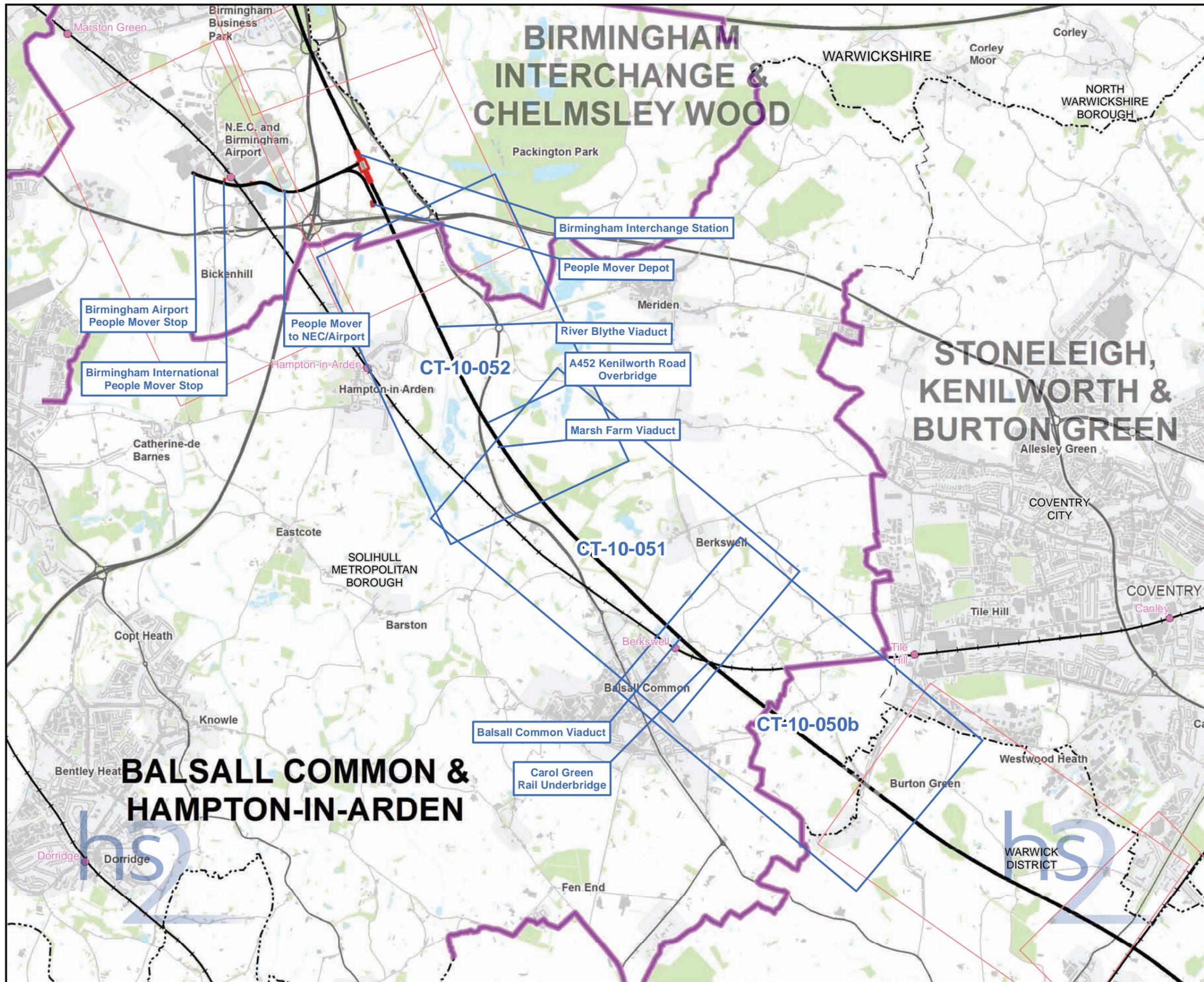
Doc Number: C224-ARP-EV-DPL-040-206005 P06 Date: 29/10/13



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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	Map sheets included in this community forum
Route on surface	Map sheets not included in this community forum
Depot, station, headhouse or portal building	
Community forum boundary	
Existing railway station	
County boundary	
District/Borough boundary	

Map Number	CT-10-INDEX-CFA23
Map Name	Index Map of: Environmental Baseline
Community Forum Area CFA23:	Balsall Common & Hampton-in-Arden

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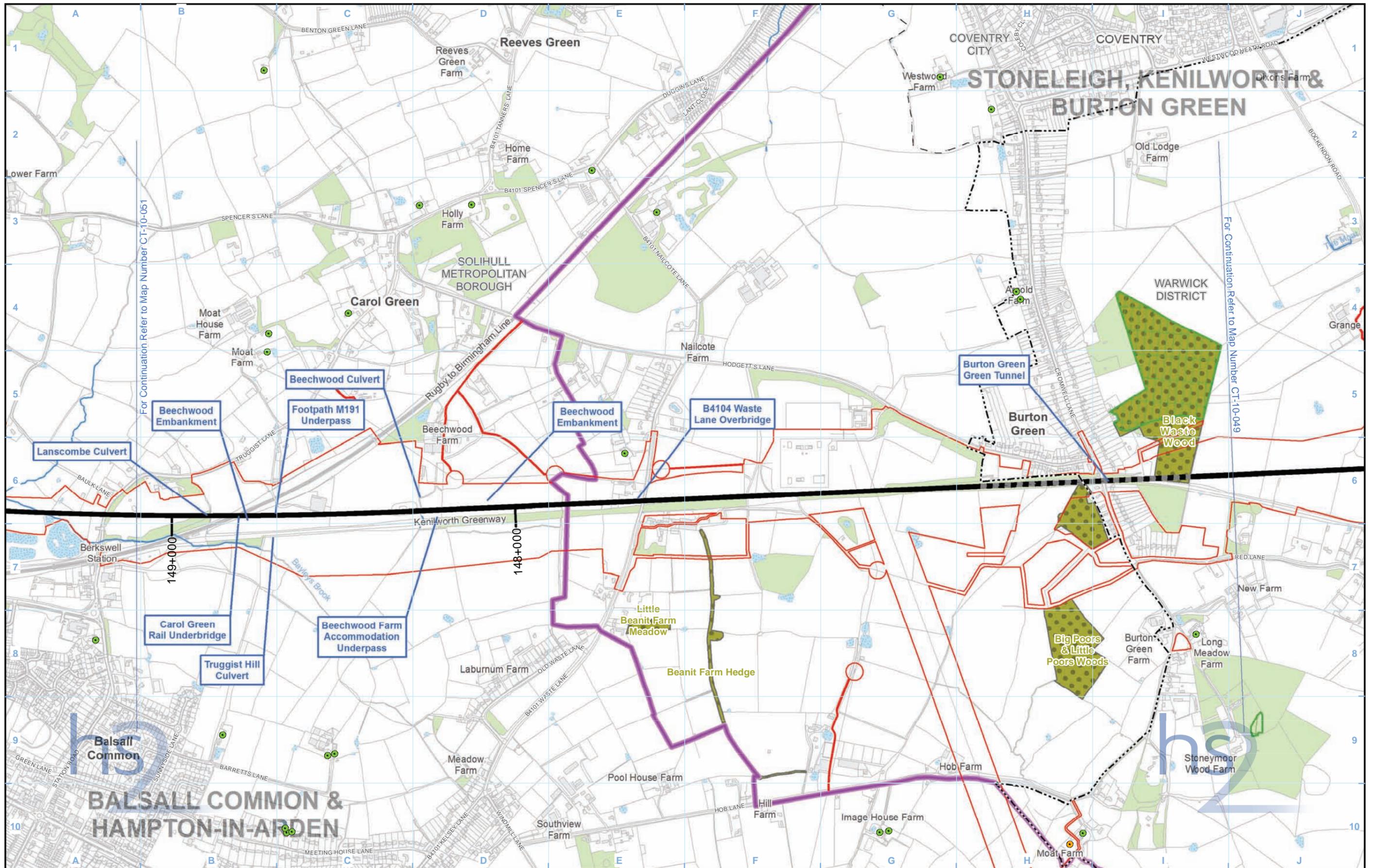
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Scale at A3: 1:50,000

0 500 1,000 1,500 2,000 Metres

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Doc Number: C254-ARP-EV-MAP-040-600001-P06.00 Date: 25/10/13



Legend			

Map Number	CT-10-050b
Map Name	Environmental Baseline
Community Forum Area CFA23: Balsall Common & Hampton-in-Arden	

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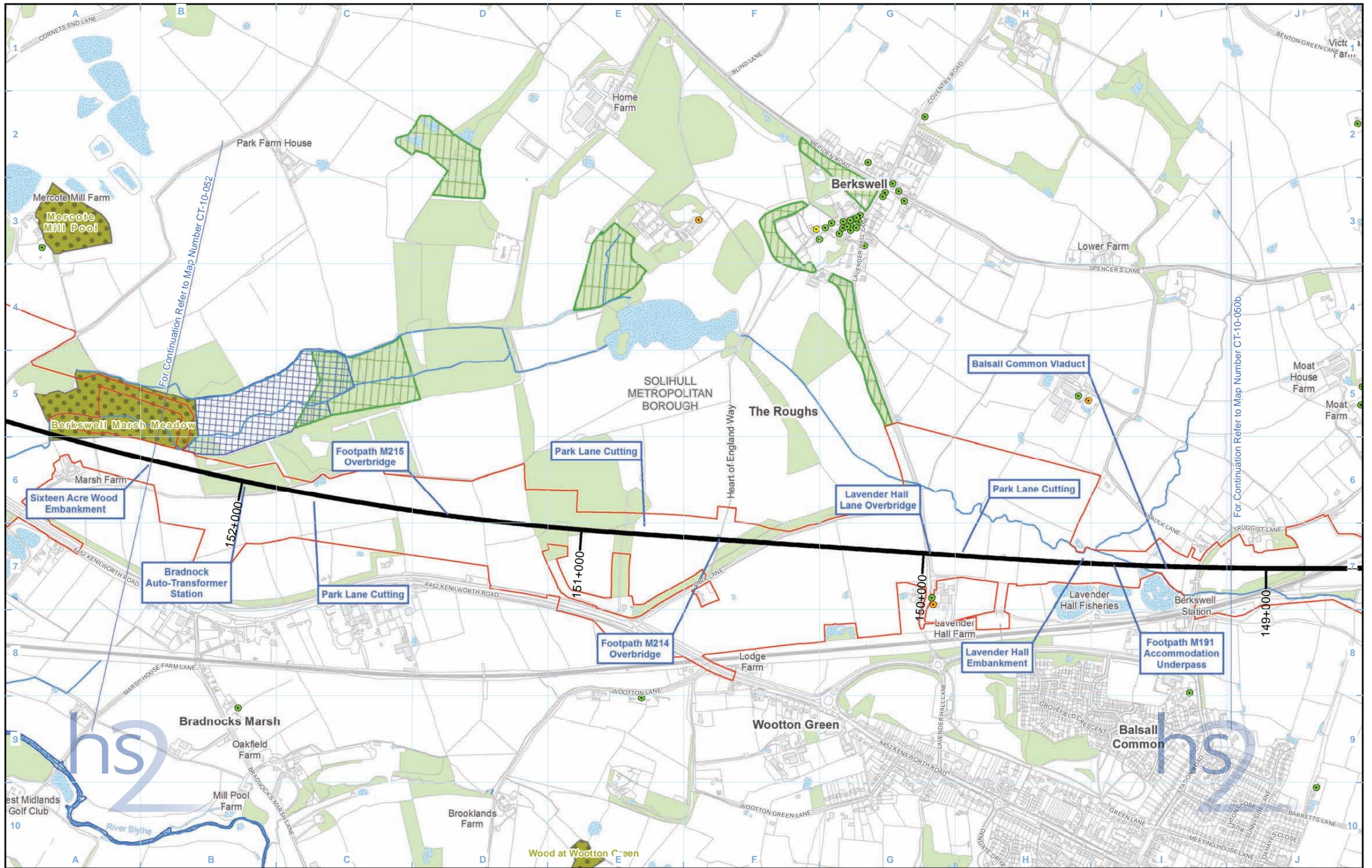
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Date: 24/10/13



Legend			
	Route in tunnel		Watercourse
	Route on surface		Water body
	Depot, station, headhouse or portal building		Woodland
	Land potentially required during construction		Conservation area
	Community forum boundary		Scheduled monument
	County boundary		Listed building Grade I
	District/Borough boundary		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-10-051
Map Name	Environmental Baseline
Community Forum Area CFA23: Balsall Common & Hampton-in-Arden	

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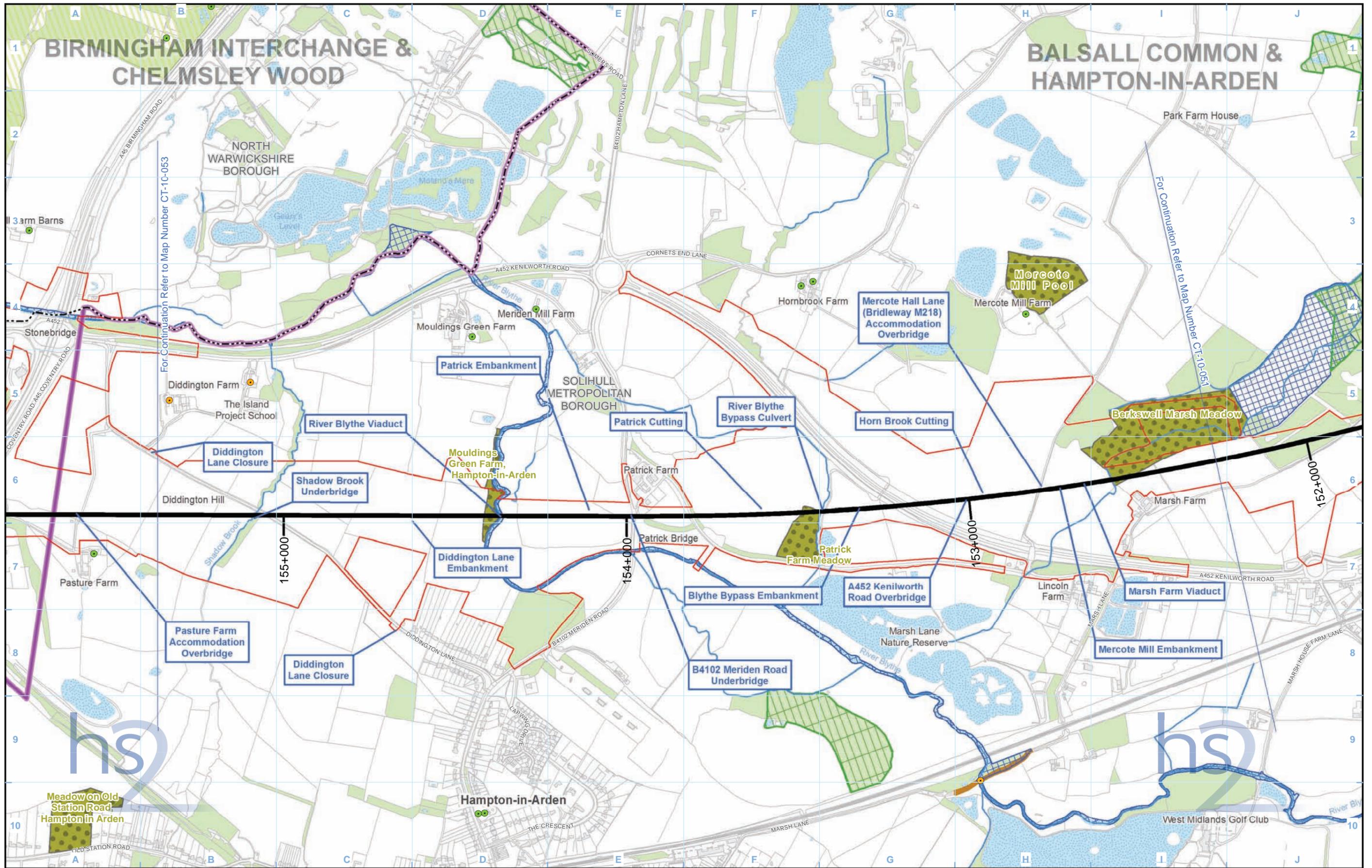
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Legend			

Map Number	CT-10-052
Map Name	Environmental Baseline
Community Forum Area CFA23: Balsall Common & Hampton-in-Arden	

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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

LV-01 - Photomontages

LV-15 - Aerial Visualisations

Current baseline (2013)



Operation Year 1 (2026) - Winter verifiable photomontage



Technical Information

Location: Viewpoint 283-2-003: Long view north-east across pastures from PRoW M196 adjacent to residences on Meeting House Lane.

Date taken: 12/03/13
Time taken: 16:41
Focal length: 57.296mm

Viewpoint location shown on Map LV-04-077b.
For key plan legend refer to map series LV-04.

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.



Figure Number	LV-01-163
Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 283-2-003
	Community Forum Area CFA23: Balsall Common and Hampton in Arden



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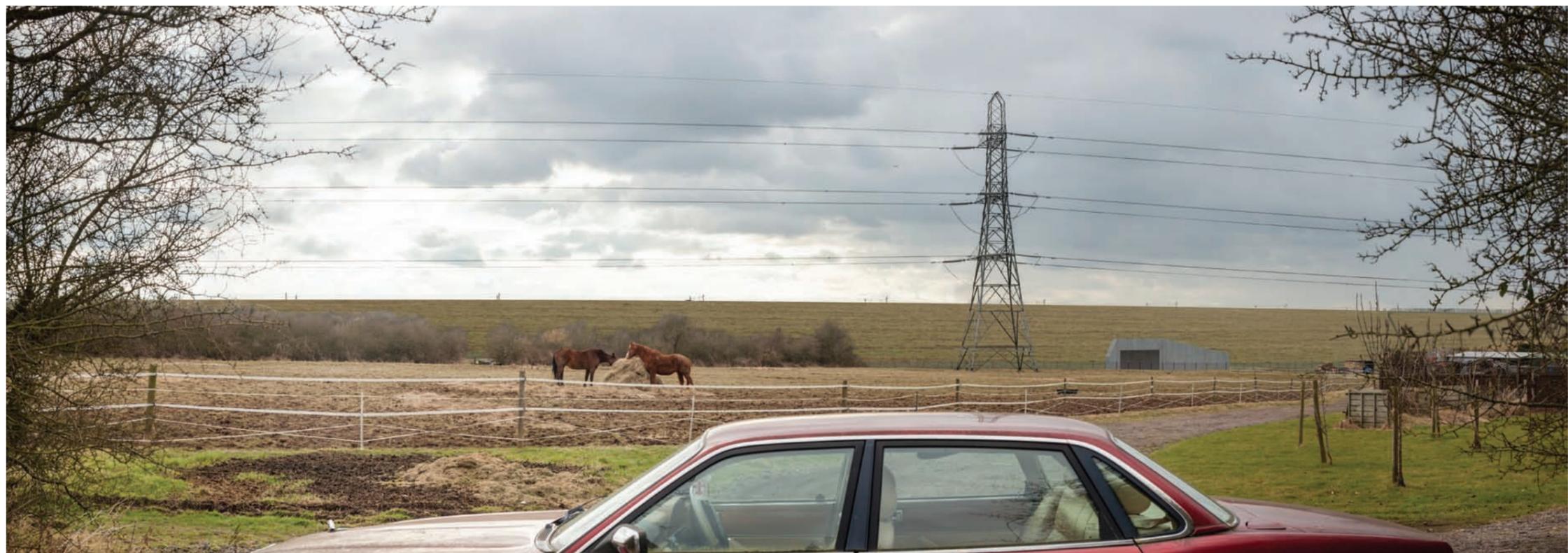
Doc Number: C250-ARP-EV-PHO-000-001162-P01

Date: 30/09/13

Current baseline (2013)



Operation Year 1 (2026) - Winter verifiable photomontage



Technical Information

Location: Viewpoint 284-3-001: View south across Beechwood Farm pastures from Millennium Way PRoW (M198).

Date taken: 12/03/13
Time taken: 15:24
Focal length: 57.296mm

Viewpoint location shown on Map LV-04-077b.
For key plan legend refer to map series LV-04.

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Figure Number	LV-01-164
Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 284-3-001
Community Forum Area CFA23: Balsall Common and Hampton in Arden	

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Date: 17/10/13

Current baseline (2013)



Operation Year 1 (2026) - Winter verifiable photomontage



Technical Information

Location: Viewpoint 286-2-003: View south-west across pastures from residences on Balk Lane.

Date taken: 30/01/13
Time taken: 11:20
Focal length: 57.296mm

Viewpoint location shown on Map LV-04-078.
For key plan legend refer to map series LV-04.

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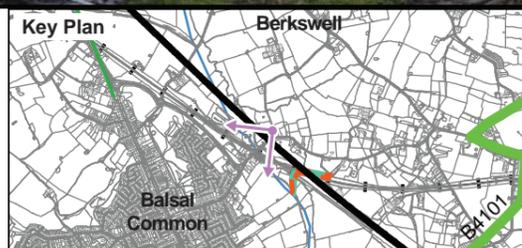


Figure Number	LV-01-165
Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 286-2-003
	Community Forum Area CFA23: Balsall Common and Hampton in Arden



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Doc Number: C250-ARP-EV-PHO-000-001164-P01 **Date: 10/10/13**

Current baseline (2013)



Operation Year 1 (2026) - Winter verifiable photomontage



Technical Information

Location: Viewpoint 291-3-003: View north across Marsh Farm pasture from Millennium Way (M216).

Date taken: 05/03/13
Time taken: 16:59
Focal length: 57.296mm

Viewpoint location shown on Map LV-04-079.
For key plan legend refer to map series LV-04.

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.

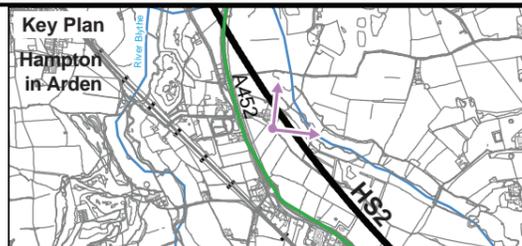


Figure Number	LV-01-166
Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 291-3-003
	Community Forum Area CFA23: Balsall Common and Hampton in Arden



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Doc Number: C250-ARP-EV-PHO-000-001165-P01

Date: 15/10/13

Current baseline (2013)



Operation Year 1 (2026) - Winter verifiable photomontage



Technical Information

Location: Viewpoint 293-4-003: View north across Blythe Valley from Meriden Road.

Date taken: 12/03/13
Time taken: 10:40
Focal length: 57.296mm

Viewpoint location shown on Map LV-04-080a.
For key plan legend refer to map series LV-04.

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.

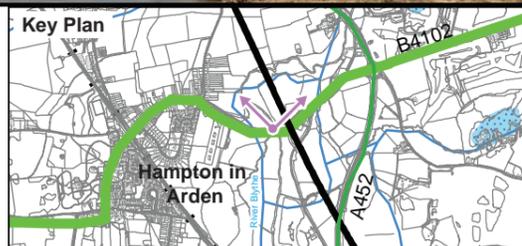


Figure Number	LV-01-167
Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 293-4-003
	Community Forum Area CFA23: Balsall Common and Hampton in Arden

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Date: 15/10/13

Current baseline (2013)



Operation Year 1 (2026) - Winter verifiable photomontage



Technical Information

Location: Viewpoint 295-2-003: View north-east across Mouldings Green Farm farmland from residences on Diddington Lane.
 Date taken: 12/03/13
 Time taken: 09:20
 Focal length: 57.296mm

Viewpoint location shown on Map LV-04-080b.
 For key plan legend refer to map series LV-04.

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.

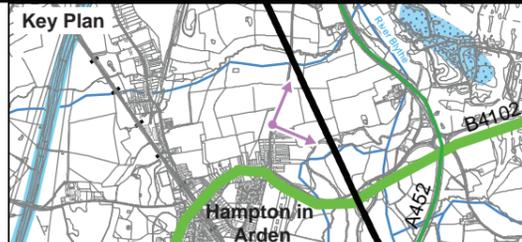


Figure Number	LV-01-168
Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 295-2-003
	Community Forum Area CFA23: Balsall Common and Hampton in Arden

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Current baseline (2013)



Operation Year 1 (2026) - Winter verifiable photomontage



Technical Information

Location: Viewpoint 296-2-001: View south-west along Meriden Road from Patrick Farm.

Date taken: 12/03/13
Time taken: 11:01
Focal length: 57.296mm

Viewpoint location shown on Map LV-04-080a.
For key plan legend refer to map series LV-04.

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.



Figure Number	LV-01-169
Figure Name	Verifiable Photomontage Operation Year 1 (2026) - Winter Viewpoint 296-2-001
	Community Forum Area CFA23: Balsall Common and Hampton in Arden



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Date: 17/10/13

Current baseline (2013)



Peak construction phase - Winter verifiable photomontage



Technical Information

Location: Viewpoint 291-3-003: View north across Marsh Farm pasture from Millennium Way (M216).

Date taken: 05/03/13
Time taken: 16:59
Focal length: 57.296mm

Viewpoint location shown on Map LV-03-079.
For key plan legend refer to map series LV-03.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look during the peak construction phase for this part of the route. The construction methods and siting of construction activities may be subject to change in response to consultation and ongoing design. The extent of land required temporarily to construct the scheme will not extend beyond that shown in the photomontage. Changes in the construction of the Proposed Scheme will not result in any significant adverse change in the environmental effects detailed in the photomontages of the Proposed Scheme.

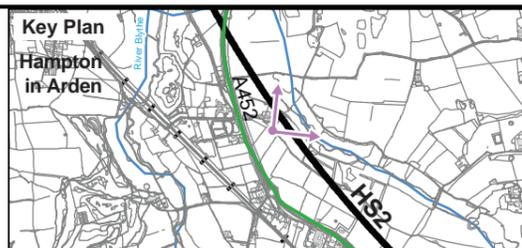


Figure Number	LV-01-213
Figure Name	Verifiable Photomontage Peak construction phase - Winter Viewpoint 291-3-003
	Community Forum Area CFA23: Balsall Common and Hampton in Arden



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Doc Number: C250-ARP-EV-PHO-000-001240-P01

Date: 28/10/13

Current baseline (2013)



Operation Year 15 (2041) - Summer verifiable photomontage



Technical Information

Location: Viewpoint 291-3-003: View north across Marsh Farm pasture from Millennium Way M216.

Date taken: 12/09/12
Time taken: 17:50
Focal length: 57.296mm

Viewpoint location shown on Map LV-04-079.
For key plan legend refer to map series LV-04.

This verifiable photomontage 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. 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 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.

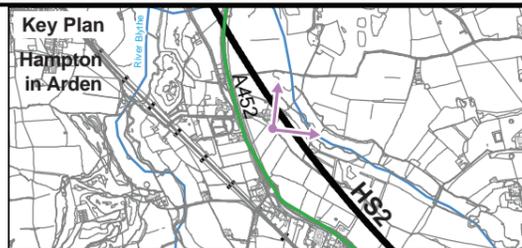


Figure Number	LV-01-263
Figure Name	Verifiable Photomontage Operation Year 15 (2041) - Summer Viewpoint 291-3-003
	Community Forum Area CFA23: Balsall Common & Hampton in Arden



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Doc Number: C250-ARP-EV-PHO-000-001214-P01 **Date:** 17/10/13



Technical Information

Location: Aerial visualisation of Balsall Common Viaduct looking north-west from Berkswell railway station.

Date taken: 21/08/13
 Time taken: 14:32
 Focal length: 35mm

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.

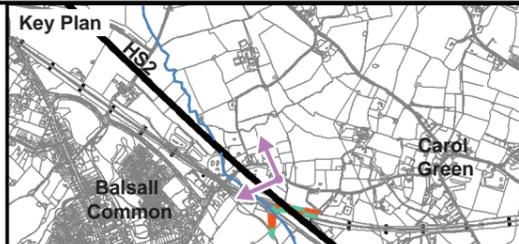


Figure Number	LV-15-007
Figure Name	Balsall Common Viaduct Aerial Visualisation
	Community Forum Area CFA23: Balsall Common and Hampton in Arden



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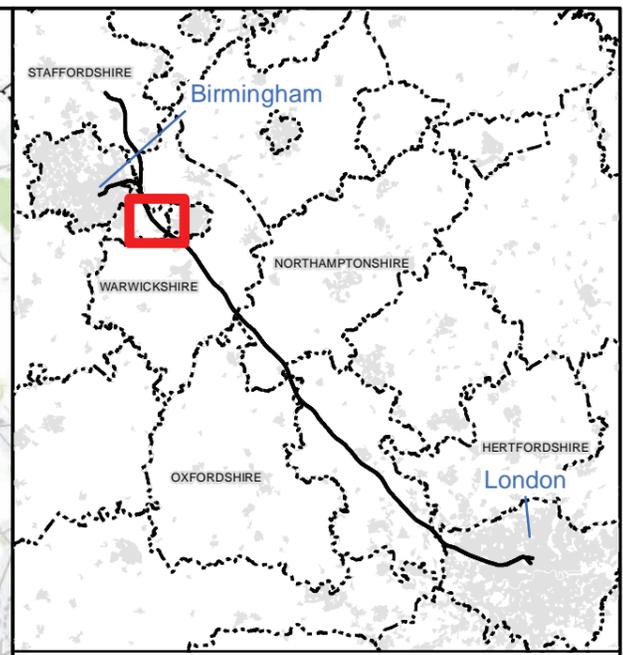
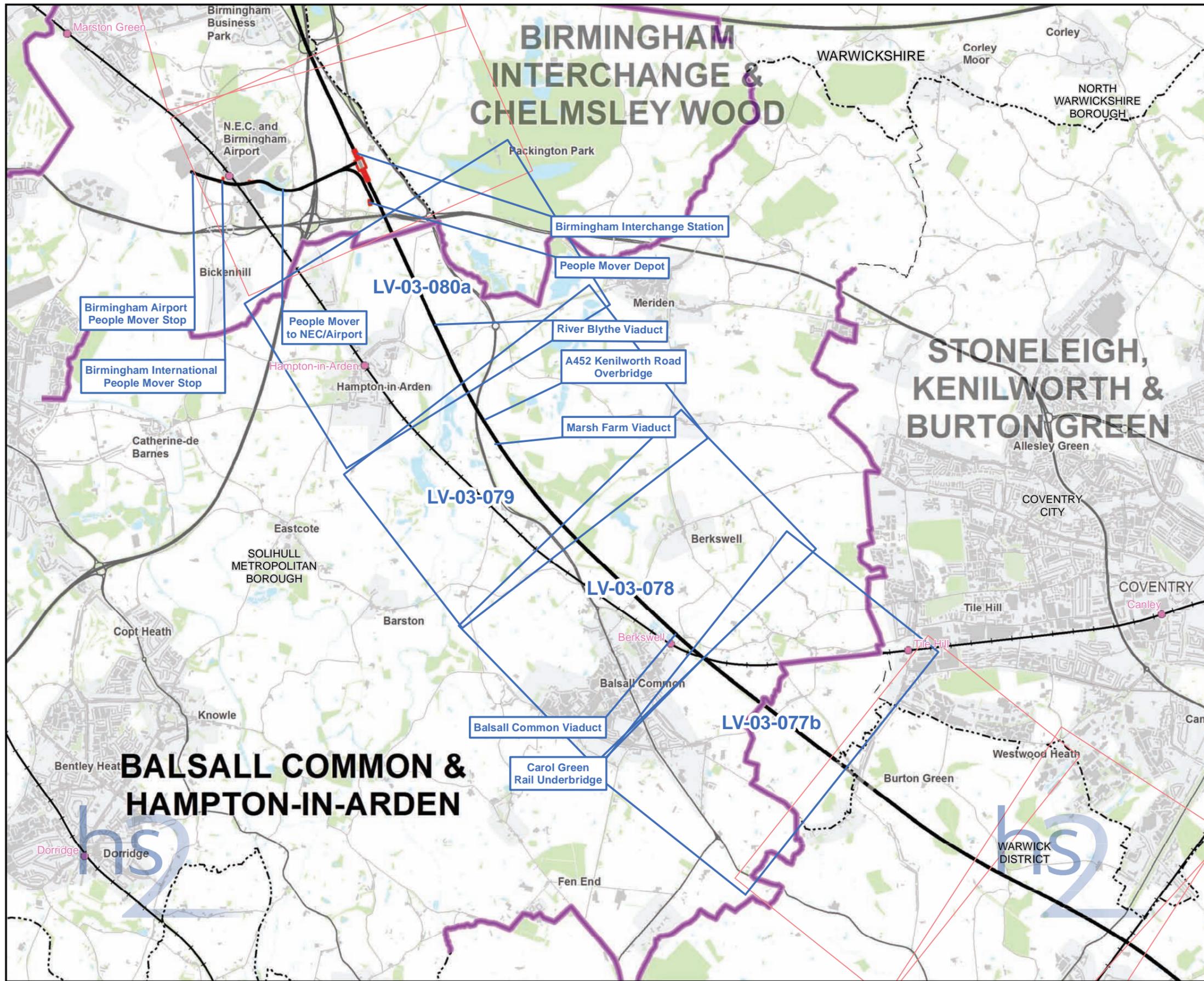


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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

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.

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-CFA23
Map Name	Index Map of: Construction Phase Significantly Affected Viewpoints
Community Forum Area CFA23: Balsall Common & Hampton-in-Arden	

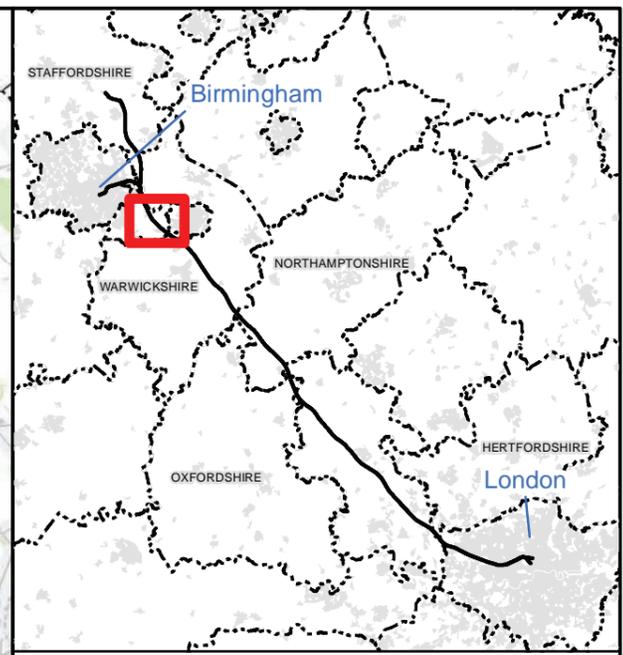
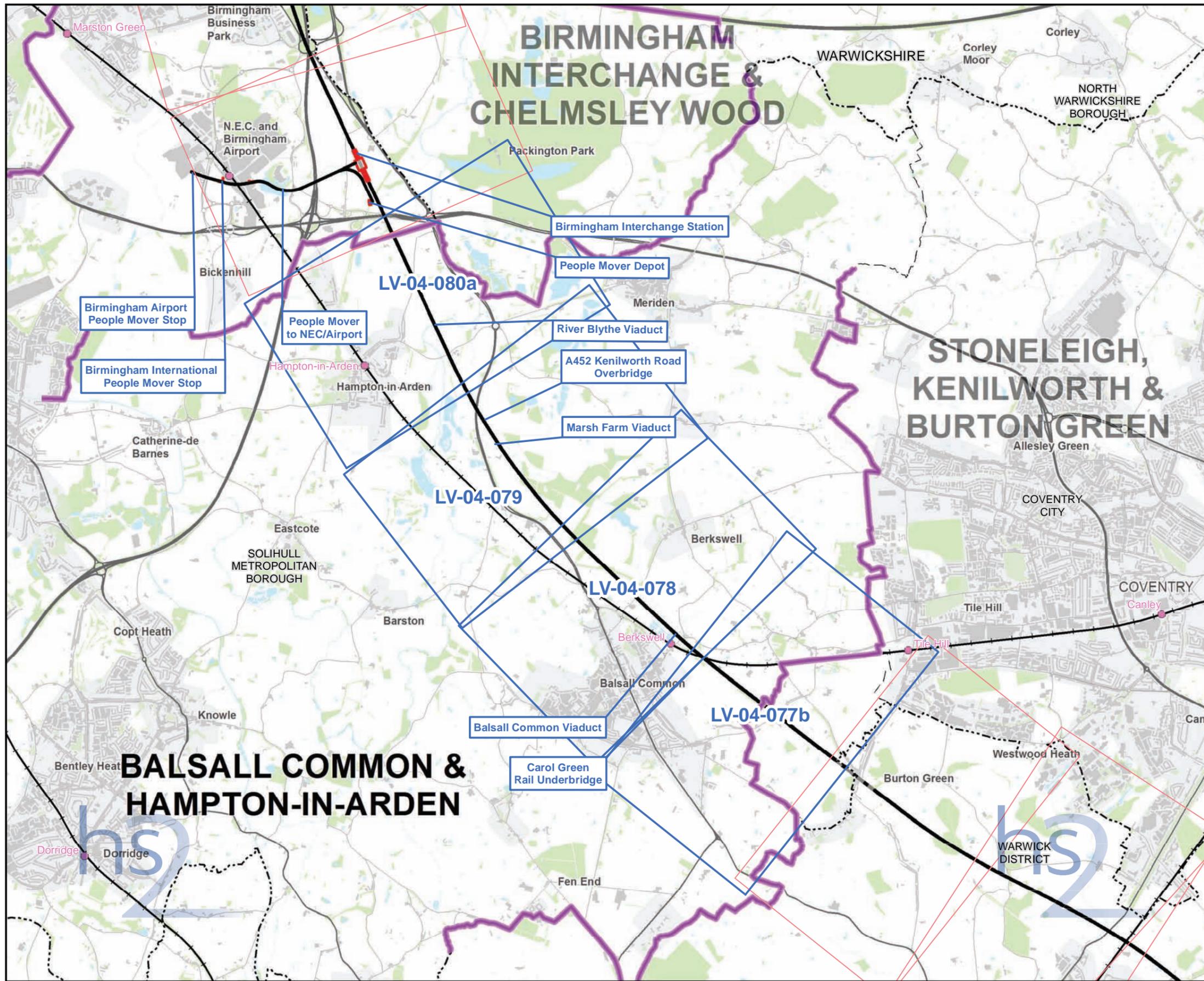
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Map Series Information:

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

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-CFA23
Map Name	Index Map of: Operational Phase Significantly Affected Viewpoints
Community Forum Area CFA23:	Balsall Common & Hampton-in-Arden

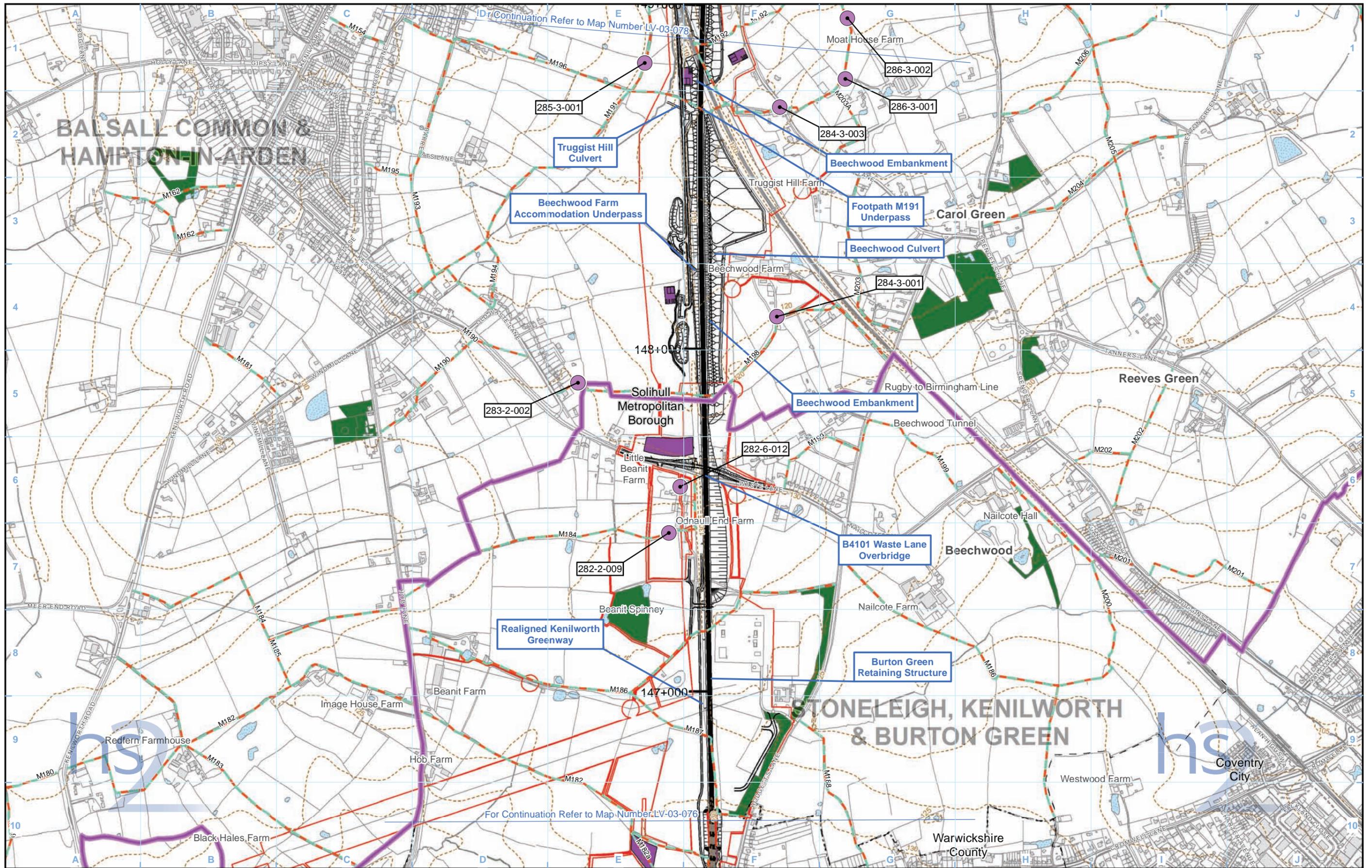
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Legend

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

Map Number	LV-03-077b
Map Name	Construction Phase Significantly Affected Viewpoints
Community Forum Area CFA23: Balsall Common & Hampton-in-Arden	

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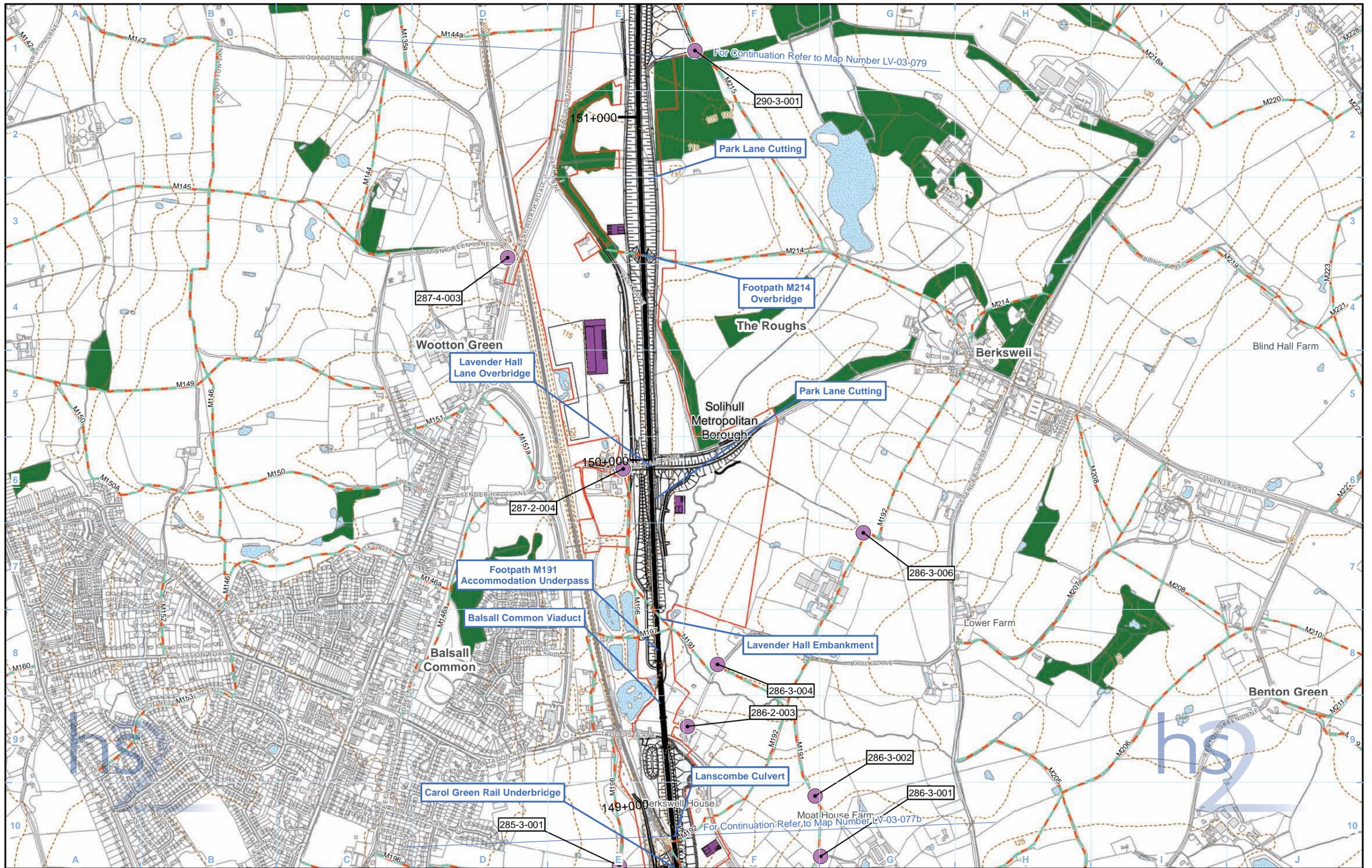
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Date: 24/10/13

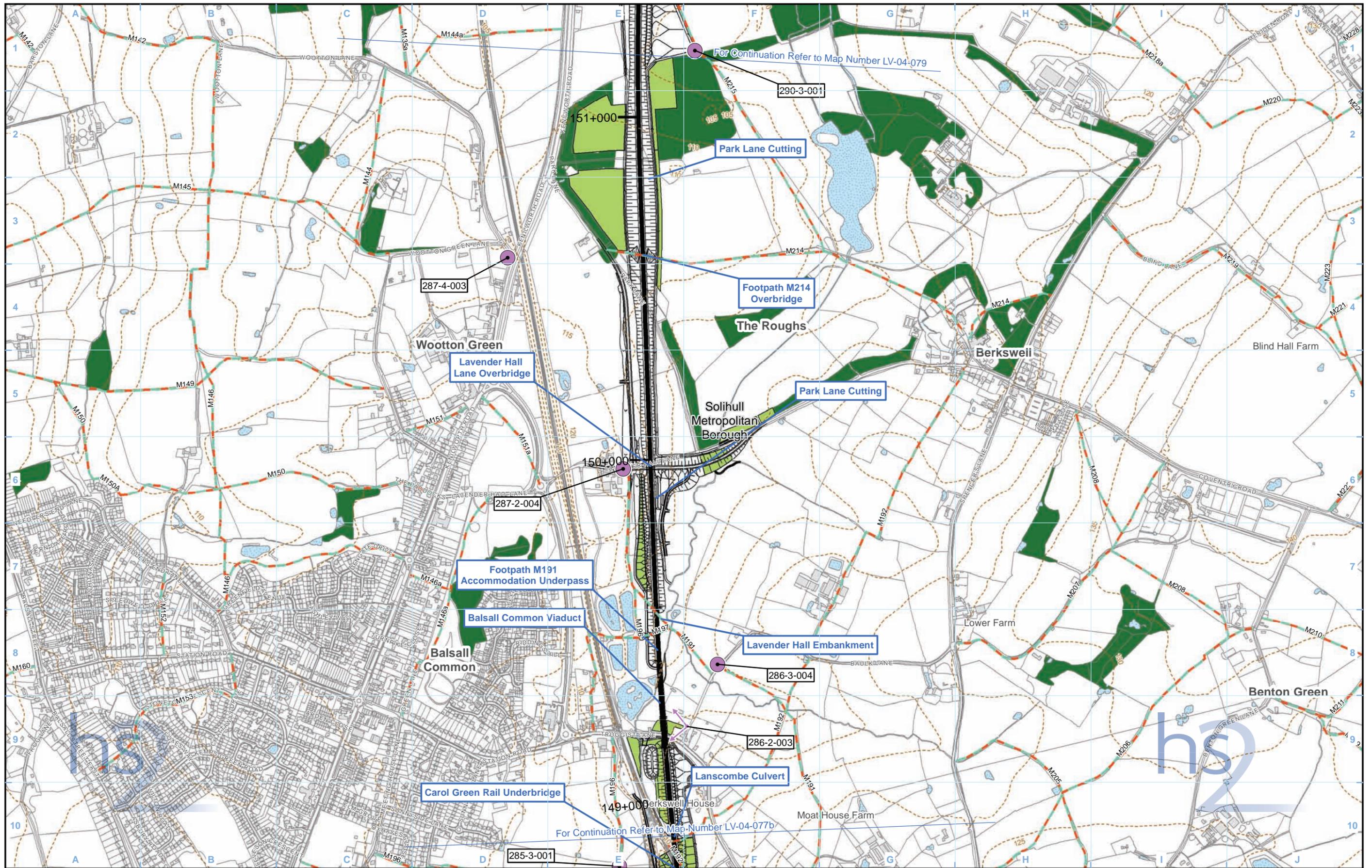


Legend	
	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Land potentially required during construction
	Community forum boundary
	County boundary
	District/Borough boundary
	Public Rights of Way
	5m contours
	Water body
	Watercourse
	Existing woodland and tree belts
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

Map Number	LV-03-078
Map Name	Construction Phase Significantly Affected Viewpoints
Community Forum Area CFA23: Balsall Common & Hampton-in-Arden	

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For Continuation Refer to Map Number LV-03-079
 For Continuation Refer to Map Number LV-03-077b



Legend

			Engineering earthworks:
			Non engineering earthworks:

	Viewpoint number
--	------------------

	Embankment
	Cutting
	Embankment
	Cutting

Map Number	LV-04-078
Map Name	Operational Phase Significantly Affected Viewpoints
Community Forum Area CFA23: Balsall Common & Hampton-in-Arden	

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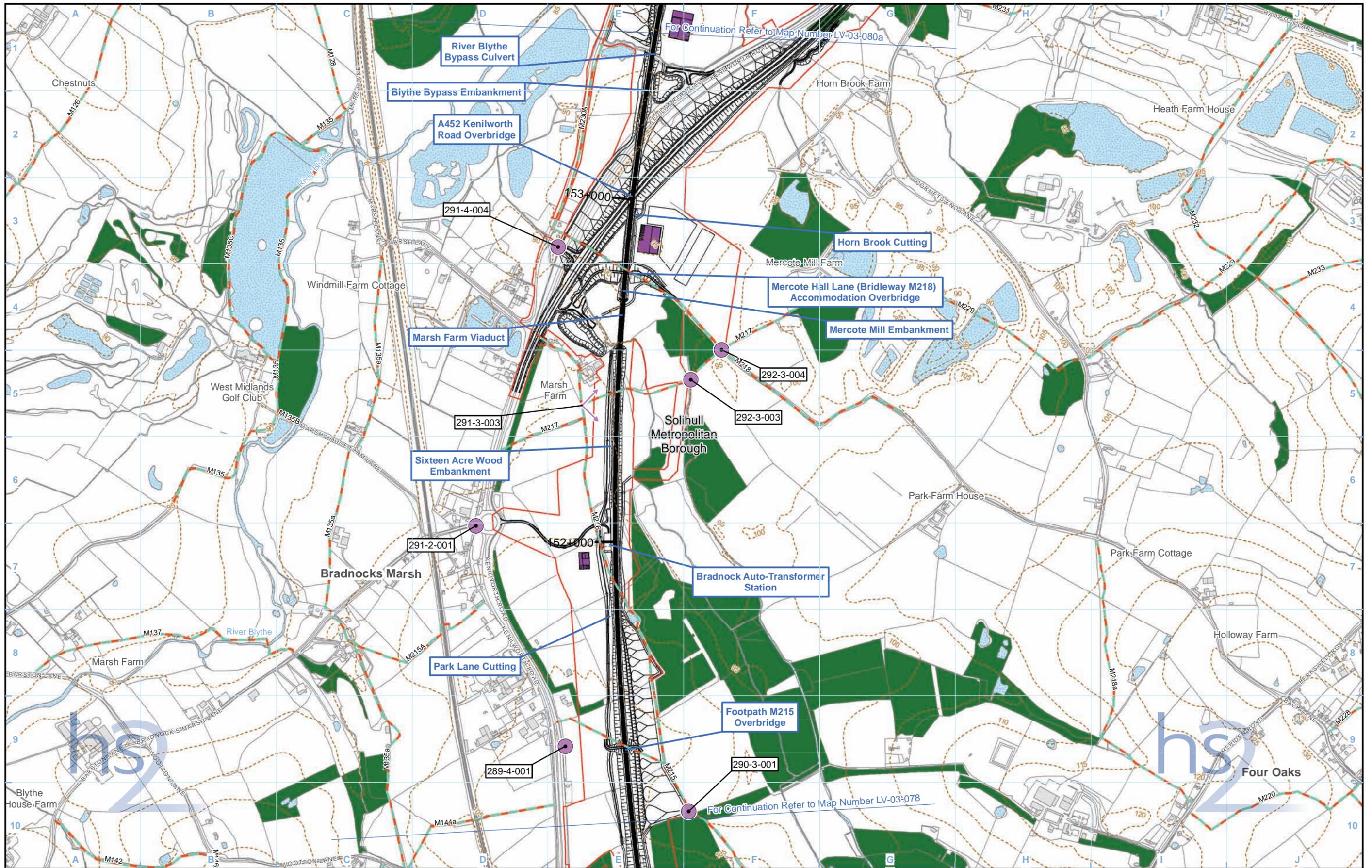
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Date: 24/10/13



Legend

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

Map Number: LV-03-079

Map Name: Construction Phase Significantly Affected Viewpoints

Community Forum Area CFA23:
Balsall Common & Hampton-in-Arden

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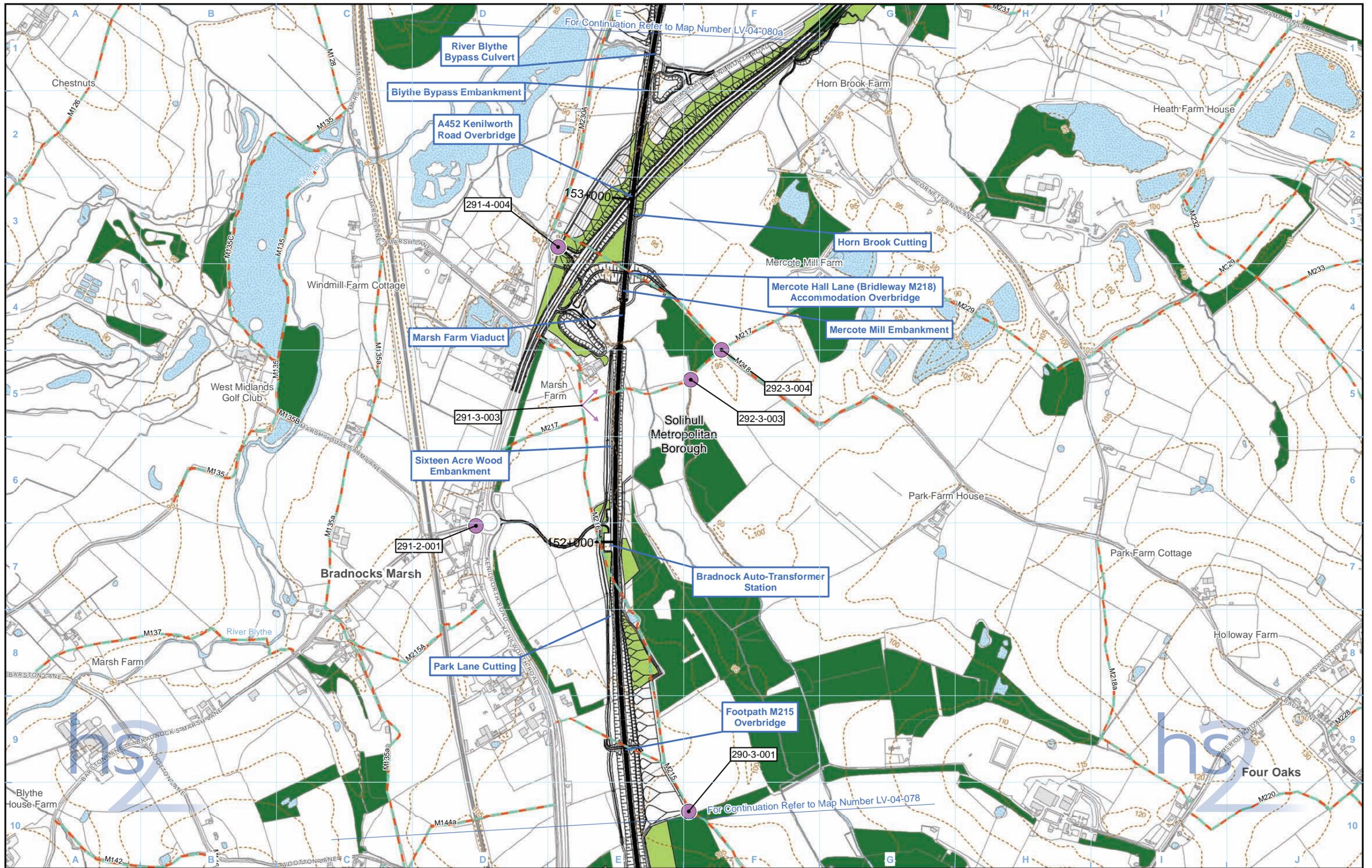
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Date: 24/10/13



Legend

<ul style="list-style-type: none"> Route in tunnel Route on surface Depot, station, headhouse or portal building Community forum boundary County boundary District/Borough boundary 	<ul style="list-style-type: none"> Public Rights of Way 5m contours Water body Watercourse Existing woodland and tree belts Proposed tree planting 	<ul style="list-style-type: none"> Significantly affected viewpoint Photomontage location Viewpoint number 	<p>Engineering earthworks:</p> <ul style="list-style-type: none"> Embankment Cutting <p>Non engineering earthworks:</p> <ul style="list-style-type: none"> Embankment Cutting
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Map Number: LV-04-079

Map Name: Operational Phase Significantly Affected Viewpoints

Community Forum Area CFA23: Balsall Common & Hampton-in-Arden

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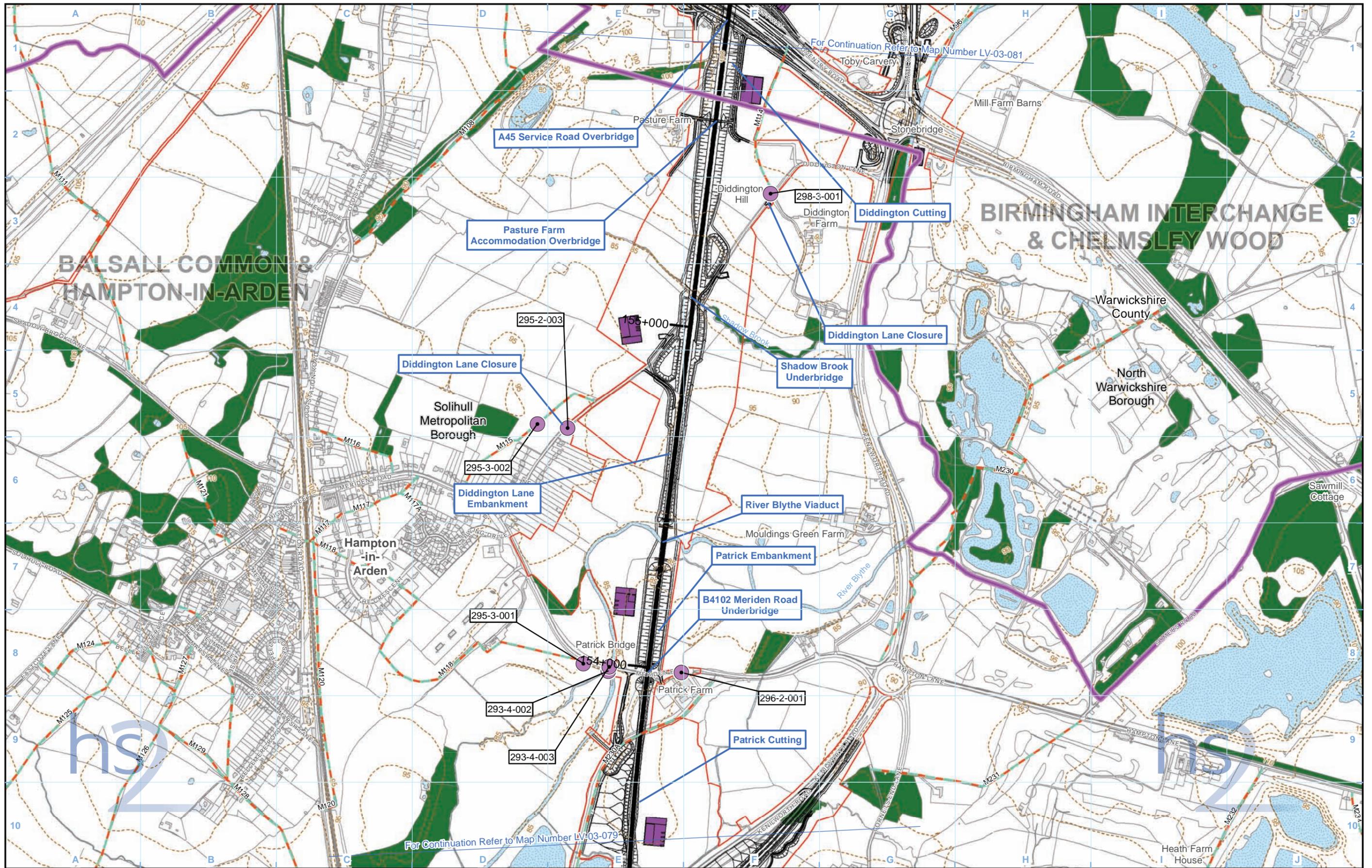
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Date: 24/10/13



Legend

Map Number	LV-03-080a
Map Name	Construction Phase Significantly Affected Viewpoints
Community Forum Area CFA23:	Balsall Common & Hampton-in-Arden

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Date: 24/10/13	

Map Number LV-03-080a

Map Name Construction Phase Significantly Affected Viewpoints

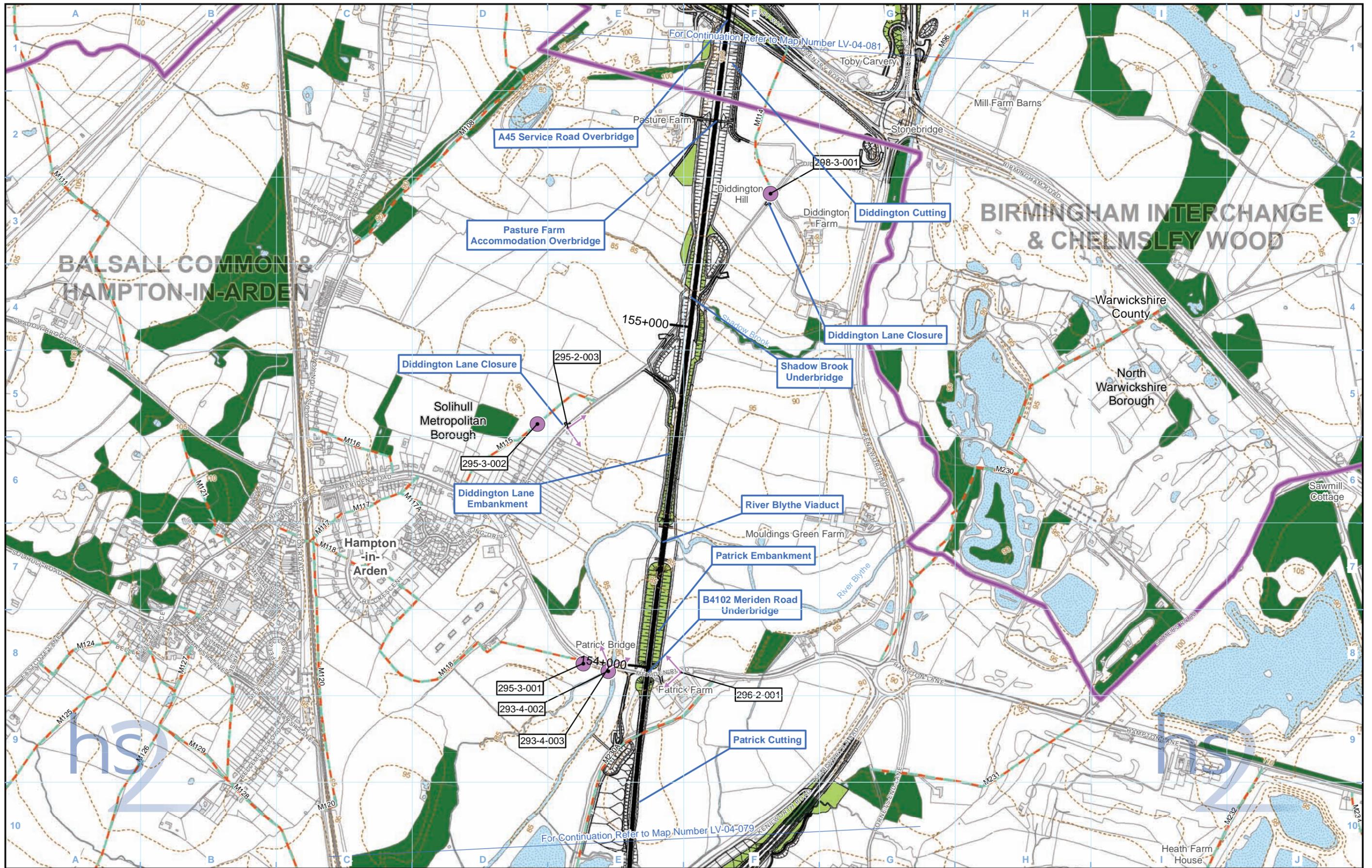
Community Forum Area CFA23: Balsall Common & Hampton-in-Arden

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Doc Number: C254-ARP-EV-MAP-040-000220-P06

Date: 24/10/13



Legend

			Engineering earthworks:
			Non engineering earthworks:

	Viewpoint number
--	------------------

Map Number	LV-04-080a
Map Name	Operational Phase Significantly Affected Viewpoints
Community Forum Area CFA23: Balsall Common & Hampton-in-Arden	

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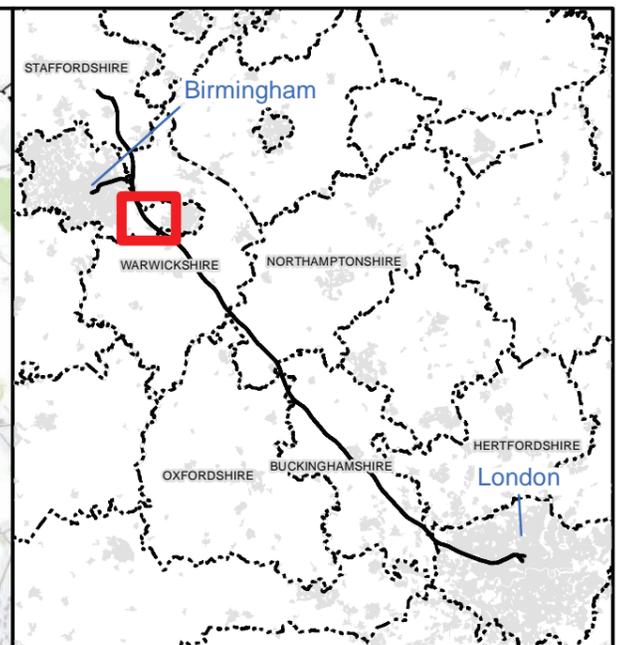
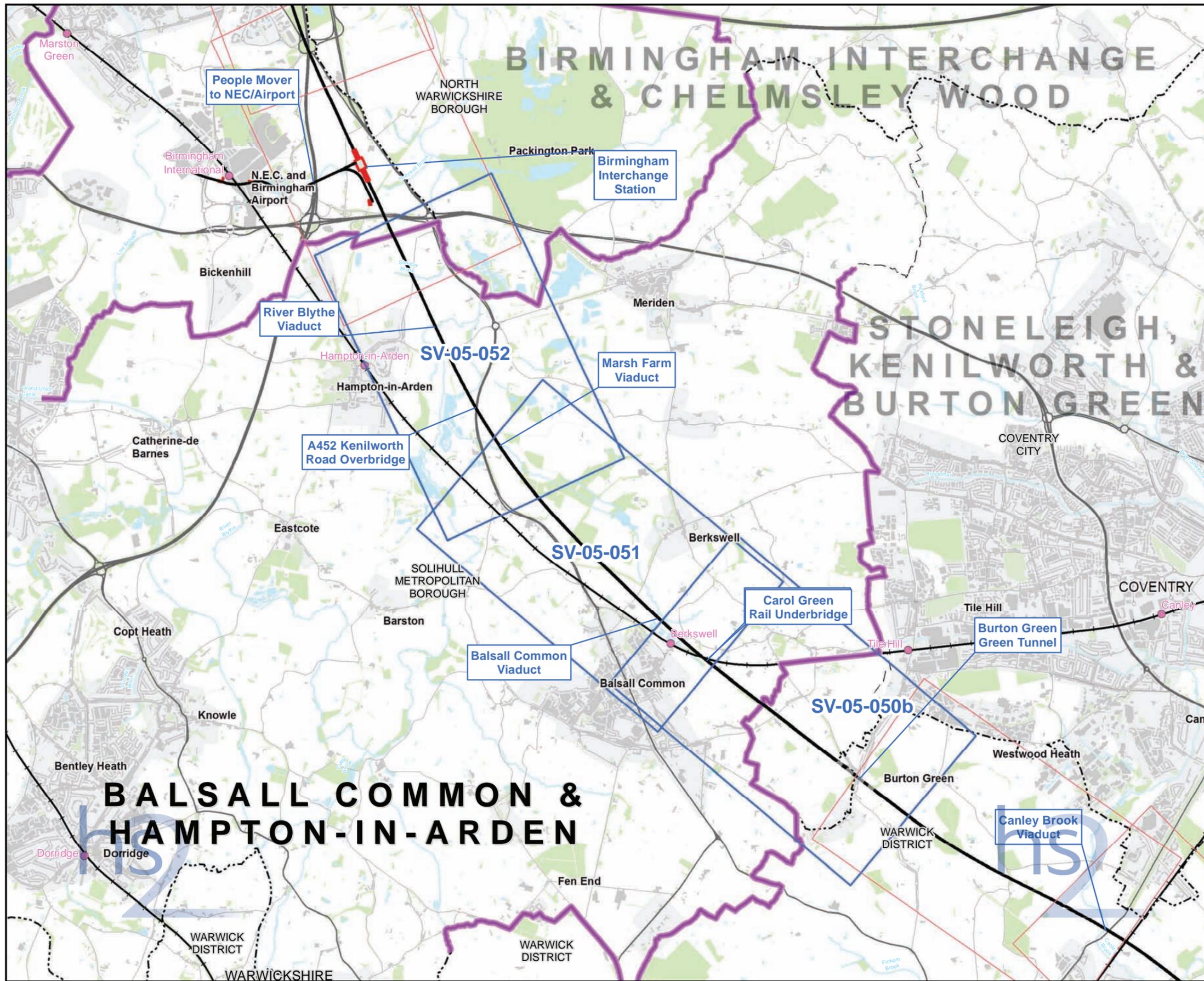
Date: 24/10/13



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LONDON-WEST MIDLANDS ENVIRONMENTAL STATEMENT

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



Map Series Information:

SV-05 presents the direct operational noise impacts and likely significant effects of the scheme.

The SV-05 figure series necessarily 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. Key items on the figure series include:

- the Proposed Scheme (the proposed railway alignments and surrounding associated earthworks/roads);
- blue and green lines representing the wayside airborne noise mitigation measures included in the Proposed Scheme;
- the study areas, which indicate the areas within which direct operational sound and vibration impacts of the scheme have been quantitatively assessed;
- the calculated scheme direct impacts, displayed as colour-coded buildings, and symbols representing buildings that would potentially qualify for noise insulation;
- sound contours representing sound produced by the new railway (displayed in a simpler manner than on SV-01 in order not to obscure other features on the figure series); and
- labels indicating where the likely residual direct noise and/or vibration significant effects have been identified.

A more detailed explanation of each legend item included on the figures can be found in the data dictionary.

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

Main Map Legend

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

Map Number	SV-05-INDEX-CFA23
Map Name	Index Map of: Operational Noise and Vibration Impacts and Likely Significant Effects
	Community Forum Area CFA23: Balsall Common & Hampton in Arden

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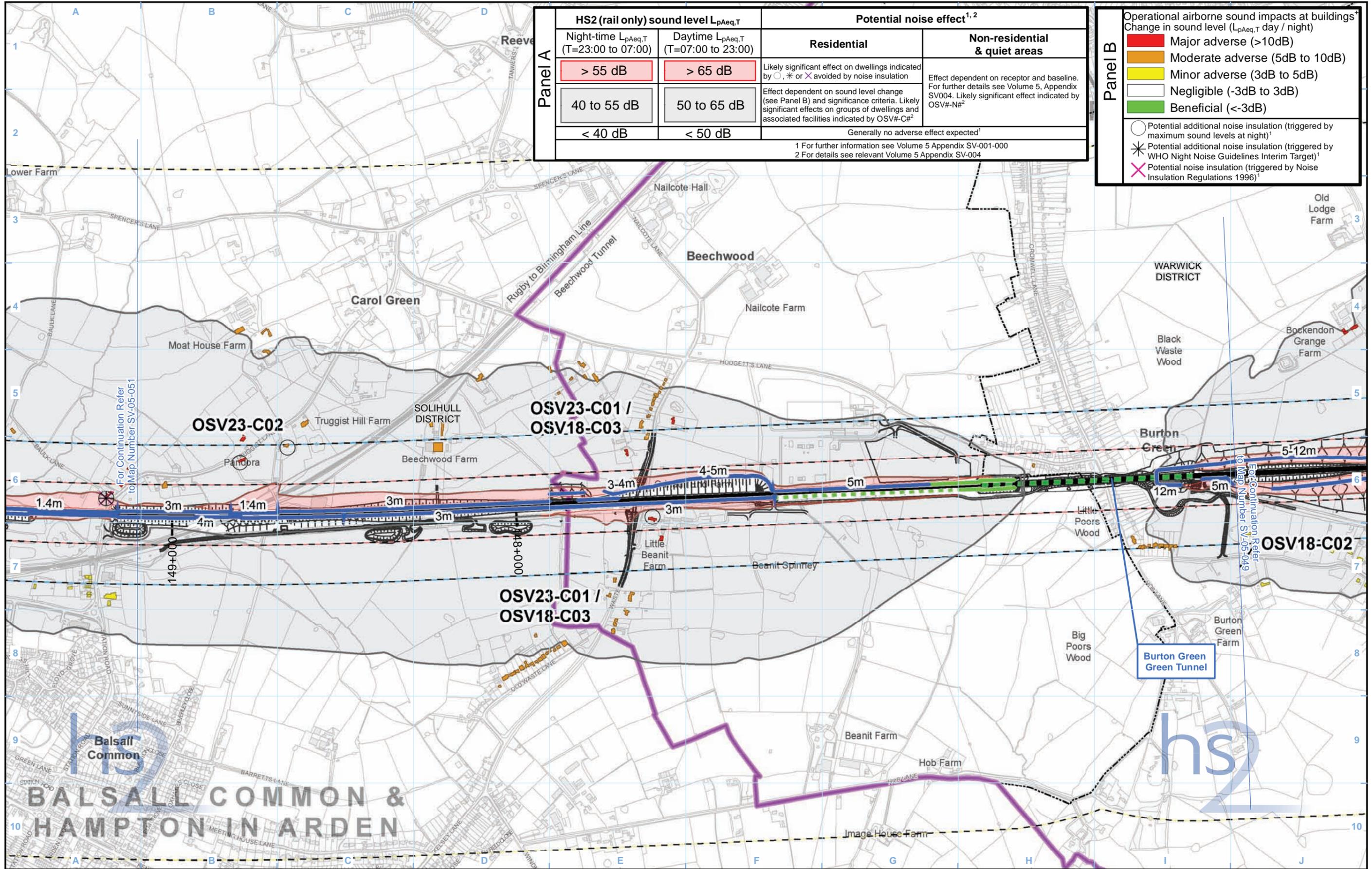
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0 500 1,000 1,500 2,000 Metres

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Doc Number: C250-ARP-EV-MAP-000-004183--P04.00 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 X 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	Generally no adverse effect expected ¹
< 40 dB	< 50 dB			

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)
[Red]	Major adverse (>10dB)
[Orange]	Moderate adverse (5dB to 10dB)
[Yellow]	Minor adverse (3dB to 5dB)
[White]	Negligible (-3dB to 3dB)
[Green]	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
X Potential noise insulation (triggered by Noise Insulation Regulations 1996)¹

Legend - General features	
[Black line]	Route in bored tunnel
[Green line]	Route in green tunnel
[Black line]	Route on surface
[Red box]	Depot, station, headhouse or portal building
[Purple line]	Community forum boundary
[Dashed line]	District/Borough boundary
[Dotted line]	County boundary

Legend - Sound related features	
[Blue hatched]	Committed developments (labelled as CFA#/#)
[Blue line]	Envisaged mitigation to avoid / reduce significant noise effects: Landscaping and/or fence barriers*
[Green line]	Engineering e.g. cuttings (green tunnels separately marked)
[Blue line]	Envisaged measures further reducing noise effects: Other environmental e.g. landscaping
[Green line]	Engineering e.g. cuttings
[Yellow box]	Airborne sound study area
[Red box]	Ground-borne sound & vibration study area (residential and non-residential)
[Blue box]	Ground-borne sound & vibration study area (highly sensitive non-residential)
[Purple box]	Minor ground-borne noise or vibration impact*

Map Number	SV-05-050b
Map Name	Operational Noise and Vibration Impacts and Likely Significant Effects
Community Forum Area CFA23: Balsall Common & Hampton in Arden	

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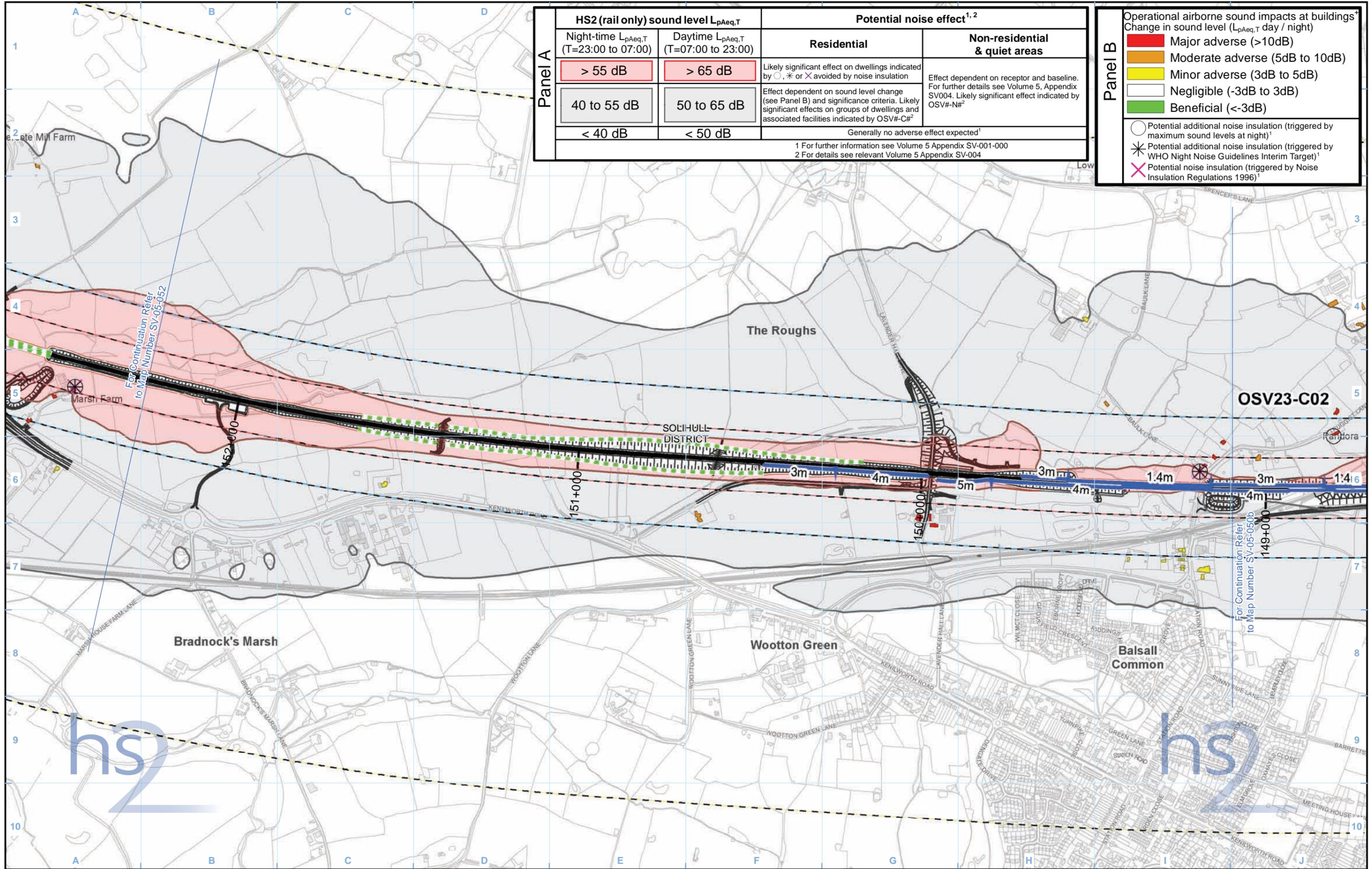
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Date: 29/10/13



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

Operational airborne sound impacts at buildings ⁴ 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

Legend - Sound related features

Engineering earthworks:	Non engineering earthworks:
Embankment	Embankment
Cutting	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-05-051

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

Community Forum Area CFA23: Balsall Common & Hampton in Arden

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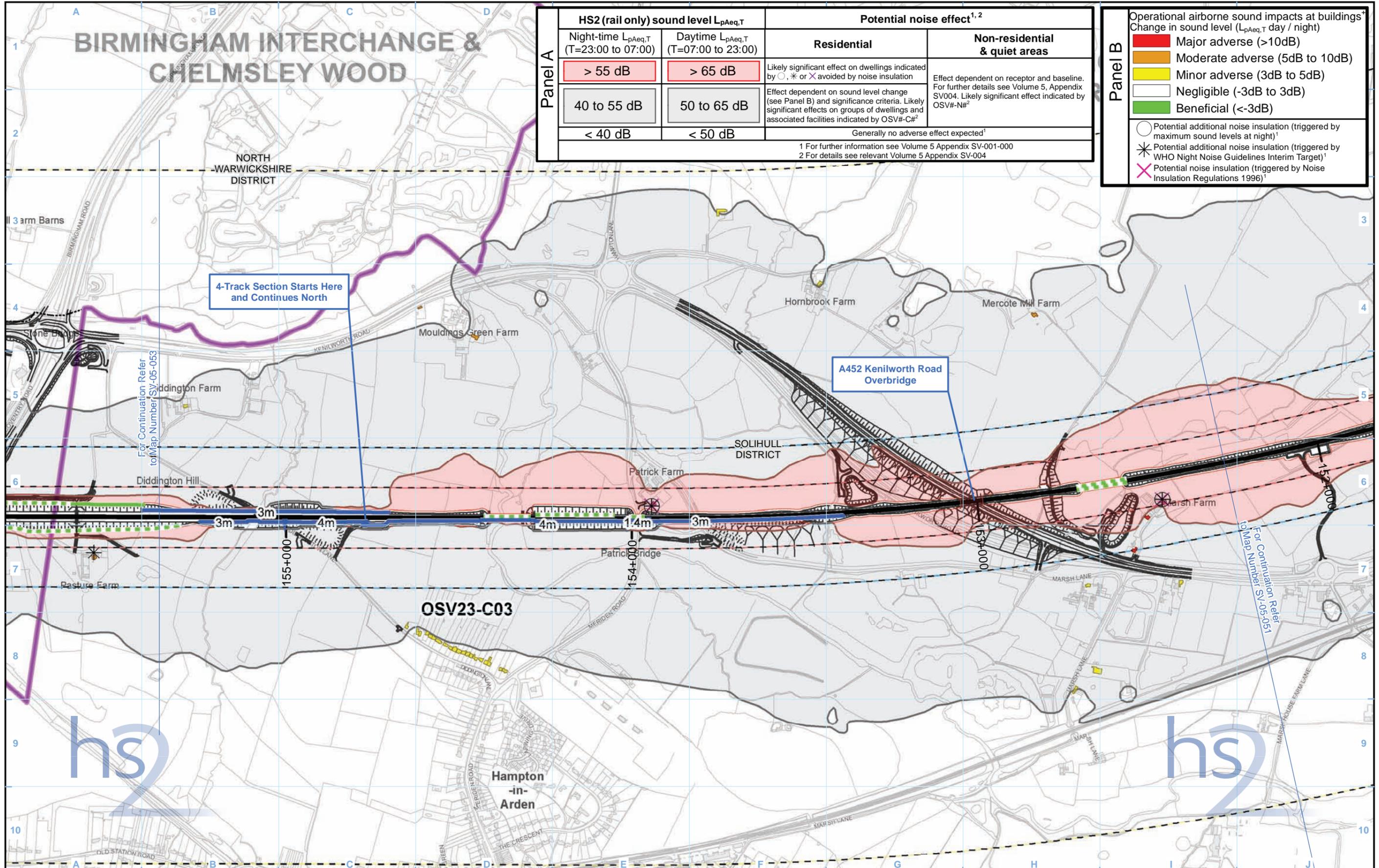
BIRMINGHAM INTERCHANGE & CHELMSLEY WOOD

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 X 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	Generally no adverse effect expected ¹
< 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

Operational airborne sound impacts at buildings ⁴ 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)

Panel B	
○	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

Legend - Sound related features

Engineering earthworks:	Non engineering earthworks:
Embankment	Embankment
Cutting	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-05-052
Map Name	Operational Noise and Vibration Impacts and Likely Significant Effects
Community Forum Area CFA23: Balsall Common & Hampton in Arden	

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