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High Speed Two Phase 2a: West Midlands to Crewe  
Working Draft Environmental Impact Assessment Report  
**Volume 2: Map book**  
**CA4: Whitmore Heath to Madeley**





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**Volume 2: Map book**  
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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.

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

**ARUP**



**PARSONS  
BRINCKERHOFF**

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Map series name	Map series description
CT-05 – Construction Phase	<p>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.</p> <p>The design of the Proposed Scheme will be informed through stakeholder engagement and further engineering and environmental studies.</p> <p>The base mapping shown on the plans is reflective of 2016 Ordnance Survey (OS) data.</p>
CT-06 – Proposed Scheme	<p>These maps show permanent features, infrastructure, restored land, and areas for landscaping, screening and ecological mitigation associated with the Proposed Scheme.</p> <p>The design of the Proposed Scheme will be informed through stakeholder engagement and further engineering and environmental studies.</p> <p>The base mapping shown on the plans is reflective of 2016 Ordnance Survey (OS) data.</p>
CT-10 – Environmental Baseline	<p>The Environmental Baseline maps display a range of environmental data layers.</p> <p>The design of the Proposed Scheme will be informed through consultation and further engineering and environmental studies.</p>
LV-11 – Landscape Character Areas and Viewpoints	<p>The landscape and visual maps (series LV-11) display landscape character areas and visual assessment viewpoints in relation to landform (contours), settlements and PRoW.</p> <p>Landscape character areas are derived from either published sources or have been developed through extensive site survey in the absence of published data. Viewpoints have been selected to represent views of the Proposed Scheme from visual receptors that have the potential to be significantly affected during either construction or operation.</p> <p>All viewpoints lie within the zone of theoretical visibility of the Proposed Scheme, which is being developed for inclusion in the formal EIA.</p> <p>These maps indicate all viewpoints considered in the assessment of visual effects. The working draft EIA Volume 2 reports only report viewpoints which are considered likely to be significantly affected by the Proposed Scheme.</p> <p>The design of the Proposed Scheme will be informed through stakeholder engagement and further engineering and environmental studies.</p>
SV-01 – Operational Sound Contour Maps and Likely Significant Effects	<p>SV-01 presents the predicted operational sound from the new railway.</p> <p>The sound levels from the new railway (expressed as LpAeq,T) are presented in typical noise mapping colours in 5 dB steps. There is a panel at the top right of the figure; the left-hand section of this panel contains a key communicating the night-time and daytime sound levels represented by the various colours. The right-hand part of the same panel contains text explaining how the sound levels presented on the figure inform the assessment of direct noise impacts and likely significant effects.</p> <p>The design of the Proposed Scheme will be informed through stakeholder engagement and further engineering and environmental studies.</p>
WR-01 – Surface Water Baseline	<p>This map series shows surface water features such as rivers, streams, ponds, canals and reservoirs, flood zones, and surface water abstractions as referred to in the working draft EIA Report.</p> <p>All points where the alignment crosses a watercourse are also shown and labelled with their reference in the text. These are shown as "Surface water crossing locations".</p> <p>The design of the Proposed Scheme will be informed through stakeholder engagement and further engineering and environmental studies</p>

# Mapping explanatory notes

## Structure of the HS2 Phase 2a working draft Environmental Impact Assessment Report

This document is part of the working draft EIA Report for Phase 2a of the proposed HS2 rail network, between the West Midlands and Crewe. The working draft EIA Report sets out the current design of the Proposed Scheme, the likely environmental impacts (and, where possible, the likely significant environmental effects) of the construction and operation of the Proposed Scheme and proposed mitigation measures. The mapping will be updated for the formal EIA Report to reflect further work on the design and environmental assessment between now and when the hybrid Bill is deposited.

The working draft EIA Report comprises the following documents:

- Non-technical summary. This provides a summary in non-technical language of: the Proposed Scheme and reasonable alternatives considered; the impacts of the Proposed Scheme (and where possible, the likely significant environmental effects), both beneficial and adverse and the proposed means of avoiding, reducing or managing the likely significant adverse effects.
- Volume 1: Introduction and methodology. This provides: a description of HS2, the EIA process and the approach to consultation and engagement; details of the permanent features of the Proposed Scheme and generic construction techniques, based on the current level of design; a summary of the scope and methodology for the environmental topics and a summary of the strategic, route-wide and route corridor alternatives to the scheme and local alternatives considered prior to November 2015.
- Volume 2: Community area reports and map books. These cover the following community areas: 1 Fradley to Colton; 2 Colwich to Yarlet; 3 Stone and Swynnerton; 4 Whitmore Heath to Madeley; and 5 South Cheshire. The reports provide the following for each area: an overview of the area; a description of the construction and operation of the Proposed Scheme within the area, based on the current level of design; a summary of local alternatives considered since November 2015; a description of the environmental baseline; a description of the environmental impacts of the Proposed Scheme (and, where possible, the likely significant environmental effects), both beneficial and adverse and the proposed means of avoiding, reducing or managing the likely significant adverse effects.  
The maps relevant to each community area are provided in separate Volume 2 map books.
- Volume 3: Route-wide effects. This describes the impacts and effects that are likely to occur at a geographical scale greater than the community areas described in Volume 2.
- Glossary of terms and list of abbreviations. This contains terms and abbreviations, including units of measurement, used throughout the working draft EIA Report.
- Alternatives report: This describes the evolution of the Proposed Scheme and the reasonable alternatives considered.
- Draft Code of Construction Practice (CoCP): This sets out the measures and standards to provide effective planning, management and control of potential impacts on individuals, communities and the environment during construction.

## 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 working draft EIA Report contain Ordnance Survey (OS) data. HS2 Ltd use the most up to date mapping available, where possible, supplied by the OS and 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 working draft EIA Report have a chainage value shown next to the alignment. Chainage is presented on the maps in black font, in the form of XX+YYY. E.g. 192+000 or 239+500.

Chainage (known as reference chainage) is referenced from Euston Station, which is 0+000, and the value presented is in metres. E.g. 192+000 refers to the point, 192,000m, or 192km, 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 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.

## 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 Crewe to the left.

The exception to this, is map series LV-11, which presents the alignment running from bottom to 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 Crewe to the top.

## Map books

In total there are 5 map books which make up the working draft EIA Report, all within volume 2. A list of the titles is provided below for reference.

Name
Volume 2 Community area map book: CA1 Fradley to Colton
Volume 2 Community area map book: CA2 Colwich to Yarlet
Volume 2 Community area map book: CA3 Stone and Swynnerton
Volume 2 Community area map book: CA4 Whitmore Heath to Madeley
Volume 2 Community area map book: CA5 South Cheshire

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High Speed Two Phase 2a: West Midlands to Crewe  
Working Draft Environmental Impact Assessment Report  
**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 gives 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 Inventory Sites (AWIS)	Ancient Woodland Inventory. Ancient Woodland is land that has had continuous woodland cover since at least 1600AD. Natural England maintain an inventory of ancient woodlands. Additional woodlands which are considered likely to be ancient, but have not been formally added to the inventory are not included in the mapped data set.	Natural England	© Natural England copyright 2016 Contains Ordnance Survey data © Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2016. <a href="http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf">http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf</a>
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. 192+000 refers to the point, 192,000m, or 192km, 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	
Community area boundary	The working draft EIA Report has been split into 5 sections called Community Areas.	High Speed Two (HS2) Ltd	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2016.
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.	Staffordshire County Council  Cheshire Historic Environment Record	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2016.  © Staffordshire County Council  © Cheshire Historic Environment Record
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. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2016.

Legend features	Definition	Source	Copyright
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. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2016.
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 features further reducing noise effects	<p>Other environmental features e.g. landscaping: These lines represent environmental mitigation features provided for reasons 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>	High Speed Two (HS2) Ltd	

Legend features	Definition	Source	Copyright
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.
Flood Zone 2	National Flood Zone 2 (FZ2). Land assessed, ignoring the presence of flood defences, as having between a 1% and 0.1% annual probability of river flooding.	Environment Agency	© Environment Agency copyright and/or database right 2016. All rights reserved.
Flood Zone 3	National Flood Zone 3 (FZ3). Land assessed, ignoring the presence of flood defences, as having a 1% or greater annual probability of river flooding.	Environment Agency	© Environment Agency copyright and/or database right 2016. All rights reserved.
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	
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	
Historic flooding area	Historic Flood Map is the maximum extent of all recorded individual Historic Flood Events Outlines from river, the sea and groundwater springs and shows areas of land that have previously been subject to flooding in England & Wales.	Environment Agency	© Environment Agency copyright and/or database right 2016. All rights reserved.
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	
Landscape character areas (LCA)	This dataset represents the landscape character areas that have been assessed route wide as defined by the Landscape Architects. Landscape character areas (LCAs) are single unique areas which are the discrete geographical areas of a particular landscape type.	High Speed Two (HS2) Ltd	
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	
Licensed surface water abstraction (excluding public water supplies)	A surface water abstraction licence issued by the Environment Agency, which abstracts more than 20 cubic metres a day.  Data supplied as spreadsheet. Digitised within 2km. Excludes the precise location of public water supplies in order to comply with	Environment Agency	© Environment Agency copyright and/or database right 2016. All rights reserved.

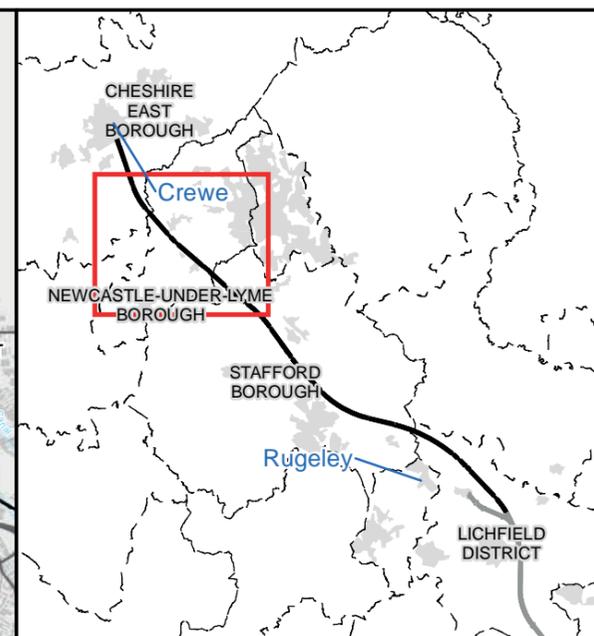
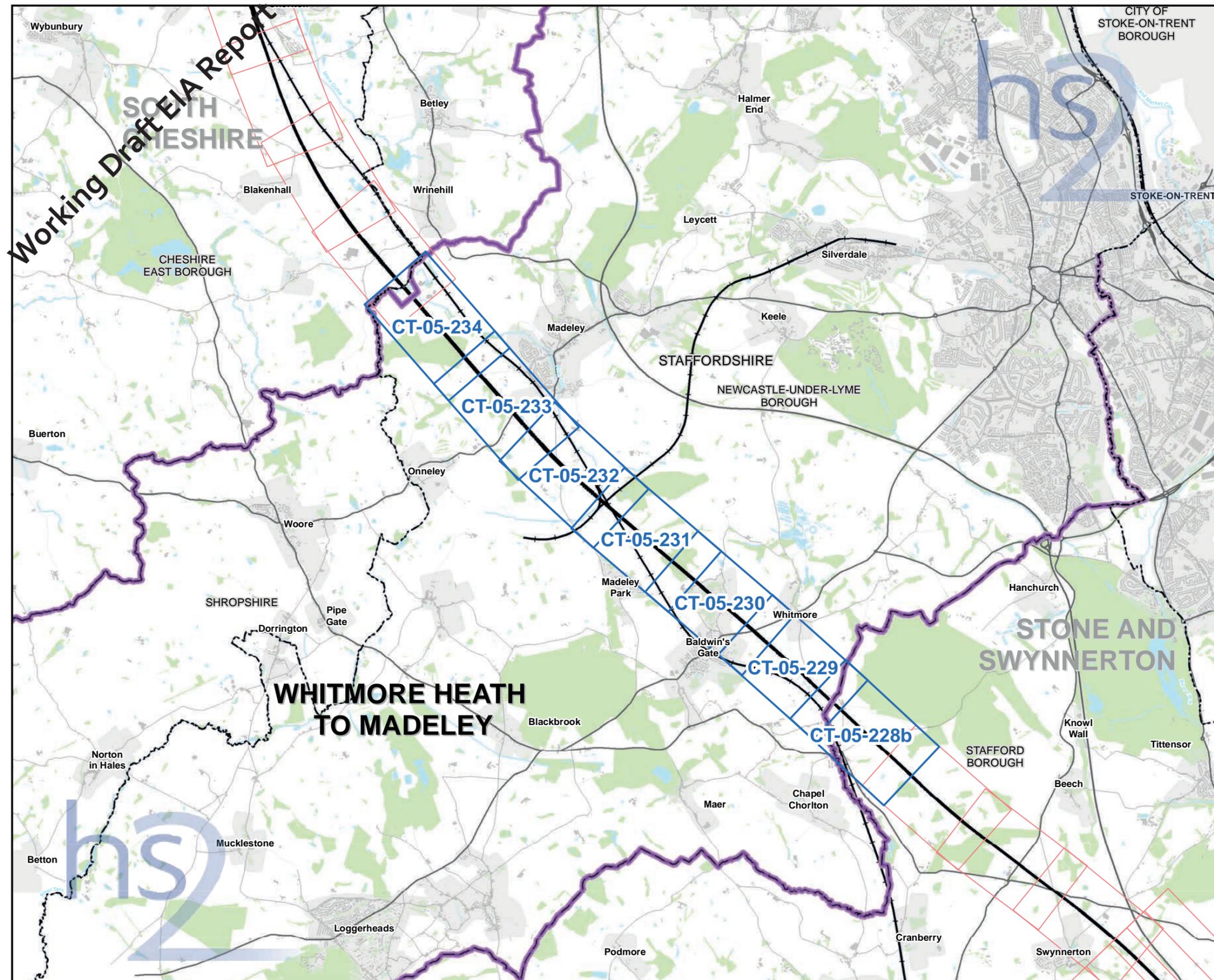
Legend features	Definition	Source	Copyright
	Security and Environmental Measures Direction 1998.		
Listed building Grade I Listed building Grade II* Listed building Grade II	Buildings and structures in England of special architectural or historic interest. In some instances the source data for individual 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.	Historic England	© Historic England 2016. Contains Ordnance Survey data © Crown copyright and database right 2016  The Historic England GIS Data contained in this material was obtained on 21 June 2016. The most publicly available up to date Historic England GIS Data can be obtained from HistoricEngland.org.uk.
Local Nature Reserve (LNR)	A Local Nature Reserve (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 2016 Contains Ordnance Survey data © Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2016. <a href="http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf">http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf</a>
Local Wildlife Site (LWS) - county/metropolitan value  Local Wildlife Site (LWS) - less than county/metropolitan value	Local Wildlife Sites (LWSs) 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.  Local Wildlife Sites (LWS) are local non-statutory nature conservation sites. They were formerly referred to as County Wildlife Sites.  In some cases Local Wildlife data is not shown as this is still being verified.	Staffordshire Ecological Record  Cheshire East Council	© Staffordshire Ecological Record  © Cheshire East Council
Main construction compound	Main 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 and also modifications to existing utilities required to construct the scheme. Includes water, electricity, telecommunications and gas.	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 2016 Contains Ordnance Survey data © Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2016. <a href="http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf">http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf</a>
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	High Speed Two (HS2) Ltd	

Legend features	Definition	Source	Copyright
	cuttings - see the SV map series for more detail on noise mitigation.		
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	
Non-residential receptors identified for assessment	The assessment of sound, noise and vibration considers the likely significant noise and vibration effects arising from the construction and operation of the Proposed Scheme on community facilities such as schools, hospitals, places of worship, and also commercial properties such as offices and hotels, collectively described as 'non-residential receptors'.	High Speed Two (HS2) Ltd	
Photomontage location (proposed)	Shows the locations from which verifiable photomontages have been produced. The locations are based on a fully surveyed point.	High Speed Two (HS2) Ltd	
Potential noise insulation qualifier	Potential noise insulation qualifier. Further information on noise insulation can be found in Volume 2 reports.	High Speed Two (HS2) Ltd	
Public realm/Replacement community facility	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.  Replacement community facility: Area of land for the provision of a permanent replacement community facility, such as a playground, community centre or activity centre.	High Speed Two (HS2) Ltd	
Public Rights of Way	Public rights of way are highways which can be used for the following purposes: - 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.	Staffordshire County Council  Cheshire East Council	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2016.  © Staffordshire County Council  © Cheshire East 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, lineside 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 Historic England. 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) improvements.	Historic England	© Historic England 2016. Contains Ordnance Survey data © Crown copyright and database right 2016  The Historic England GIS Data contained in this material was obtained on 17 September 2015. The most publicly available up to date Historic England GIS Data can be obtained from <a href="http://HistoricEngland.org.uk">HistoricEngland.org.uk</a> .
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	High Speed Two (HS2) Ltd	

Legend features	Definition	Source	Copyright
	climate change.		
Returned to suitable development use	Post construction land will be reinstated to enable potential future development.	High Speed Two (HS2) Ltd	
Risk of Flooding from Surface Water	<p>The Environment Agency's updated Flood Map for surface water gives an indication of the broad extent of areas likely to be at risk of surface water flooding, i.e. areas where surface water would be expected to flow or pond.</p> <p>The uFMfSW will pick out natural drainage channels, rivers, low areas in floodplains, and flow paths between buildings. But it will only indicate flooding caused by local rainfall. It does not show flooding that occurs from groundwater, overflowing watercourses, drainage systems or public sewers caused by catchment-wide rainfall events or river flow. It is therefore very important that users apply local knowledge and in particular the 'locally agreed surface water information' held by the lead local flood authority to assess how suitable the updated Flood Map for Surface Water is for their needs.</p> <p>The uFMfSW may be suitable for identifying where properties are in areas at risk of flooding for locations where surface water flooding is strongly influenced by topography but should not be used to define the flood risk at an individual property.</p> <p>Two rainfall events, one with a 1 in 30 and the other with a 1 in 100 chance of occurring in any year, are modelled and mapped.</p>	Environment Agency	© Environment Agency copyright and/or database right 2016. All rights reserved.
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.	Historic England	© Historic England 2016. Contains Ordnance Survey data © Crown copyright and database right 2016  The Historic England GIS Data contained in this material was obtained on 17 September 2015. The most publicly available up to date Historic England GIS Data can be obtained from <a href="http://HistoricEngland.org.uk">HistoricEngland.org.uk</a> .
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 2016 Contains Ordnance Survey data © Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2016. <a href="http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf">http://www.naturalengland.org.uk/Images/open-government-licence-NE-OS_tcm6-30743.pdf</a>
Stopped-up PRow	Public rights of way that will be closed due to construction of the scheme.	High Speed Two (HS2) Ltd	
Surface water crossing location	Locations where the route crosses a watercourse.	High Speed Two (HS2) Ltd	

Legend features	Definition	Source	Copyright
Sustainable placement	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 diversion / realignment	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	
Temporary replacement community facility	Area of land for the provision of a temporary replacement community facility, such as a playground, community centre or activity centre, whilst construction works are in progress.	High Speed Two (HS2) Ltd	
Tunnel portal	The footprint of a tunnel portal.	High Speed Two (HS2) Ltd	
Tunnels external extent	The external excavated extent of each tunnel bore.	High Speed Two (HS2) Ltd	
Viewpoint	This dataset shows the locations of the visual receptors from which the schemes visual impact has been assessed.	High Speed Two (HS2) Ltd	
Water body	Based on Ordnance Survey Vector Map District.	Ordnance Survey	© Crown copyright. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2016.
Watercourse	The Detailed River Network (DRN) is the only large-scale, accurate and fully attributed digital river centreline covering England and Wales.	Environment Agency	© Environment Agency copyright and/or database right 2016. All rights reserved.
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. Reproduced by permission of Ordnance Survey Licence Number 100049190. Year of Publication 2016.
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	

High Speed Two Phase 2a: West Midlands to Crewe  
Working Draft Environmental Impact Assessment Report  
**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 design of the Proposed Scheme will be informed through stakeholder engagement and further engineering and environmental studies.

The base mapping shown on the plans is reflective of 2016 Ordnance Survey (OS) data.

### Main Map Legend

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

Map Number	CT-05-INDEX-CA4
Map Name	Index Map of: Construction Phase Working draft EIA report
	Community Area CA4: Whitmore Heath to Madeley

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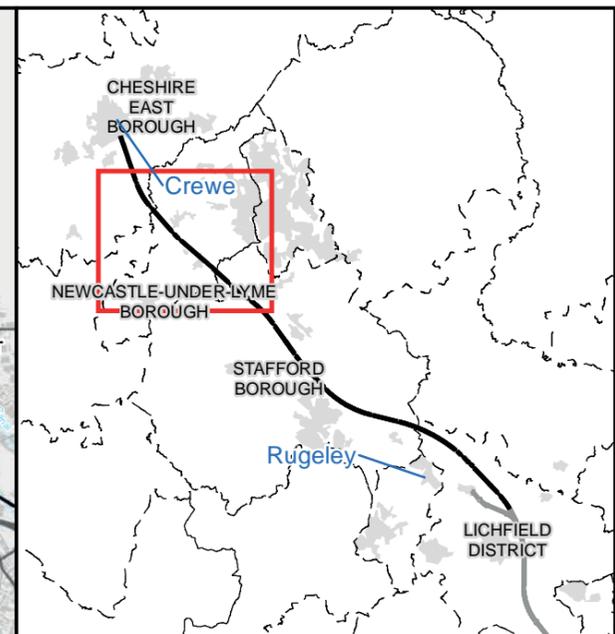
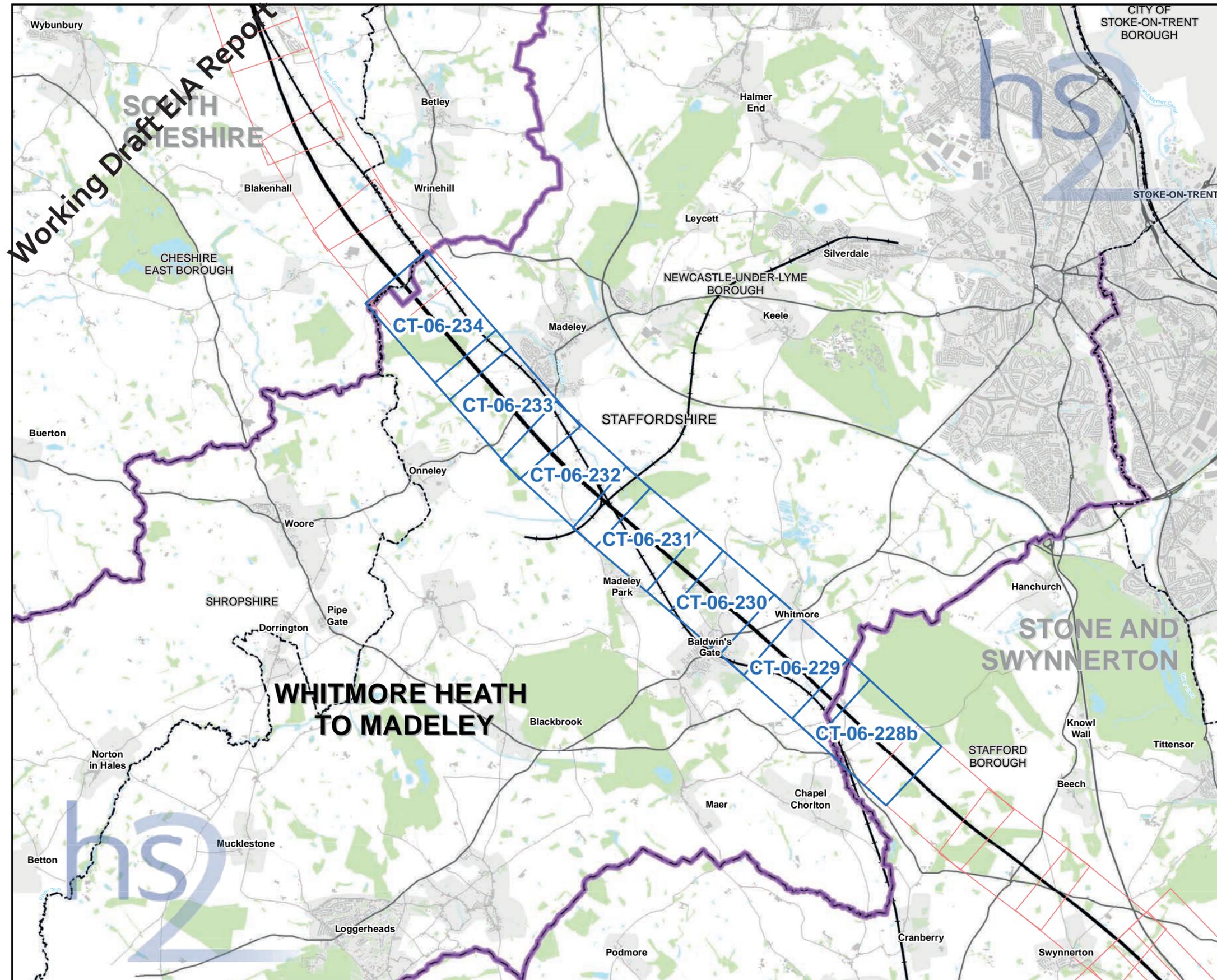
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**Doc Number:** C861-ARP-EV-MAP-000-510004-P02

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**Date:** 02/08/16



### 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 design of the Proposed Scheme will be informed through stakeholder engagement and further engineering and environmental studies.

The base mapping shown on the plans is reflective of 2016 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 area boundary
	Existing railway station
	County boundary
	District/Borough boundary
	Map sheets included in this community area
	Map sheets not included in this community area

Map Number	CT-06-INDEX-CA4
Map Name	Index Map of: Proposed Scheme Working draft EIA report
	Community Area CA4: Whitmore Heath to Madeley

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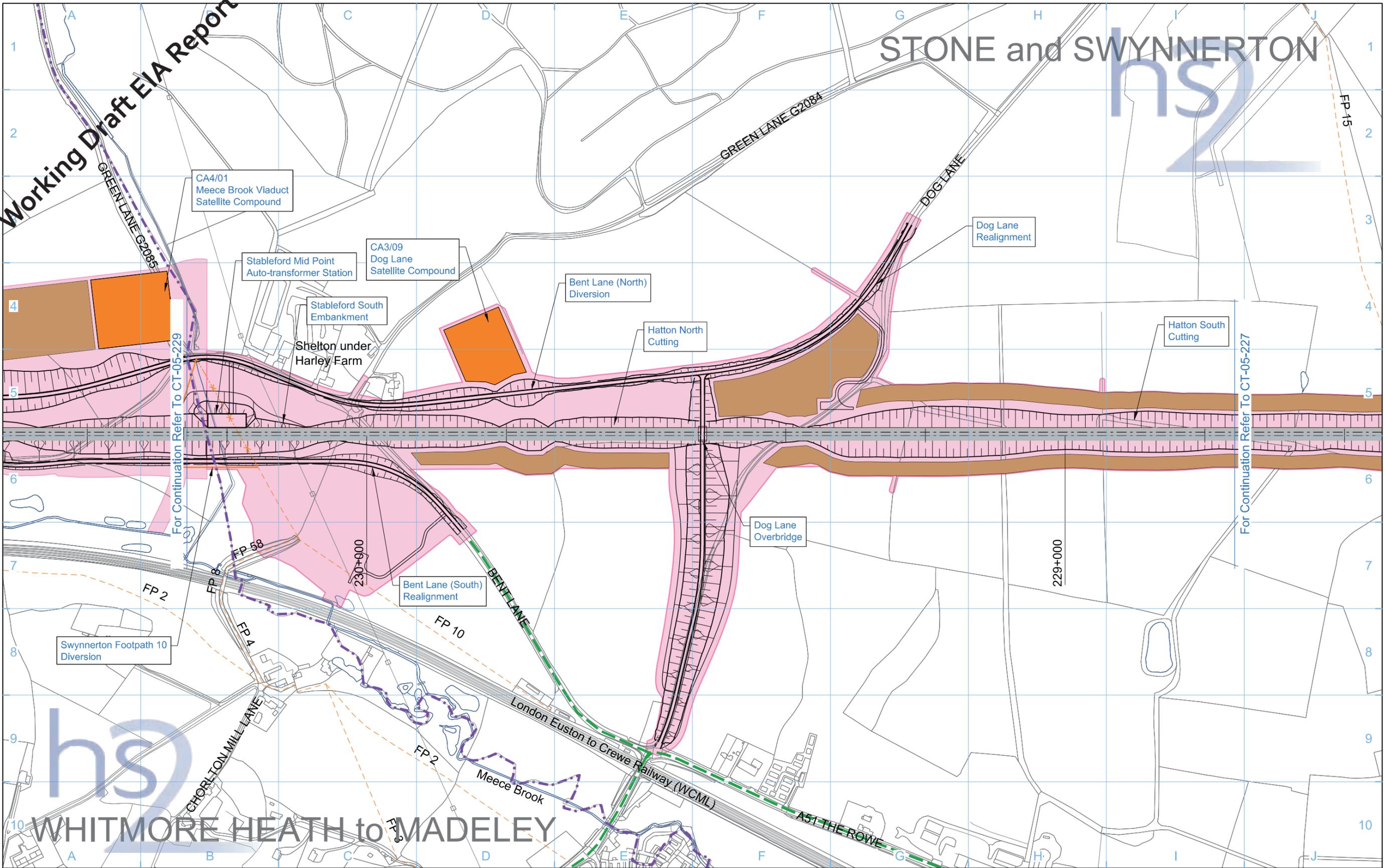
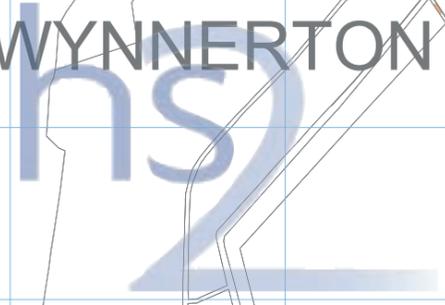
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Date: 02/08/16

Working Draft EIA Report

# STONE and SWYNNERTON



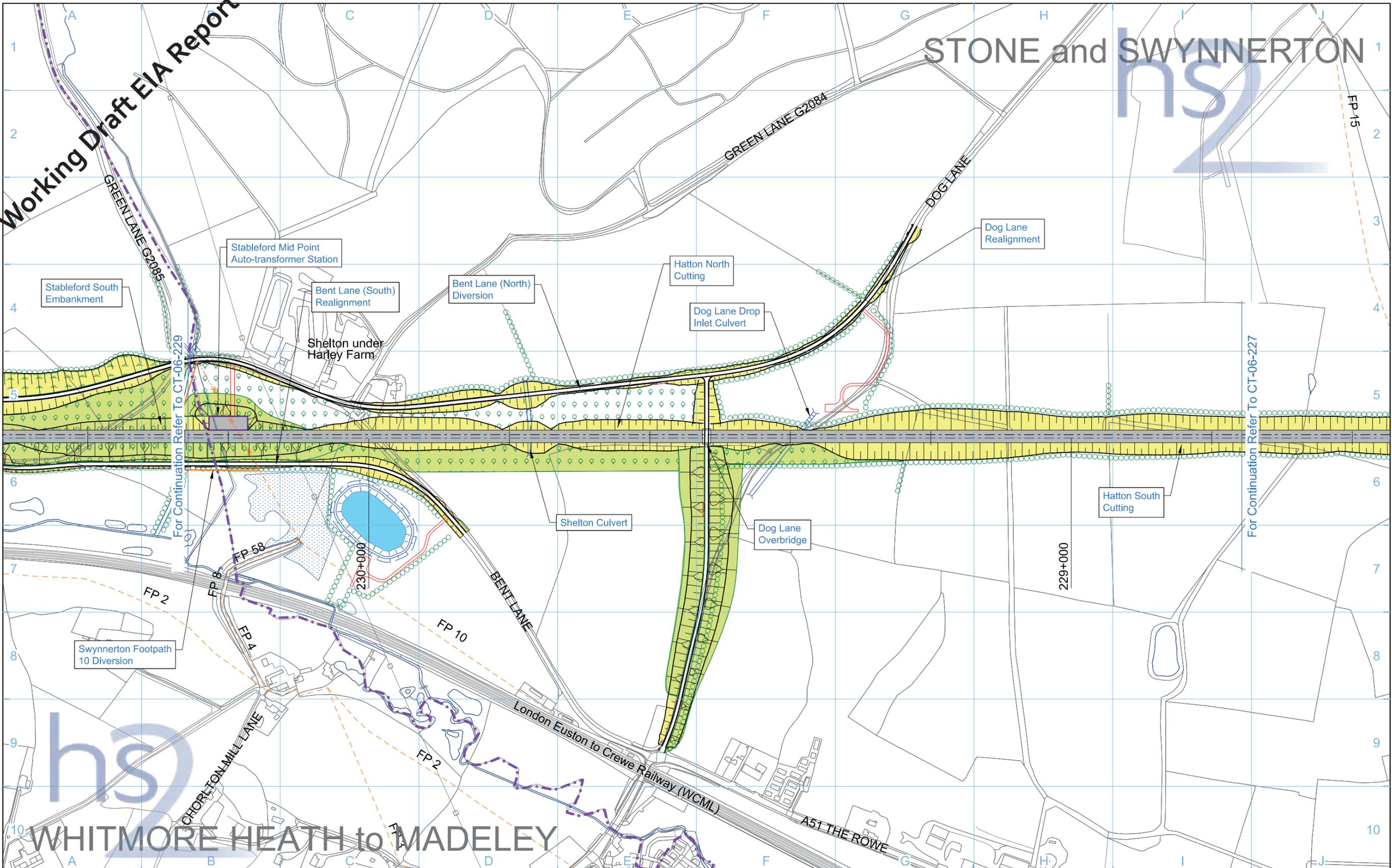
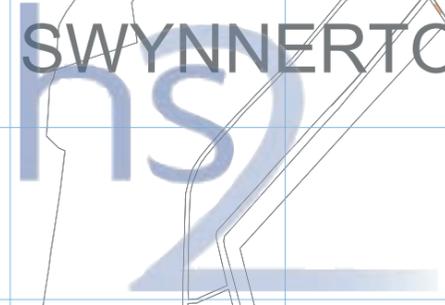
For Continuation Refer To CT-05-229

For Continuation Refer To CT-05-227

<b>Legend</b> <ul style="list-style-type: none"> <li>Depot, station, headhouse or portal building</li> <li>Tunnel portal</li> <li>Main construction compound</li> <li>Satellite construction compound</li> <li>Temporary material stockpile</li> </ul>		<ul style="list-style-type: none"> <li>Rail alignment formation</li> <li>Landscape earthworks</li> <li>Engineering earthworks</li> <li>County boundary</li> <li>Borough / District boundary</li> <li>Land potentially required during construction</li> </ul>		<ul style="list-style-type: none"> <li>Temporary replacement community facility</li> <li>Community Area boundary</li> <li>Existing watercourse</li> <li>Tunnels external extent</li> <li>Construction traffic route</li> <li>Existing public right of way (PRoW)</li> </ul>		<ul style="list-style-type: none"> <li>New, diverted or realigned PRoW</li> <li>Stopped-up PRoW</li> <li>Temporary PRoW diversion / realignment</li> <li>Temporary highway diversion / realignment</li> <li>Main utility works</li> </ul>		<ul style="list-style-type: none"> <li>Chainage (e.g. 10+000)</li> <li>Rail alignment</li> </ul>	
<b>Map Number</b> CT-05-228b		<b>Map Name</b> Construction Phase				Registered in England. Registration number 06791886 Registered office: One Canada Square, London, E14 5AB		Scale at A3: 1:5,000 	
<b>Community Area</b> CA4 Whitmore Heath to Madeley		© Crown copyright and database rights 2016. Ordnance Survey Licence Number 100049190.		Doc Number: C861-ARP-EV-DPL-000-055328		P04 Date: 03/08/16			

Working Draft EIA Report

# STONE and SWYNNERTON



- 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/Replacement community facility
- Engineering earthworks
- Landscape earthworks
- Rail alignment formation
- Returned to suitable development use
- County boundary
- Borough / District boundary

- Community Area 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-06-228b
Map Name	Proposed Scheme
Community Area	CA4 Whitmore Heath to Madeley

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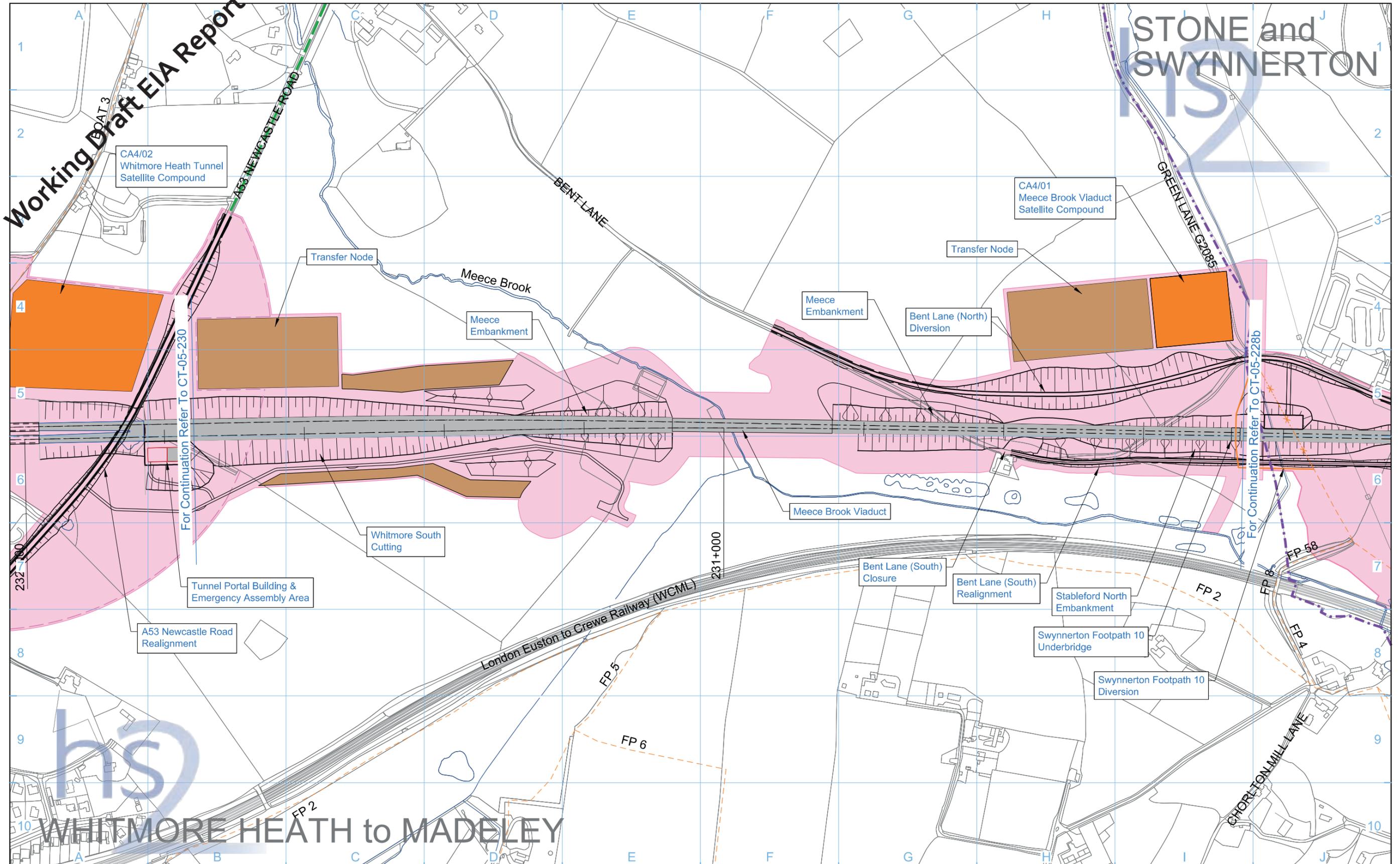
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# WHITMORE HEATH to MADELEY

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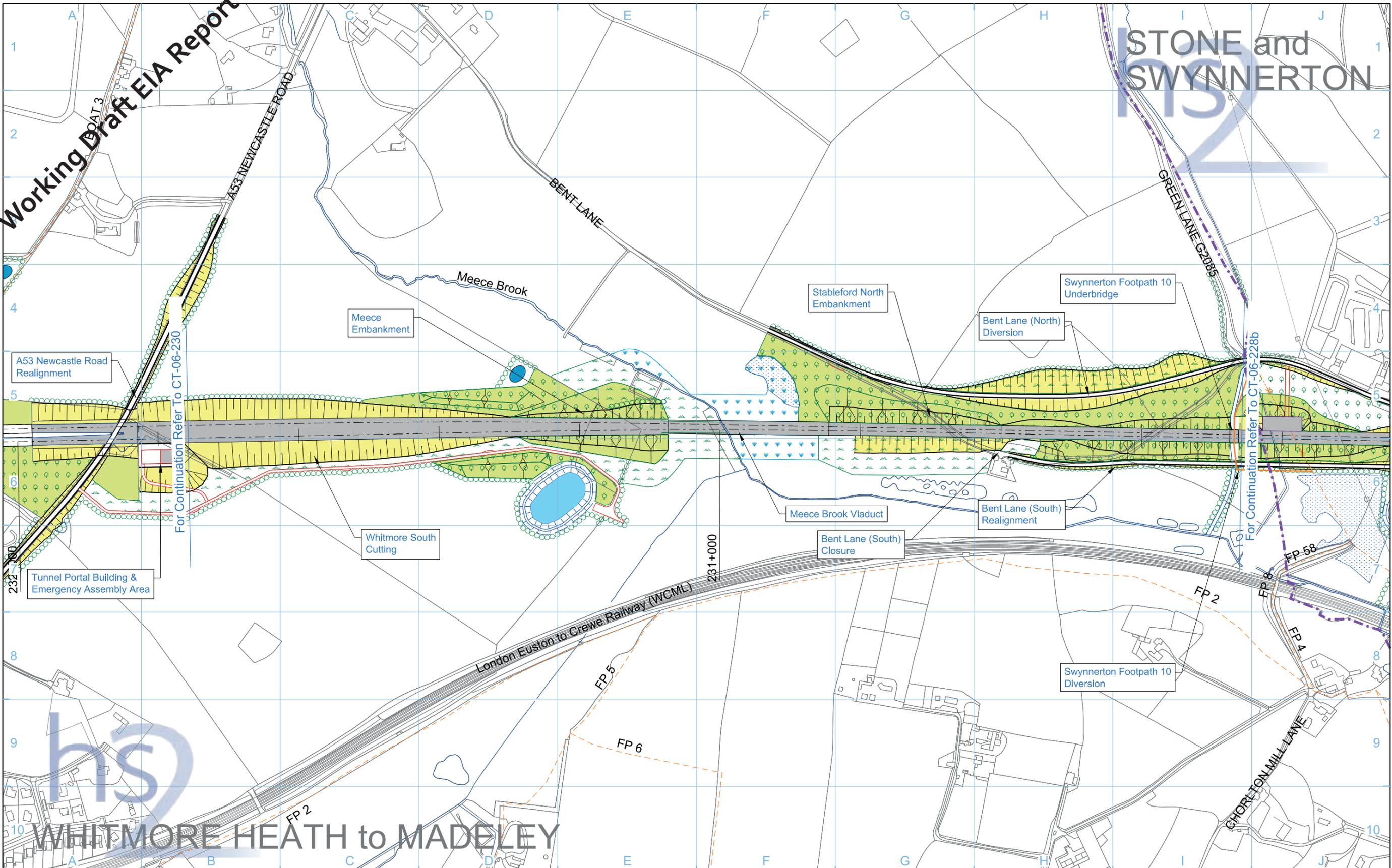
**STONE and SWYNNERTON**



<b>Legend</b> <ul style="list-style-type: none"> <li>Depot, station, headhouse or portal building</li> <li>Tunnel portal</li> <li>Main construction compound</li> <li>Satellite construction compound</li> <li>Temporary material stockpile</li> </ul>		<ul style="list-style-type: none"> <li>Rail alignment formation</li> <li>Landscape earthworks</li> <li>Engineering earthworks</li> <li>County boundary</li> <li>Borough / District boundary</li> <li>Land potentially required during construction</li> </ul>		<ul style="list-style-type: none"> <li>Temporary replacement community facility</li> <li>Community Area boundary</li> <li>Existing watercourse</li> <li>Tunnels external extent</li> <li>Construction traffic route</li> <li>Existing public right of way (PRoW)</li> </ul>		<ul style="list-style-type: none"> <li>New, diverted or realigned PRoW</li> <li>Stopped-up PRoW</li> <li>Temporary PRoW diversion / realignment</li> <li>Temporary highway diversion / realignment</li> <li>Main utility works</li> </ul>		<ul style="list-style-type: none"> <li>Chainage (e.g. 10+000)</li> <li>Rail alignment</li> </ul>		Map Number: <b>CT-05-229</b> Map Name: <b>Construction Phase</b> Community Area: CA4 Whitmore Heath to Madeley		<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 06791866                  Registered office: One Canada Square, London, E14 5AB</p> <p>Scale at A3: 1:5,000</p> <p>© Crown copyright and database rights 2016.                  Ordnance Survey Licence Number 100049190.</p> <p><b>Doc Number:</b> C861-ARP-EV-DPL-000-055229 <b>P04</b> <b>Date:</b> 03/08/16</p>	
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**STONE and SWYNNERTON**



- Legend**
- Depot, station, headhouse or portal building
  - Tunnel portal
  - Electricity substation
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- 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	<b>CT-06-229</b>
Map Name	<b>Proposed Scheme</b>
Community Area	CA4 Whitmore Heath to Madeley

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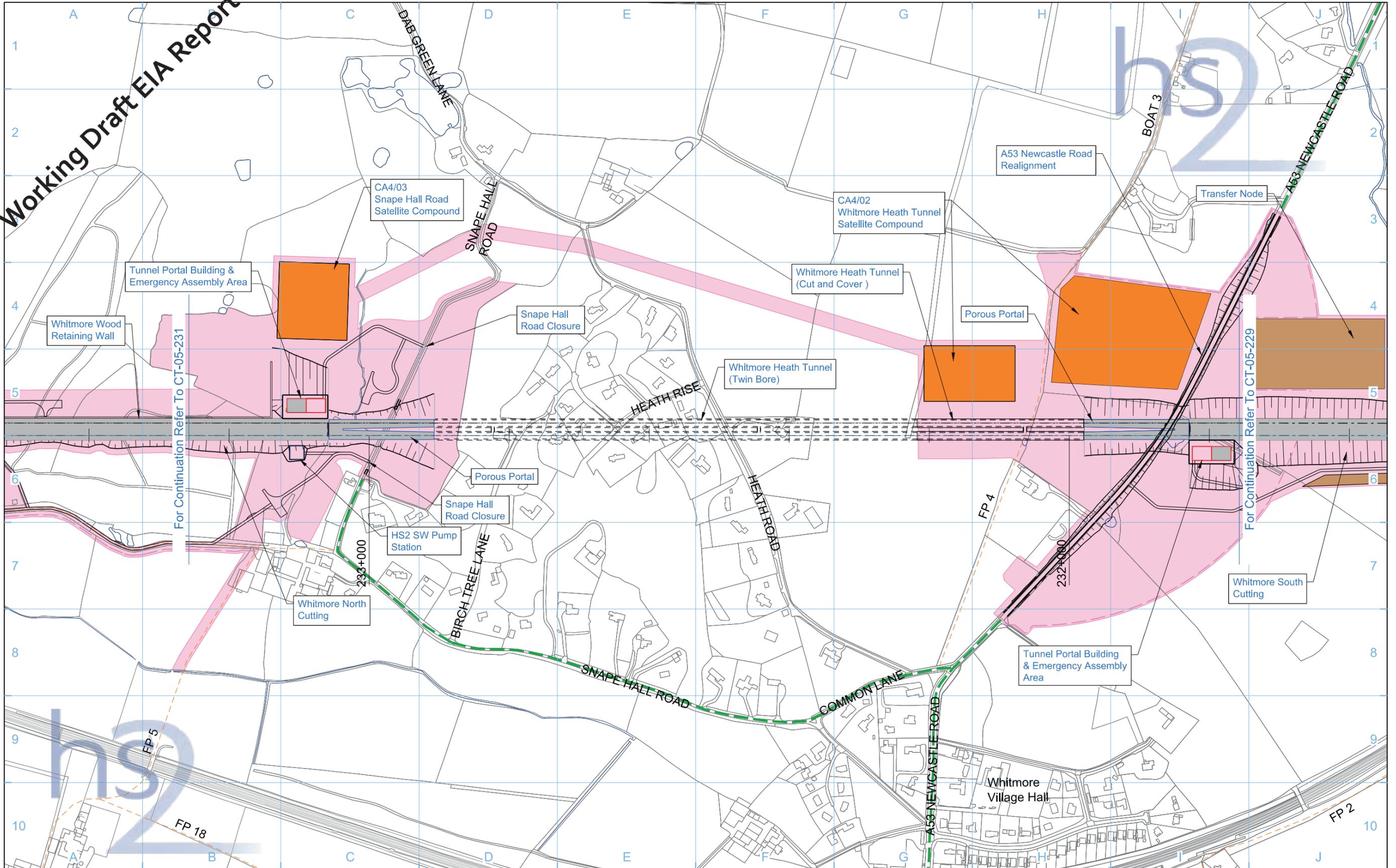
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**WHITMORE HEATH to MADELEY**

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

Map Number	<b>CT-05-230</b>
Map Name	<b>Construction Phase</b>
Community Area	CA4 Whitmore Heath to Madeley

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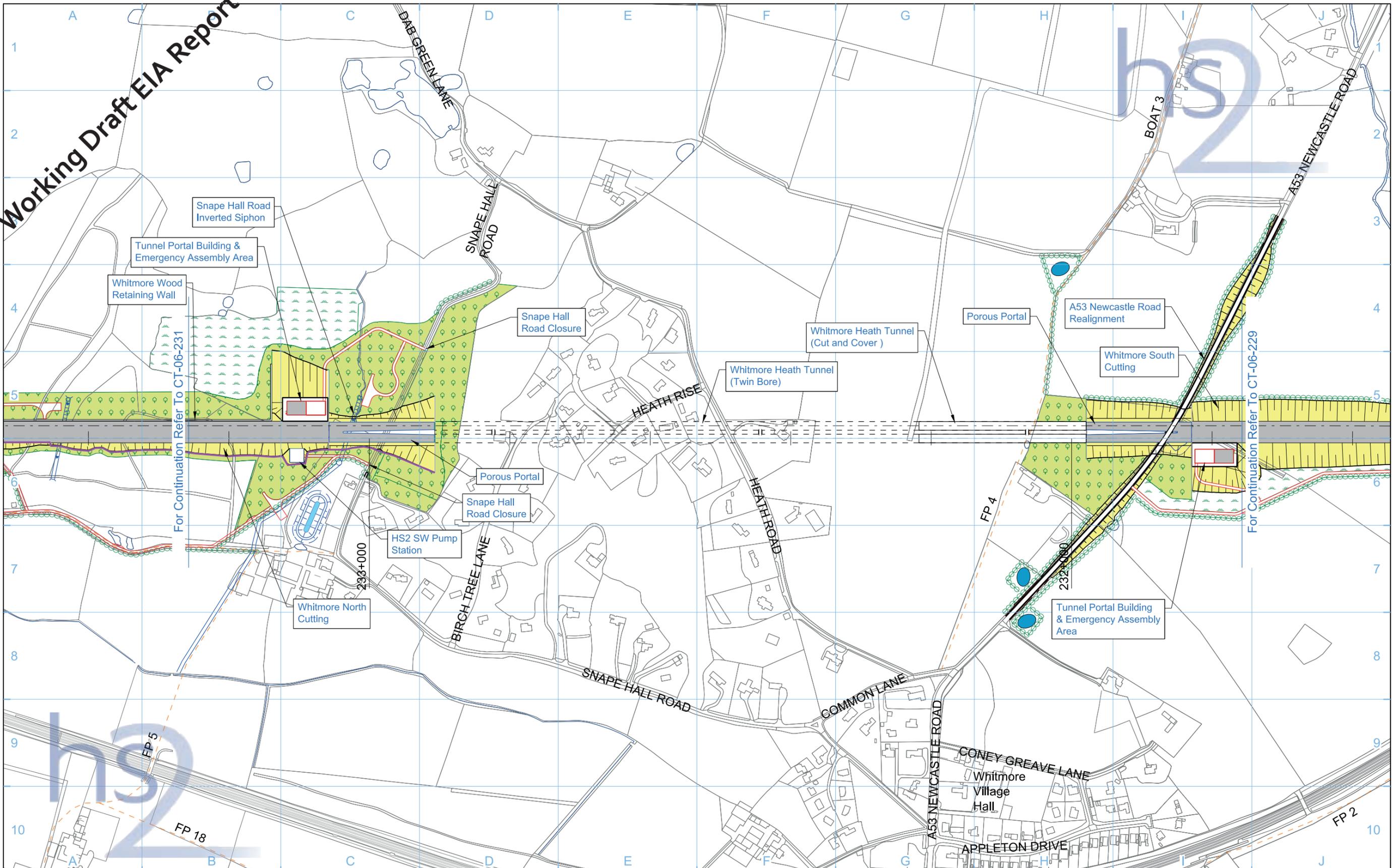
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- Legend**
- Depot, station, headhouse or portal building
  - Tunnel portal
  - Electricity substation
  - Land drainage area
  - Ecological mitigation pond
  - Balancing pond

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

- Public realm/Replacement community facility
- Engineering earthworks
- Landscape earthworks
- Rail alignment formation
- Returned to suitable development use
- County boundary
- Borough / District boundary

- Community Area 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-06-230**

Map Name: **Proposed Scheme**

Community Area: **CA4 Whitmore Heath to Madeley**

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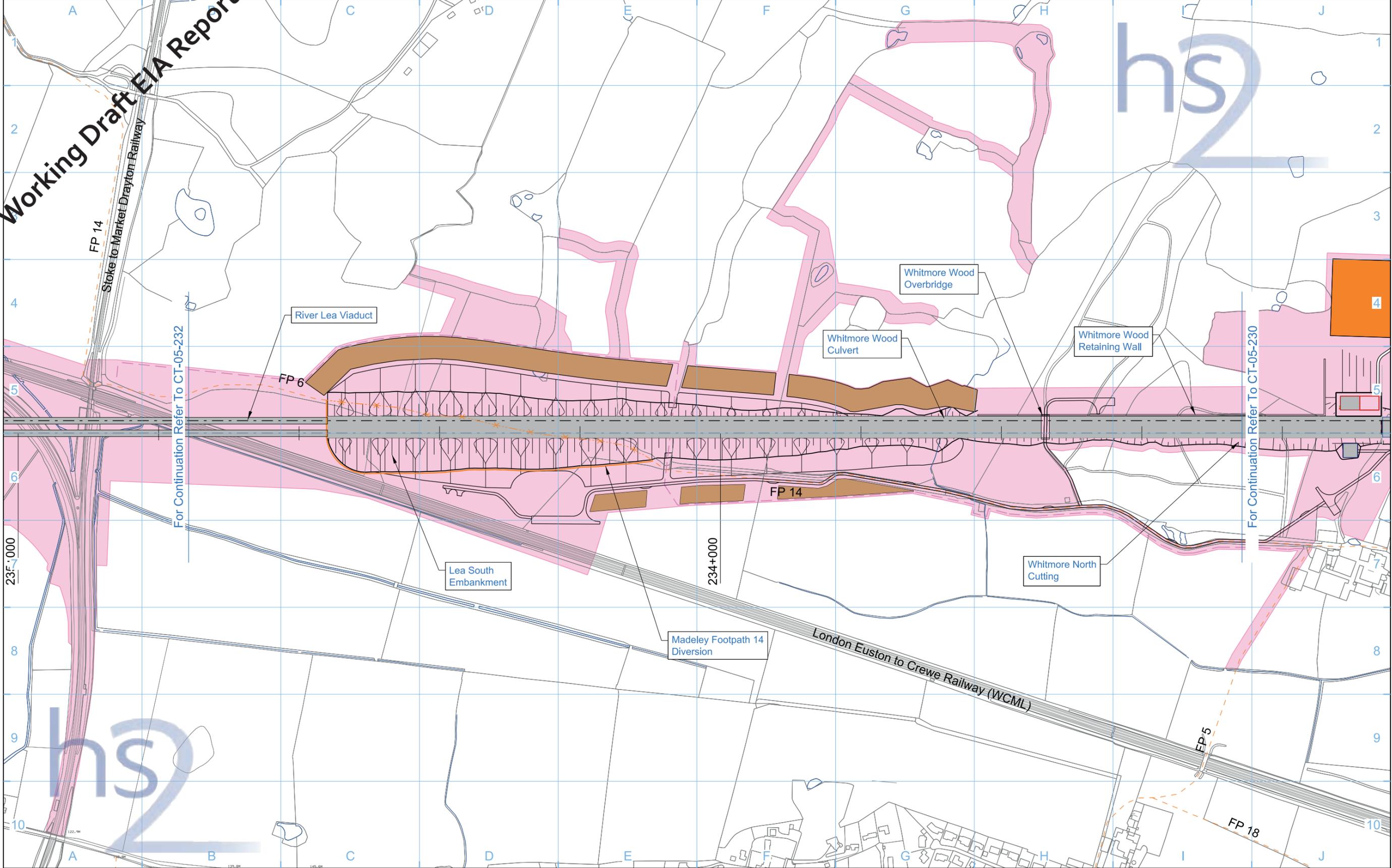
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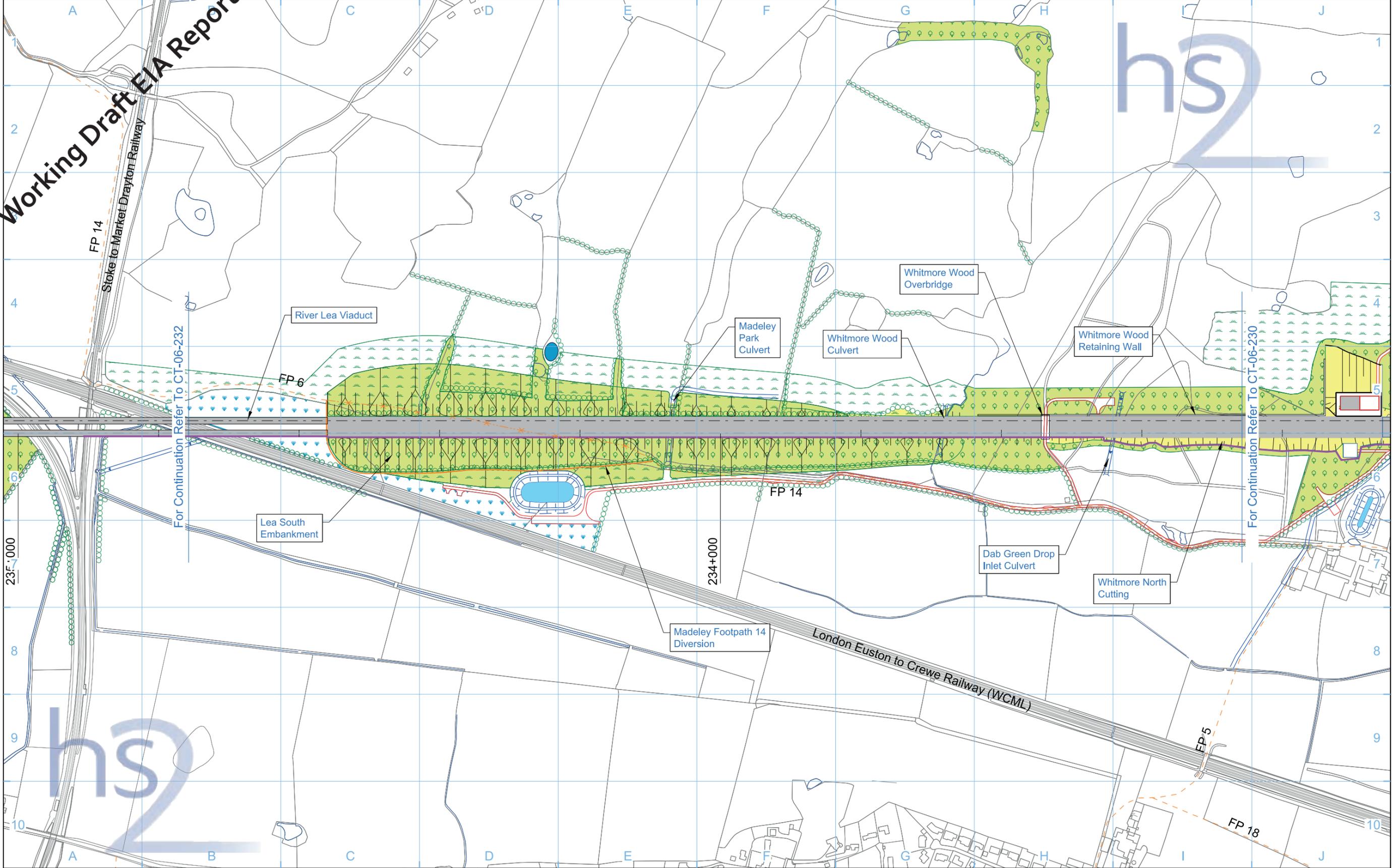
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<b>Legend</b> <ul style="list-style-type: none"> <li>Depot, station, headhouse or portal building</li> <li>Tunnel portal</li> <li>Main construction compound</li> <li>Satellite construction compound</li> <li>Temporary material stockpile</li> <li>Rail alignment formation</li> <li>Landscape earthworks</li> <li>Engineering earthworks</li> <li>County boundary</li> <li>Borough / District boundary</li> <li>Land potentially required during construction</li> <li>Temporary replacement community facility</li> <li>Community Area boundary</li> <li>Existing watercourse</li> <li>Tunnels external extent</li> <li>Construction traffic route</li> <li>Existing public right of way (PRoW)</li> </ul>		<ul style="list-style-type: none"> <li>New, diverted or realigned PRoW</li> <li>Stopped-up PRoW</li> <li>Temporary PRoW diversion / realignment</li> <li>Temporary highway diversion / realignment</li> <li>Main utility works</li> </ul>		<ul style="list-style-type: none"> <li>Chainage (e.g. 10+000)</li> <li>Rail alignment</li> </ul>	
<b>Map Number</b> CT-05-231		<b>Map Name</b> Construction Phase		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.	
<b>Community Area</b> CA4 Whitmore Heath to Madeley		Registered in England, Registration number 06791886 Registered office: One Canada Square, London, E14 5AB		Scale at A3: 1:5,000 	
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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/Replacement community facility
	Engineering earthworks
	Landscape earthworks
	Rail alignment formation
	Returned to suitable development use
	County boundary
	Borough / District boundary
	Community Area 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-06-231
Map Name	Proposed Scheme
Community Area	CA4 Whitmore Heath to Madeley

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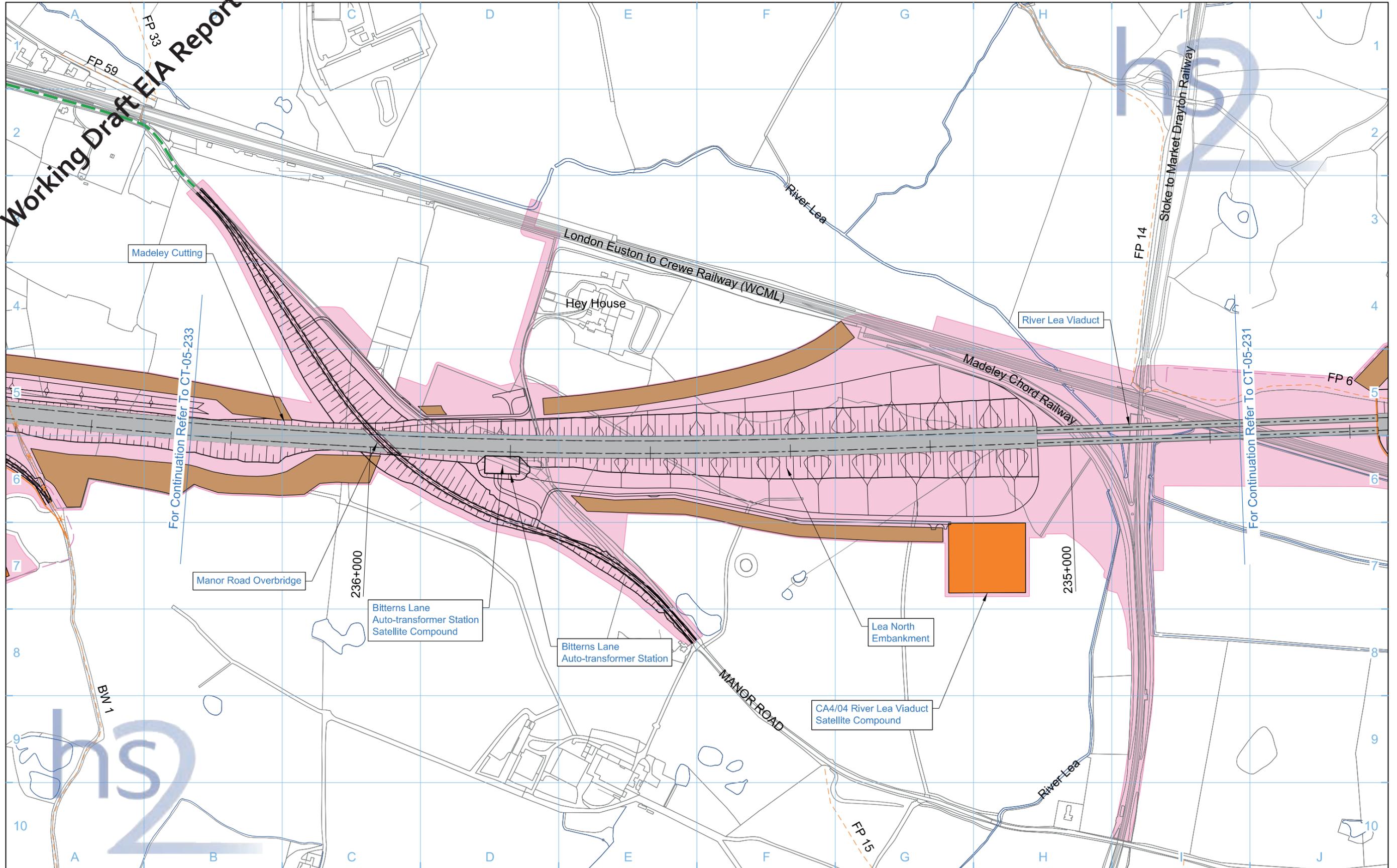
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Legend		Rail alignment formation		Temporary replacement community facility		New, diverted or realigned PRoW		Chainage (e.g. 10+000)	
Depot, station, headhouse or portal building	Landscape earthworks	Temporary replacement community facility	Rail alignment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

Map Number	<b>CT-05-232</b>
Map Name	<b>Construction Phase</b>
Community Area	CA4 Whiltmore Heath to Madeley

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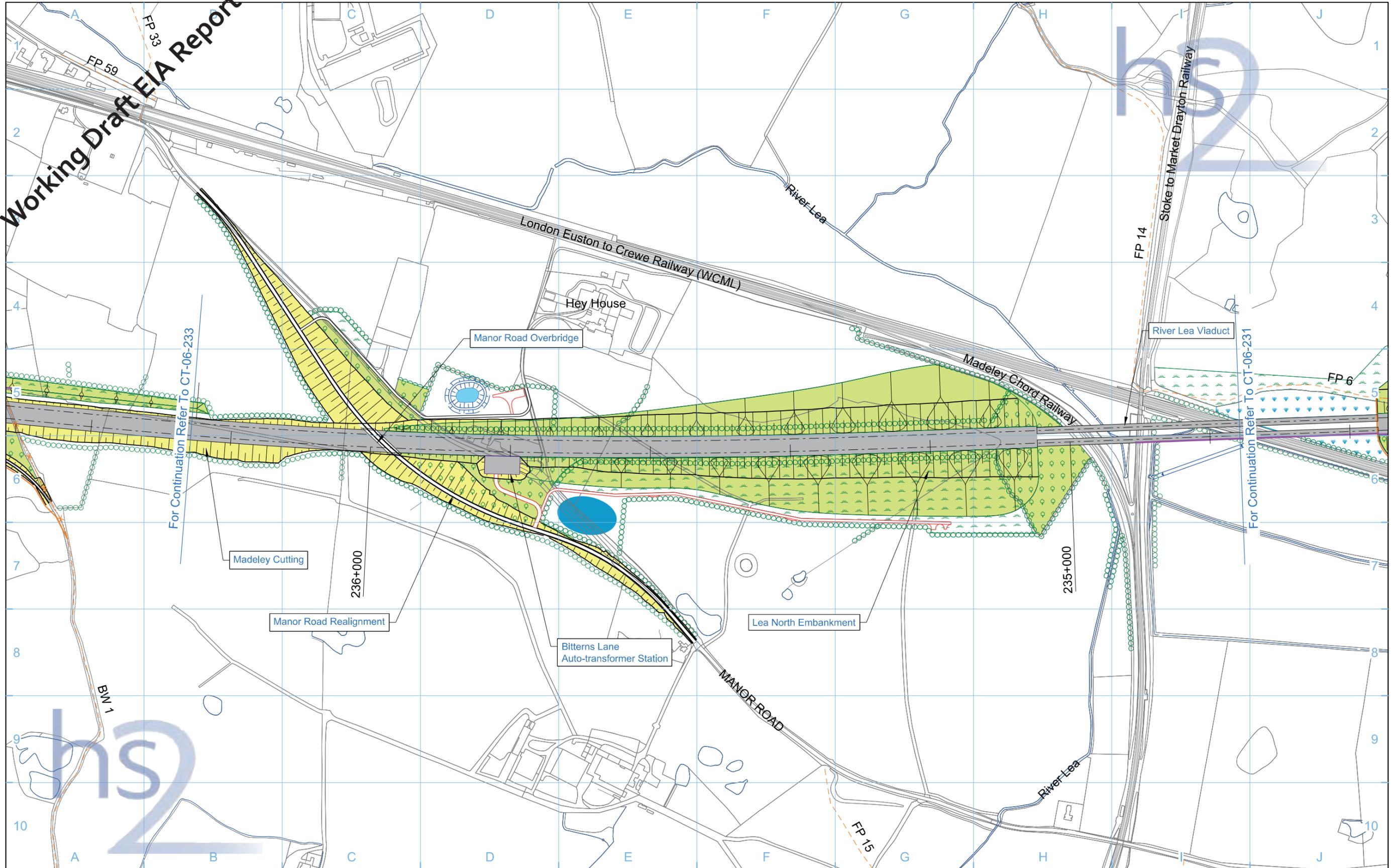
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Legend	
	Depot, station, headhouse or portal building
	Tunnel portal
	Electricity substation
	Land drainage area
	Ecological mitigation pond
	Balancing pond
	Replacement floodplain storage
	Woodland habitat creation
	Wetland habitat creation
	Grassland habitat creation
	Landscape mitigation planting (scrub / woodland)
	Grassed areas
	Sustainable placement
	Public realm/Replacement community facility
	Engineering earthworks
	Landscape earthworks
	Rail alignment formation
	Returned to suitable development use
	County boundary
	Borough / District boundary
	Community Area 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	<b>CT-06-232</b>
Map Name	<b>Proposed Scheme</b>
Community Area	CA4 Whittlesea Heath to Madeley

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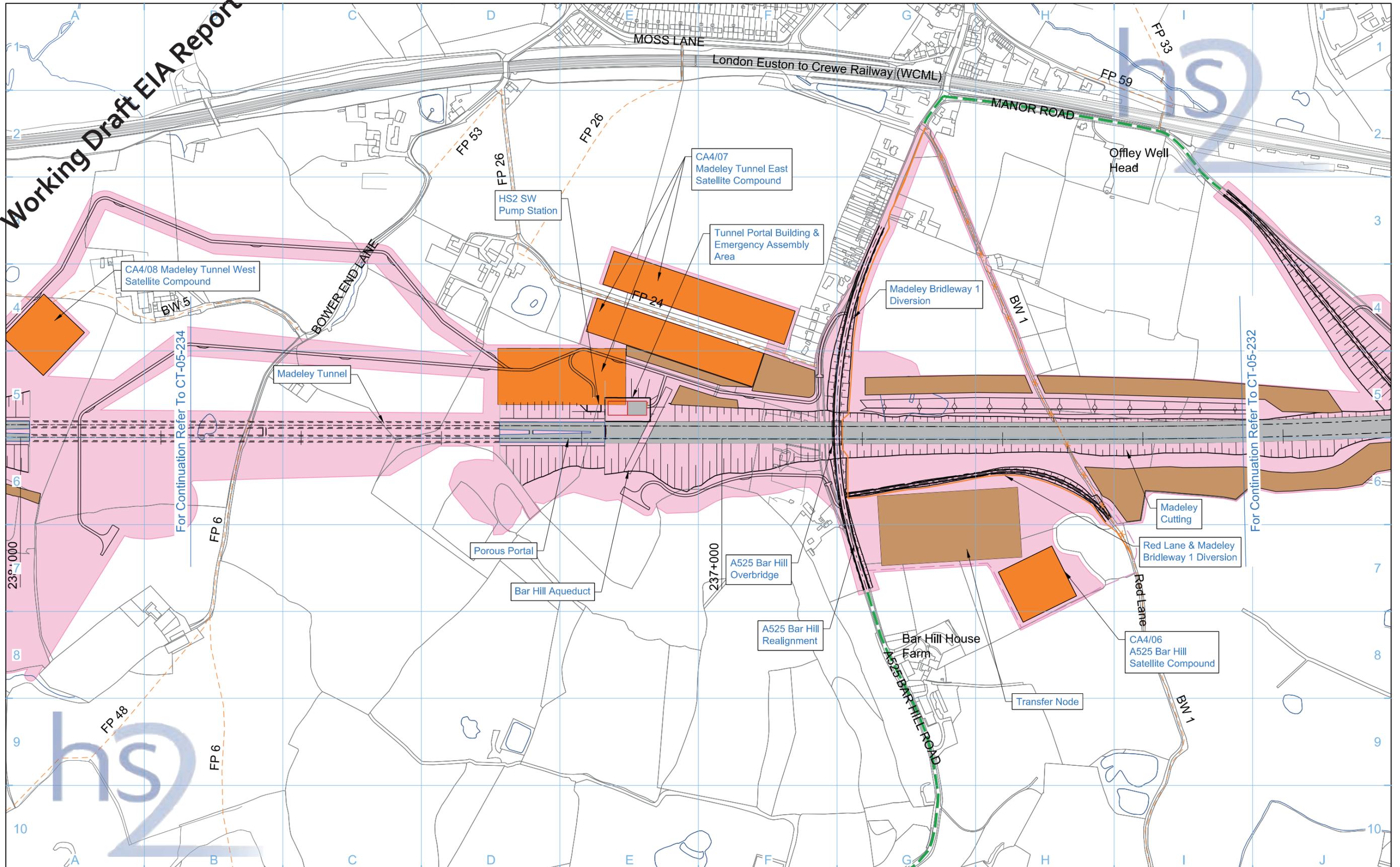
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Legend		New, diverted or realigned PRoW		Chainage (e.g. 10+000)	
Depot, station, headhouse or portal building	Rail alignment formation	New, diverted or realigned PRoW	Stopped-up PRoW	Chainage (e.g. 10+000)	Rail alignment
Tunnel portal	Landscape earthworks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

Map Number: **CT-05-233**

Map Name: **Construction Phase**

Community Area: **CA4 Whittlemore Heath to Madeley**

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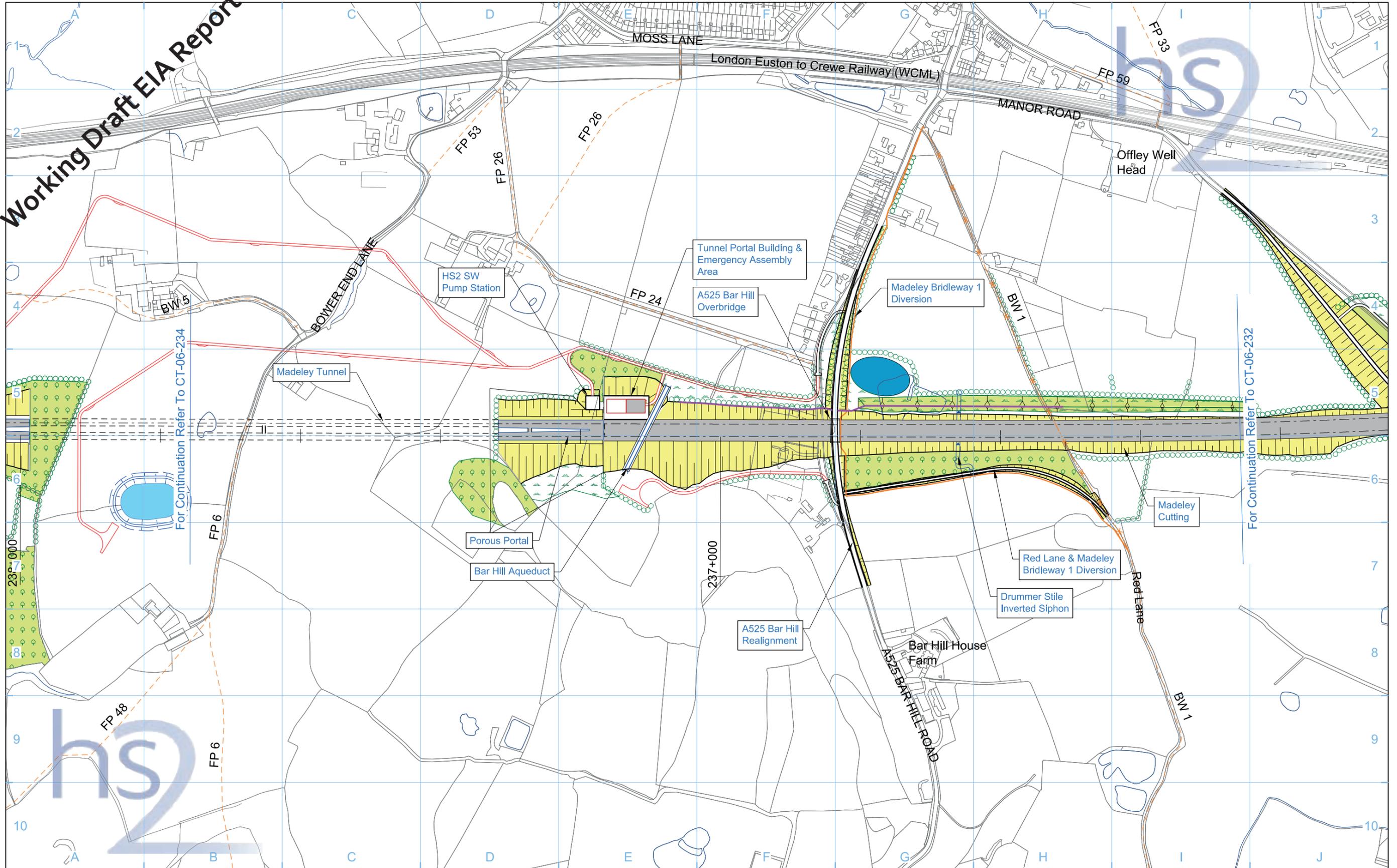
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Legend	
	Depot, station, headhouse or portal building
	Tunnel portal
	Electricity substation
	Land drainage area
	Ecological mitigation pond
	Balancing pond
	Replacement floodplain storage
	Woodland habitat creation
	Wetland habitat creation
	Grassland habitat creation
	Landscape mitigation planting (scrub / woodland)
	Grassed areas
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	Public realm/Replacement community facility
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	Landscape earthworks
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	County boundary
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	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-06-233
Map Name	Proposed Scheme
Community Area	CA4 Whittlesea Heath to Madeley

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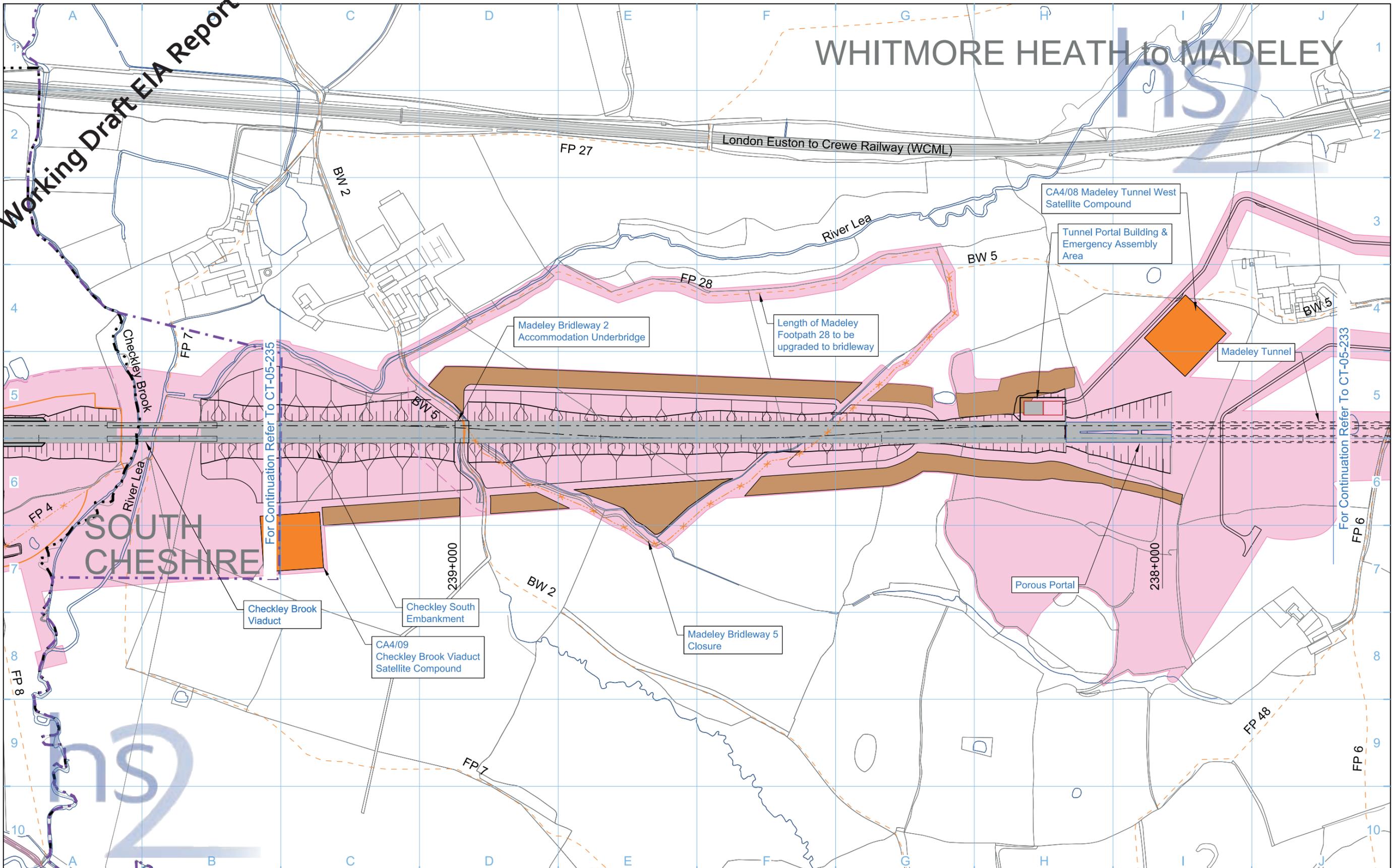
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**Doc Number:** C861-ARP-EV-DPL-000-056233      **P04 Date:** 03/08/16

# WHITMORE HEATH TO MADELEY

Working Draft EIA Report



- |   |   |   |   |  |
|---|---|---|---|--|
| <ul style="list-style-type: none"> <li> Depot, station, headhouse or portal building</li> <li> Tunnel portal</li> <li> Main construction compound</li> <li> Satellite construction compound</li> <li> Temporary material stockpile</li> </ul> | <ul style="list-style-type: none"> <li> Rail alignment formation</li> <li> Landscape earthworks</li> <li> Engineering earthworks</li> <li> County boundary</li> <li> Borough / District boundary</li> <li> Land potentially required during construction</li> </ul> | <ul style="list-style-type: none"> <li> Temporary replacement community facility</li> <li> Community Area boundary</li> <li> Existing watercourse</li> <li> Tunnels external extent</li> <li> Construction traffic route</li> <li> Existing public right of way (PRoW)</li> </ul> | <ul style="list-style-type: none"> <li> New, diverted or realigned PRoW</li> <li> Stopped-up PRoW</li> <li> Temporary PRoW diversion / realignment</li> <li> Temporary highway diversion / realignment</li> <li> - UT - Main utility works</li> </ul> | <ul style="list-style-type: none"> <li> Chainage (e.g. 10+000)</li> <li> Rail alignment</li> </ul> |
|---|---|---|---|--|

Map Number	CT-05-234
Map Name	Construction Phase
Community Area	CA4 Whitmore Heath to Madeley

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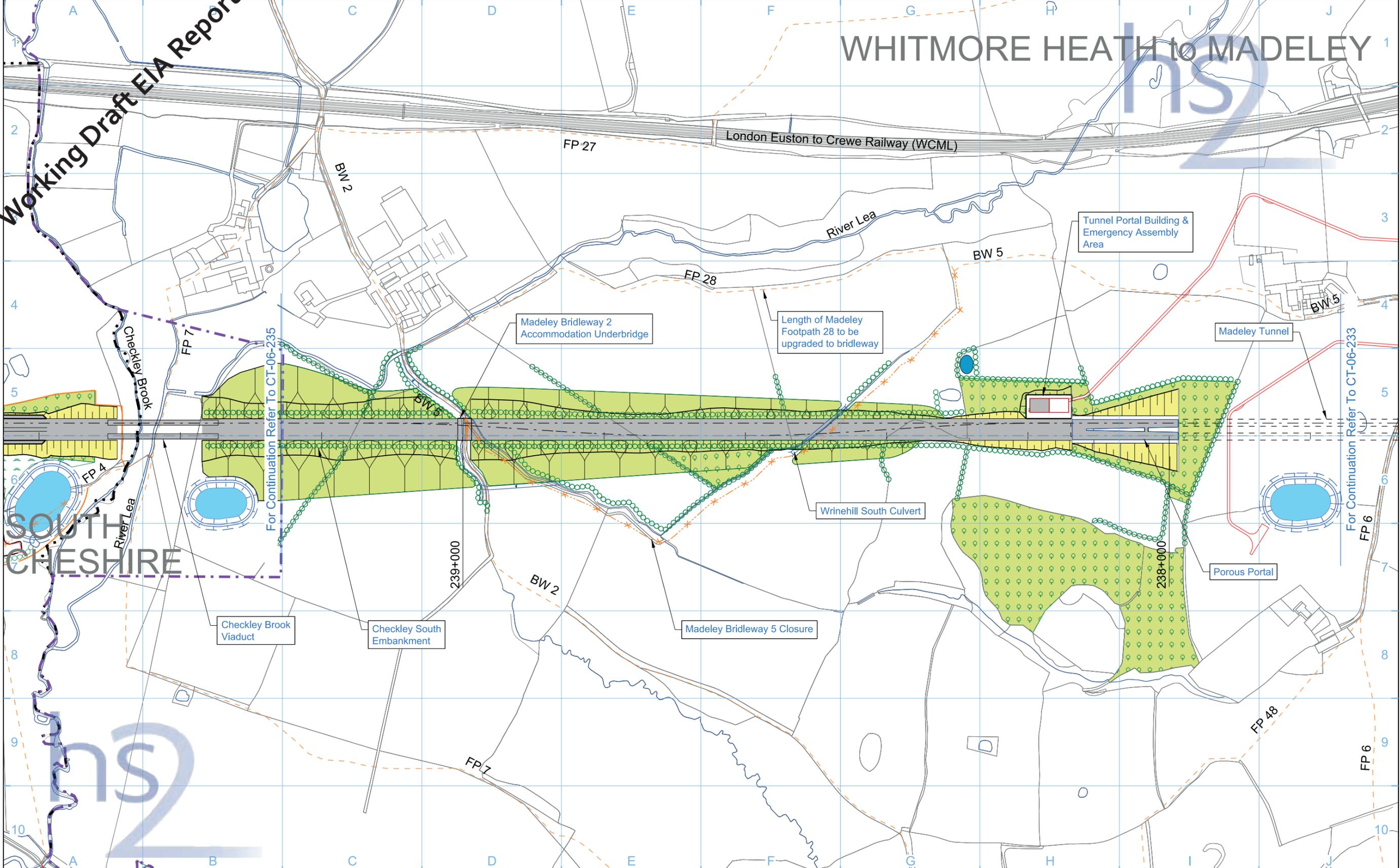
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**Doc Number:** C861-ARP-EV-DPL-000-055234      **P03**      **Date:** 28/07/16

# WHITMORE HEATH TO MADELEY

Working Draft EIA Report



- 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/Replacement community facility
- Engineering earthworks
- Landscape earthworks
- Rail alignment formation
- Returned to suitable development use
- County boundary
- Borough / District boundary

- Community Area 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-06-234

Map Name: Proposed Scheme

Community Area: CA4 Whitmore Heath to Madeley

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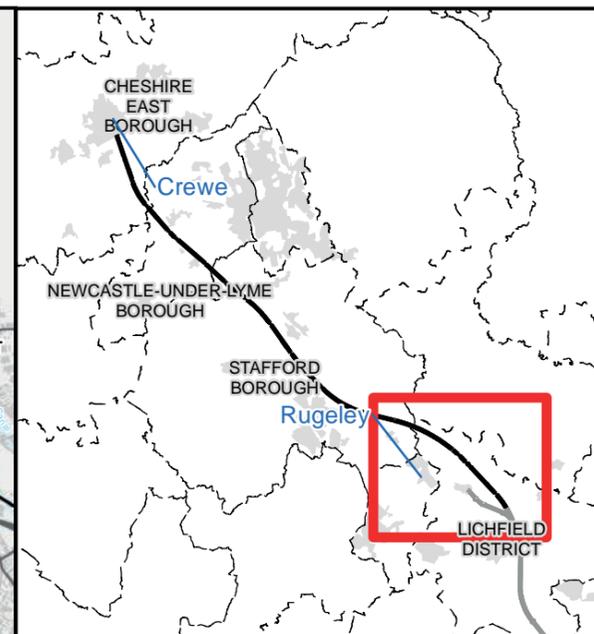
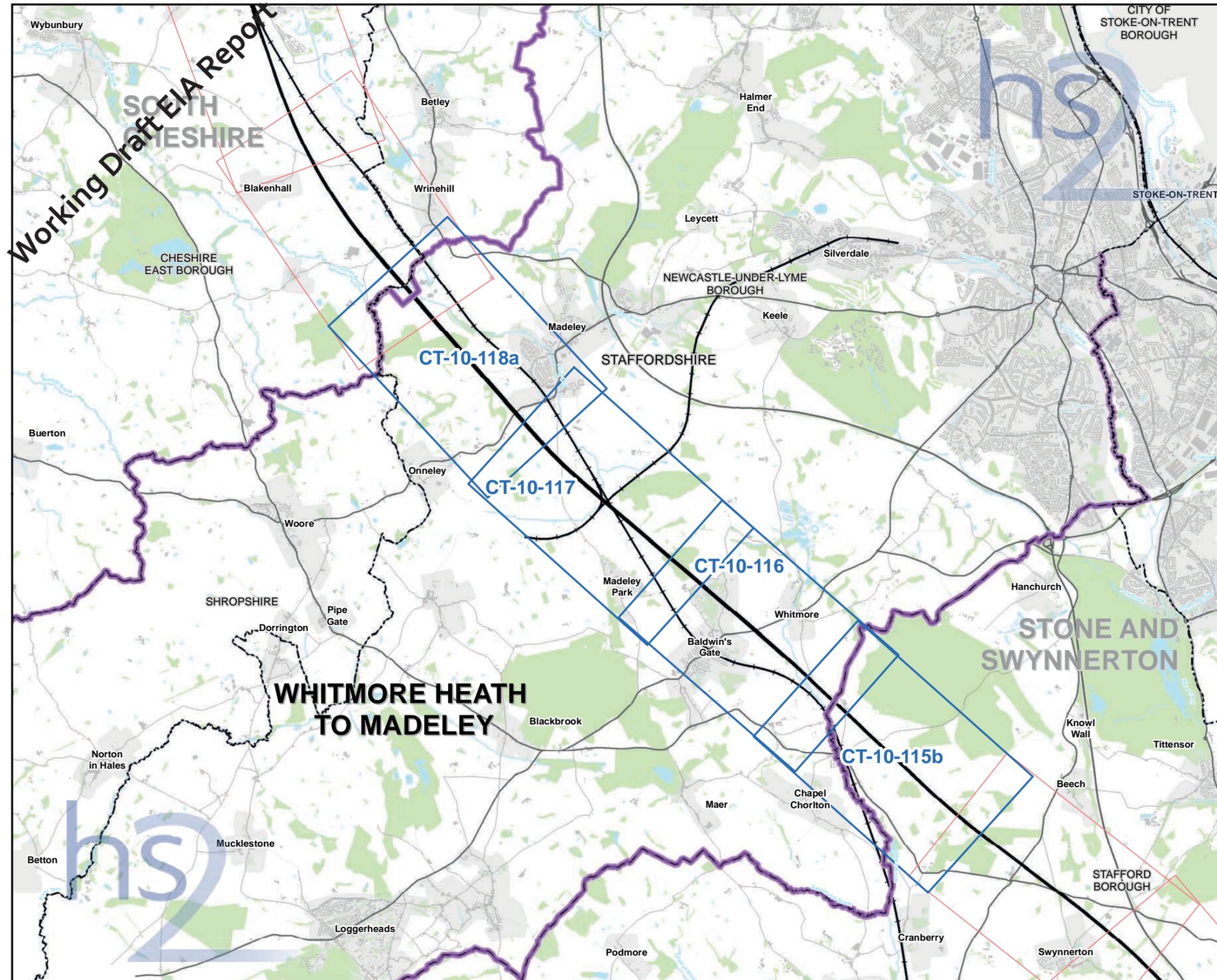
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Doc Number: C861-ARP-EV-DPL-000-056234 P03 Date: 28/07/16

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High Speed Two Phase 2a: West Midlands to Crewe  
Working Draft Environmental Impact Assessment Report  
**CT-10 – Environmental Baseline**



**Map Series Information:**

The Environmental Baseline maps display a range of environmental data layers.  
 The design of the Proposed Scheme will be informed through consultation and further engineering and environmental studies.

**Main Map Legend**

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

Map Number	CT-10-INDEX-CA4
Map Name	Index Map of: Environmental Baseline Working draft EIA report
	Community Area CA4: Whitmore Heath to Madeley

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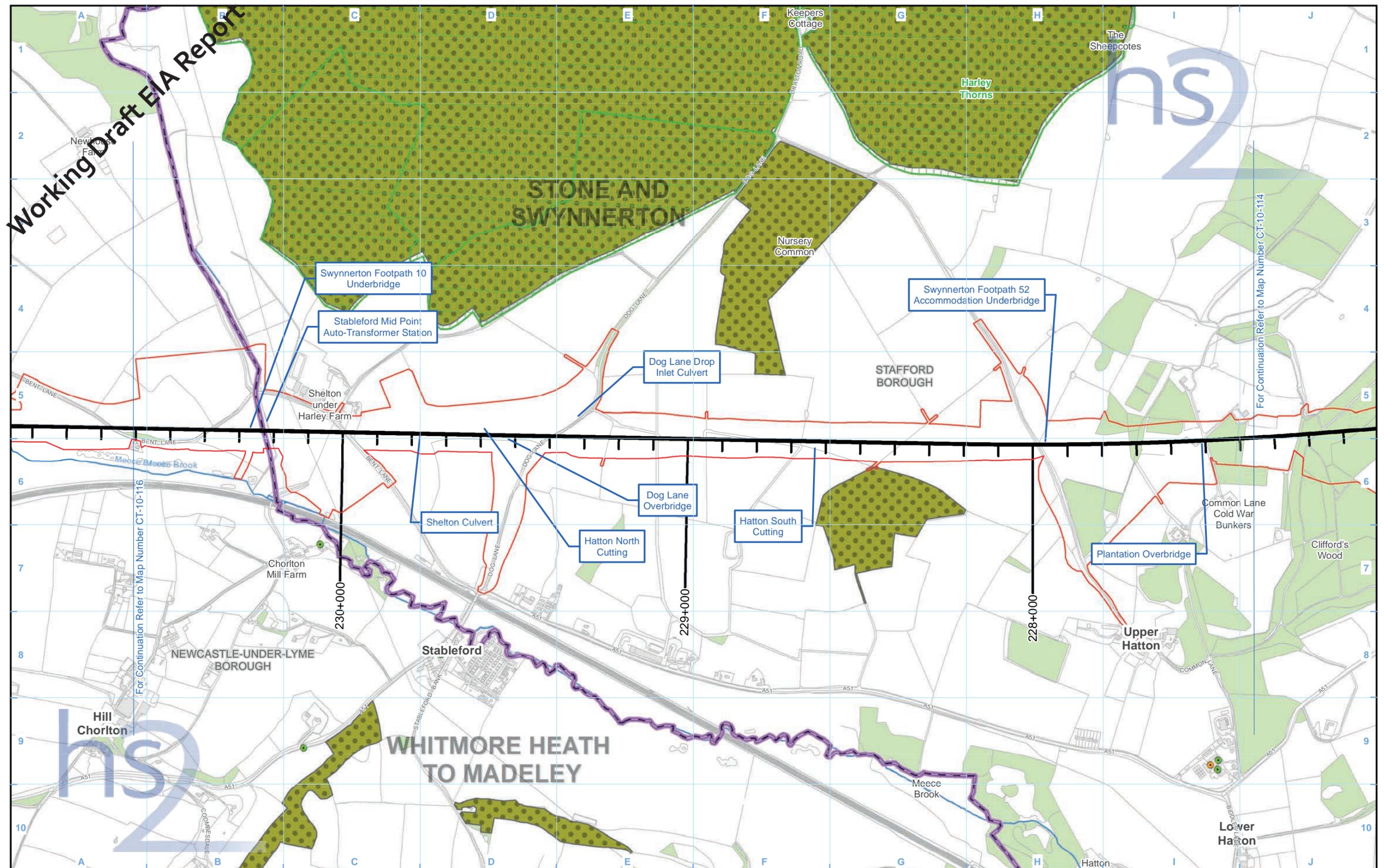
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Doc Number: C861-ARP-EV-MAP-000-513004-P01

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**Date:** 27/07/16

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



Legend			

Map Number	CT-10-115b
Map Name	Environmental Baseline
	Community Area 4: Whitmore Heath to Madeley

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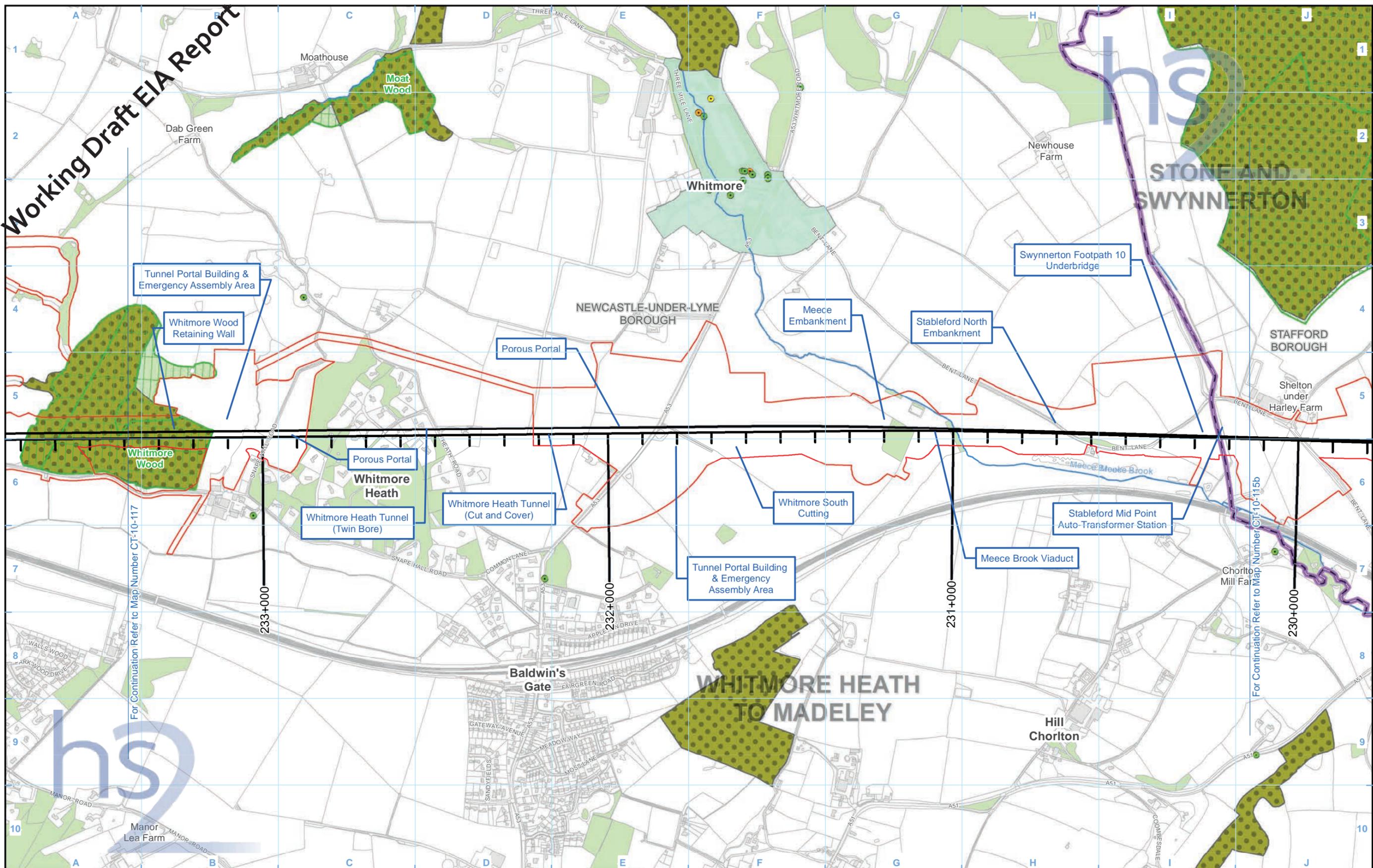
Doc Number: C861-ARP-EV-MAP-000-060215-P01

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**Date:** 09/08/16

Working Draft EIA Report



Legend			

Map Number	CT-10-116
Map Name	Environmental Baseline
	Community Area 4: Whitmore Heath to Madeley

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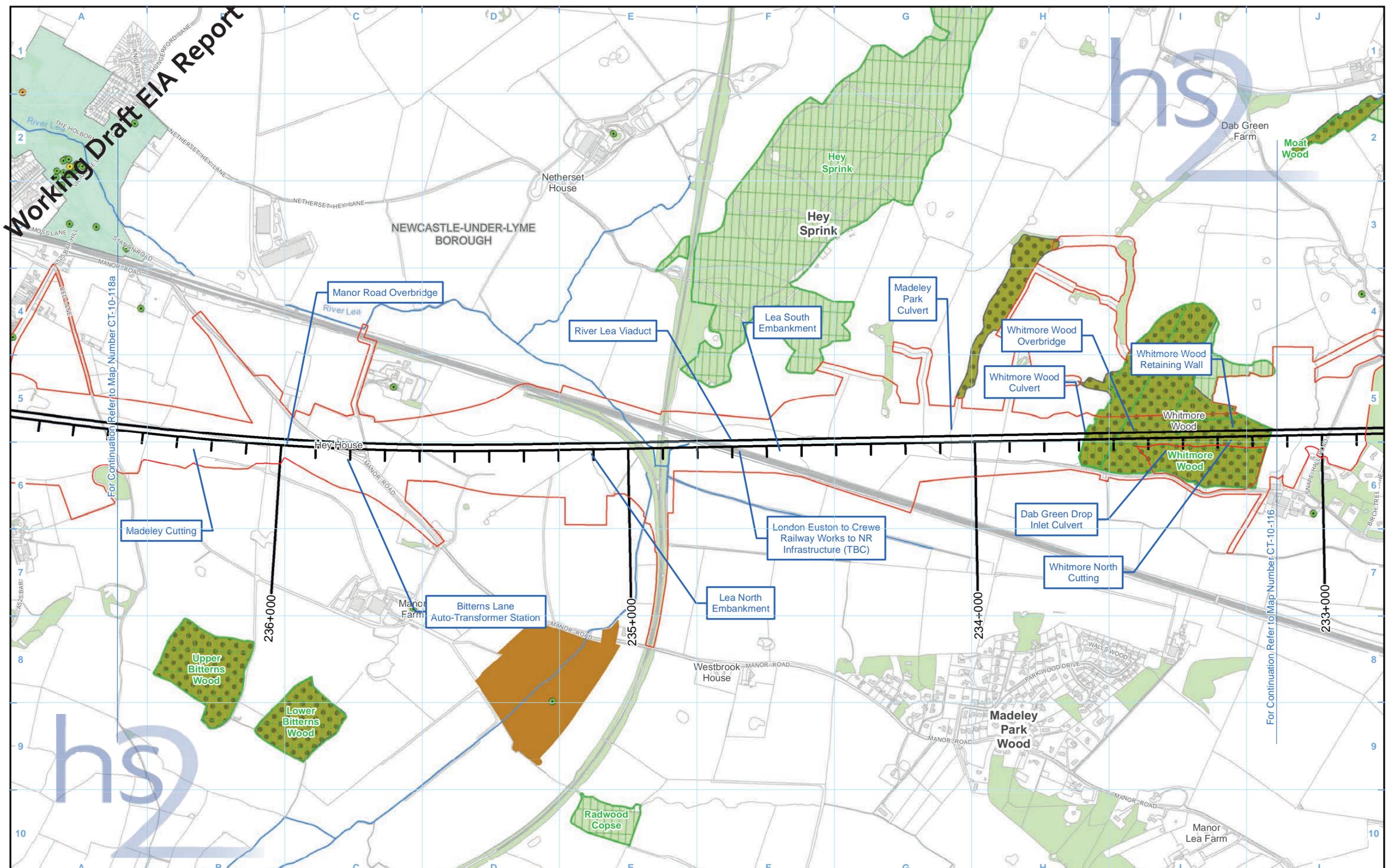
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Doc Number: C861-ARP-EV-MAP-000-060116-P01

Scale at A3: 1:10,000

Meters

Date: 09/08/16



**Working Draft EIA Report**



Legend			

Map Number	CT-10-117
Map Name	Environmental Baseline
	Community Area 4: Whitmore Heath to Madeley

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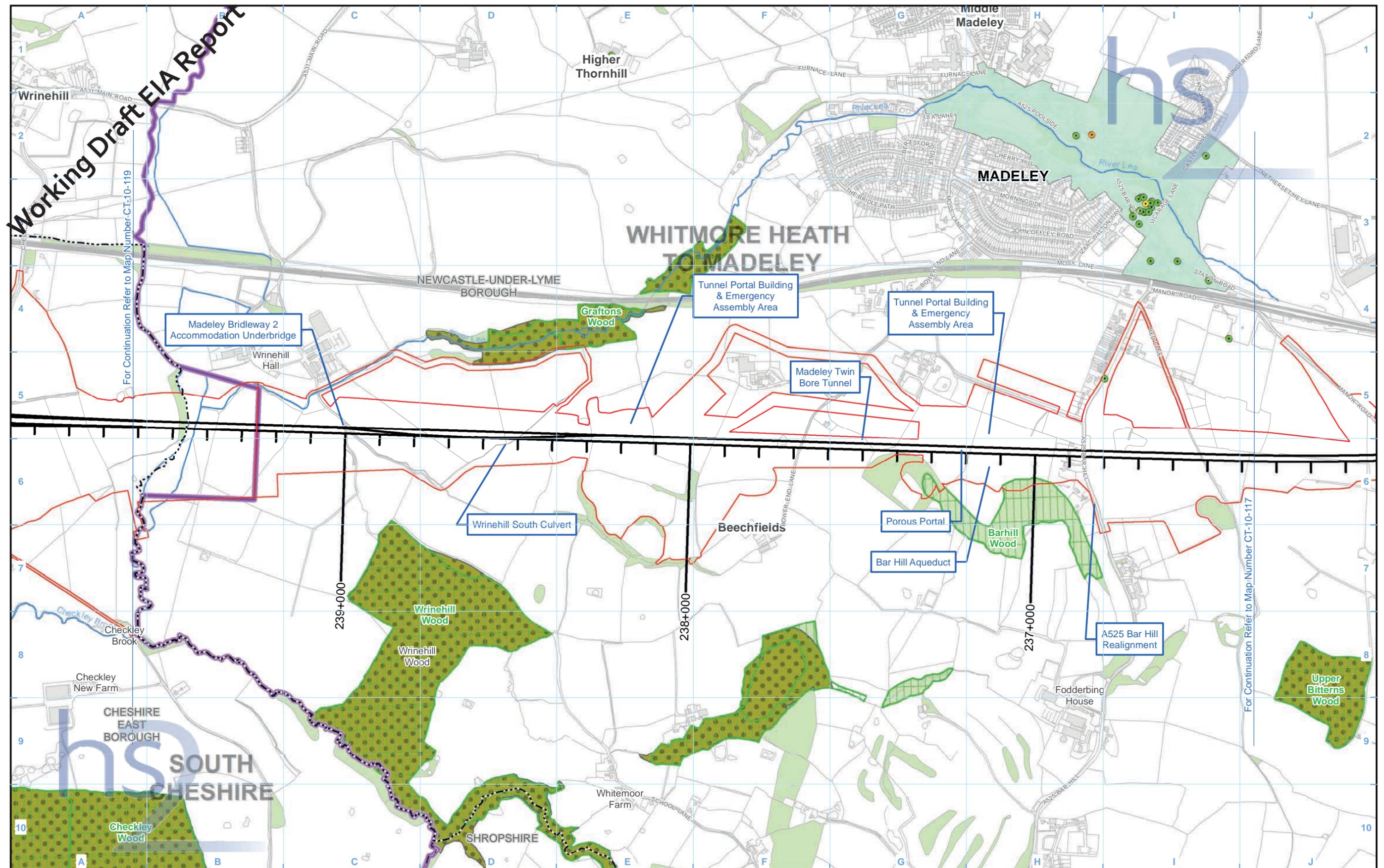
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Scale at A3: 1:10,000

Metres

Date: 09/08/16



**Working Draft EIA Report**

For Continuation Refer to Map Number CT-10-119

For Continuation Refer to Map Number CT-10-117

**Legend**

- Route in tunnel
- Route on surface
- Land potentially required during construction
- Community area 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 Inventory Sites (AWIS)

Map Number  
**CT-10-118a**

Map Name  
**Environmental Baseline**

Community Area 4:  
**Whitmore Heath to Madeley**

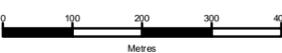


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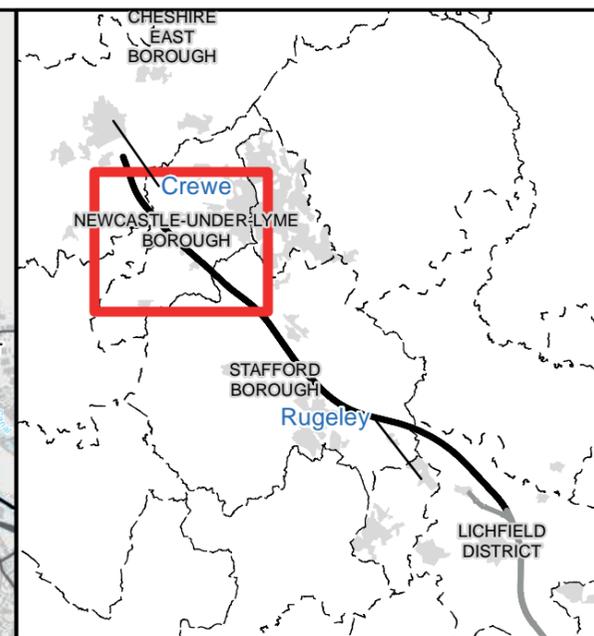
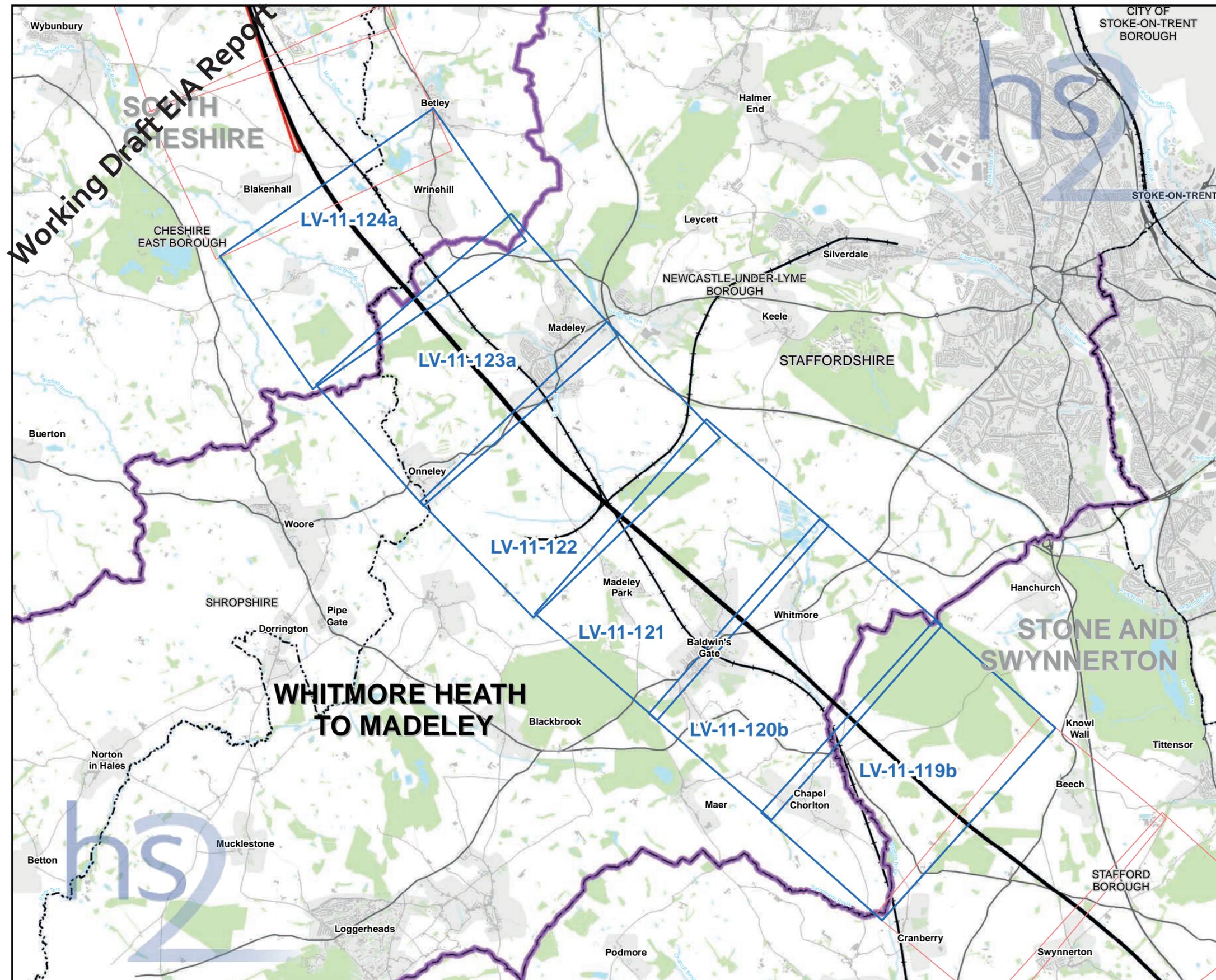
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Doc Number: C861-ARP-EV-MAP-000-060118-P01

Date: 09/08/16

High Speed Two Phase 2a: West Midlands to Crewe  
Working Draft Environmental Impact Assessment Report  
**LV-11 – Landscape Character Areas and Viewpoints**



### Map Series Information:

The landscape and visual maps (series LV-11) display landscape character areas and visual assessment viewpoints in relation to landform (contours), settlements and PRoW.

Landscape character areas are derived from either published sources or have been developed through extensive site survey in the absence of published data. Viewpoints have been selected to represent views of the Proposed Scheme from visual receptors that would be significantly affected during either construction or operation.

All viewpoints lie within the zone of theoretical visibility of the Proposed Scheme, which is being developed for inclusion in the formal EIA.

Viewpoints have been selected to represent views of the Proposed Scheme from visual receptors that have the potential to be significantly affected during construction or operation. These maps indicate all viewpoints considered in the assessment of visual effects. The working draft EIA Volume 2 reports only report viewpoints which are considered likely to be significantly affected by the Proposed Scheme.

The design of the Proposed Scheme will be informed through stakeholder engagement and further engineering and environmental studies.

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 area boundary
	Existing railway station
	County boundary
	District/Borough boundary
	Map sheets included in this community area
	Map sheets not included in this community area

Map Number	LV-11-INDEX-CA4
Map Name	Index Map of: Landscape Character Areas and Viewpoints Working Draft EIA report
	Community Area CA4: Whitmore Heath to Madeley

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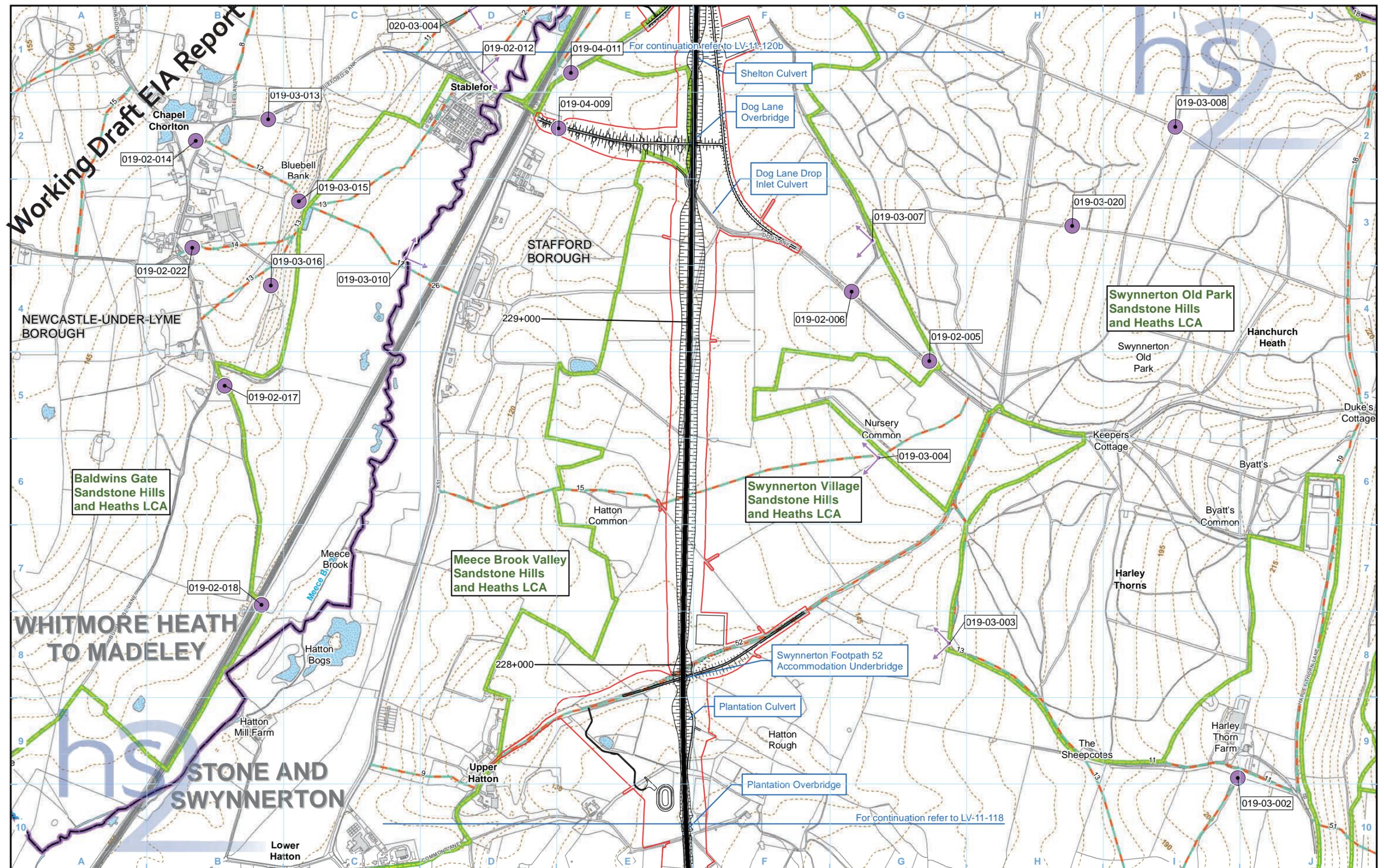
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Date: 23/08/16



**Working Draft EIA Report**

**WHITMORE HEATH TO MADELEY**

**STONE AND SWYNNERTON**

- Legend**
- Route in tunnel
  - Route on surface
  - Depot, station, headhouse or portal building
  - Land potentially required during construction
  - Community area boundary
  - County boundary
  - District/borough boundary
  - Landscape character area (LCA)
  - Public Rights of Way (PRoW)
  - 5m Contours
  - Water body
  - Photomontage location (proposed)
  - Viewpoint
  - Viewpoint number

- Engineering earthworks:**
- Embankment
  - Cutting
- Non engineering earthworks:**
- Embankment
  - Cutting

Map Number: LV-11-119b

Map Name: Landscape Character Areas and Viewpoints Working Draft EIA report

Community Area 4: Whitmore Heath to Madeley

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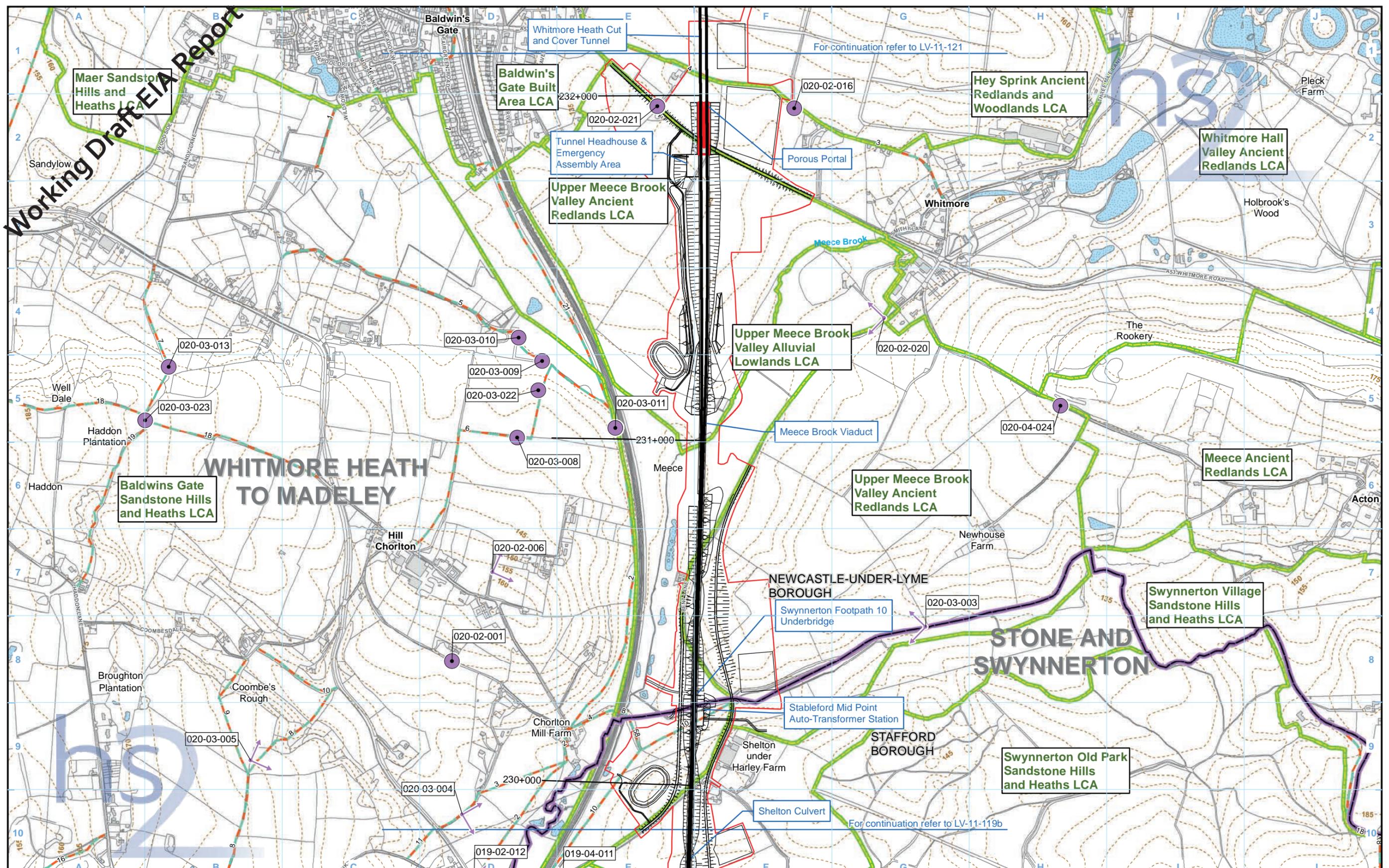
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Doc Number: C861-ARP-EV-MAP-000-121319-P02

Date: 23/08/16

Scale at A3: 1:10,000

0 100 200 300 400 Metres



Working Draft EIA Report

# WHITMORE HEATH TO MADELEY

- Legend**
- Route in tunnel
  - Route on surface
  - Depot, station, headhouse or portal building
  - Land potentially required during construction
  - Community area boundary
  - County boundary
  - District/borough boundary
  - Landscape character area (LCA)
  - Public Rights of Way (PRoW)
  - 5m Contours
  - Water body
  - ↗ Photomontage location (proposed)
  - Viewpoint
  - 001-1-001 Viewpoint number

- Engineering earthworks:**
- Embankment
  - Cutting
- Non engineering earthworks:**
- Embankment
  - Cutting

- Photomontage location (proposed)**
- ↗
- Viewpoint**
- - 001-1-001 Viewpoint number

- Engineering earthworks:**
- Embankment
  - Cutting
- Non engineering earthworks:**
- Embankment
  - Cutting

Map Number: LV-11-120b

Map Name: Landscape Character Areas and Viewpoints Working Draft EIA report

Community Area 4: Whitmore Heath to Madeley

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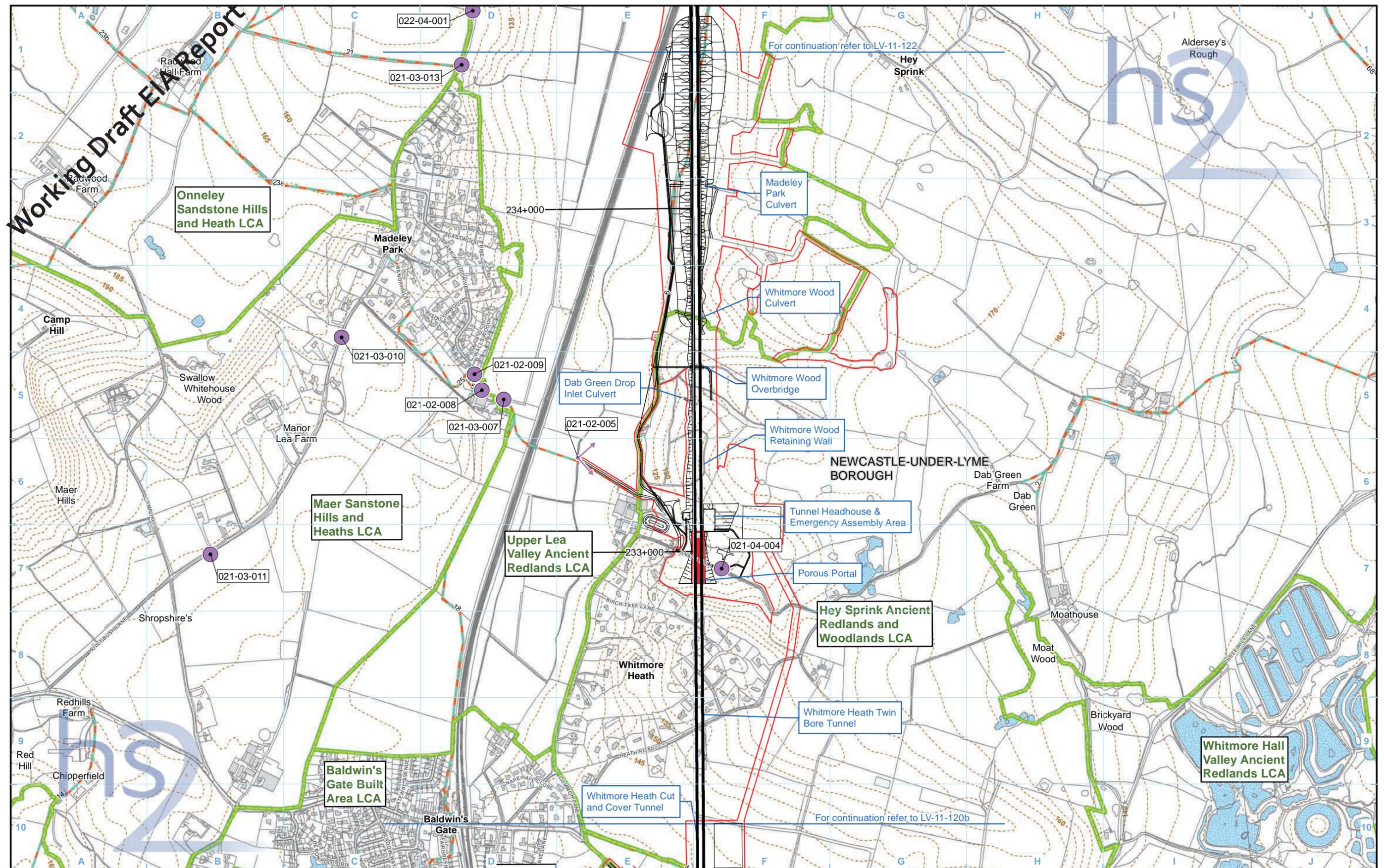
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Date: 23/08/16

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0 100 200 300 400 Metres



- Legend**
- Route in tunnel
  - Route on surface
  - Depot, station, headhouse or portal building
  - Land potentially required during construction
  - Community area boundary
  - County boundary
  - District/borough boundary
  - Landscape character area (LCA)
  - Public Rights of Way (PRoW)
  - 5m Contours
  - Water body
  - Photomontage location (proposed)
  - Viewpoint
  - Viewpoint number

- Engineering earthworks:**
- Embankment
  - Cutting
- Non engineering earthworks:**
- Embankment
  - Cutting

Map Number: LV-11-121

Map Name: Landscape Character Areas and Viewpoints Working Draft EIA report

Community Area 4: Whitmore Heath to Madeley

For continuation refer to LV-11-122

For continuation refer to LV-11-120b

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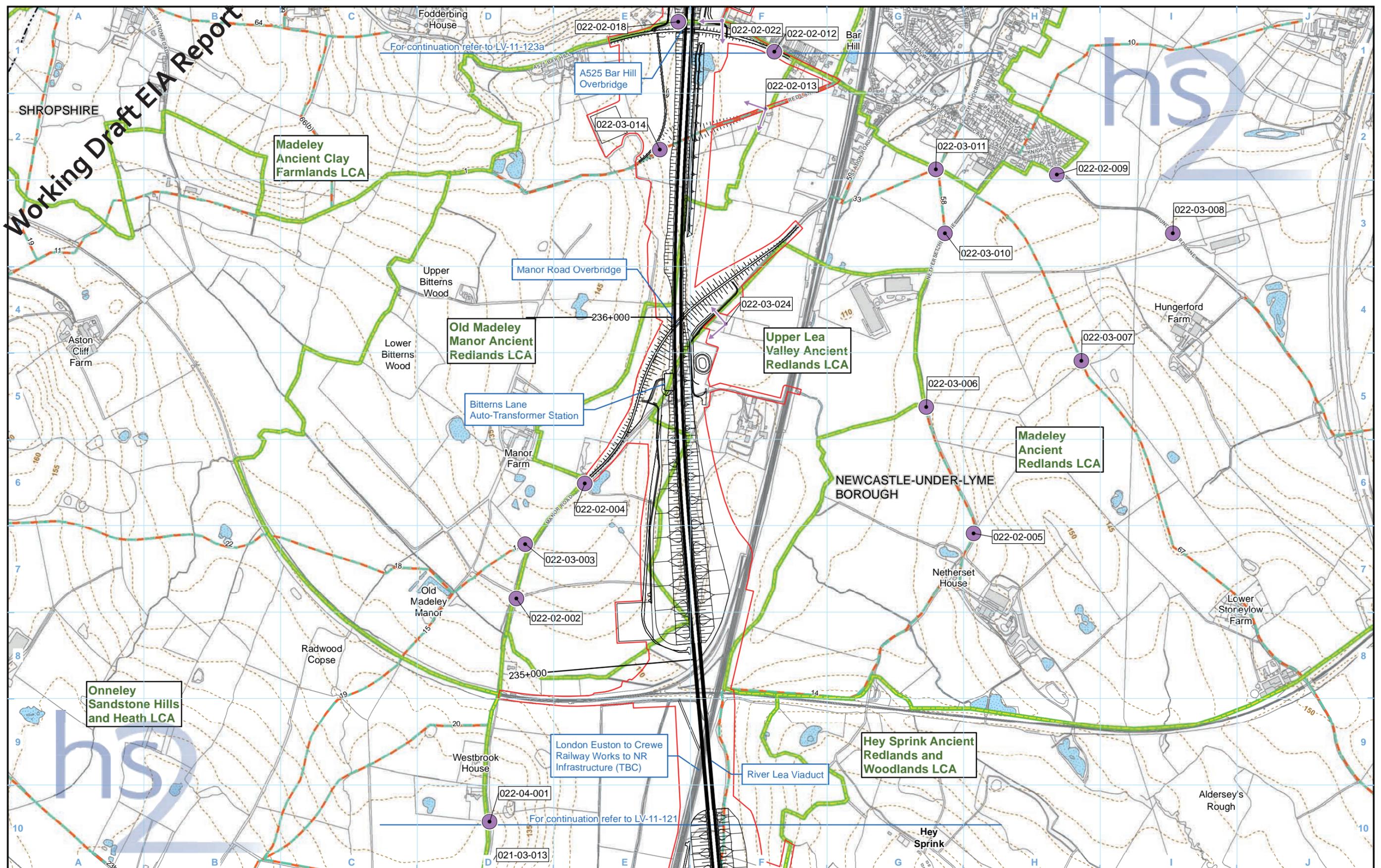
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Doc Number: C861-ARP-EV-MAP-000-121221-P02

Date: 23/08/16

Scale at A3: 1:10,000

0 100 200 300 400 Metres



**Legend**


	Engineering earthworks:
	Embankment
	Cutting
	Embankment
	Cutting

Map Number: LV-11-122

Map Name: Landscape Character Areas and Viewpoints Working Draft EIA report

Community Area 4: Whitmore Heath to Madeley

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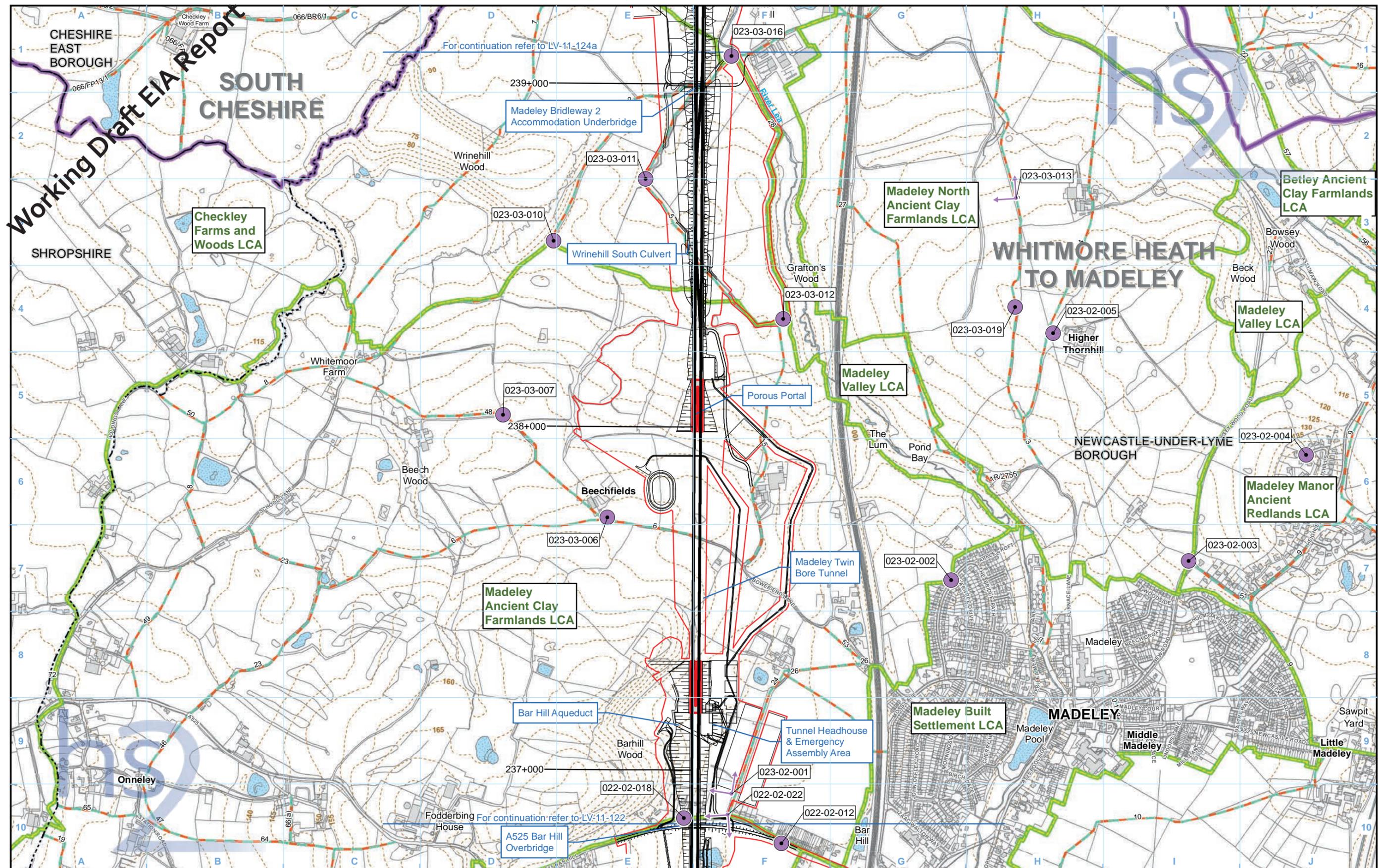
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Date: 23/08/16



**Legend**


**Engineering earthworks:**

	Embankment
	Cutting

**Non engineering earthworks:**

	Embankment
	Cutting

Map Number: LV-11-123a

Map Name: Landscape Character Areas and Viewpoints Working Draft EIA report

Community Area 4: Whitmore Heath to Madeley

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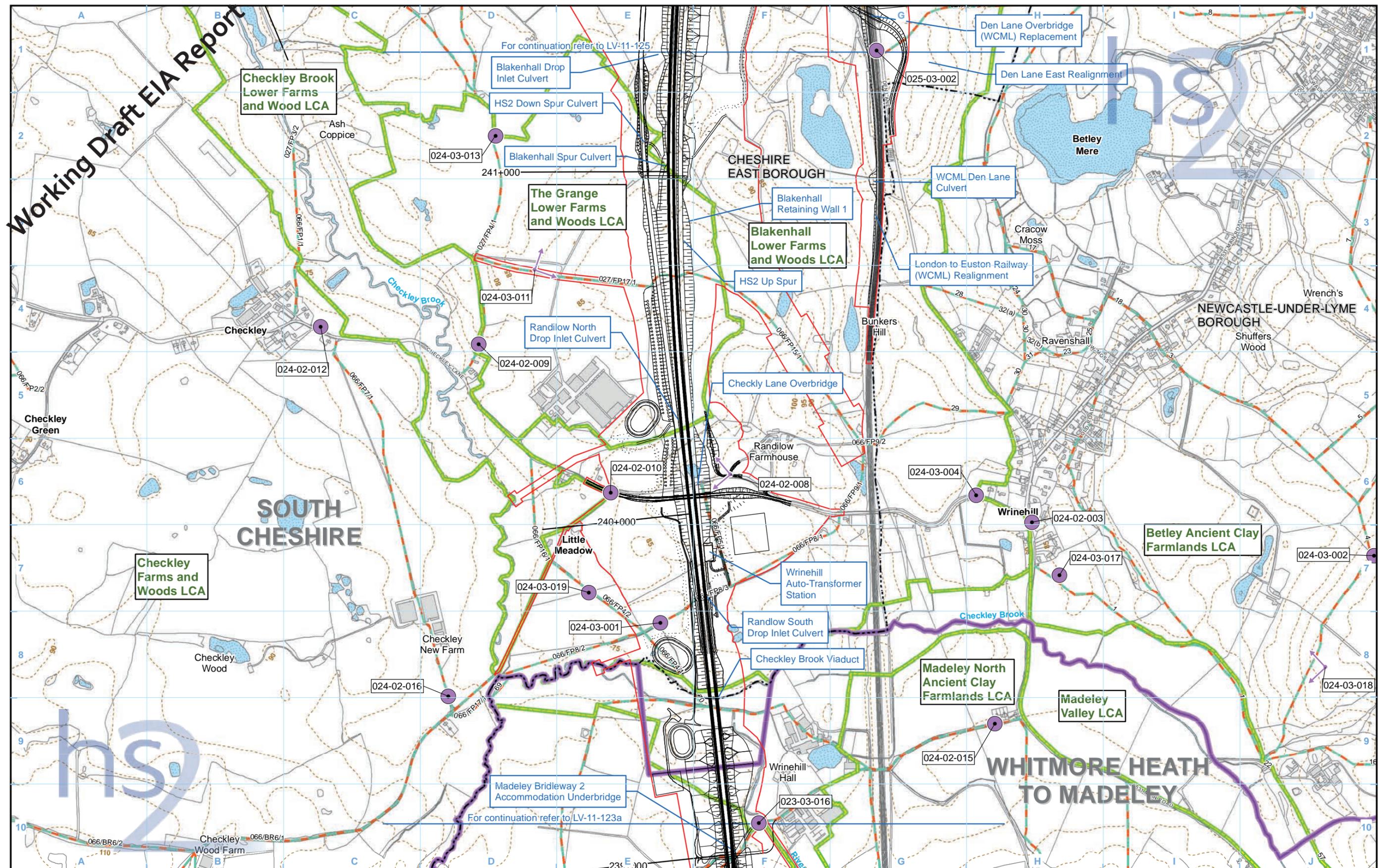
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Date: 23/08/16

Scale at A3: 1:10,000



**Legend**


**Engineering earthworks:**

	Embankment
	Cutting

**Non engineering earthworks:**

	Embankment
	Cutting

Map Number	LV-11-124a
Map Name	Landscape Character Areas and Viewpoints
	Working Draft EIA report
	Community Area 4:
	Whitmore Heath to Madeley

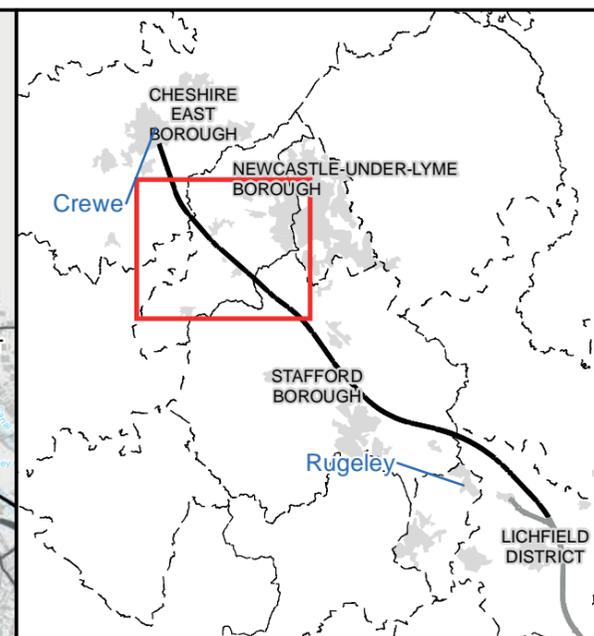
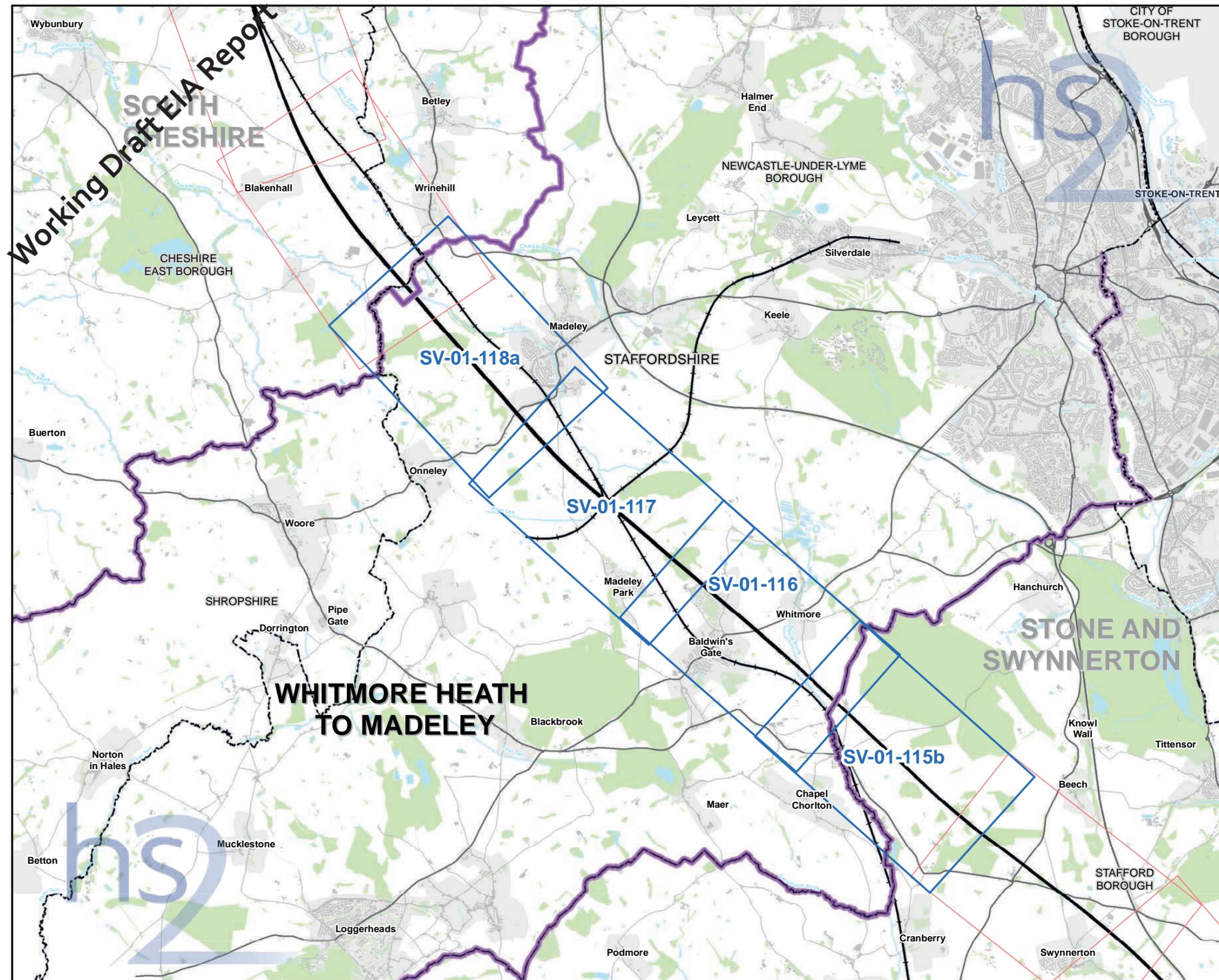
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Date: 23/08/16

High Speed Two Phase 2a: West Midlands to Crewe  
Working Draft Environmental Impact Assessment Report  
**SV-01 – Operational Sound Contour Maps and Likely Significant Effects**



### Map Series Information:

SV-01 presents the predicted operational sound from the new railway.

The sound levels from the new railway (expressed as  $L_{pAeq,T}$ ) are presented in typical noise mapping colours in 5 dB steps. There is a panel at the top right of the figure; the left-hand section of this panel contains a key communicating the night-time and daytime sound levels represented by the various colours. The right-hand part of the same panel contains text explaining how the sound levels presented on the figure inform the assessment of direct noise impacts and likely significant effects. A corresponding and similar panel is found on SV-02, along with the key sound contours that were used within the environmental assessment.

Also presented on SV-01 are the following (which are also included on SV-02):

- A representation of the Proposed Scheme, including the railway alignment (indicating whether it is on the surface or in tunnel), any new and altered roads and all associated engineering and environmental mitigation earthworks;
- blue and green lines representing the wayside airborne noise mitigation measures included in the Proposed Scheme;
- symbols representing buildings that would potentially qualify for noise insulation;
- labels identifying the residual likely significant noise effects of the Proposed Scheme, and
- the extent of the study area within which the direct impacts and effects of the scheme have been quantitatively assessed.

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

The design of the Proposed Scheme will be informed through stakeholder engagement and further engineering and environmental studies.

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 area boundary
	Existing railway station
	County boundary
	District/Borough boundary
	Map sheets included in this community area
	Map sheets not included in this community area

Map Number	SV-01-INDEX-CA4
Map Name	Index Map of: Operational Sound Contour Maps and Likely Significant Effects Working draft EIA report
	Community Area CA4: Whitmore Heath to Madeley

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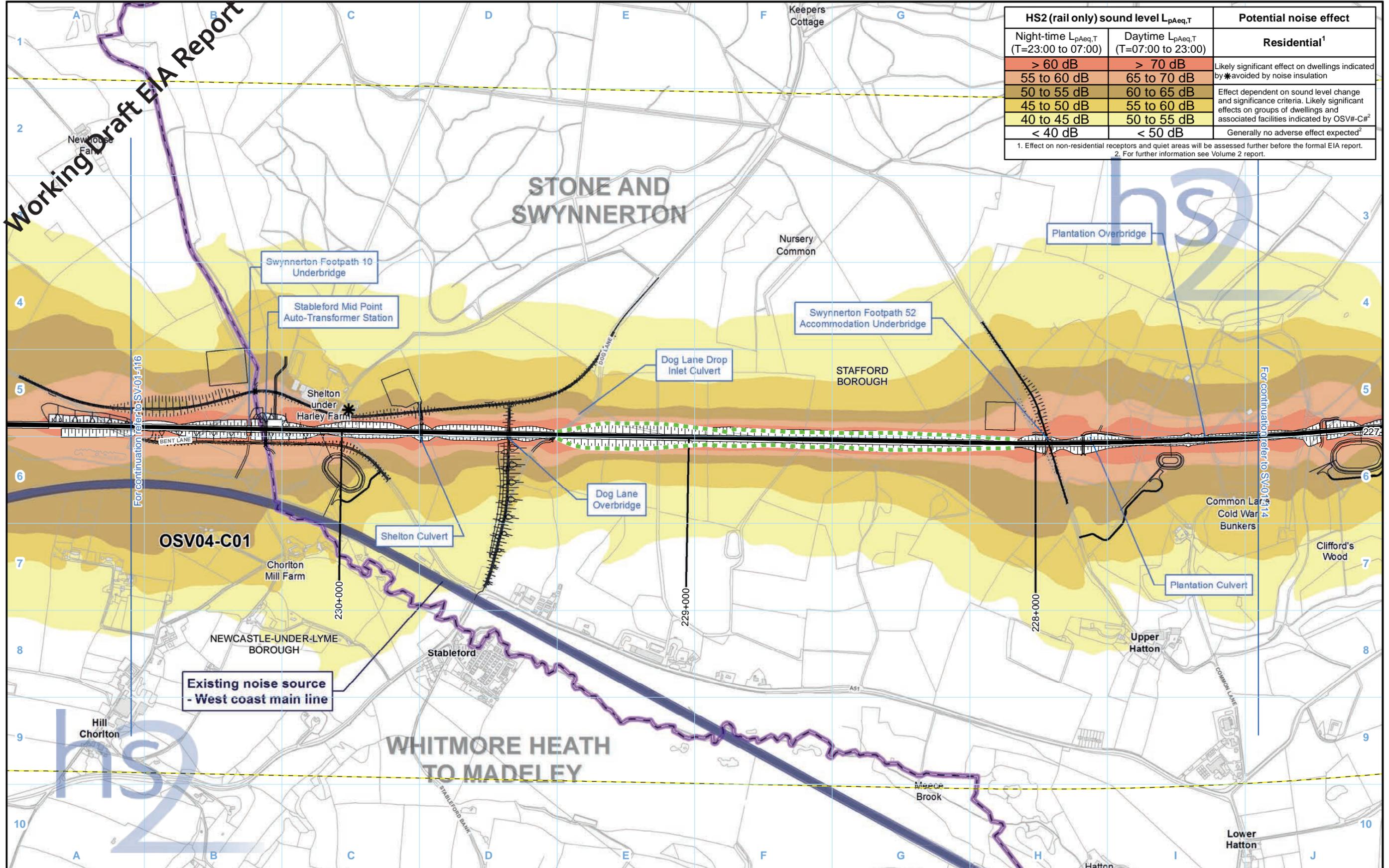
0 500 1,000 1,500 2,000 Metres

Date: 09/08/16

Working Draft EIA Report

HS2 (rail only) sound level L <sub>pAeq,T</sub>		Potential noise effect
Night-time L <sub>pAeq,T</sub> (T=23:00 to 07:00)	Daytime L <sub>pAeq,T</sub> (T=07:00 to 23:00)	Residential <sup>1</sup>
> 60 dB	> 70 dB	Likely significant effect on dwellings indicated by * avoided by noise insulation
55 to 60 dB	65 to 70 dB	Effect dependent on sound level change and significance criteria. Likely significant effects on groups of dwellings and associated facilities indicated by OSV#-C# <sup>2</sup>
50 to 55 dB	60 to 65 dB	
45 to 50 dB	55 to 60 dB	
40 to 45 dB	50 to 55 dB	Generally no adverse effect expected <sup>2</sup>
< 40 dB	< 50 dB	

1. Effect on non-residential receptors and quiet areas will be assessed further before the formal EIA report.  
2. For further information see Volume 2 report.



- Legend - General features**
- Route in bored tunnel
  - Route in green tunnel
  - Route on surface
  - Depot, station, headhouse or portal building
  - Community area boundary
  - District/Borough boundary
  - County boundary

- Engineering earthworks:**
- Embankment
  - Cutting
- Non engineering earthworks:**
- Embankment
  - Cutting

- Legend - Sound related features**
- Envisaged mitigation to avoid / reduce significant noise effects:
- Landscaping and/or fence barriers\*
  - Engineering e.g. cuttings (green tunnels separately marked)
- Envisaged features further reducing noise effects:
- Other environmental e.g. landscaping
  - Engineering e.g. cuttings

- Envisaged mitigation to avoid / reduce significant noise effects:
- Airborne sound study area
  - Potential noise insulation qualifier
  - Non-residential receptors identified for assessment
- \* Labelled with barrier or bund height above track level or local ground height, whichever is higher.

Map Number: SV-01-115b

Map Name: Operational Sound Contour Maps and Likely Significant Effects Working draft EIA report

Community Area 4: Whitmore Heath to Madeley

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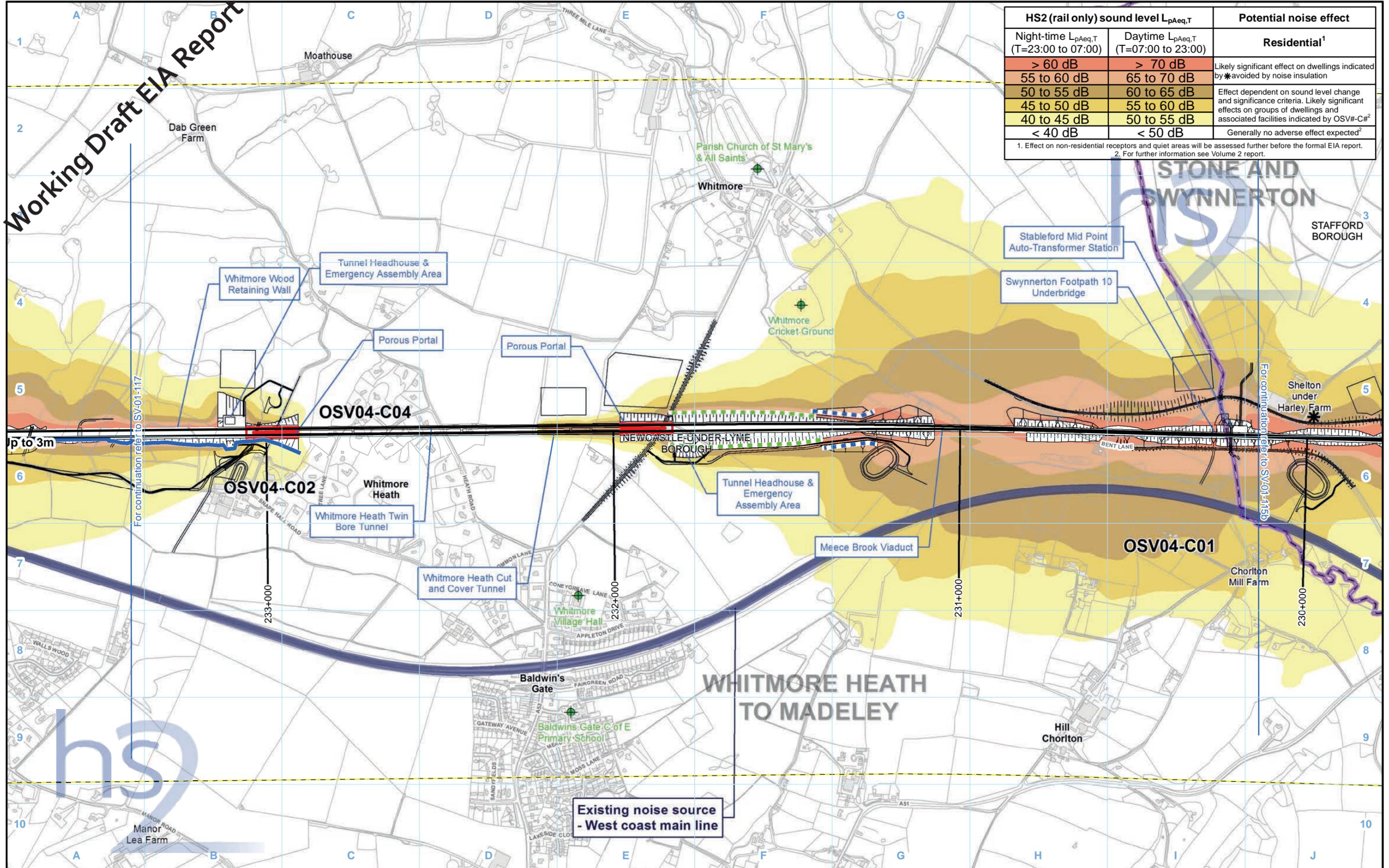
Doc Number: C861-ARP-EV-MAP-000-141215-P02

Date: 09/08/16

Working Draft EIA Report

HS2 (rail only) sound level L <sub>pAeq,T</sub>		Potential noise effect
Night-time L <sub>pAeq,T</sub> (T=23:00 to 07:00)	Daytime L <sub>pAeq,T</sub> (T=07:00 to 23:00)	Residential <sup>1</sup>
> 60 dB	> 70 dB	Likely significant effect on dwellings indicated by * avoided by noise insulation
55 to 60 dB	65 to 70 dB	Effect dependent on sound level change and significance criteria. Likely significant effects on groups of dwellings and associated facilities indicated by OSV#-C# <sup>2</sup>
50 to 55 dB	60 to 65 dB	
45 to 50 dB	55 to 60 dB	
40 to 45 dB	50 to 55 dB	Generally no adverse effect expected <sup>2</sup>
< 40 dB	< 50 dB	

1. Effect on non-residential receptors and quiet areas will be assessed further before the formal EIA report.  
2. For further information see Volume 2 report.



- Legend - General features**
- Route in bored tunnel
  - Route in green tunnel
  - Route on surface
  - Depot, station, headhouse or portal building
  - Community area boundary
  - District/Borough boundary
  - County boundary

- Legend - Sound related features**
- Engineering earthworks:
- Non engineering earthworks: Embankment, Cutting
  - Engineering earthworks: Embankment, Cutting
- Envisaged mitigation to avoid / reduce significant noise effects:
- Landscaping and/or fence barriers\*
  - Engineering e.g. cuttings (green tunnels separately marked)
- Envisaged features further reducing noise effects:
- Other environmental e.g. landscaping
  - Engineering e.g. cuttings

- Airborne sound study area
  - Potential noise insulation qualifier
  - Non-residential receptors identified for assessment
- \* Labelled with barrier or bund height above track level or local ground height, whichever is higher.

Map Number: SV-01-116

Map Name: Operational Sound Contour Maps and Likely Significant Effects Working draft EIA report

Community Area 4: Whitmore Heath to Madeley

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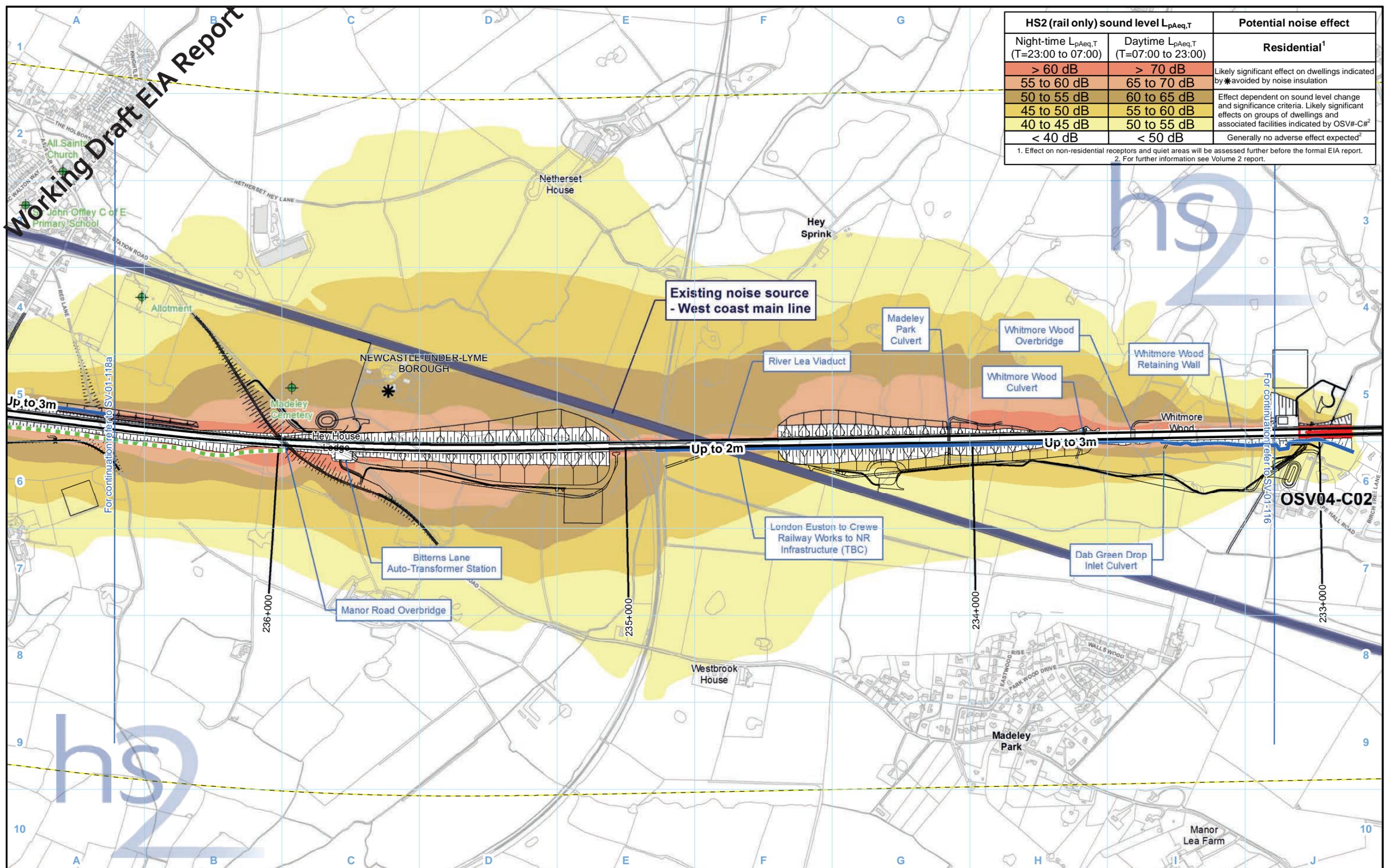
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HS2 (rail only) sound level L <sub>pAeq,T</sub>		Potential noise effect
Night-time L <sub>pAeq,T</sub> (T=23:00 to 07:00)	Daytime L <sub>pAeq,T</sub> (T=07:00 to 23:00)	Residential <sup>1</sup>
> 60 dB	> 70 dB	Likely significant effect on dwellings indicated by * avoided by noise insulation
55 to 60 dB	65 to 70 dB	Effect dependent on sound level change and significance criteria. Likely significant effects on groups of dwellings and associated facilities indicated by OSV#-C# <sup>2</sup>
50 to 55 dB	60 to 65 dB	
45 to 50 dB	55 to 60 dB	
40 to 45 dB	50 to 55 dB	Generally no adverse effect expected <sup>2</sup>
< 40 dB	< 50 dB	

1. Effect on non-residential receptors and quiet areas will be assessed further before the formal EIA report.  
2. For further information see Volume 2 report.

- Legend - General features**
- Route in bored tunnel
  - Route in green tunnel
  - Route on surface
  - Depot, station, headhouse or portal building
  - Community area boundary
  - District/Borough boundary
  - County boundary

- Engineering earthworks:**
- Embankment
  - Cutting
- Non engineering earthworks:**
- Embankment
  - Cutting

- Legend - Sound related features**
- Envisaged mitigation to avoid / reduce significant noise effects:
- Landscaping and/or fence barriers\*
  - Engineering e.g. cuttings (green tunnels separately marked)
- Envisaged features further reducing noise effects:
- Other environmental e.g. landscaping
  - Engineering e.g. cuttings

- Envisaged mitigation to avoid / reduce significant noise effects:
- Airborne sound study area
  - Potential noise insulation qualifier
  - Non-residential receptors identified for assessment
- \* Labelled with barrier or bund height above track level or local ground height, whichever is higher.

Map Number: SV-01-117

Map Name: Operational Sound Contour Maps and Likely Significant Effects Working draft EIA report

Community Area 4: Whitmore Heath to Madeley

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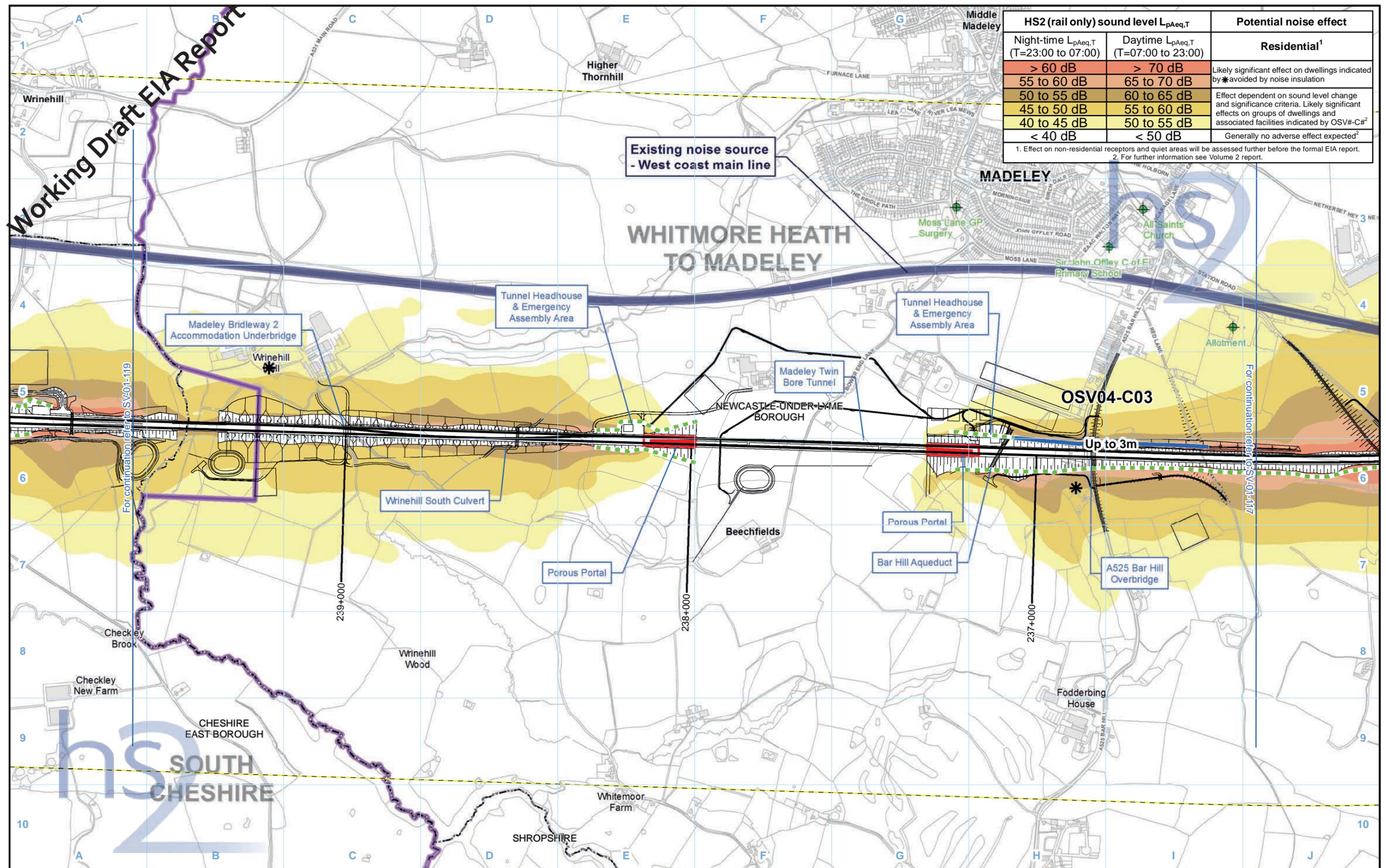
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Date: 09/08/16



HS2 (rail only) sound level L <sub>pAeq,T</sub>		Potential noise effect
Night-time L <sub>pAeq,T</sub> (T=23:00 to 07:00)	Daytime L <sub>pAeq,T</sub> (T=07:00 to 23:00)	Residential <sup>1</sup>
> 60 dB	> 70 dB	Likely significant effect on dwellings indicated by * avoided by noise insulation
55 to 60 dB	65 to 70 dB	Effect dependent on sound level change and significance criteria. Likely significant effects on groups of dwellings and associated facilities indicated by OSV#-C# <sup>2</sup>
50 to 55 dB	60 to 65 dB	
45 to 50 dB	55 to 60 dB	
40 to 45 dB	50 to 55 dB	Generally no adverse effect expected <sup>2</sup>
< 40 dB	< 50 dB	

1. Effect on non-residential receptors and quiet areas will be assessed further before the formal EIA report.  
2. For further information see Volume 2 report.

Working Draft EIA Report

For continuation refer to SV-01-119

For continuation refer to SV-01-117

- Legend - General features**
- Route in bored tunnel
  - Route in green tunnel
  - Route on surface
  - Depot, station, headhouse or portal building
  - Community area boundary
  - District/Borough boundary
  - County boundary

- Engineering earthworks:**
- Non engineering earthworks: Embankment
  - Non engineering earthworks: Cutting

- Legend - Sound related features**
- Envisaged mitigation to avoid / reduce significant noise effects: Landscaping and/or fence barriers\*
  - Engineering e.g. cuttings (green tunnels separately marked)
  - Envisaged features further reducing noise effects: Other environmental e.g. landscaping
  - Engineering e.g. cuttings

- Airborne sound study area
  - Potential noise insulation qualifier
  - Non-residential receptors identified for assessment
- \* Labelled with barrier or bund height above track level or local ground height, whichever is higher.

Map Number: SV-01-118a

Map Name: Operational Sound Contour Maps and Likely Significant Effects Working draft EIA report

Community Area 4: Whitmore Heath to Madeley

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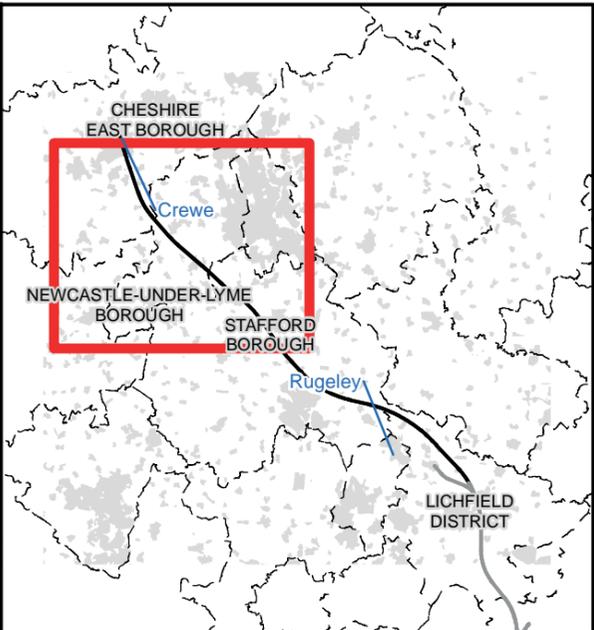
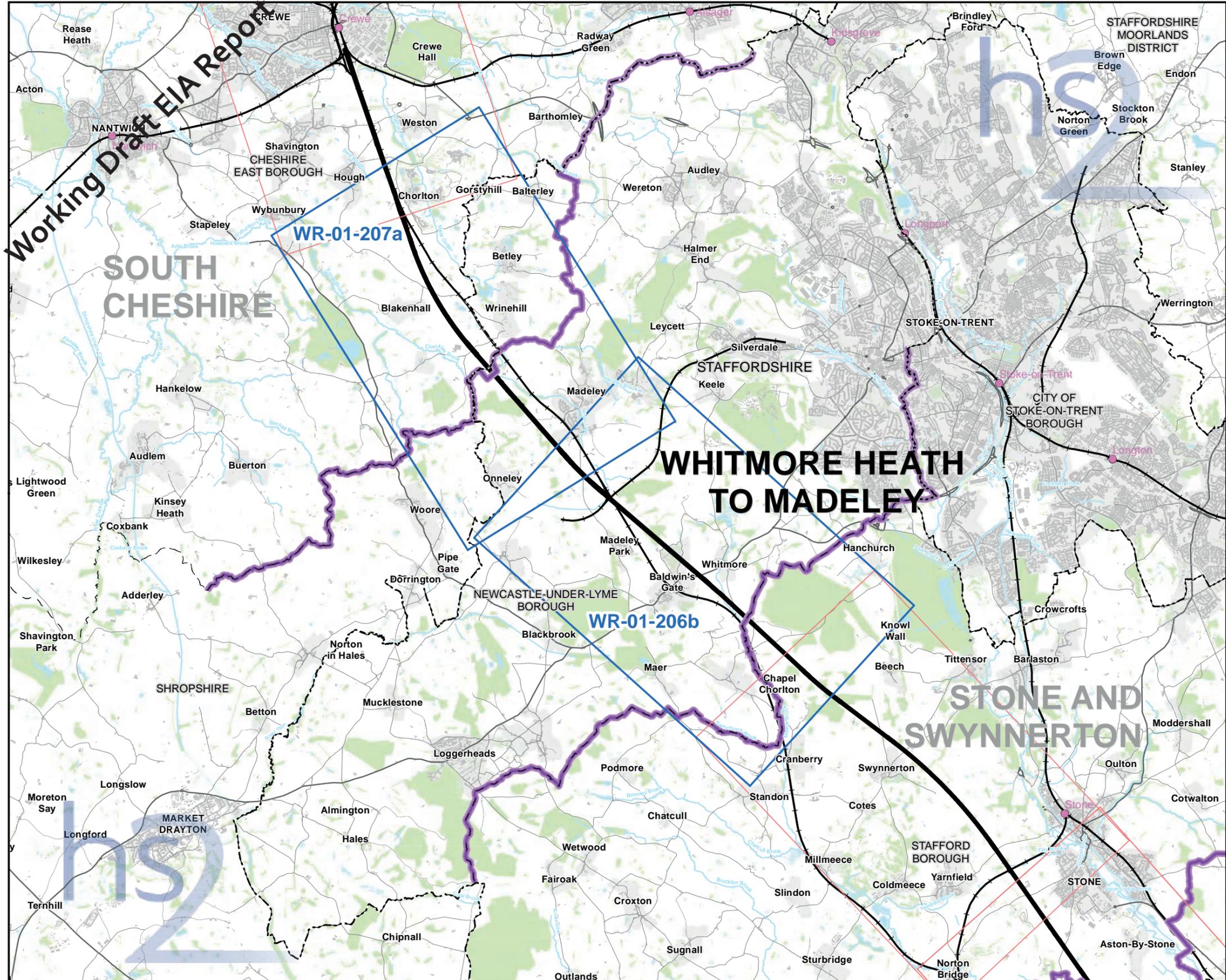
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High Speed Two Phase 2a: West Midlands to Crewe  
Working Draft Environmental Impact Assessment Report  
**WR-01 – Surface Water Baseline**



**Map Series Information:**

This map series shows surface water features such as rivers, streams, ponds, canals and reservoirs, flood zones, and surface water abstractions as referred to in the ES.

All points where the alignment crosses a watercourse are also shown and labelled with their reference in the text. These are shown as "Surface Water Crossings (SWC)".

The design of the Proposed Scheme will be informed through stakeholder engagement and further engineering and environmental studies

**Main Map Legend**

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

Map Number	WR-01-INDEX-CA4
Map Name	Index Map of: Surface Water Baseline Working draft EIA report
	Community Area CA4: Whitmore Heath to Madeley

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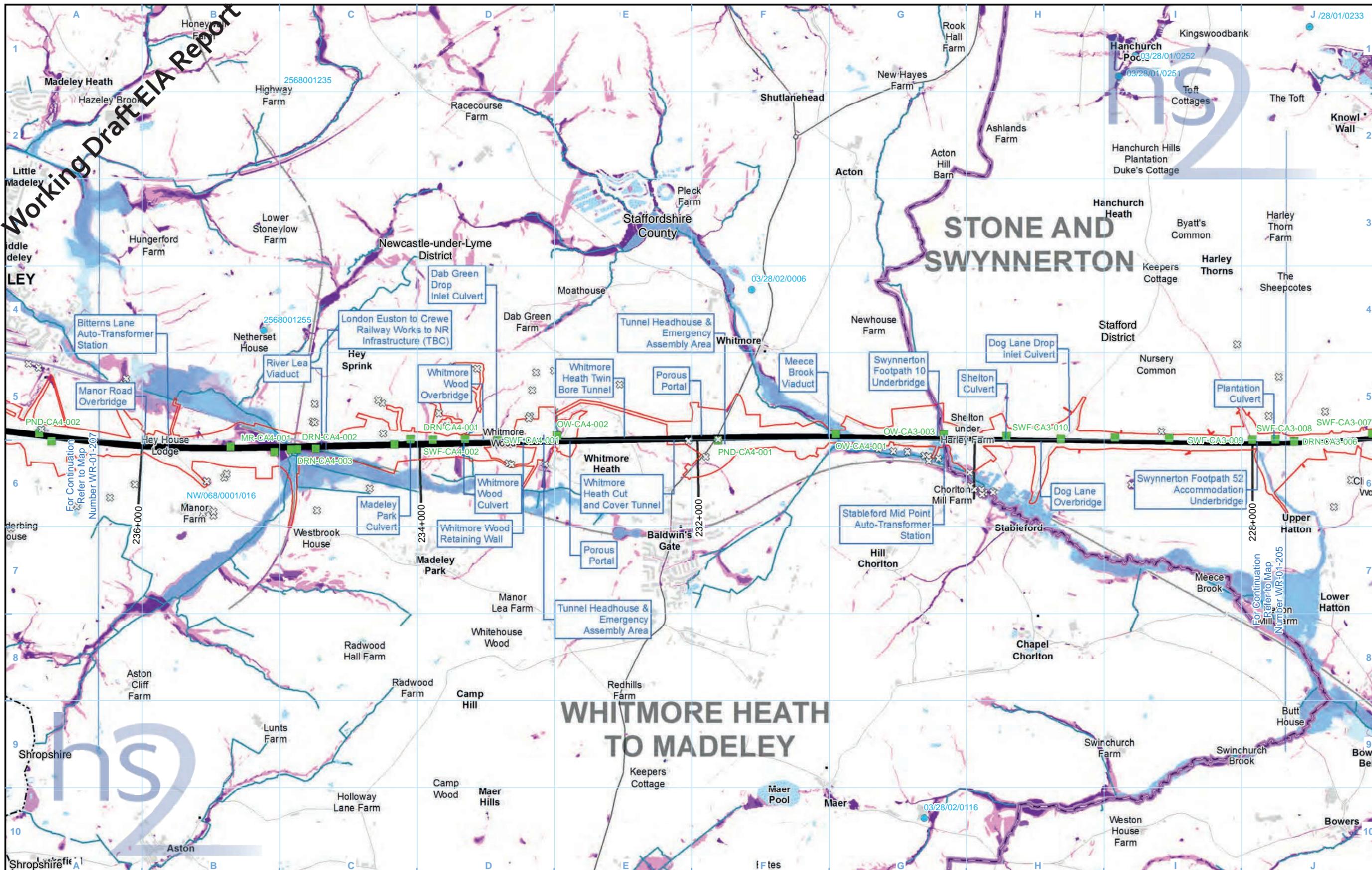
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**Working Draft EIA Report**



Legend			
	Route centreline		Flood Zone 3
	Land potentially required during construction		Watercourse
	Community area boundary		Culverted watercourse
	County boundary		Canal
	District/Borough boundary		Canal tunnel
	Licensed surface water abstraction (excluding public water supplies)		Surface water crossing location
	Pond location		Historic flooding area
			Flood Zone 2
			Risk of Flooding from Surface Water
			High - chance of flooding greater than 1 in 30 (3.33%)
			Medium - chance of flooding between 1 in 100 (1%) and 1 in 30 (3.33%)
			Low - chance of flooding between 1 in 1000 (0.1%) and 1 in 100 (1%)

Map Number: **WR-01-206b**

Map Name: **Surface Water Baseline Working draft EIA report**

Community Area 4: **Whitmore Heath to Madeley**

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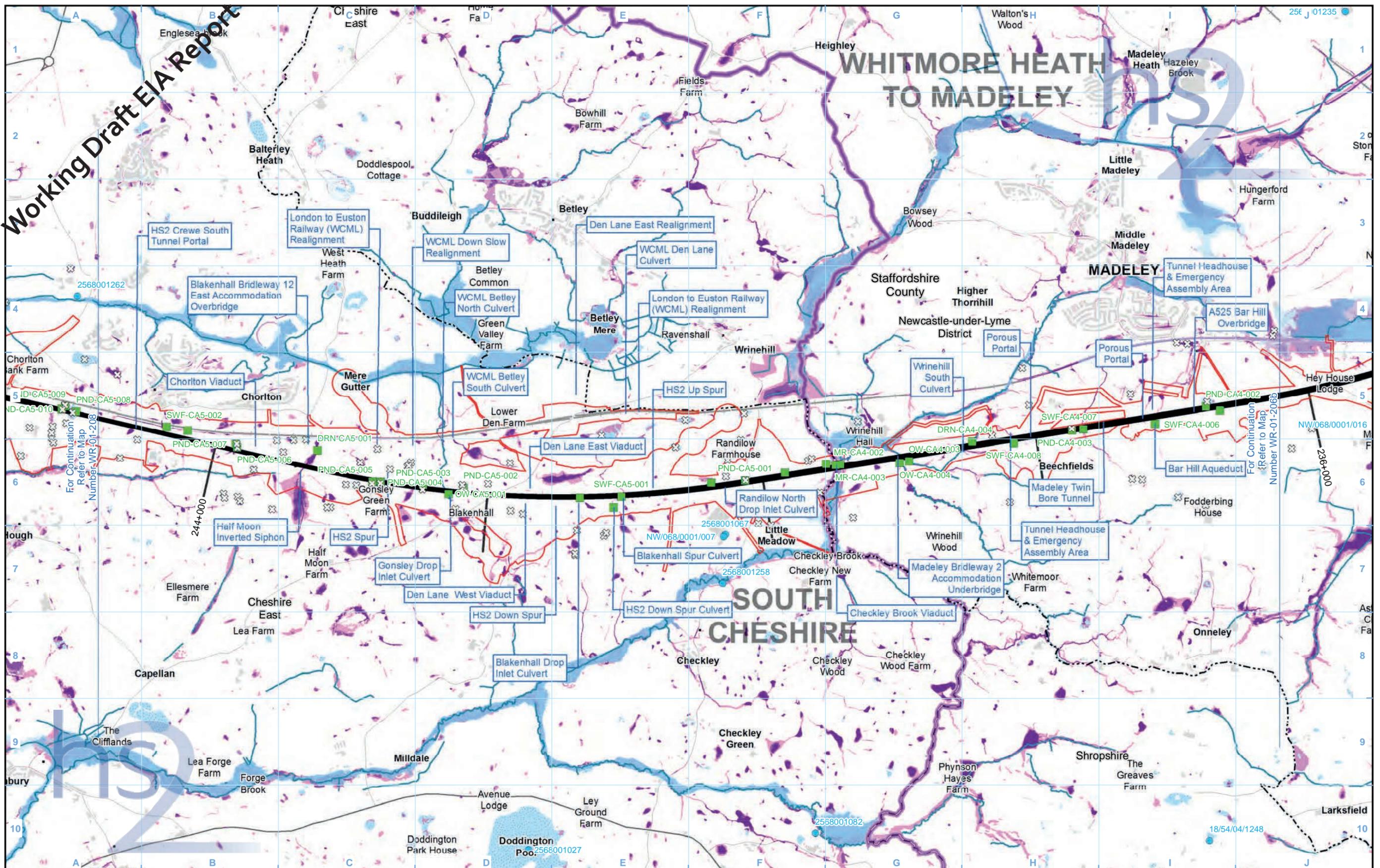
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Working Draft EIA Report

# WHITMORE HEATH TO MADELEY



**Legend**

- Route centreline
- Land potentially required during construction
- Community area boundary
- County boundary
- District/Borough boundary
- Licensed surface water abstraction (excluding public water supplies)
- Pond location
- Watercourse
- Culverted watercourse
- Canal
- Canal tunnel
- Surface water crossing location
- Historic flooding area
- Flood Zone 2
- Flood Zone 3
- Risk of Flooding from Surface Water
  - High - chance of flooding greater than 1 in 30 (3.33%)
  - Medium - chance of flooding between 1 in 100 (1%) and 1 in 30 (3.33%)
  - Low - chance of flooding between 1 in 1000 (0.1%) and 1 in 100 (1%)

Map Number: WR-01-207a

Map Name: Surface Water Baseline Working draft EIA report

Community Area 4: Whitmore Heath to Madeley

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