

High Speed Rail (West Midlands - Crewe) Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

Volume 2: Map book

CA4: Whitmore Heath to Madeley

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

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Contents

Mapping explanatory notes

Data dictionary and definitions

Map series name	Map series description
CT-05 – Construction Phase	These 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 2017 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 shown on the plans is reflective of 2017 Ordnance Survey (OS) data.
LV-01 – Photomontages	Photomontages illustrating the Proposed Scheme during construction and/or operation for significantly affected viewpoints.
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. (All significant and non-significant photomontage locations are shown).
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. (All significant and non-significant photomontage locations are shown).
SV-05 – Operational 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 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.

Mapping explanatory notes

Structure of the HS2 Phase 2a Supplementary Environmental Statement 2 and the Additional Provision 2 Environmental Statement

This map book is part of the suite of documents that make up the Supplementary Environmental Statement 2 (SES2) and the Additional Provision Environmental Statement 2 (AP2 ES) for Phase 2a of the proposed High Speed Two (HS2) rail network between the West Midlands and Crewe.

The SES2 and the AP2 ES are separate documents. However, they are bound together and presented in a number of volumes as described below:

- Non-technical summary (NTS). This provides a summary in non-technical language of the SES2 (Part 1) and the AP2 ES (Part 2). It presents a summary of any likely residual significant environmental effects (i.e. effects that are likely to remain after mitigation measures are put in place), both beneficial and adverse, which are new or different to those reported in the Environmental Statement (ES) submitted to Parliament in July 2017 in support of the hybrid Bill for Phase 2a of HS2 ('the main ES'), as amended by SES1 and, where relevant, AP1 ES;
- Glossary of terms and list of abbreviations. This contains any new or different terms and abbreviations used throughout the SES2 and the AP2 ES, which are not already explained in the main ES or SES1 and AP1 ES;
- Volume 1: Introduction to the SES2 and the AP2 ES. This introduces the supplementary environmental information and changes to the design and construction assumptions included within the SES2 and amendments within the AP2 ES. The report explains the environmental impact assessment (EIA) process that has been applied;
- Volume 2: Community area reports and map books. These report the supplementary environmental information and changes to the design and construction assumptions included within the SES2 (Part 1), amendments within the AP2 ES (Part 2) and any new or different likely significant environmental effects arising from these changes or assumptions and amendments in each community area. These effects are compared to those reported in the main ES, as amended by SES1 (and by SES2 for AP2). The AP1 amendments are also taken into account where relevant. The maps relevant to each community area are provided in separate Volume 2 map books and should be read in conjunction with the relevant community area report;
- Volume 3: Route-wide effects. This describes any new or different likely significant environmental effects arising at a route-wide level from the supplementary environmental information and changes to the design and construction assumptions included within the SES2 (Part 1) and the amendments within the AP2 ES (Part 2) compared to those reported in the main ES, as amended by SES1 (and by SES2 for the AP2 amendments). The AP1 amendments are also taken into account where relevant; and
- Volume 5: Appendices and map books. These contain supporting environmental information and associated maps.

A Volume 4: Off-route effects report was produced as part of the main ES. A separate Volume 4 has not been produced as part of the SES2 and AP2 ES. Any new or different significant effects arising from the AP2 amendments are reported in the most relevant Volume 2 community area report.

Certain reports and maps containing background information and data (BID) have been produced, which do not form part of the SES2 and AP2 ES. These documents are available online at www.gov.uk/hs2. The BID documents and maps present background survey information and other relevant background material.

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 SES2 and the AP2 ES 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 SES2 and the AP2 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. 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 1:20,000, 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 sheet layout

Each map in Volume 2 is presented twice, with the main ES map (published July 2017) on the left hand page, where relevant, and the SES2 and the AP2 ES map on the right. For the CT-05 and CT-06 map series, the SES2 and the AP2 ES map is annotated with different coloured clouds which highlight the areas of change. The coloured text box provides a brief description of the design change and amendment, and gives the SES2 and the AP2 ES reference number. Only maps which have been amended as a result of the SES2 and the AP2 ES are included within the map books. Other design changes which are within the existing limits of the Bill and do not result in new or different likely significant effects are also shown on the maps, but are not indicated by a cloud. The below table highlights the coloured clouds used, and their description.

Cloud / text box colour	Description
Blue	Design changes relating to the SES2 (Part 1 of each Volume 2 report).
Red	Proposed amendments relating to the AP2 ES (Part 2 of each Volume 2 report).
Grey	Proposed design changes and amendments relating to SES1 changes and AP1 amendments, provided for reference.

SES changes and AP amendments (now referred to as SES1 changes and AP1 amendments) were denoted in the SES and AP ES documents and maps as follows: SES-00X-00X or AP-00X-00X. In order to clearly distinguish between SES1 and SES2 changes and AP1 and AP2 amendments, references in the SES2 and AP2 ES documents and maps relating to SES1 changes and AP1 amendments are now denoted as follows: SES1-00X-00X or AP1-00X-00X.

Each Volume 5 map is annotated to describe the change to a receptor or significant effect, and to give the SES2 and the AP2 ES reference number. For more detailed information about the SES2 and the AP2 ES annotation, refer to the map series legend. Only maps which have been amended as a result of the SES2 and the AP2 ES are included within the map book.

Further details on the approach to mapping is set out in Section 6 of Volume 1 of the SES2 and AP2 ES.

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, are map series LV-03 and LV-04 which present 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 16 map books which make up the SES2 and the AP2 ES, spread across volumes 2 and 5. A list of the titles is provided below for reference.

Name
Volume 2: Map book – CA1: Fradley to Colton
Volume 2: Map book – CA2: Colwich to Yarlet
Volume 2: Map book – CA3: Stone and Swynnerton
Volume 2: Map book – CA4: Whitmore Heath to Madeley
Volume 2: Map book – CA5: South Cheshire
Volume 5: Map book – Agriculture, forestry and soils (AG-01, AG-02, AG-04)
Volume 5: Map book – Air quality (AQ-01)
Volume 5: Map book – Community (CM-01)
Volume 5: Map book – Committed developments (CT-13)
Volume 5: Map book – Cultural heritage (CH-01, CH-02, CH-03)
Volume 5: Map book – Ecology - designated sites (EC-01)
Volume 5: Map book – Landscape and visual (LV-00, LV-02, LV-07, LV-08)
Volume 5: Map book – Socio-economics (SE-01)
Volume 5: Map book – Sound, noise and vibration (SV-01, SV-02, SV-03, SV-04)
Volume 5: Map book – Traffic and transport (TR-03, TR-04, TR-08)
Volume 5: Map book – Water resources (WR-05, WR-06)

High Speed Rail (West Midlands - Crewe)

**Supplementary Environmental Statement 2 and
Additional Provision 2 Environmental Statement**

Data dictionary and definitions

Data dictionary and definitions

Legend features	Definition	Source	Copyright
1km 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	
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	
Area of Outstanding Natural Beauty (AONB)	An Area of Outstanding Natural Beauty (AONB) is an area of high scenic quality which has statutory protection in order to conserve and enhance the natural beauty of its landscape. AONB landscapes range from rugged coastline to water meadows to gentle lowland and upland moors. Natural England has a statutory power to designate land as Areas of Outstanding Natural Beauty under the Countryside and Rights of Way Act 2000.	Natural England	© Natural England copyright 2018
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	
Borrow Pit	Area excavated to provide material for construction purposes.	High Speed Two (HS2) Ltd	
Chainage	<p>Chainage (known as reference chainage) is referenced from Euston Station, which is 0+000, and the value presented is in metres. E.g. 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.</p> <p>Chainage has been included on the maps as a useful tool for comparing different map sets showing the different environmental themes or engineering plans, due to map sets having different scales and therefore showing differing amounts of alignment on the map.</p>	High Speed Two (HS2) Ltd	
Committed developments – SV Only	<p>This informs the assessment of the future baseline.</p> <p>Committed consents are unimplemented but committed developments or Local Plan development allocations that are likely to be largely built out prior to commencement of the Proposed Scheme.</p> <p>Cumulative development is unimplemented but committed developments or Local Plan development allocations that are likely to be largely built out during implementation of the</p>	High Speed Two (HS2) Ltd	© Crown copyright and database rights 2017 OS 100049190. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you with the data. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.

Legend features	Definition	Source	Copyright
	Proposed Scheme and give rise to potential cumulative effects, when considered alongside the Proposed Scheme.		
Community area boundary	The Environmental Statement has been split into 5 sections called Community Areas.	High Speed Two (HS2) Ltd	© Crown copyright and database rights 2017 OS 100049190. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you with the data. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.
Construction compounds	See Main construction compound and Satellite construction compound.	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 2017 OS 100049190. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you with the data. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.
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 2017 OS 100049190. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you with the data. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.
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 measures further reducing noise effects	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). 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	High Speed Two (HS2) Ltd	

Legend features	Definition	Source	Copyright
	include cuttings and safety barriers on viaducts which are not close to sensitive receptors.		
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: 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	
Existing buildings	Extent of buildings derived from Ordnance Survey MasterMap data.	Ordnance Survey	© Crown copyright and database rights 2017 OS 100049190. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you with the data. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.
Existing contours	Lines depicting land heights to show topography.	Ordnance Survey	© Crown copyright and database rights 2017 OS 100049190. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you with the data. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.
Existing inland water	See Water body.	See Water body.	See Water body.
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	See Woodland.	See Woodland.	See Woodland.
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	
Extent of land potentially required during construction for mitigation planting	Areas of land outside the main works identified for the planting of woodland, grassland mitigation.	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 noise or vibration impact	Buildings at which an operational ground-borne sound or vibration impact is predicted from the Proposed Scheme.	High Speed Two (HS2) Ltd	© Crown copyright and database rights 2017 OS 100049190. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you with the data. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.

Legend features	Definition	Source	Copyright
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	
L _{pAFmax} exceeds 60dB façade	Assessment locations where the predicted value of L _{pAFmax} is 60 dB or greater having applied a façade correction of +2.5 dB to the predicted free field value.	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 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	
Local placement of surplus excavated material (local placement area)	An area of land already required for construction of the scheme to be used for the permanent placement of surplus excavated materials, which will subsequently be restored for agricultural use.	High Speed Two (HS2) Ltd	
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 (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	
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	

Legend features	Definition	Source	Copyright
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 of the main ES). Panel B on 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	© Crown copyright and database rights 2017 OS 100049190. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you with the data. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.
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	
Potential additional noise insulation (triggered by maximum sound levels at night)	This represents dwellings which would potentially be provided with noise insulation due maximum sound levels from the Proposed Scheme (further information regarding assessment criteria can be found in Volume 5 Appendix SV-001 of the main ES).	High Speed Two (HS2) Ltd	
Potential additional noise insulation (triggered by WHO Night Noise Guidelines Interim Target)	This represents dwellings which would potentially be provided with noise insulation due to noise from the Proposed Scheme exceeding the World Health Organization (WHO) night noise guidelines interim target (further information regarding assessment criteria can be found in Volume 5 Appendix SV-001 of the main ES).	High Speed Two (HS2) Ltd	
Potential noise insulation (triggered by Noise Insulation Regulations 1996)	This represents dwellings which would potentially qualify for noise insulation under the Noise Insulation (Railways and Other Guided Transport Systems) Regulations 1996 (further information regarding assessment criteria can be found in Volume 5 Appendix SV-001 of the main ES).	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/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 (PRoW)	Public rights of way are highways which can be used for the following purposes: - Footpaths - pedestrians only - Bridleways - pedestrians, cyclists and equestrians		© Crown copyright and database rights 2017 OS 100049190. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you

Legend features	Definition	Source	Copyright
	- 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	with the data. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form. © 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	
Railway systems compound	Represents railway systems compounds which facilitate installation, testing and commissioning of the railway systems, including track, overhead line equipment, communications and signalling equipment and traction power supply.	High Speed Two (HS2) Ltd	
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	
Significantly affected viewpoint	This dataset shows the locations of the visual receptors from which the schemes visual impact has been assessed and shows whether or not the impact is significant or non-significant during construction and operation.	High Speed Two (HS2) Ltd	
Sound contours (SV-05)	The sound levels from the Proposed Scheme (expressed as $L_{pAeq,T}$ and representing sound from the new railway only) are presented at two sound levels: 40 dB $L_{Aeq,T 23:00 \text{ to } 07:00}$ and 55 dB $L_{Aeq,T 23:00 \text{ to } 07:00}$. The corresponding daytime levels ($L_{Aeq,T 07:00 \text{ to } 23:00}$) are shown in Panel A of SV-05.	High Speed Two (HS2) Ltd	
Stopped-up PRow	Public rights of way that will be closed due to construction of the scheme.	High Speed Two (HS2) Ltd	
Storage / prefabrication / laydown areas	Storage, prefabrication or laydown areas.	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	

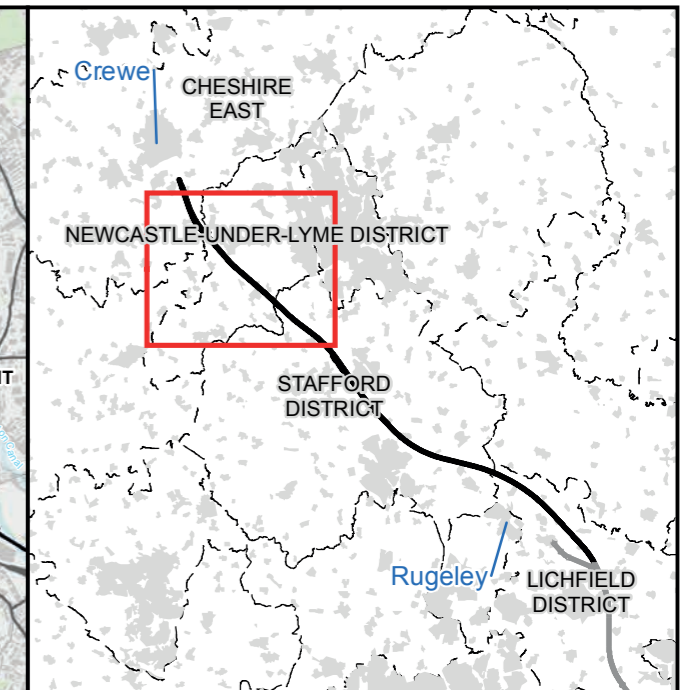
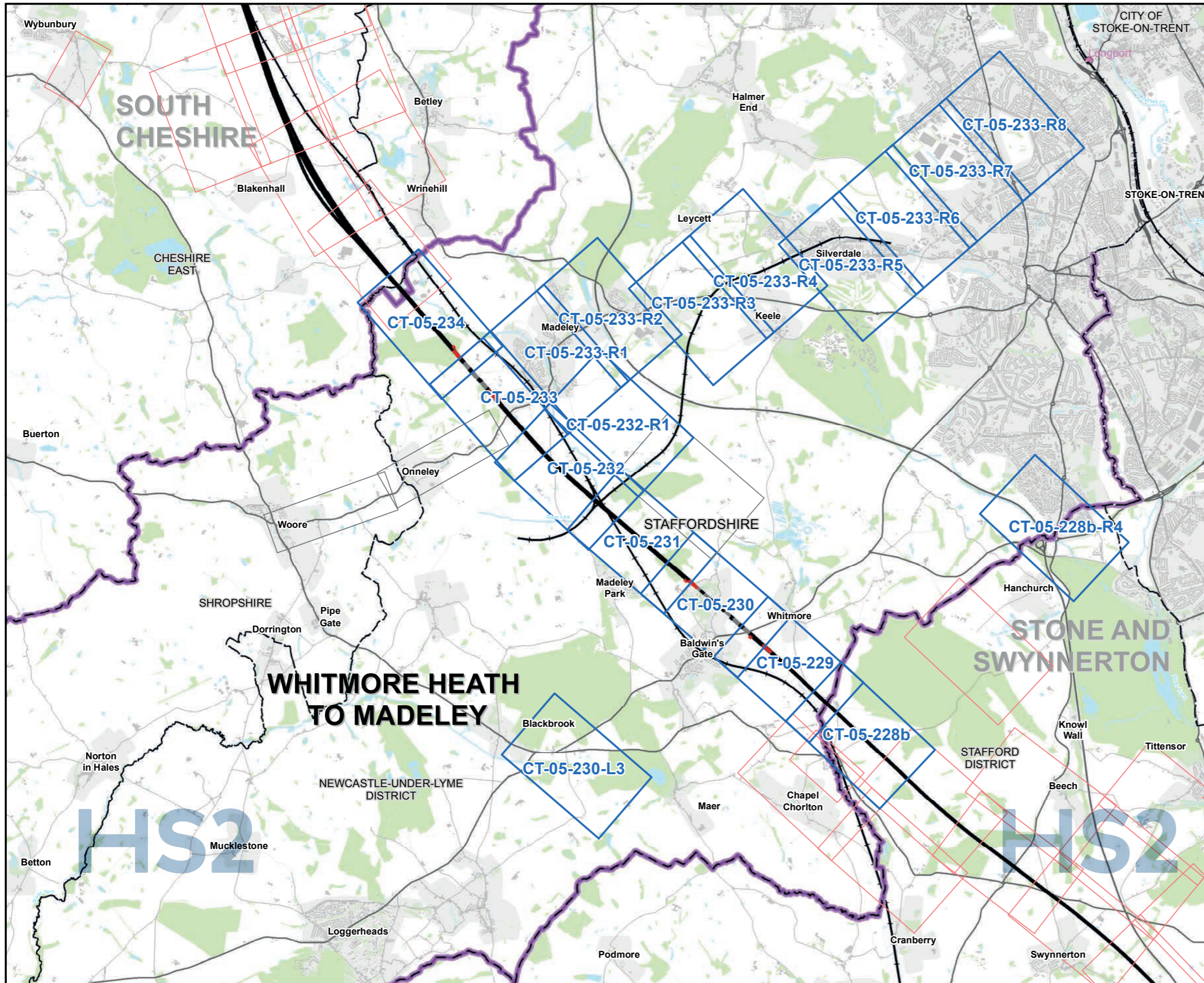
Legend features	Definition	Source	Copyright
Temporary replacement community facility	Area of land for the provision of a temporary replacement community facility, such as a playground, community centre or activity centre, whilst construction works are in progress.	High Speed Two (HS2) Ltd	
Temporary workers accommodation	Temporary accommodation for workers during the construction period.	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	
Water body	Any mass of water having definite hydrological, physical, chemical and biological characteristics.	Ordnance Survey	© Crown copyright and database rights 2017 OS 100049190. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you with the data. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.
Watercourse	Any channel through which water flows, can be natural or manmade. They are split into two categories (main rivers or ordinary watercourses) in England and Wales for regulation purposes.	Environment Agency	© Environment Agency copyright and/or database right 2018. 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 and database rights 2017 OS 100049190. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you with the data. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.
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 Rail (West Midlands - Crewe)

**Supplementary Environmental Statement 2 and
Additional Provision 2 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 2017 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 with an SES2 design change or an AP2 amendment
- Map sheets included in this community area with no amendment
- Map sheets not included in this community area

Map Number	CT-05-INDEX-CA4
Map Name	Index Map of: Construction Phase SES2 and AP2 ES
	Community Area 4: Whitmore Heath to Madeley

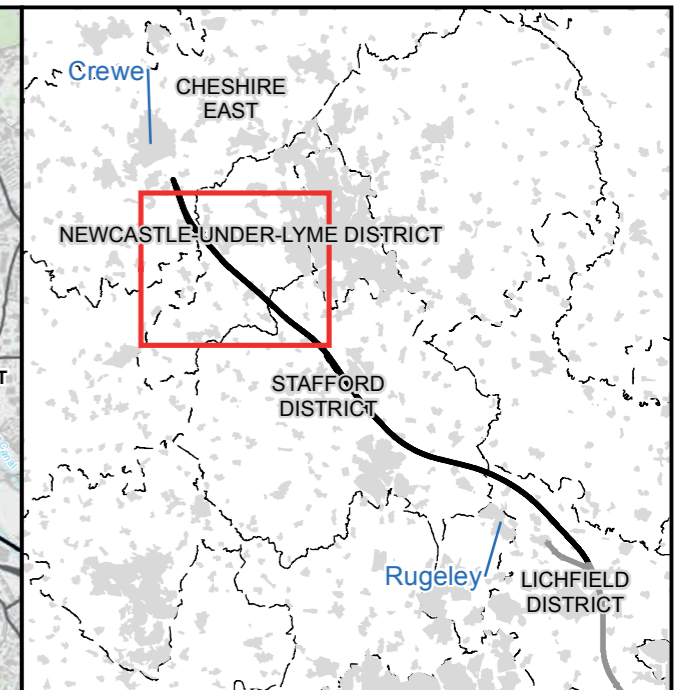
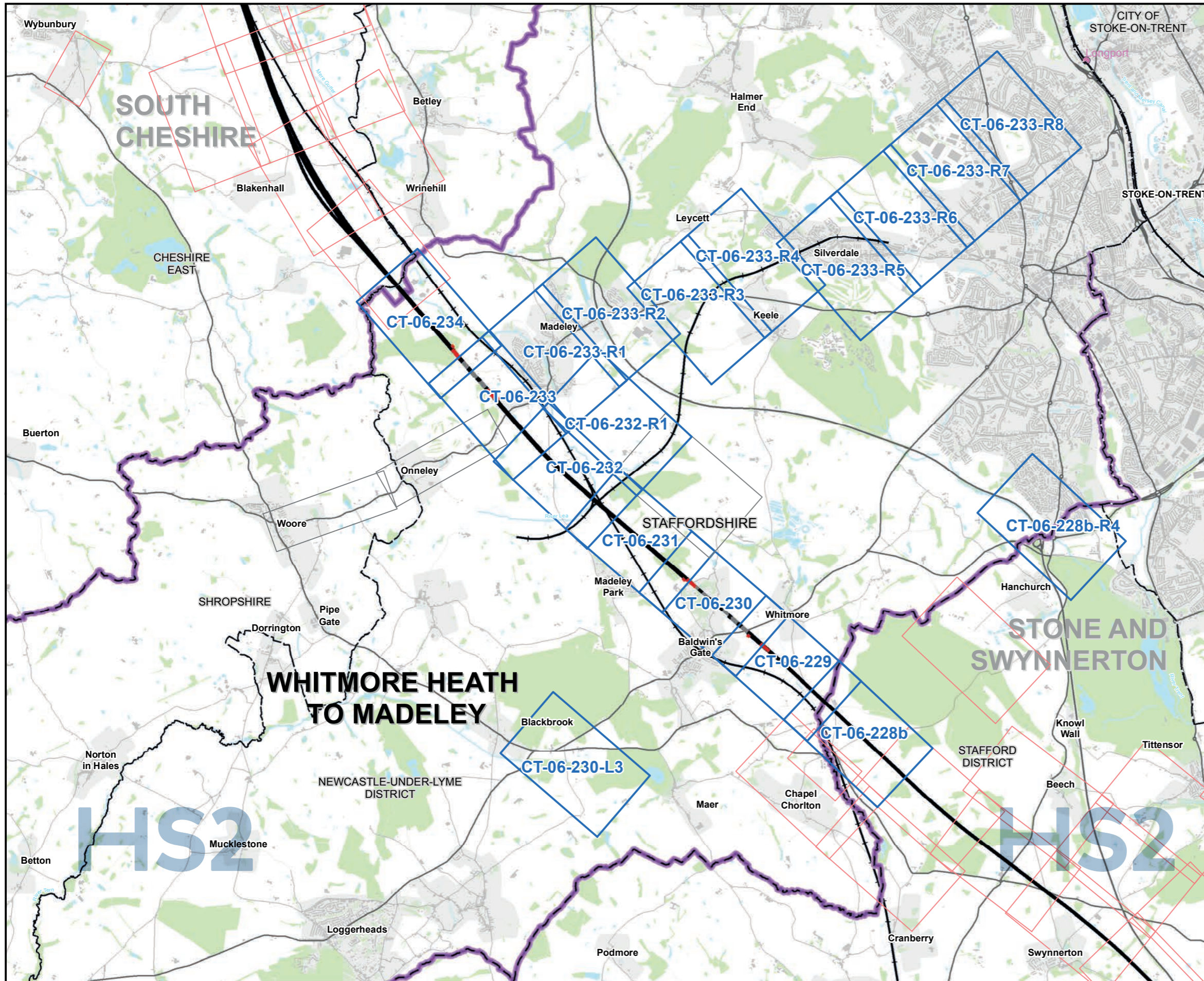
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Doc Number: 2PT02-ARP-EV-MAP-000-510004-P01.2 **Date:** 10/01/19



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 shown on the plans is reflective of 2017 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 with an SES2 design change or an AP2 amendment
 - Map sheets included in this community area with no amendment
 - Map sheets not included in this community area

Map Number	CT-06-INDEX-CA4
Map Name	Index Map of: Proposed Scheme SES2 and AP2 ES
	Community Area 4: Whitmore Heath to Madeley

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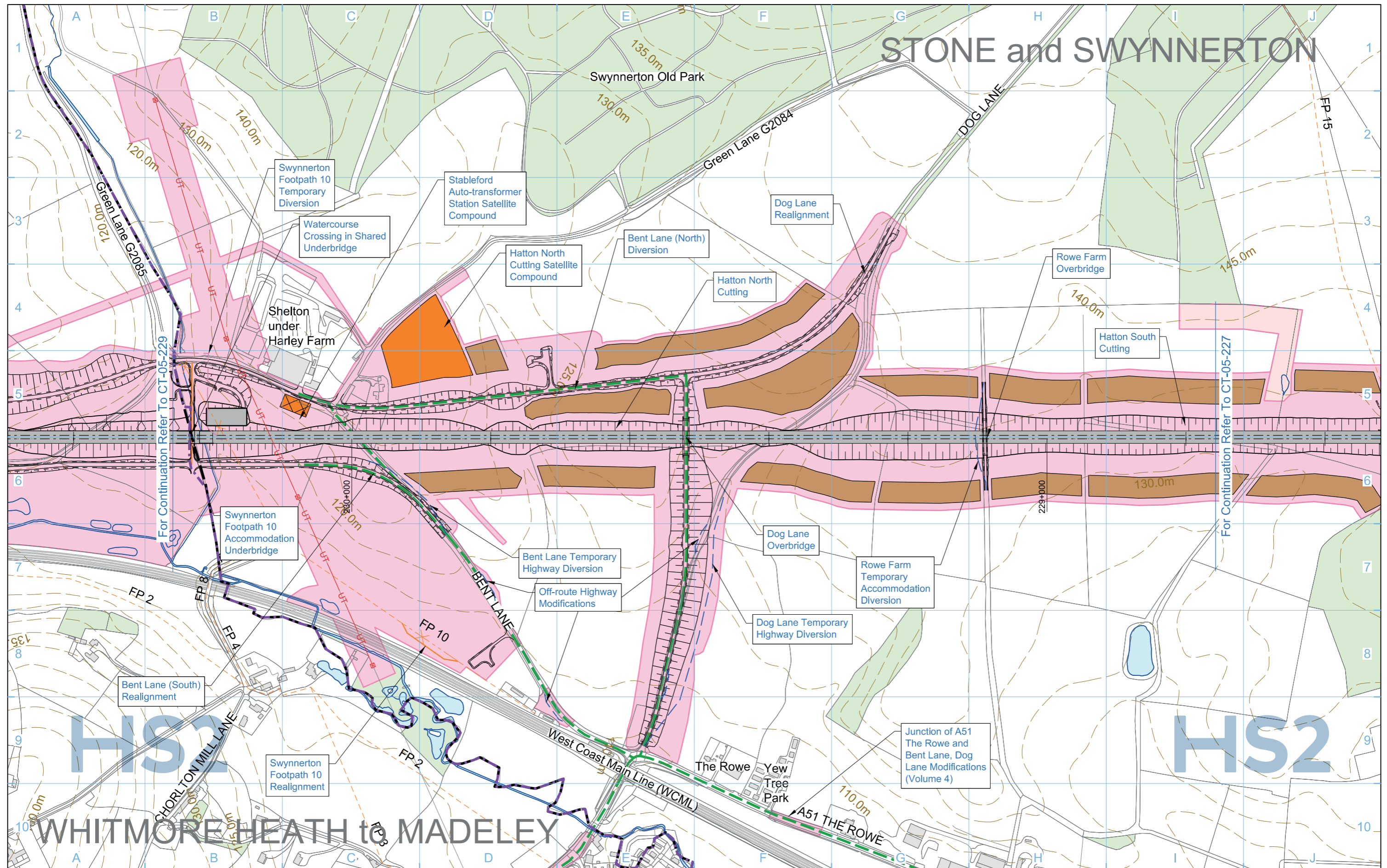
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0 500 1,000 1,500 2,000
Meters

Doc Number: 2PT02-ARP-EV-MAP-000-509004-P01.2 **Date: 10/01/19**

STONE and SWYNNERTON

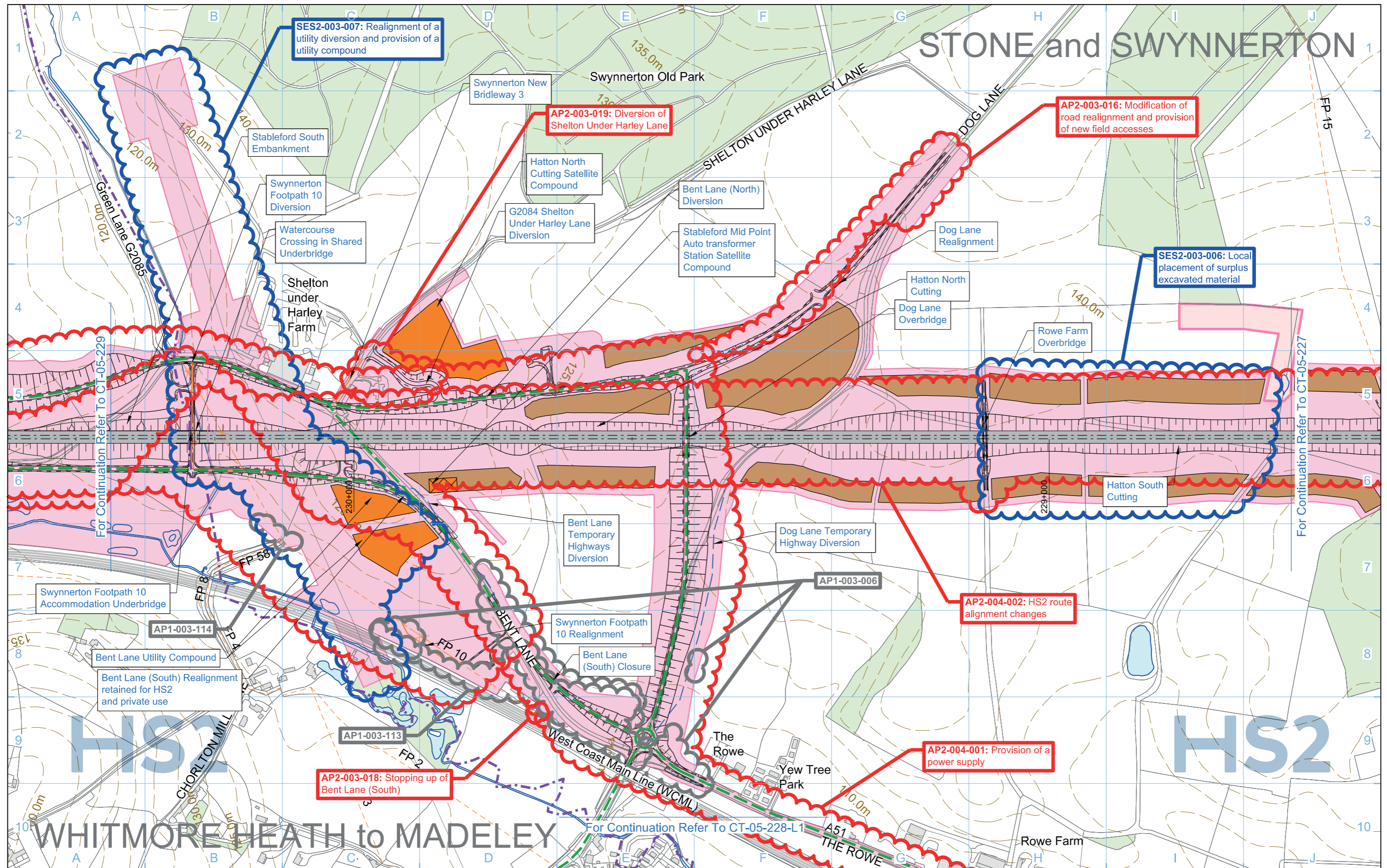


For Continuation Refer To CT-05-229

For Continuation Refer To CT-05-227

Legend <ul style="list-style-type: none"> Depot, station, headhouse or portal building Tunnel portal Main construction compound Satellite construction compound Railway systems compound Temporary material stockpile 		<ul style="list-style-type: none"> Borrow Pit Storage / prefabrication / laydown areas Land potentially required during construction Extent of land potentially required during construction for mitigation planting Temporary replacement community facility 		<ul style="list-style-type: none"> Community Area boundary Tunnels external extent Construction traffic route Existing public right of way (PRoW) New, diverted or realigned PRoW Stopped-up PRoW Temporary PRoW diversion / realignment 		<ul style="list-style-type: none"> Landscape earthworks Engineering earthworks Temporary highway diversion / realignment Main utility works (UT) Rail alignment Chainage (e.g. 10+000) 		<ul style="list-style-type: none"> Existing woodland Existing buildings Existing inland water Existing watercourse Existing contours Rail alignment formation Temporary workers accommodation 	
Map Number CT-05-228b		Map Name Construction Phase		Registered in England, Registration number 06791686 Registered offices 2 Snow Hill, Queensway, Birmingham, B4 6GA		Scale at A3: 1:5,000 0 50 100 150 200 250 Metres		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.	
Community Area CA4 Whitmore Heath to Madeley		Doc Number: C861-ARP-EV-DPL-000-055328		P07		Date: 08/06/17			

STONE and SWYNNERTON



SES2-003-007: Realignment of a utility diversion and provision of a utility compound

AP2-003-019: Diversion of Shelton Under Harley Lane

AP2-003-016: Modification of road realignment and provision of new field accesses

SES2-003-006: Local placement of surplus excavated material

AP2-004-002: HS2 route alignment changes

AP2-004-001: Provision of a power supply

AP2-003-018: Stopping up of Bent Lane (South)

- Legend**
- Depot, station, headhouse or portal building
 - Tunnel portal
 - Main construction compound
 - Satellite construction compound
 - Railway systems compound
 - Temporary material stockpile
 - Borrow Pit
 - Storage / prefabrication / laydown areas
 - Land potentially required during construction
 - Extent of land potentially required during construction for mitigation planting
 - Temporary replacement community facility

- Community Area boundary
- Tunnels external extent
- Construction traffic route
- Existing public right of way (PRoW)
- New, diverted or realigned PRoW
- Stopped-up PRoW
- Temporary PRoW diversion / realignment
- Landscape earthworks
- Engineering earthworks
- Temporary highway diversion / realignment
- Main utility works
- Rail alignment Chainage (e.g. 10+000)

- Existing woodland
- Existing buildings
- Existing inland water
- Existing watercourse
- Existing contours
- Rail alignment formation
- Temporary workers accommodation

Map Number: **CT-05-228b**

Map Name: **Construction Phase SES2 and AP2 ES**

Community Area: CA4 Whitmore Heath to Madeley

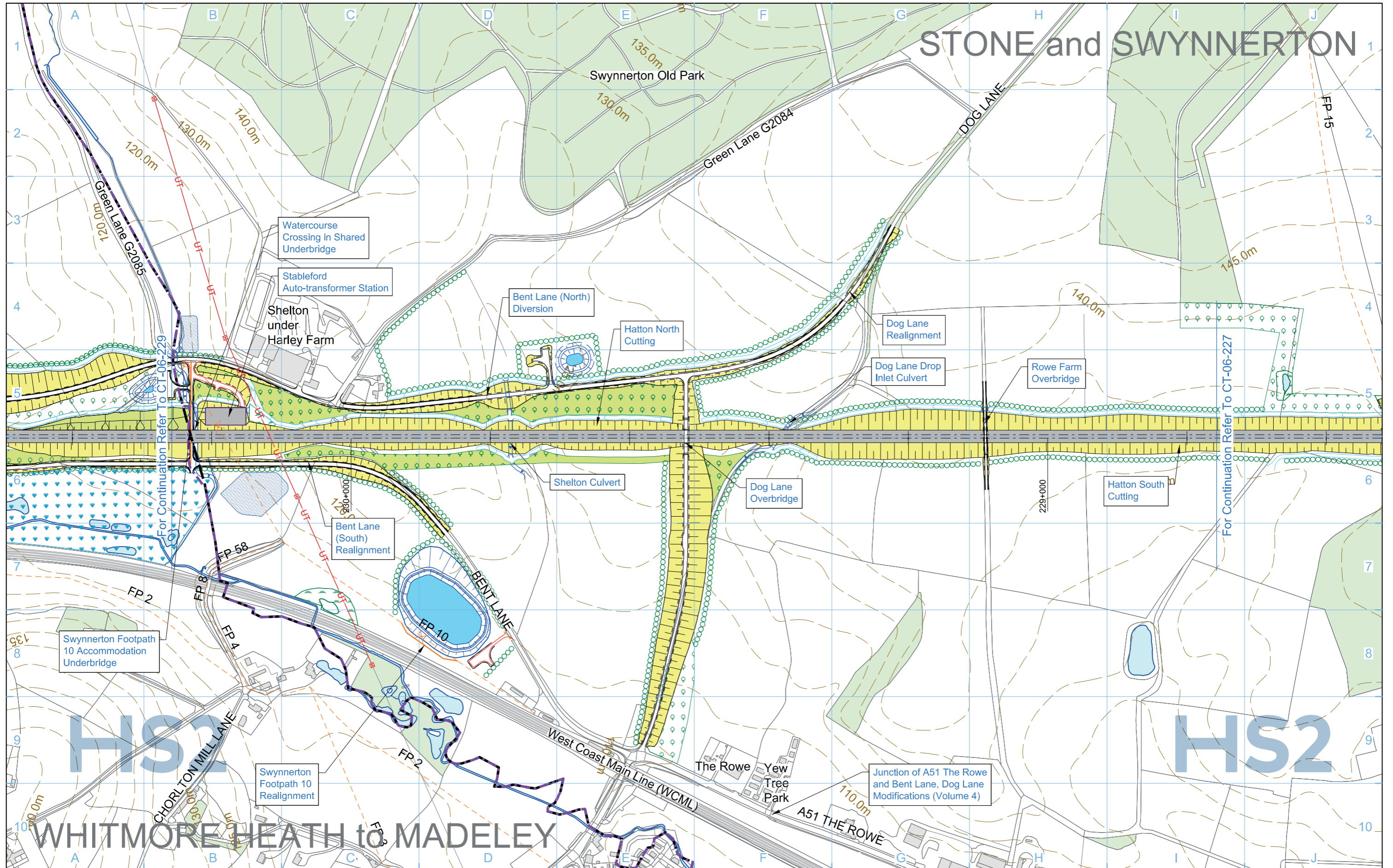
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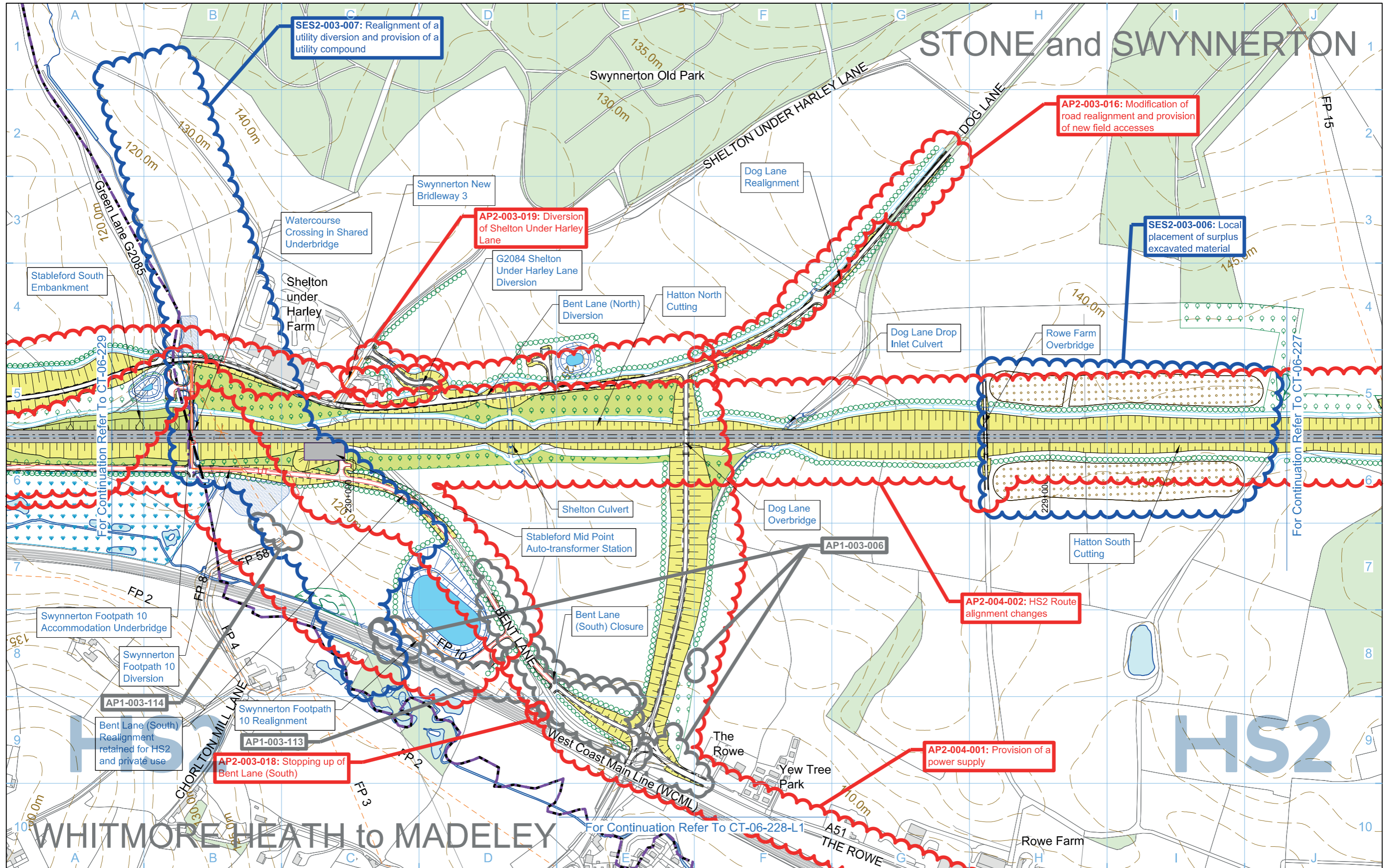
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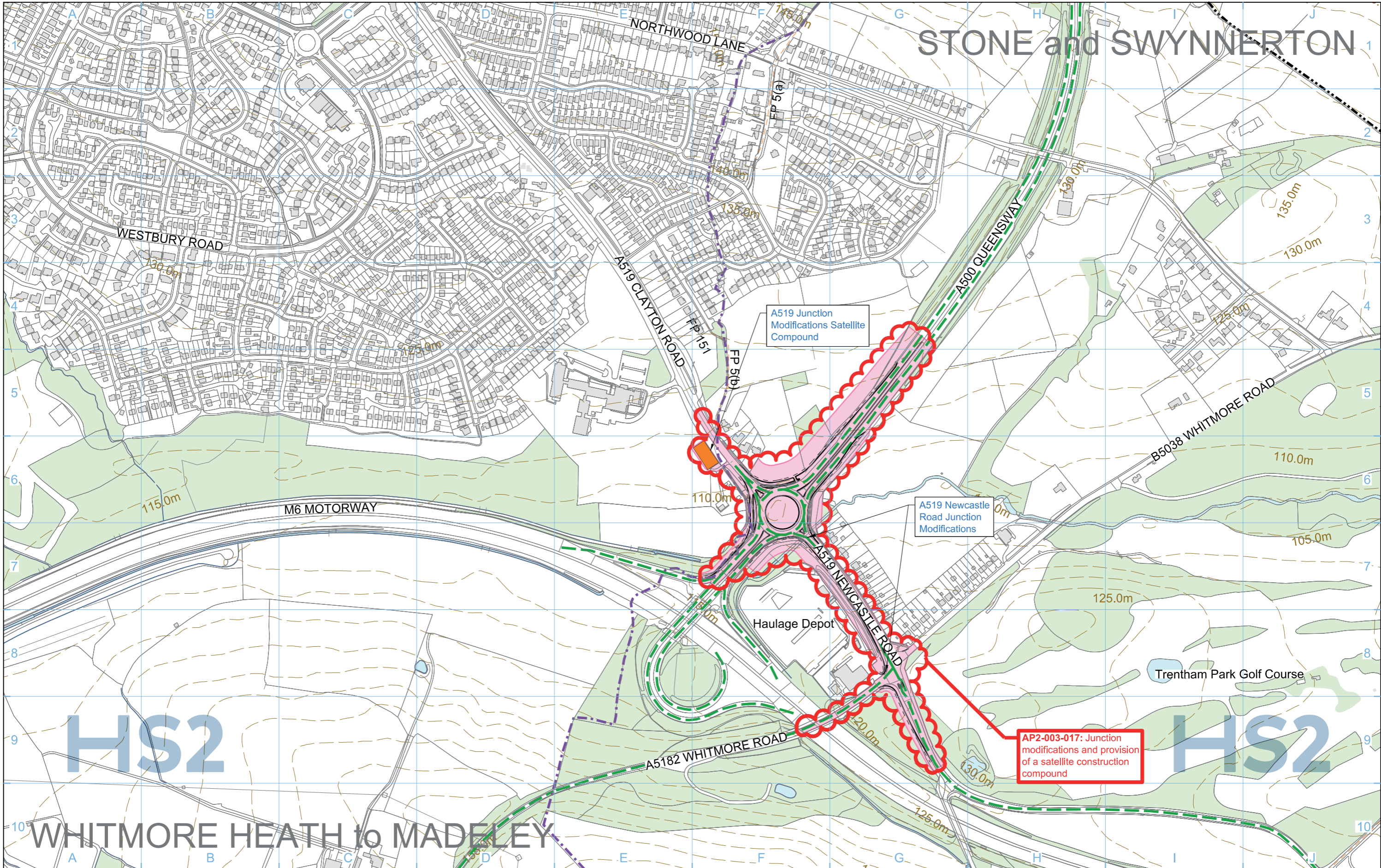
Legend 		Map Number CT-06-228b Map Name Proposed Scheme Community Area CA4 Whitmore Heath to Madeley	 HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way. Registered in England, Registration number 06791686 Registered offices: 2 Snow Hill, Queensway, Birmingham, B4 6GA Scale at A3: 1:5,000 0 50 100 150 200 250 Metres © Crown copyright and database rights 2017, Ordnance Survey Licence Number 100049190. Doc Number: C861-ARP-EV-DPL-000-056328 P07 Date: 08/06/17
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Legend <ul style="list-style-type: none"> 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 Local placement of surplus excavated material 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 or 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 Existing woodland Existing buildings Existing inland water Existing contours HS2 access road Noise fence barrier Rail alignment Chainage (e.g. 10+000) 		<p>Map Number CT-06-228b</p> <p>Map Name Proposed Scheme SES2 and AP2 ES</p> <p>Community Area CA4 Whitmore Heath to Madeley</p>	<p>HS2</p> <p>Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA</p> <p>Scale at A3: 1:5,000</p> <p>© Crown copyright and database rights 2018. Ordnance Survey Licence Number 100049190.</p> <p>Doc Number: 2PT02-ARP-EV-DPL-000-056328 P03 Date: 11/01/19</p>
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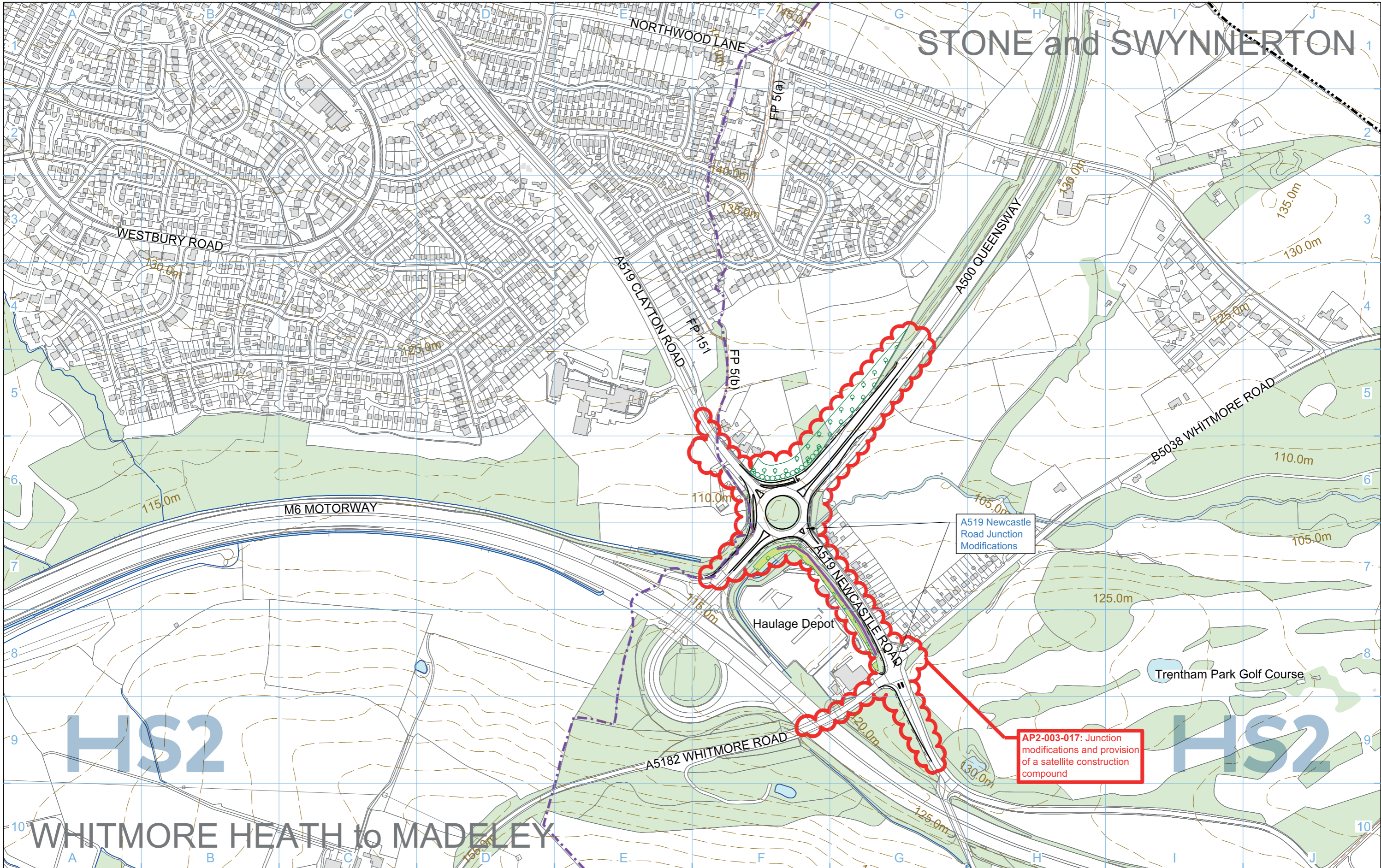
HS2

WHITMORE HEATH to MADELEY

Legend <ul style="list-style-type: none"> Depot, station, headhouse or portal building Tunnel portal Main construction compound Satellite construction compound Railway systems compound Temporary material stockpile 		<ul style="list-style-type: none"> Borrow Pit Storage / prefabrication / laydown areas Land potentially required during construction Extent of land potentially required during construction for mitigation planting Temporary replacement community facility 		<ul style="list-style-type: none"> Community Area boundary Tunnels external extent Construction traffic route Existing public right of way (PRoW) New, diverted or realigned PRoW Stopped-up PRoW Temporary PRoW diversion / realignment 		<ul style="list-style-type: none"> Landscape earthworks Engineering earthworks Temporary highway diversion / realignment Main utility works Rail alignment Chainage (e.g. 10+000) 		<ul style="list-style-type: none"> Existing woodland Existing buildings Existing inland water Existing watercourse Existing contours Rail alignment formation Temporary workers accommodation 	
Map Number CT-05-228b-R4		Map Name Construction Phase SES2 and AP2 ES		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 No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA		Scale at A3: 1:5,000 0 50 100 150 200 250 Metres	
Community Area CA4 Whitmore Heath to Madeley		© Crown copyright and database rights 2018. Ordnance Survey Licence Number 100049190.		Doc Number: 2PT02-ARP-EV-DPL-000-055928		P01		Date: 11/01/19	

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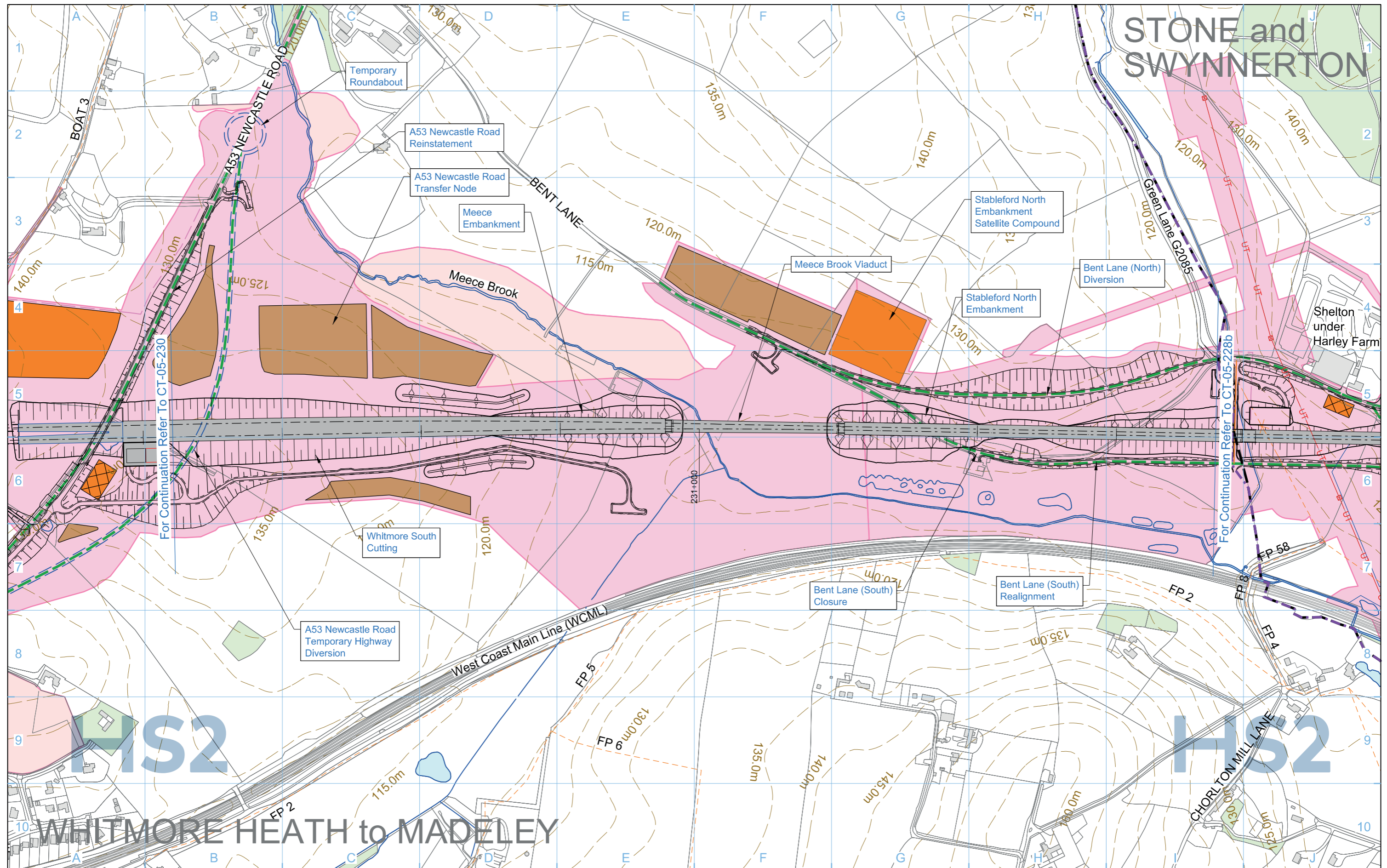


A519 Newcastle Road Junction Modifications

AP2-003-017: Junction modifications and provision of a satellite construction compound

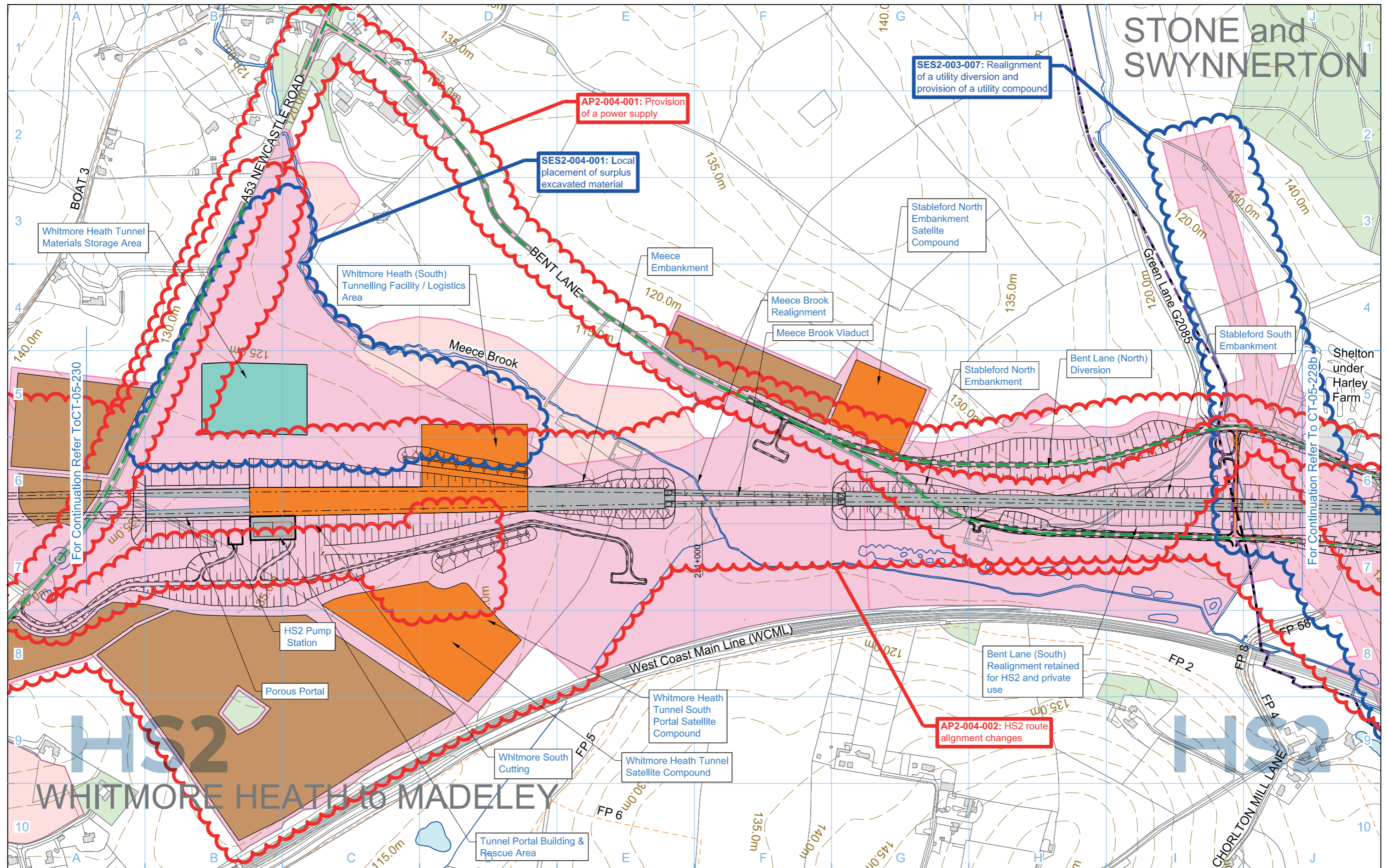
Legend <ul style="list-style-type: none"> Depot, station, headhouse or portal building Tunnel portal Electricity substation Land drainage area Ecological mitigation pond Balancing pond 		<ul style="list-style-type: none"> Replacement floodplain storage Woodland habitat creation Wetland habitat creation Grassland habitat creation Landscape mitigation planting (scrub / woodland) Grassed areas Local placement of surplus excavated material 		<ul style="list-style-type: none"> Public realm/Replacement community facility Engineering earthworks Landscape earthworks Rail alignment formation Returned to suitable development use County boundary Borough / District boundary 		<ul style="list-style-type: none"> Community Area boundary Watercourse diversion or 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 		<ul style="list-style-type: none"> Existing woodland Existing buildings Existing inland water Existing contours HS2 access road Noise fence barrier Rail alignment Chainage (e.g. 10+000) 		Map Number CT-06-228b-R4	Map Name Proposed Scheme SES2 and AP2 ES	HS2 Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA	Scale at A3: 1:5,000 0 50 100 150 200 250 Metres	© Crown copyright and database rights 2018, Ordnance Survey Licence Number 100049190. Doc Number: 2PT02-ARP-EV-DPL-000-056928 P01 Date: 11/01/19
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STONE and SWYNNERTON



Legend <ul style="list-style-type: none"> Depot, station, headhouse or portal building Tunnel portal Main construction compound Satellite construction compound Railway systems compound Temporary material stockpile 		<ul style="list-style-type: none"> Borrow Pit Storage / prefabrication / laydown areas Land potentially required during construction Extent of land potentially required during construction for mitigation planting Temporary replacement community facility 		<ul style="list-style-type: none"> Community Area boundary Tunnels external extent Construction traffic route Existing public right of way (PRoW) New, diverted or realigned PRoW Stopped-up PRoW Temporary PRoW diversion / realignment 		<ul style="list-style-type: none"> Landscape earthworks Engineering earthworks Temporary highway diversion / realignment Main utility works Rail alignment Chainage (e.g. 10+000) 		<ul style="list-style-type: none"> Existing woodland Existing buildings Existing inland water Existing watercourse Existing contours Rail alignment formation Temporary workers accommodation 	
Map Number CT-05-229		Map Name Construction Phase		Registered in England, Registration number 06791686 Registered offices 2 Snow Hill, Queensway, Birmingham, B4 6GA		Scale at A3: 1:5,000 0 50 100 150 200 250 Metres		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.	
Community Area CA4 Whitmore Heath to Madeley		Doc Number: C861-ARP-EV-DPL-000-055229		P07		Date: 08/06/17			

STONE and SWYNNERTON



- Legend**
- Depot, station, headhouse or portal building
 - Tunnel portal
 - Main construction compound
 - Satellite construction compound
 - Railway systems compound
 - Temporary material stockpile
 - Borrow Pit
 - Storage / prefabrication / laydown areas
 - Land potentially required during construction
 - Extent of land potentially required during construction for mitigation planting
 - Temporary replacement community facility

- Community Area boundary
- Tunnels external extent
- Construction traffic route
- Existing public right of way (PRoW)
- New, diverted or realigned PRoW
- Stopped-up PRoW
- Temporary PRoW diversion / realignment

- Landscape earthworks
- Engineering earthworks
- Temporary highway diversion / realignment
- Main utility works
- Rail alignment
- Chainage (e.g. 10+000)

- Existing woodland
- Existing buildings
- Existing inland water
- Existing watercourse
- Existing contours
- Rail alignment formation
- Temporary workers accommodation

Map Number: **CT-05-229**

Map Name: **Construction Phase SES2 and AP2 ES**

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

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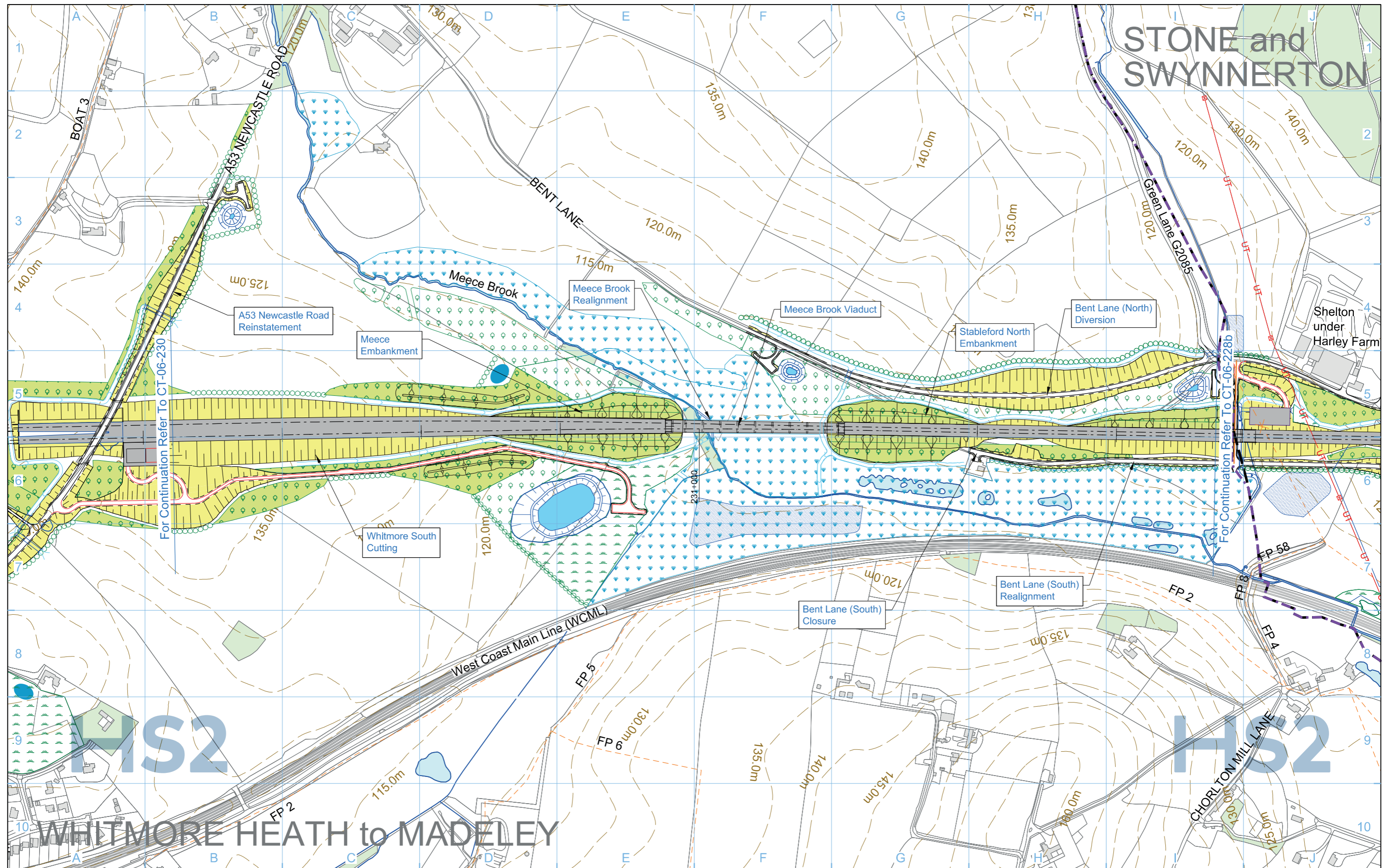
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WHITMORE HEATH to MADELEY

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
	Existing woodland
	Existing buildings
	Existing inland water
	Existing contours
	HS2 access road
	Noise fence barrier
	Rail alignment
	Chainage (e.g. 10+000)

Map Number: **CT-06-229**

Map Name: **Proposed Scheme**

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

hs2

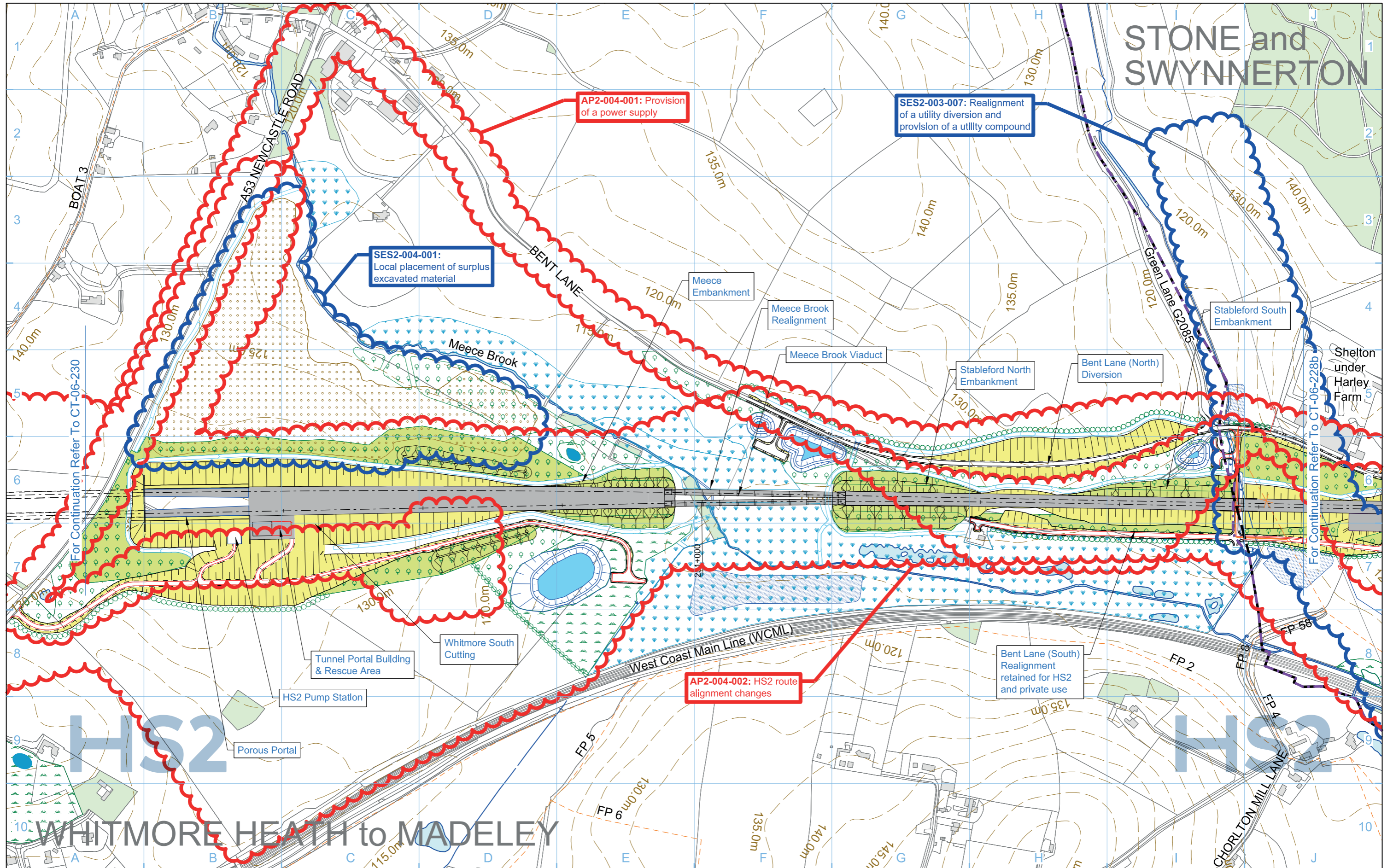
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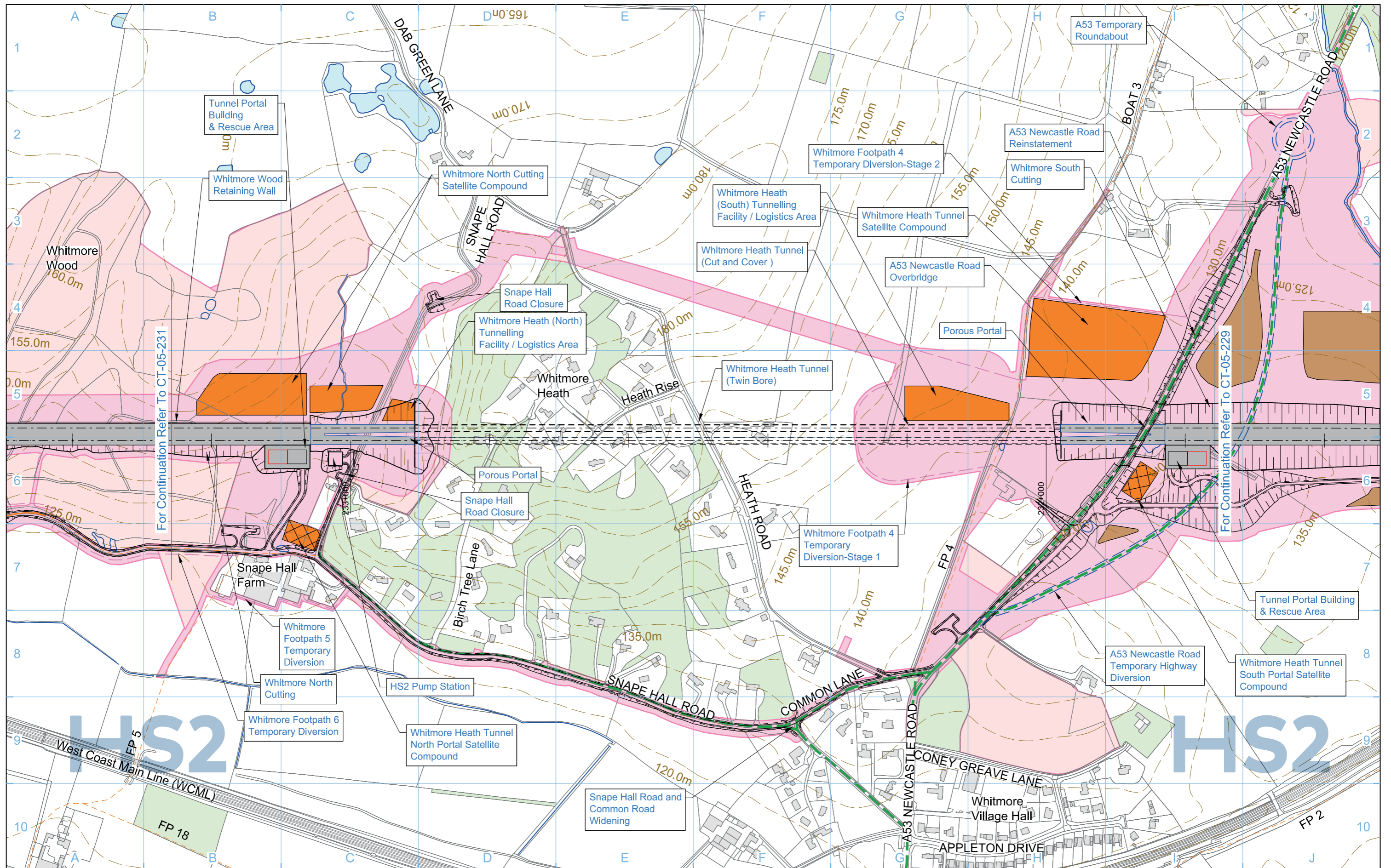
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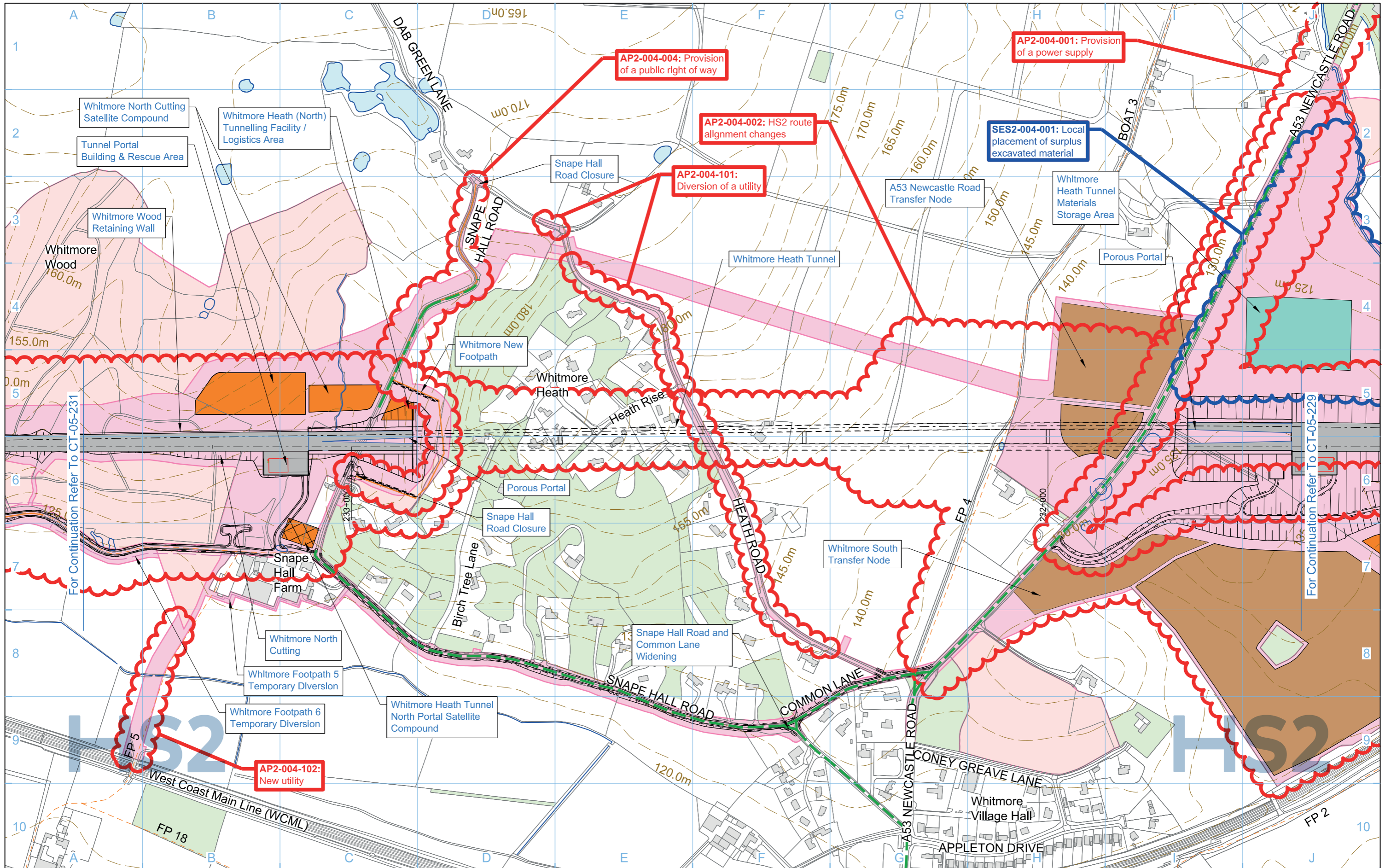
STONE and SWYNNERTON

WHITMORE HEATH to MADELEY

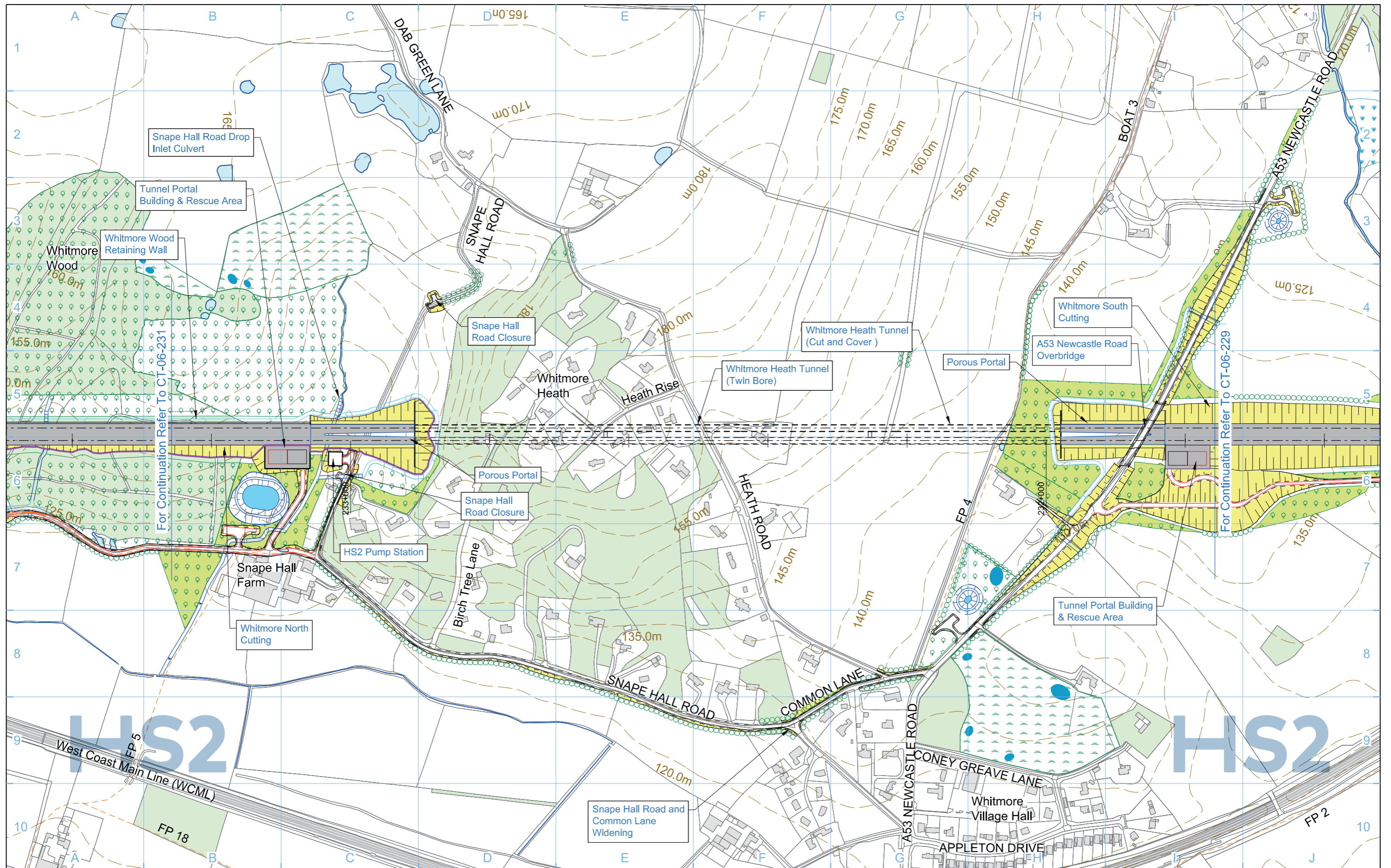
Legend <ul style="list-style-type: none"> Depot, station, headhouse or portal building Tunnel portal Electricity substation Land drainage area Ecological mitigation pond Balancing pond 		<ul style="list-style-type: none"> Replacement floodplain storage Woodland habitat creation Wetland habitat creation Grassland habitat creation Landscape mitigation planting (scrub / woodland) Grassed areas Local placement of surplus excavated material 		<ul style="list-style-type: none"> Public realm/Replacement community facility Engineering earthworks Landscape earthworks Rail alignment formation Returned to suitable development use County boundary Borough / District boundary 		<ul style="list-style-type: none"> Community Area boundary Watercourse diversion Existing watercourse Ditches - new Hedgerow habitat creation UT Main utility works Existing public right of way (PRoW) New, diverted or realigned PRoW Stopped-up PRoW Tunnels external extent 		<ul style="list-style-type: none"> Existing woodland Existing buildings Existing inland water Existing contours HS2 access road Noise fence barrier Rail alignment Chainage (e.g. 10+000) 		Map Number CT-06-229	Map Name Proposed Scheme SES2 and AP2 ES		<small>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.</small>	
<small>For Continuation Refer To CT-06-230</small>		<small>For Continuation Refer To CT-06-228b</small>		<small>Scale at A3: 1:5,000</small> 		<small>© Crown copyright and database rights 2018, Ordnance Survey Licence Number 100049190.</small>		<small>Doc Number: 2PT02-ARP-EV-DPL-000-056229</small>		<small>P03 Date: 11/01/19</small>				



Legend 					
Map Number CT-05-230		Map Name Construction Phase			
Community Area CA4 Whitmore Heath to Madeley		Scale at A3: 1:5,000 		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.	
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Legend <ul style="list-style-type: none"> Depot, station, headhouse or portal building Tunnel portal Main construction compound Satellite construction compound Railway systems compound Temporary material stockpile 		<ul style="list-style-type: none"> Borrow Pit Storage / prefabrication / laydown areas Land potentially required during construction Extent of land potentially required during construction for mitigation planting Temporary replacement community facility 		<ul style="list-style-type: none"> Community Area boundary Tunnels external extent Construction traffic route Existing public right of way (PRoW) New, diverted or realigned PRoW Stopped-up PRoW Temporary PRoW diversion / realignment 		<ul style="list-style-type: none"> Landscape earthworks Engineering earthworks Temporary highway diversion / realignment UT Main utility works Rail alignment Chainage (e.g. 10+000) 		<ul style="list-style-type: none"> Existing woodland Existing buildings Existing inland water Existing watercourse Existing contours Rail alignment formation Temporary workers accommodation 			
Map Number CT-05-230			Map Name Construction Phase SES2 and AP2 ES			Map Number CT-05-230			Map Name Construction Phase SES2 and AP2 ES		
Community Area CA4 Whitmore Heath to Madeley						Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA			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
	UT Main utility works
	Existing public right of way (PRoW)
	New, diverted or realigned PRoW
	Stopped-up PRoW
	Tunnels external extent

	Existing woodland
	Existing buildings
	Existing inland water
	Existing contours
	HS2 access road
	Noise fence barrier
	Rail alignment
	Chainage (e.g. 10+000)

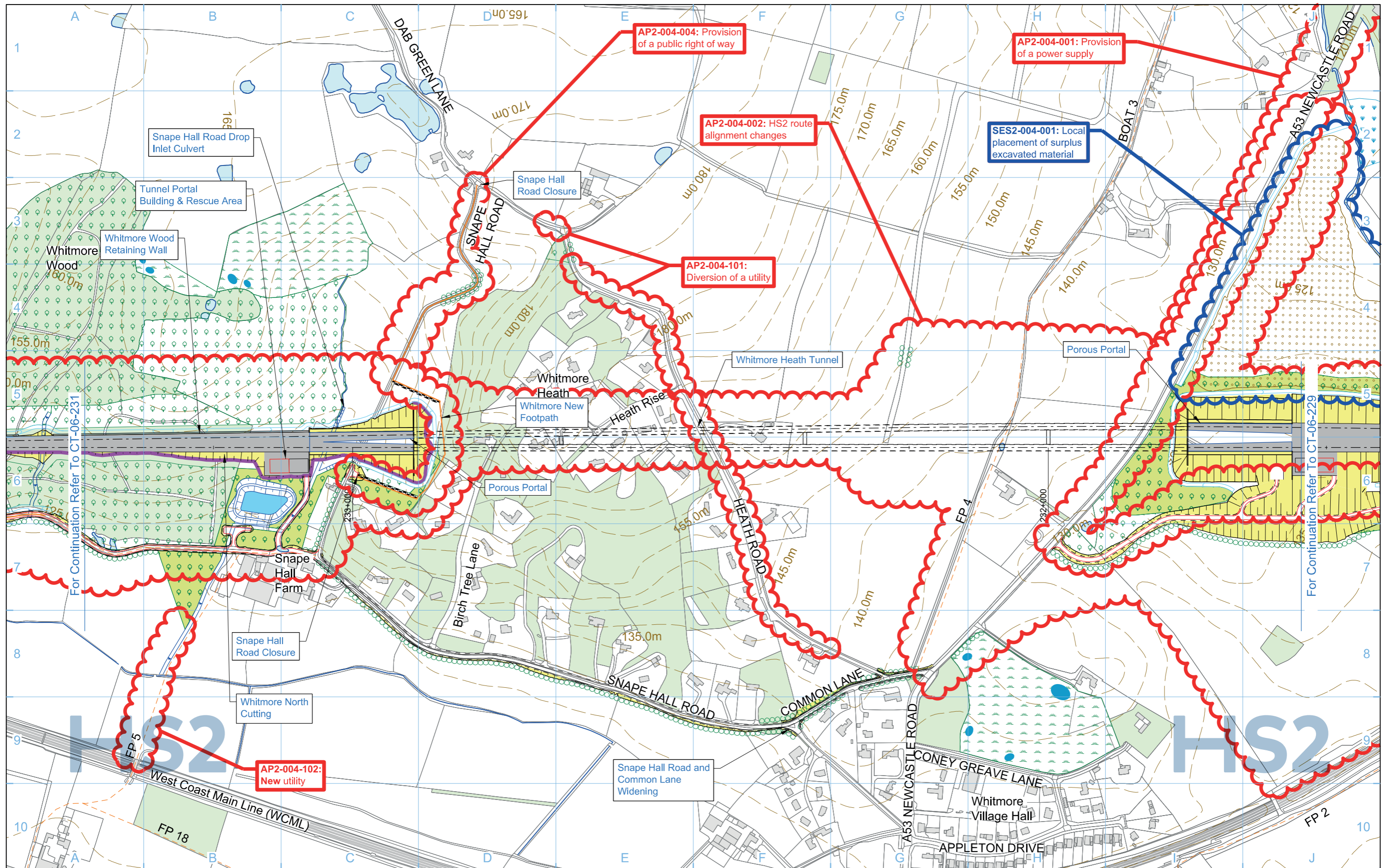
Map Number	CT-06-230
Map Name	Proposed Scheme
Community Area	CA4 Whitmore Heath to Madeley

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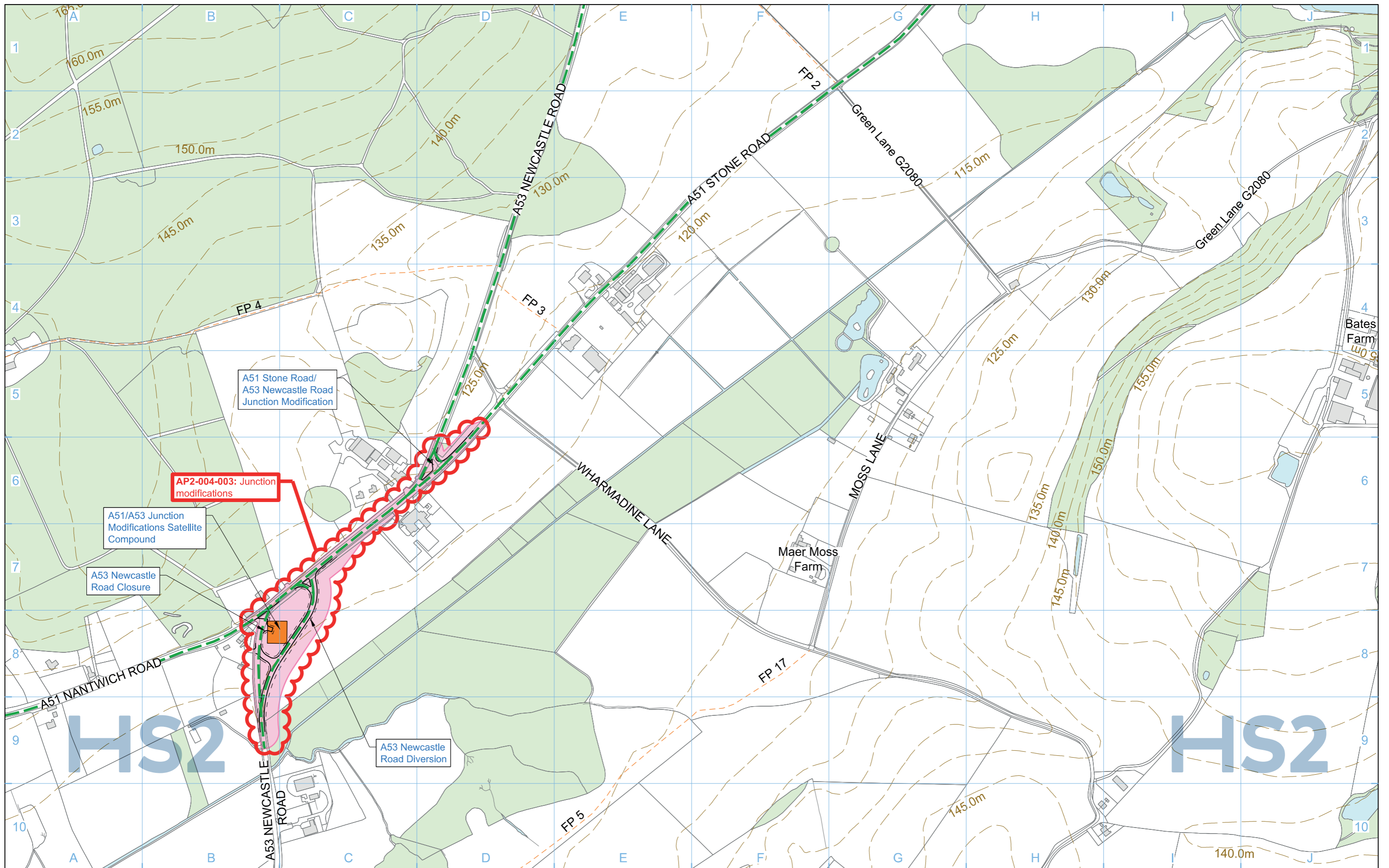
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Legend <ul style="list-style-type: none"> Depot, station, headhouse or portal building Tunnel portal Electricity substation Land drainage area Ecological mitigation pond Balancing pond 		<ul style="list-style-type: none"> Replacement floodplain storage Woodland habitat creation Wetland habitat creation Grassland habitat creation Landscape mitigation planting (scrub / woodland) Grassed areas Local placement of surplus excavated material 		<ul style="list-style-type: none"> Public realm/Replacement community facility Engineering earthworks Landscape earthworks Rail alignment formation Returned to suitable development use County boundary Borough / District boundary 		<ul style="list-style-type: none"> Community Area boundary Watercourse diversion Existing watercourse Ditches - new Hedgerow habitat creation UT - Main utility works Existing public right of way (PRoW) New, diverted or realigned PRoW Stopped-up PRoW Tunnels external extent 		<ul style="list-style-type: none"> Existing woodland Existing buildings Existing inland water Existing contours HS2 access road Noise fence barrier Rail alignment Chainage (e.g. 10+000) 		Map Number CT-06-230 Map Name Proposed Scheme SES2 and AP2 ES Community Area CA4 Whitmore Heath to Madeley	<p>Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA</p> <p>Scale at A3: 1:5,000</p> <p>© Crown copyright and database rights 2018. Ordnance Survey Licence Number 100049190.</p> <p>Doc Number: 2PT02-ARP-EV-DPL-000-056230 P03 Date: 11/01/19</p>
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- Legend**
- Depot, station, headhouse or portal building
 - Tunnel portal
 - Main construction compound
 - Satellite construction compound
 - Railway systems compound
 - Temporary material stockpile
 - Borrow Pit
 - Storage / prefabrication / laydown areas
 - Land potentially required during construction
 - Extent of land potentially required during construction for mitigation planting
 - Temporary replacement community facility

- Community Area boundary
- Tunnels external extent
- Construction traffic route
- Existing public right of way (PRoW)
- New, diverted or realigned PRoW
- Stopped-up PRoW
- Temporary PRoW diversion / realignment

- Landscape earthworks
- Engineering earthworks
- Temporary highway diversion / realignment
- Main utility works
- Rail alignment Chainage (e.g. 10+000)

- Existing woodland
- Existing buildings
- Existing inland water
- Existing watercourse
- Existing contours
- Rail alignment formation
- Temporary workers accommodation

Map Number: **CT-05-230-L3**

Map Name: **Construction Phase SES2 and AP2 ES**

Community Area: CA4 Whitmore Heath to Madeley

HS2

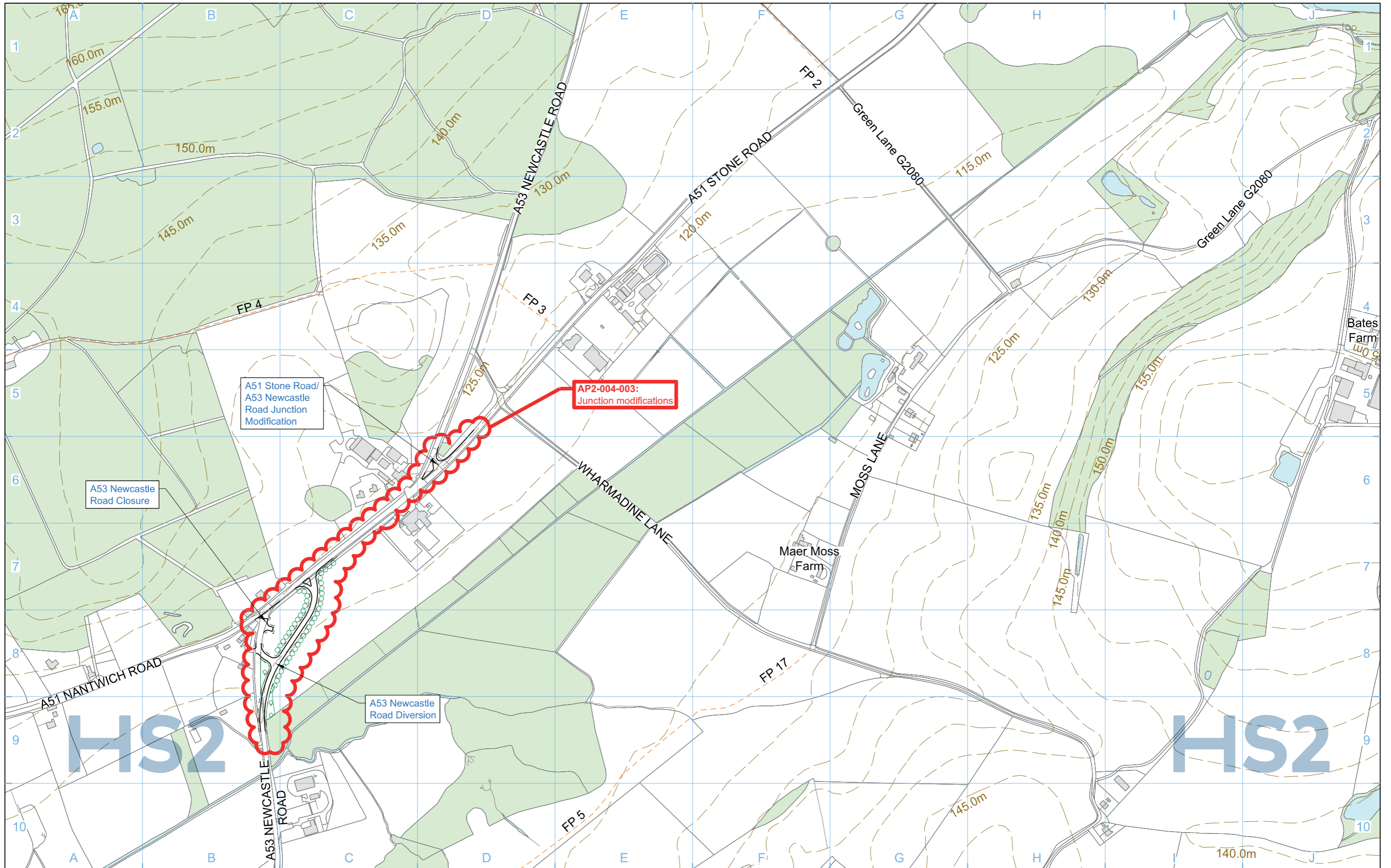
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Registered office:
2 Snow Hill, Queensway,
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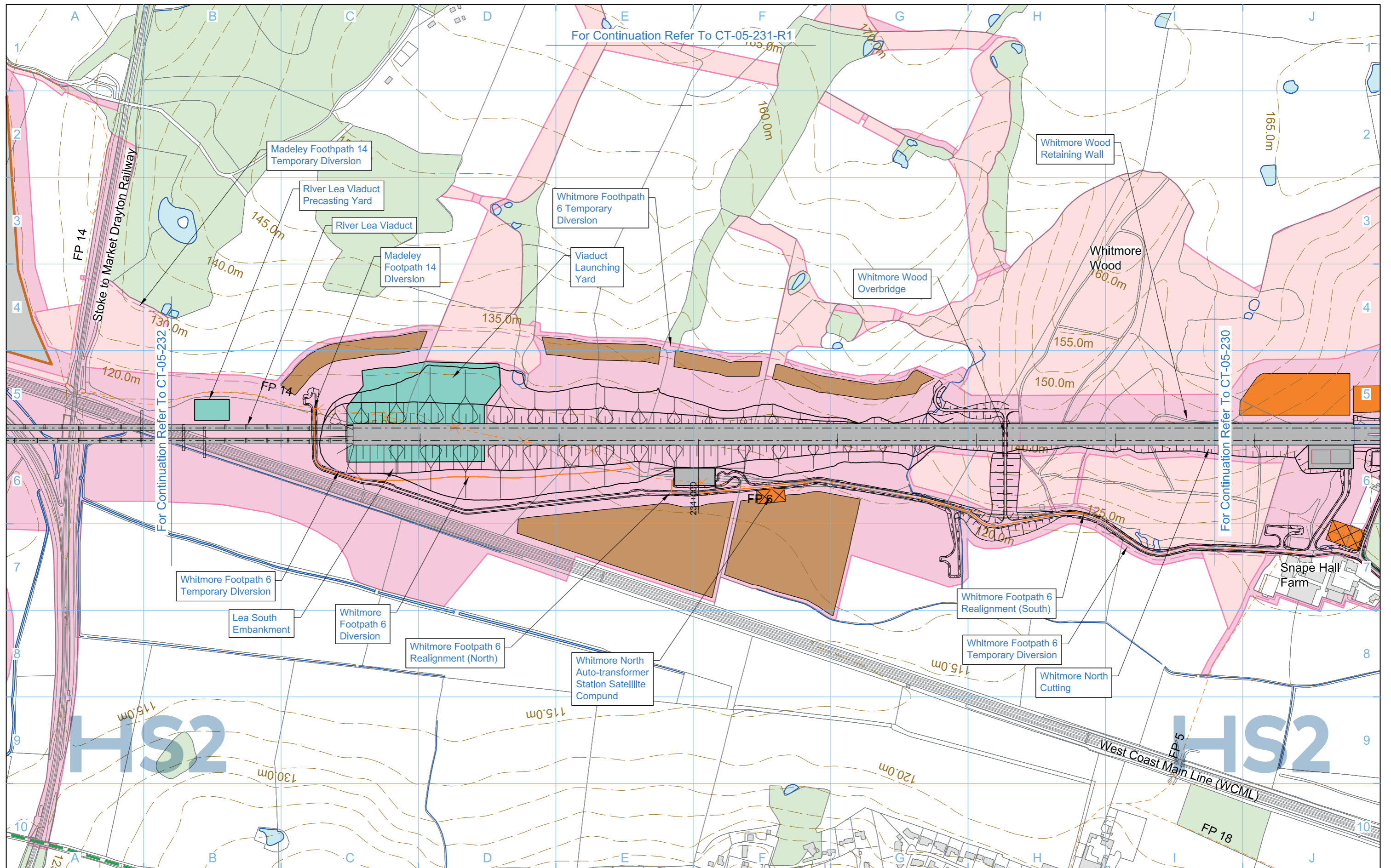
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Doc Number: 2PT02-ARP-EV-DPL-000-055730 P02.1 Date:

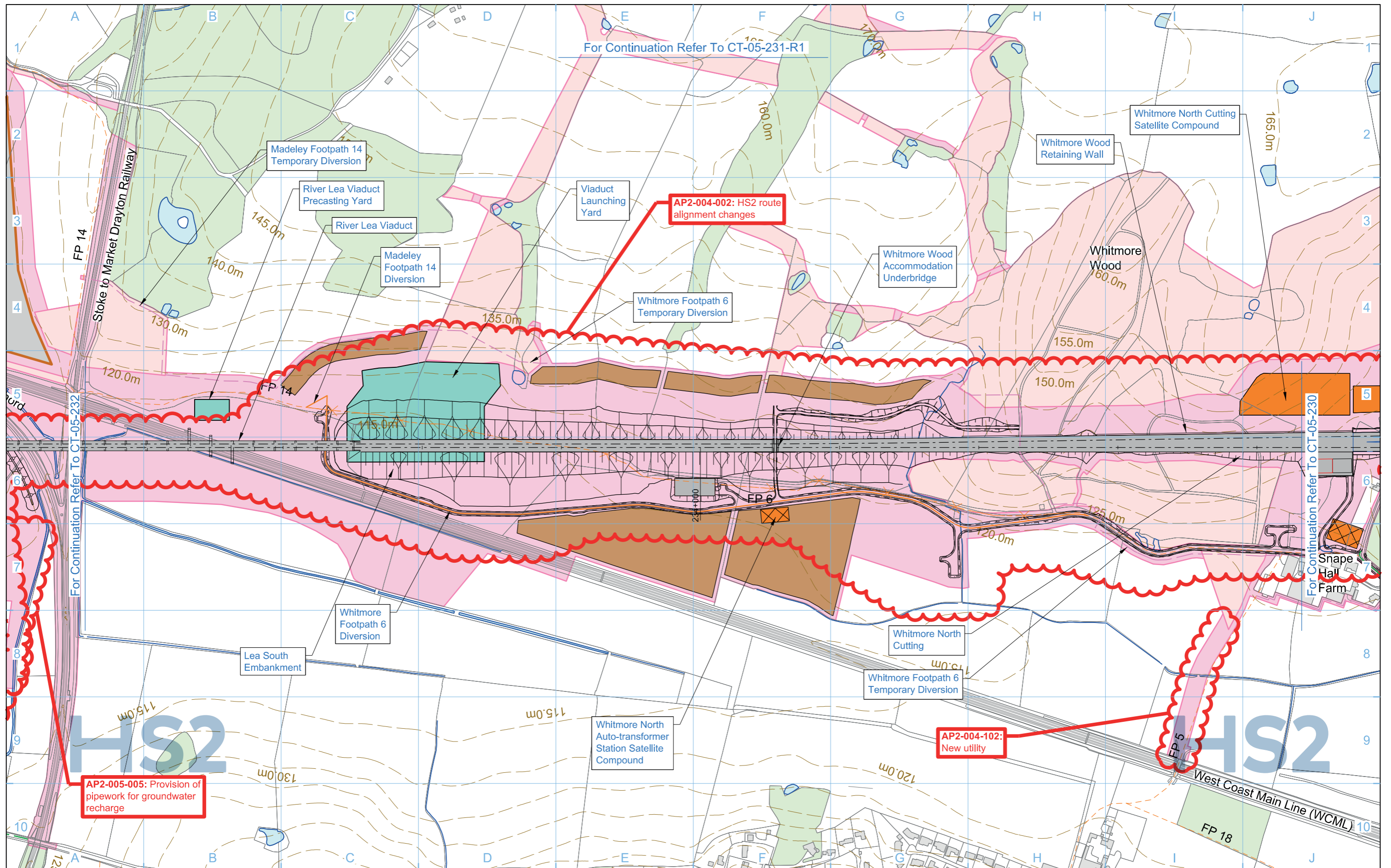
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Legend 		Map Number CT-06-230-L3 Map Name Proposed Scheme SES2 and AP2 ES Community Area CA4 Whitmore Heath to Madeley	 <small>Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA</small> Scale at A3: 1:5,000 <small>© Crown copyright and database rights 2018, Ordnance Survey Licence Number 100049190.</small> Doc Number: 2PT02-ARP-EV-DPL-000-056730 P03 Date: 11/01/19
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Doc Number: C861-ARP-EV-DPL-000-055231		P06	Date: 08/06/17

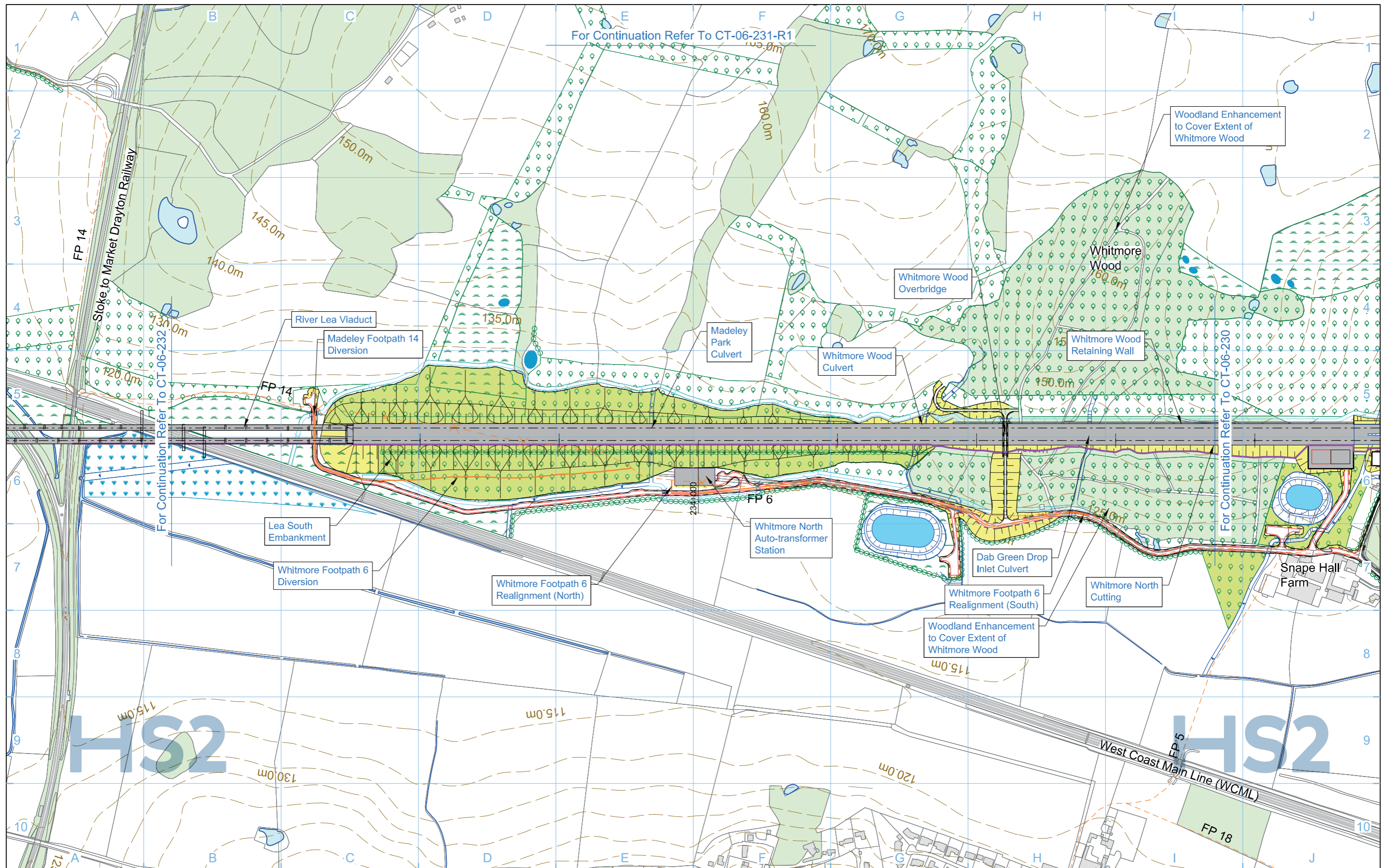


For Continuation Refer To CT-05-231-R1

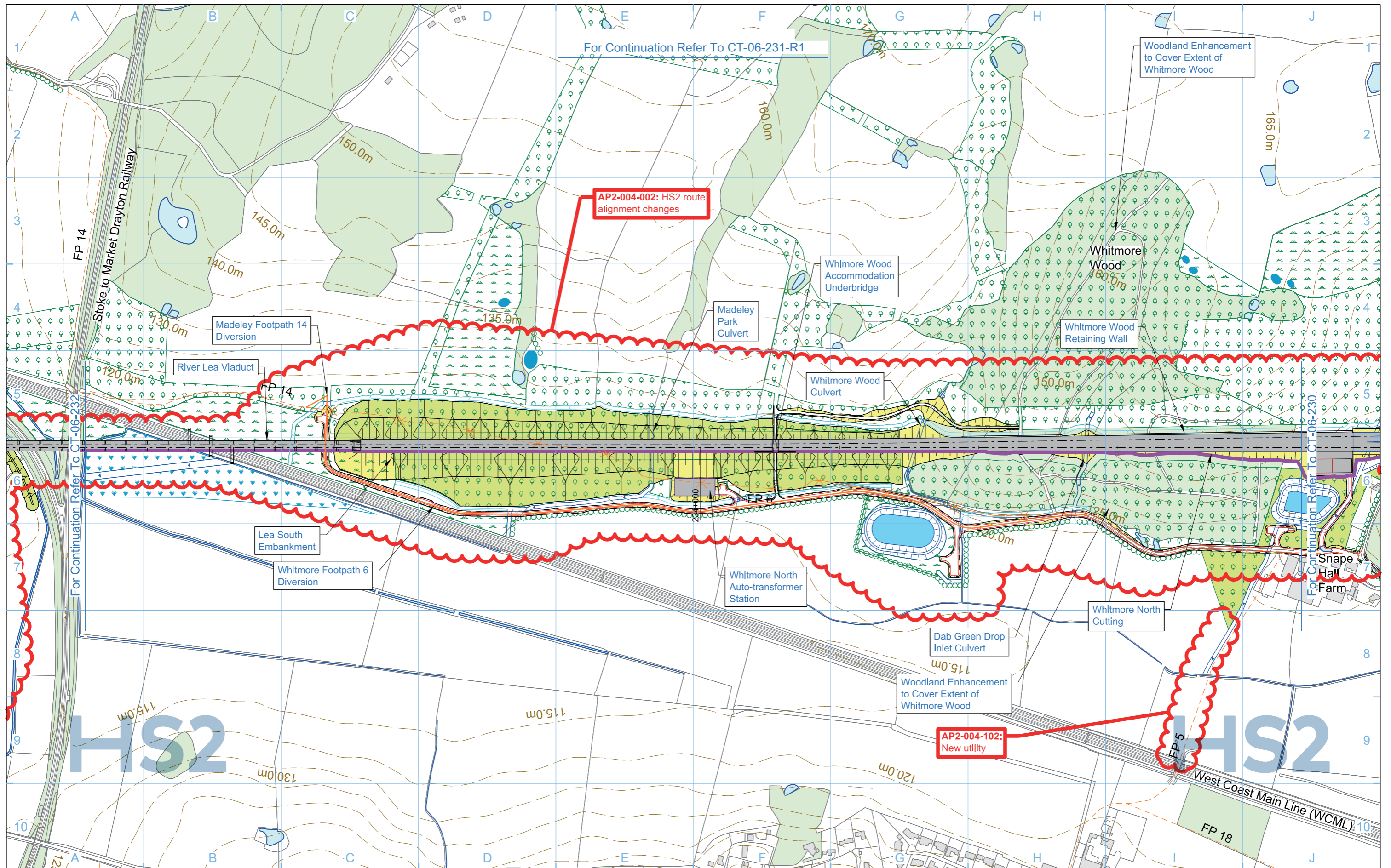
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For Continuation Refer To CT-05-230

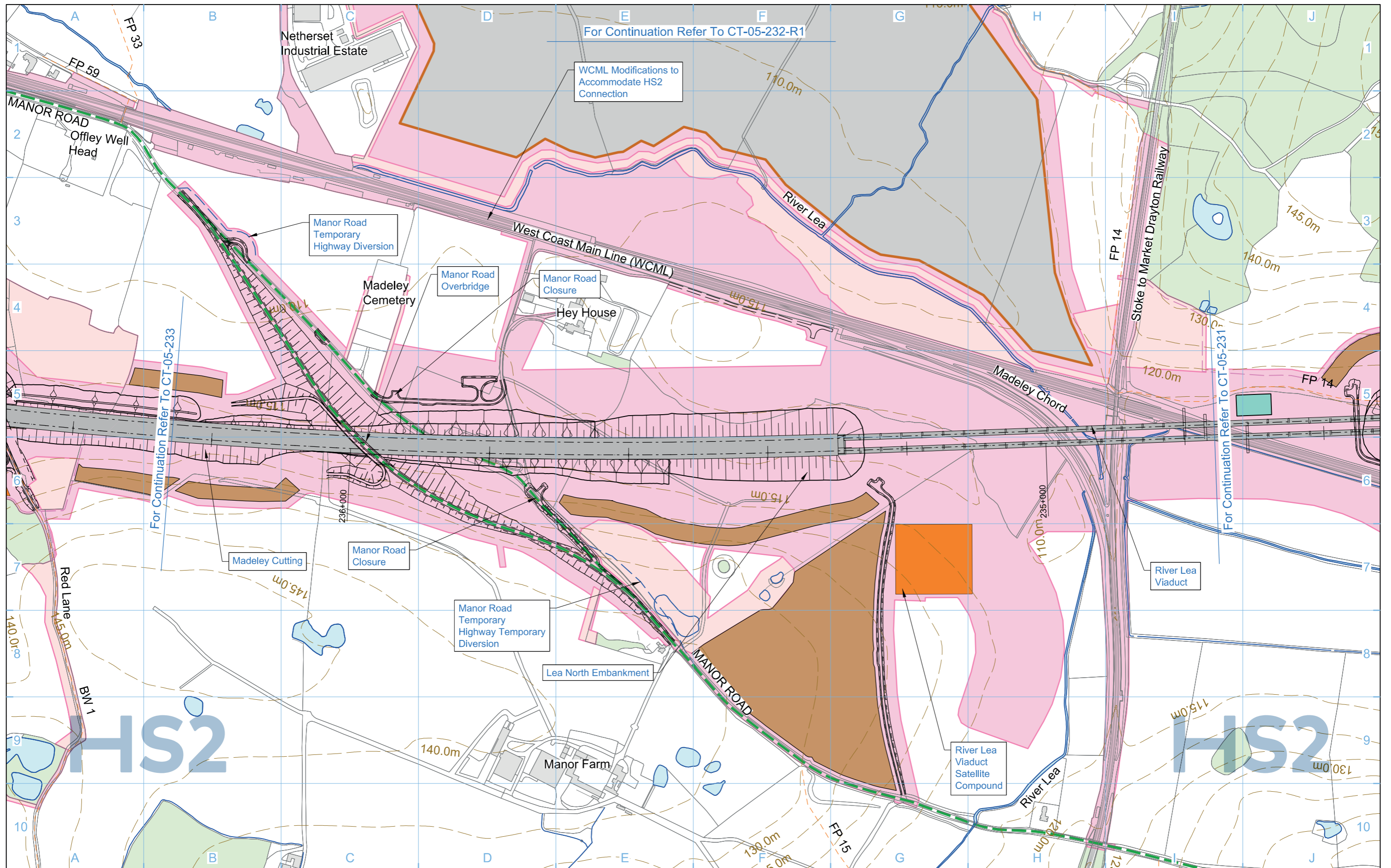
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Map Name Construction Phase SES2 and AP2 ES		Scale at A3: 1:5,000 			
Community Area CA4 Whitmore Heath to Madeley					



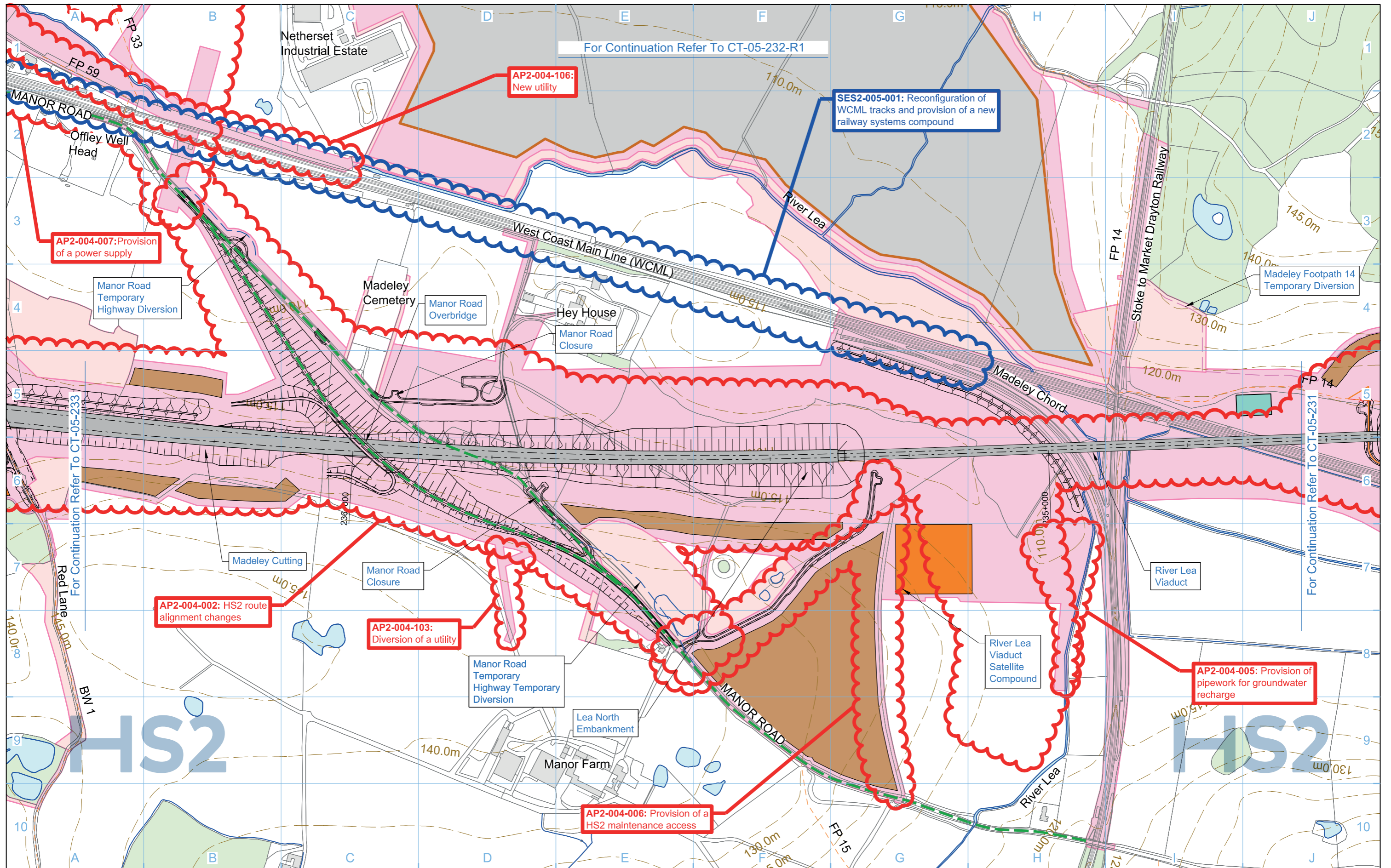
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Legend 		Map Number CT-06-231 Map Name Proposed Scheme SES2 and AP2 ES Community Area CA4 Whitmore Heath to Madeley	 <small>Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA</small> Scale at A3: 1:5,000 <small>© Crown copyright and database rights 2018, Ordnance Survey Licence Number 100049190.</small> Doc Number: 2PT02-ARP-EV-DPL-000-056231 P03 Date: 11/01/19
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Legend 		Map Number CT-05-232 Map Name Construction Phase Community Area CA4 Whitmore Heath to Madeley	 Scale at A3: 1:5,000 0 50 100 150 200 250 Metres 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 06791686 Registered offices 2 Snow Hill, Queensway, Birmingham, B4 6GA © Crown copyright and database rights 2017, Ordnance Survey Licence Number 100049190. Doc Number: C861-ARP-EV-DPL-000-055232 P07 Date: 08/06/17
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For Continuation Refer To CT-05-232-R1

AP2-004-007: Provision of a power supply

SES2-005-001: Reconfiguration of WCML tracks and provision of a new railway systems compound

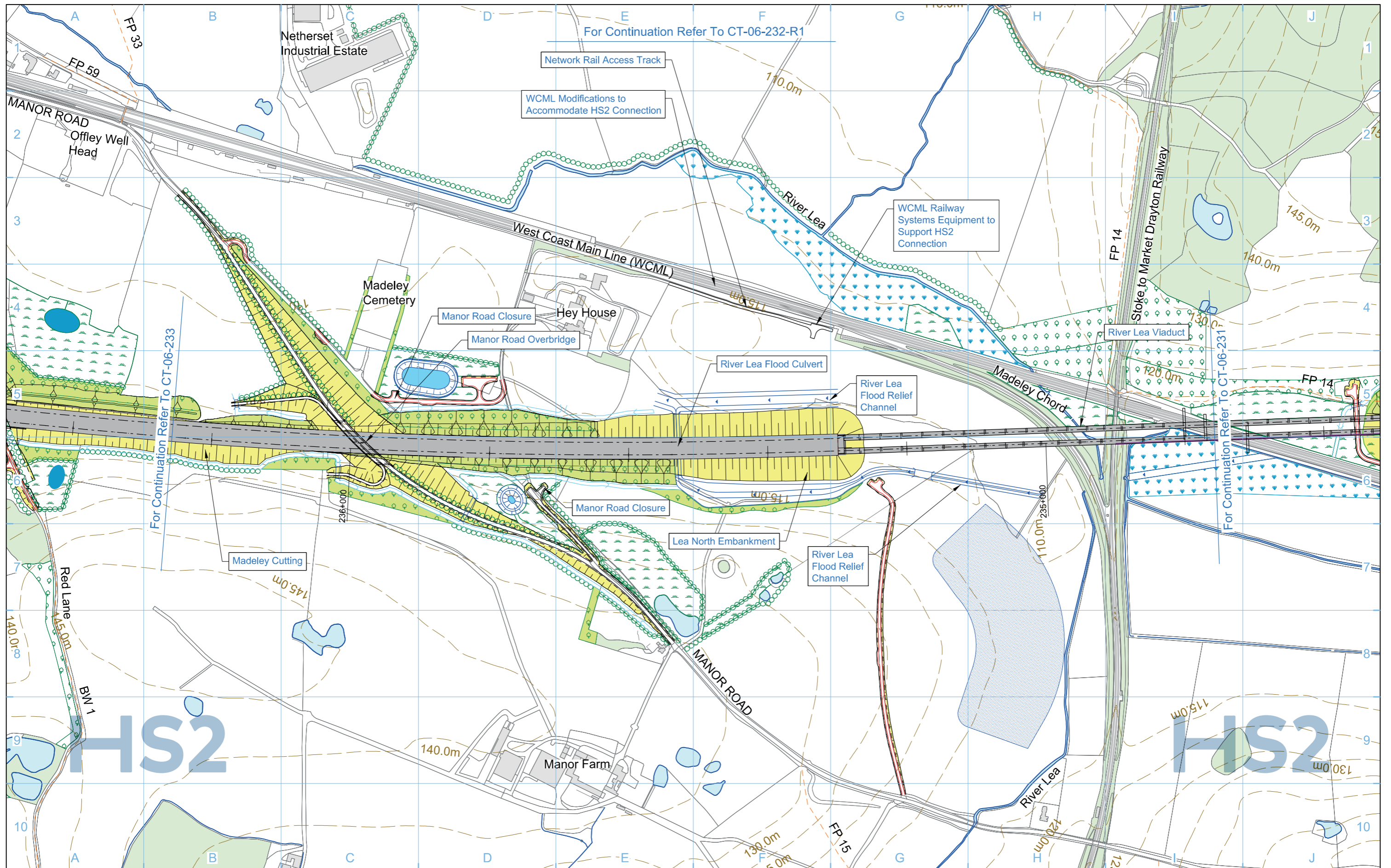
AP2-004-002: HS2 route alignment changes

AP2-004-103: Diversion of a utility

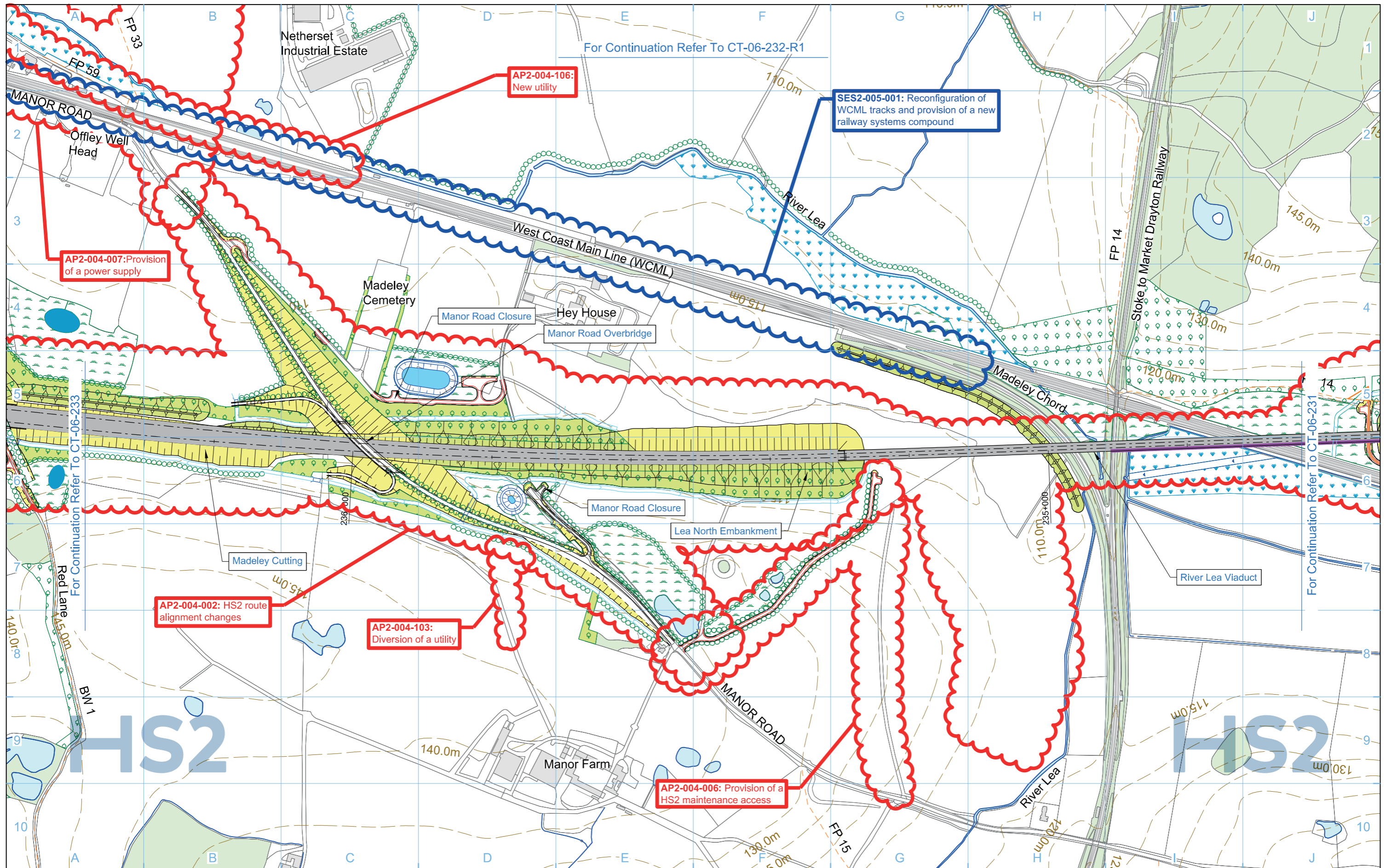
AP2-004-005: Provision of pipework for groundwater recharge

AP2-004-006: Provision of a HS2 maintenance access

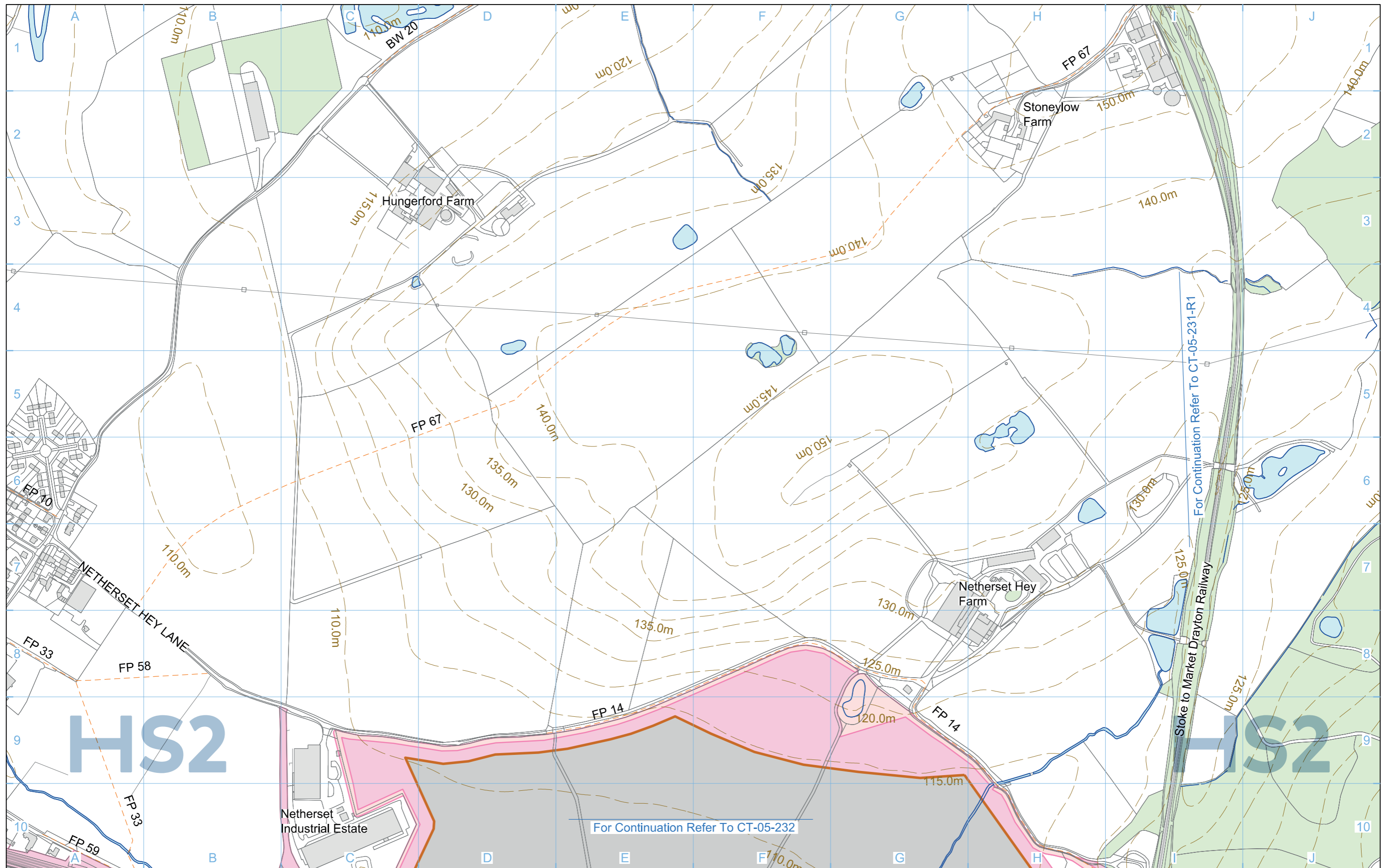
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Community Area CA4 Whitmore Heath to Madeley		<small>Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA</small>		<small>Scale at A3: 1:5,000</small> 		<small>© Crown copyright and database rights 2018, Ordnance Survey Licence Number 100049190.</small>	
				<small>Doc Number: 2PT02-ARP-EV-DPL-000-055232</small>		<small>P03 Date: 10/01/19</small>	



Legend 		Map Number CT-06-232	 <small>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.</small> <small>Registered in England, Registration number 06791686 Registered offices: 2 Snow Hill, Queensway, Birmingham, B4 6GA</small> <small>Scale at A3: 1:5,000</small> <small>© Crown copyright and database rights 2017, Ordnance Survey Licence Number 100049190.</small> Doc Number: C861-ARP-EV-DPL-000-056232 P07 Date: 08/06/17
Map Name Proposed Scheme			
Community Area CA4 Whitmore Heath to Madeley			



Legend <ul style="list-style-type: none"> Depot, station, headhouse or portal building Tunnel portal Electricity substation Land drainage area Ecological mitigation pond Balancing pond 		<ul style="list-style-type: none"> Replacement floodplain storage Woodland habitat creation Wetland habitat creation Grassland habitat creation Landscape mitigation planting (scrub / woodland) Grassed areas Local placement of surplus excavated material 		<ul style="list-style-type: none"> Public realm/Replacement community facility Engineering earthworks Landscape earthworks Rail alignment formation Returned to suitable development use County boundary Borough / District boundary 		<ul style="list-style-type: none"> 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 		<ul style="list-style-type: none"> Existing woodland Existing buildings Existing inland water Existing contours HS2 access road Noise fence barrier Rail alignment Chainage (e.g. 10+000) 		Map Number CT-06-232	<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 No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA</p> <p>Scale at A3: 1:5,000</p> <p>© Crown copyright and database rights 2018. Ordnance Survey Licence Number 100049190.</p> <p>Doc Number: 2PT02-ARP-EV-DPL-000-056232 P02.1 Date:</p>
Map Name Proposed Scheme SES2 and AP2 ES		Community Area CA4 Whitmore Heath to Madeley		Map Number CT-06-232		Map Name Proposed Scheme SES2 and AP2 ES		Community Area CA4 Whitmore Heath to Madeley			



Legend

	Depot, station, headhouse or portal building
	Tunnel portal
	Main construction compound
	Satellite construction compound
	Railway systems compound
	Temporary material stockpile

	Borrow Pit
	Storage / prefabrication / laydown areas
	Land potentially required during construction
	Extent of land potentially required during construction for mitigation planting
	Temporary replacement community facility

	Community Area boundary
	Tunnels external extent
	Construction traffic route
	Existing public right of way (PRoW)
	New, diverted or realigned PRoW
	Stopped-up PRoW
	Temporary PRoW diversion / realignment

	Landscape earthworks
	Engineering earthworks
	Temporary highway diversion / realignment
	Main utility works
	Rail alignment Chainage (e.g. 10+000)

	Existing woodland
	Existing buildings
	Existing inland water
	Existing watercourse
	Existing contours
	Rail alignment formation
	Temporary workers accommodation

Map Number	CT-05-232-R1
Map Name	Construction Phase
Community Area	CA4 Whitmore Heath to Madeley

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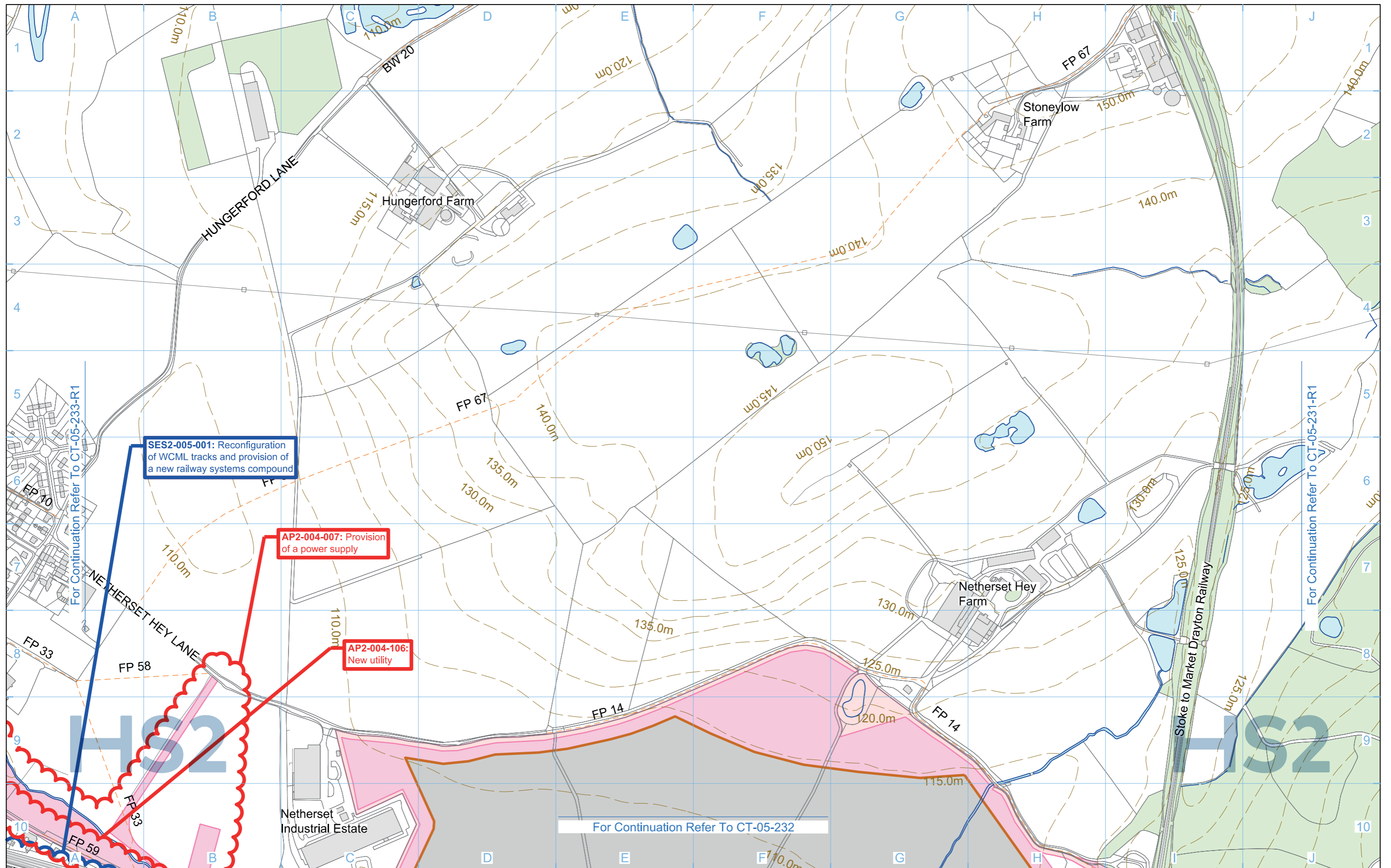
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Scale at A3: 1:5,000

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Doc Number: C861-ARP-EV-DPL-000-055432 P03 Date: 08/06/17

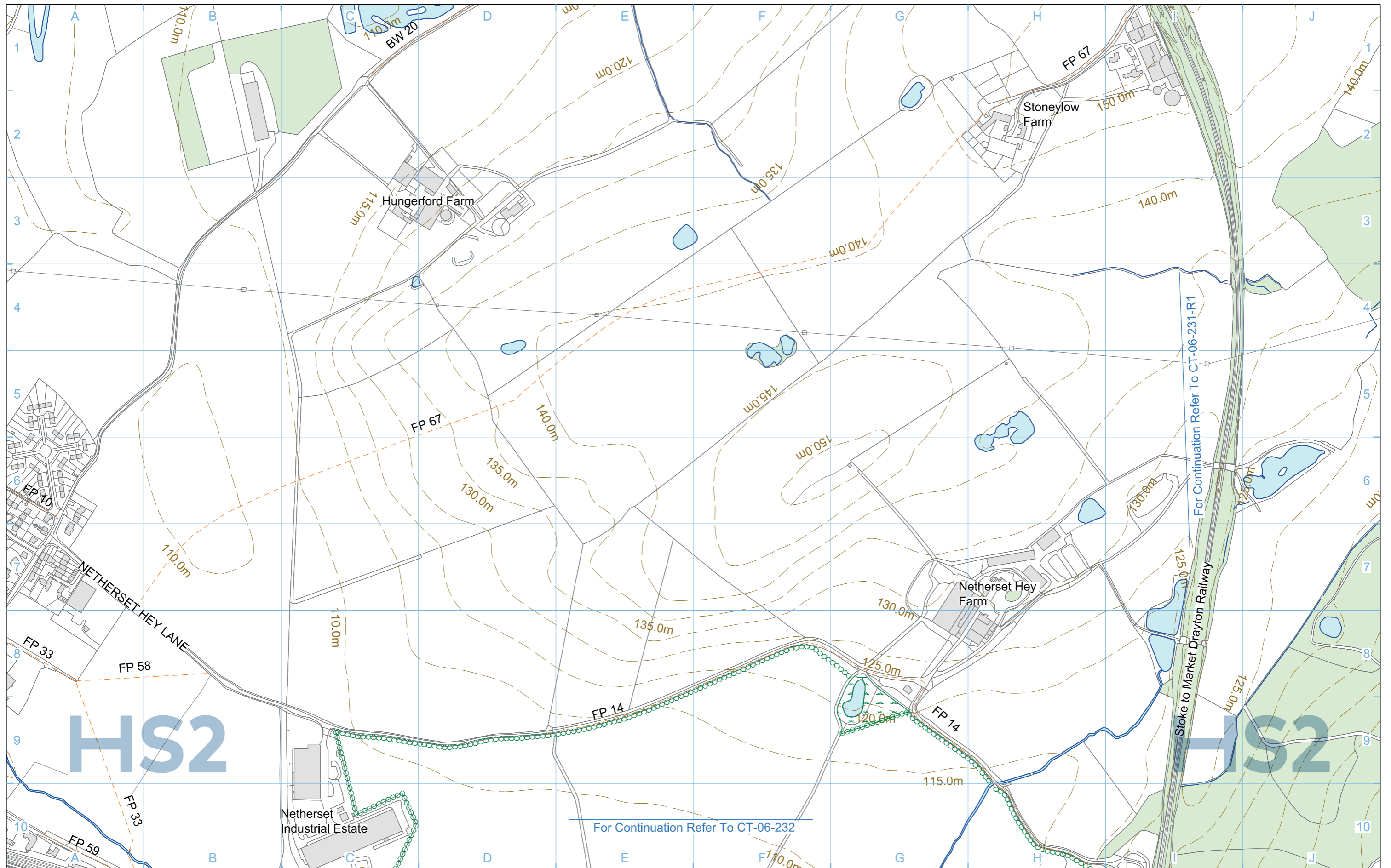


SES2-005-001: Reconfiguration of WCML tracks and provision of a new railway systems compound

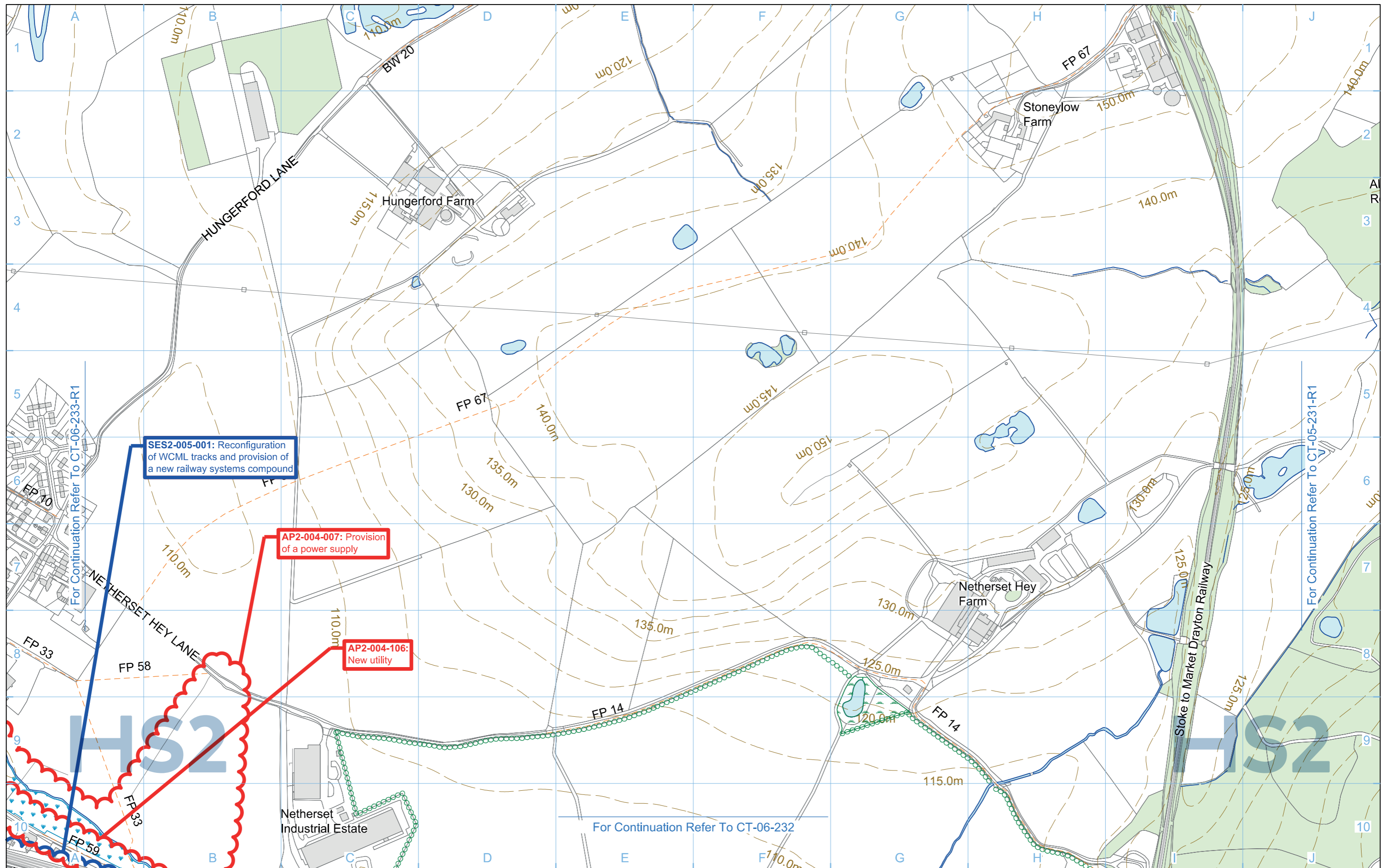
AP2-004-007: Provision of a power supply

AP2-004-106: New utility

Legend 		Map Number CT-05-232-R1	 <small>Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA</small> <small>© Crown copyright and database rights 2018, Ordnance Survey Licence Number 100049190.</small> Doc Number: 2PT02-ARP-EV-DPL-000-055432 P03 Date: 11/01/19
Map Name Construction Phase SES2 and AP2 ES		Scale at A3: 1:5,000 	
Community Area CA4 Whitmore Heath to Madeley			



Legend 		Map Number CT-06-232-R1		<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 067916886 Registered offices 2 Snow Hill, Queensway, Birmingham, B4 6GA</p> <p>Scale at A3: 1:5,000</p> <p>0 50 100 150 200 250 Metres</p> <p>© Crown copyright and database rights 2017. Ordnance Survey Licence Number 100049190.</p> <p>Doc Number: C861-ARP-EV-DPL-000-056432 P03 Date: 08/06/17</p>
Map Name Proposed Scheme		Community Area CA4 Whitmore Heath to Madeley		
Legend <ul style="list-style-type: none"> 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 Existing woodland Existing buildings Existing inland water Existing contours HS2 access road Noise fence barrier Rail alignment Chainage (e.g. 10+000) 				

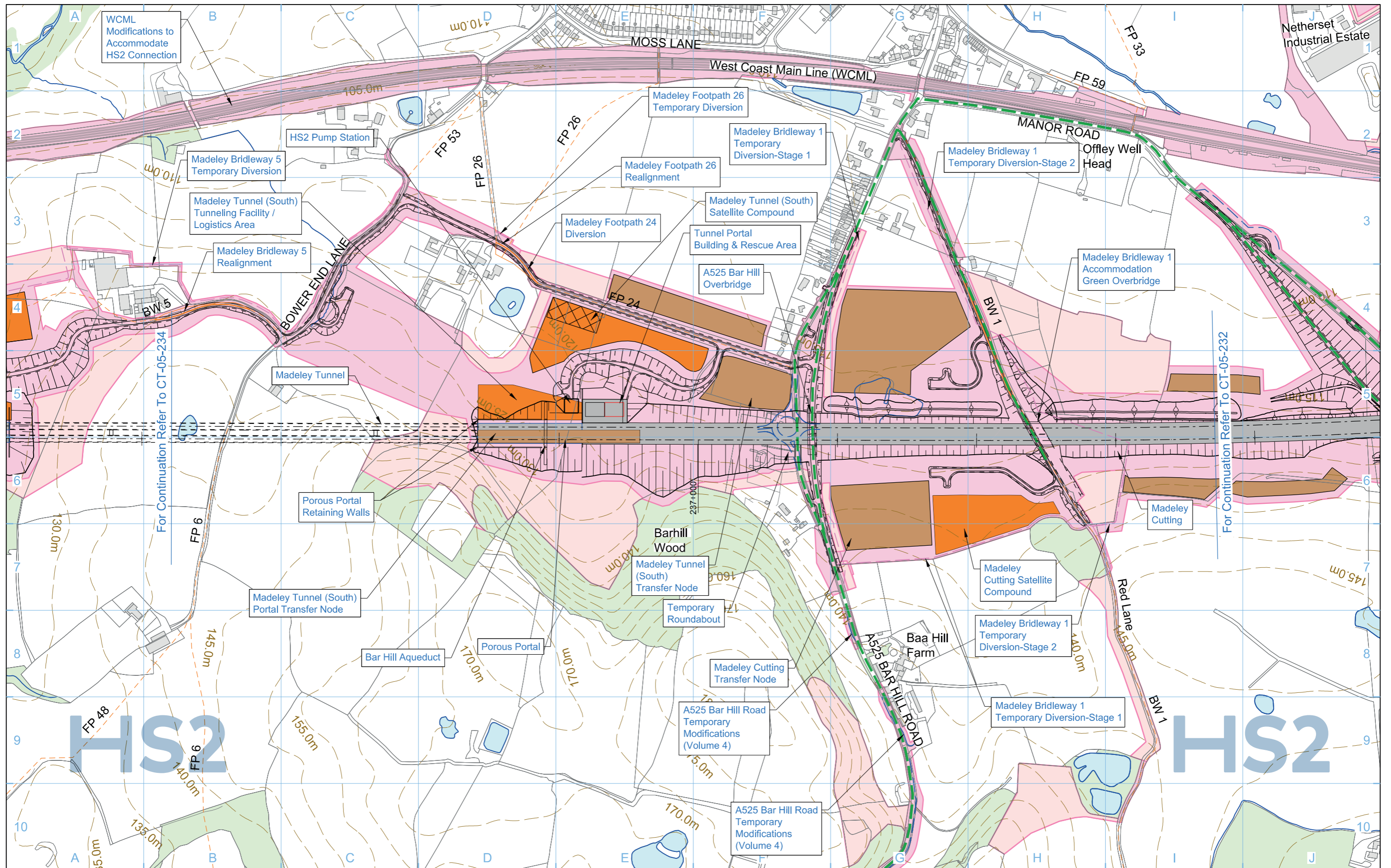


SES2-005-001: Reconfiguration of WCML tracks and provision of a new railway systems compound

AP2-004-007: Provision of a power supply

AP2-004-106: New utility

Legend <ul style="list-style-type: none"> Depot, station, headhouse or portal building Tunnel portal Electricity substation Land drainage area Ecological mitigation pond Balancing pond 		<ul style="list-style-type: none"> Replacement floodplain storage Woodland habitat creation Wetland habitat creation Grassland habitat creation Landscape mitigation planting (scrub / woodland) Grassed areas Local placement of surplus excavated material 		<ul style="list-style-type: none"> Public realm/Replacement community facility Engineering earthworks Landscape earthworks Rail alignment formation Returned to suitable development use County boundary Borough / District boundary 		<ul style="list-style-type: none"> Community Area boundary Watercourse diversion or Existing watercourse Ditches - new Hedgerow habitat creation UT Main utility works Existing public right of way (PRoW) New, diverted or realigned PRoW Stopped-up PRoW Tunnels external extent 		<ul style="list-style-type: none"> Existing woodland Existing buildings Existing inland water Existing contours HS2 access road Noise fence barrier Rail alignment Chainage (e.g. 10+000) 	
Map Number CT-06-232-R1		Map Name Proposed Scheme SES2 and AP2 ES		Community Area CA4 Whitmore Heath to Madeley		<p>Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA</p>		<p>Scale at A3: 1:5,000</p>	
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- Legend**
- Depot, station, headhouse or portal building
 - Tunnel portal
 - Main construction compound
 - Satellite construction compound
 - Railway systems compound
 - Temporary material stockpile
 - Borrow Pit
 - Storage / prefabrication / laydown areas
 - Land potentially required during construction
 - Extent of land potentially required during construction for mitigation planting
 - Temporary replacement community facility

- Community Area boundary
- Tunnels external extent
- Construction traffic route
- Existing public right of way (PRoW)
- New, diverted or realigned PRoW
- Stopped-up PRoW
- Temporary PRoW diversion / realignment

- Landscape earthworks
- Engineering earthworks
- Temporary highway diversion / realignment
- Main utility works
- Rail alignment Chainage (e.g. 10+000)

- Existing woodland
- Existing buildings
- Existing inland water
- Existing watercourse
- Existing contours
- Rail alignment formation
- Temporary workers accommodation

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

Map Name: **Construction Phase**

Community Area: CA4 Whitmore Heath to Madeley

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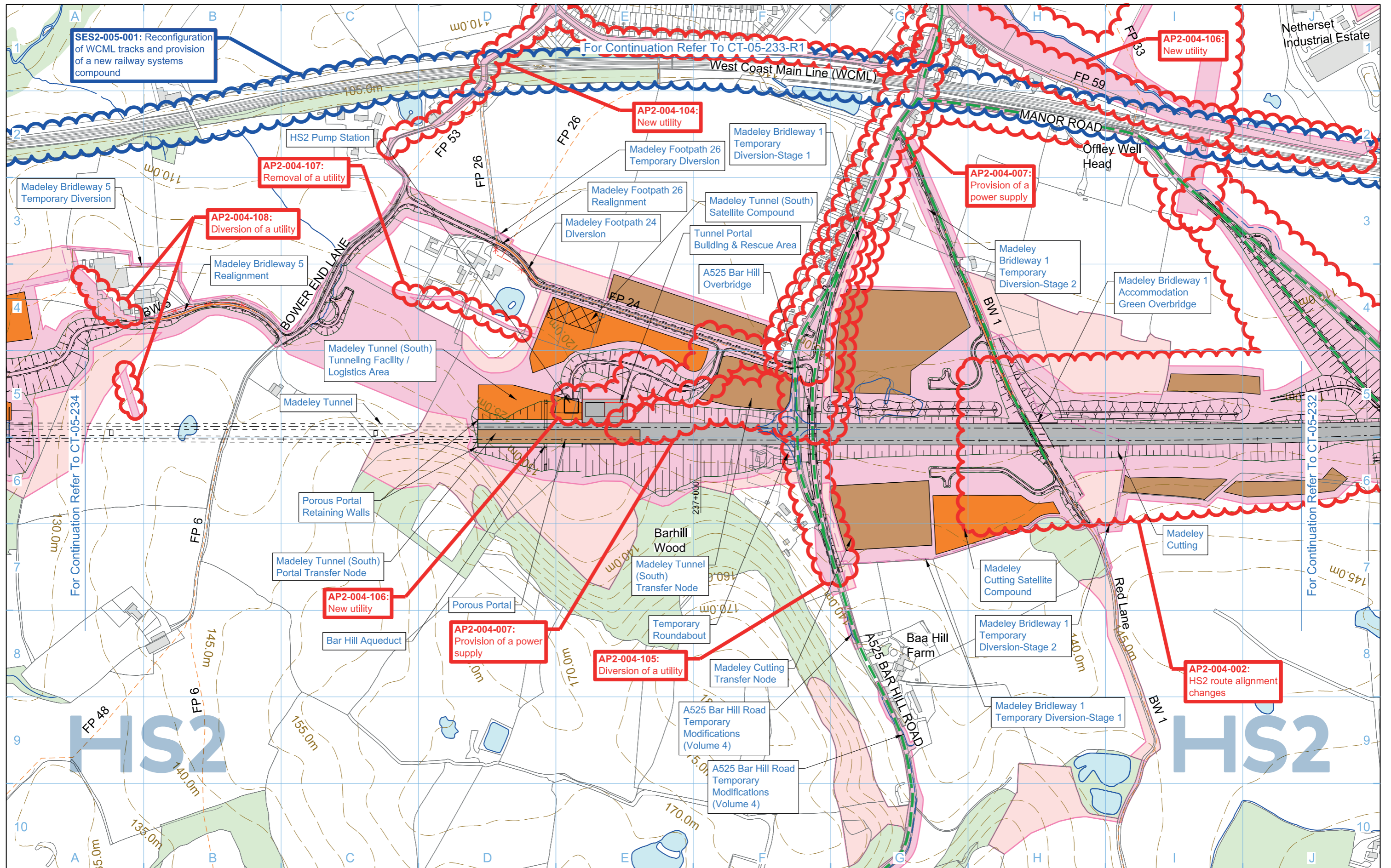
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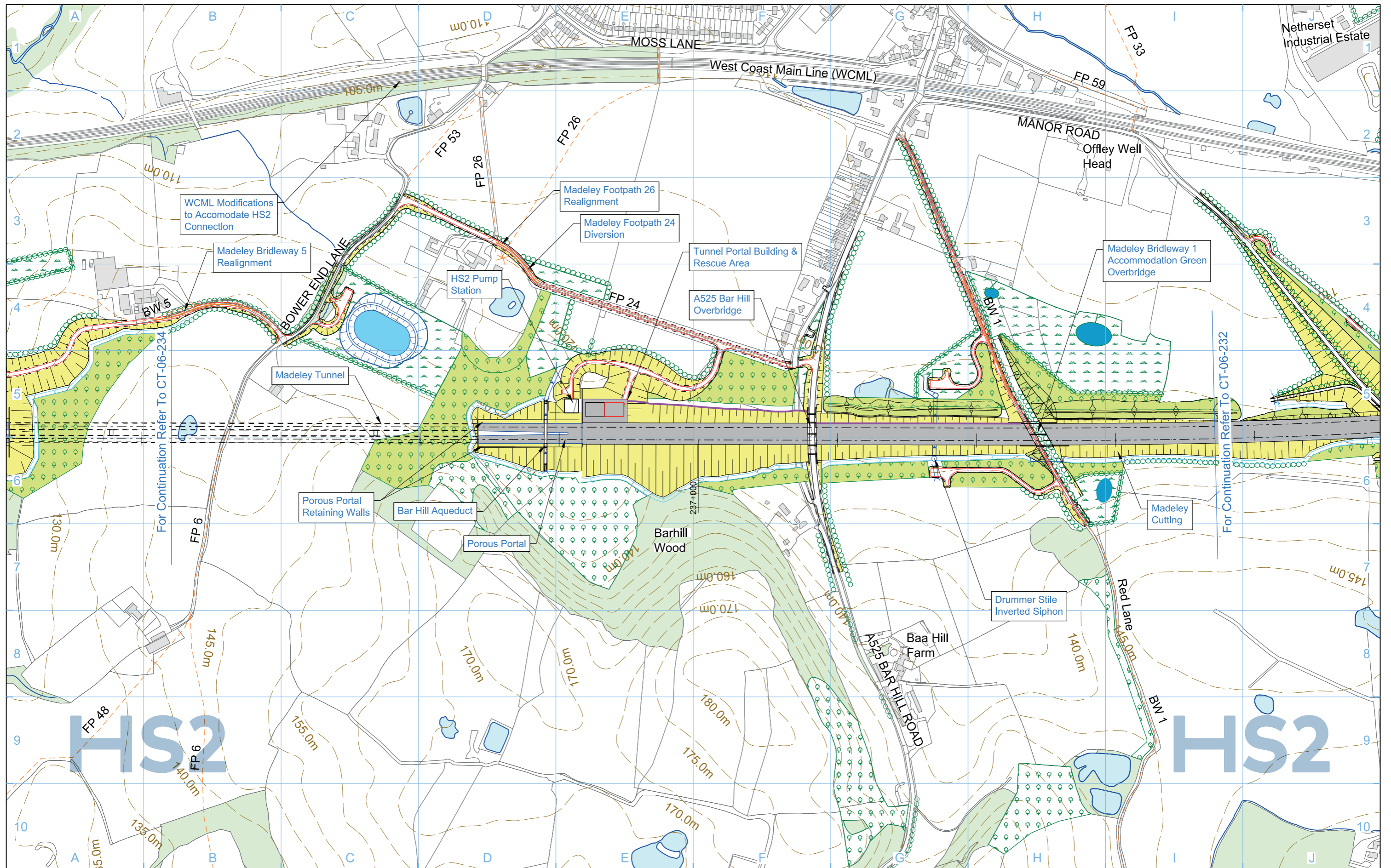
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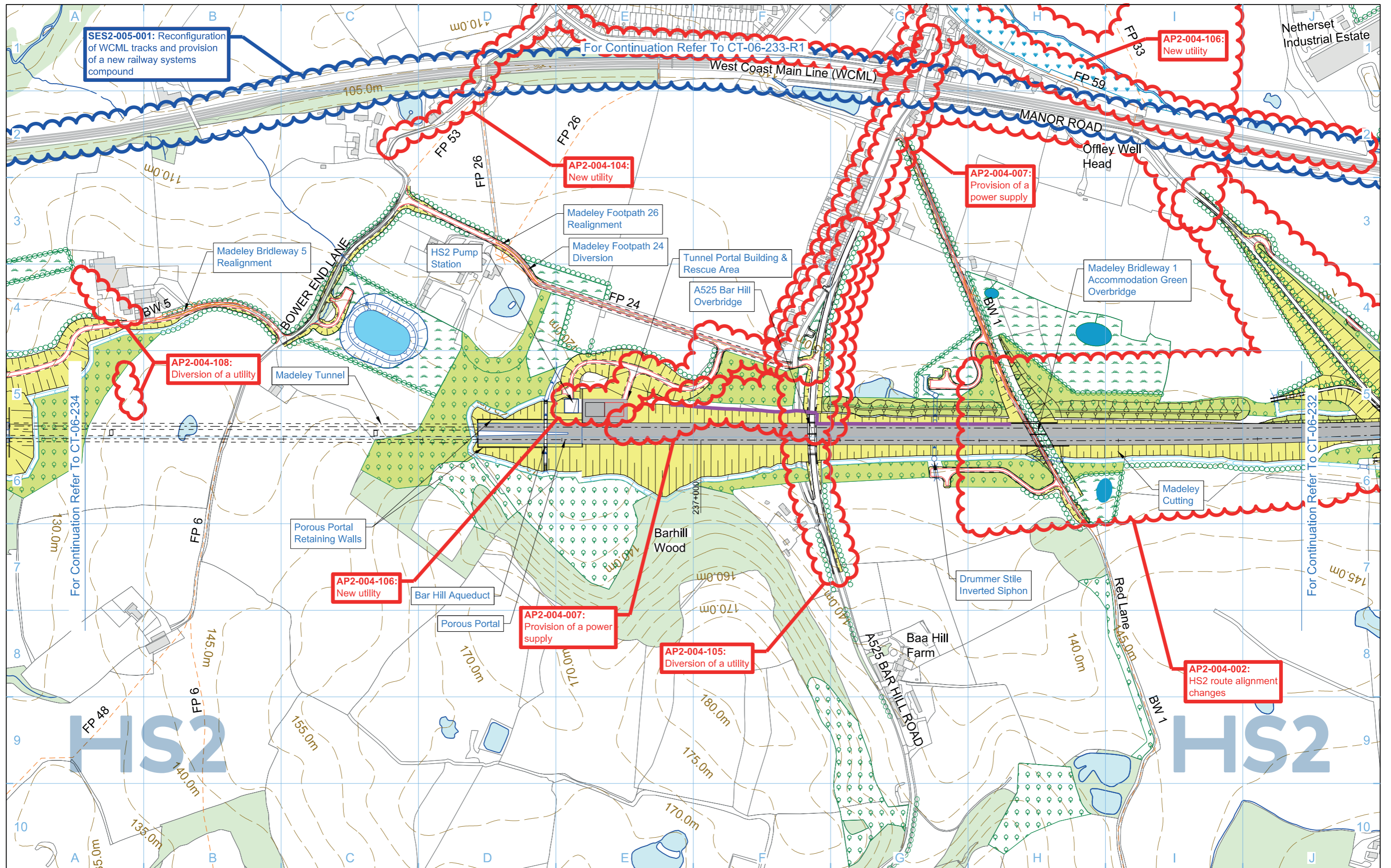
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Map Number CT-05-233		Map Name Construction Phase SES2 and AP2 ES		Community Area CA4 Whitmore Heath to Madeley				Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA	
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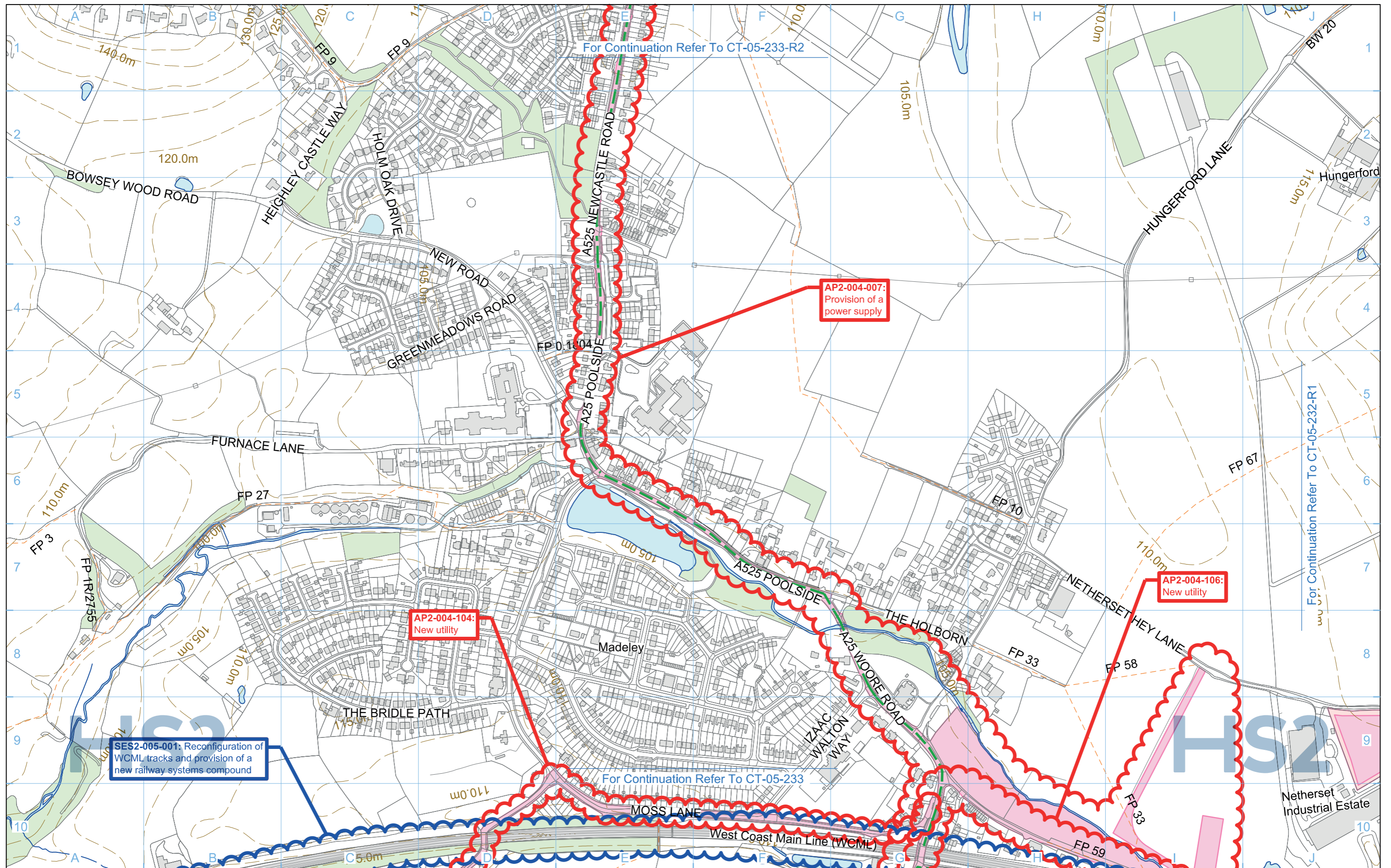


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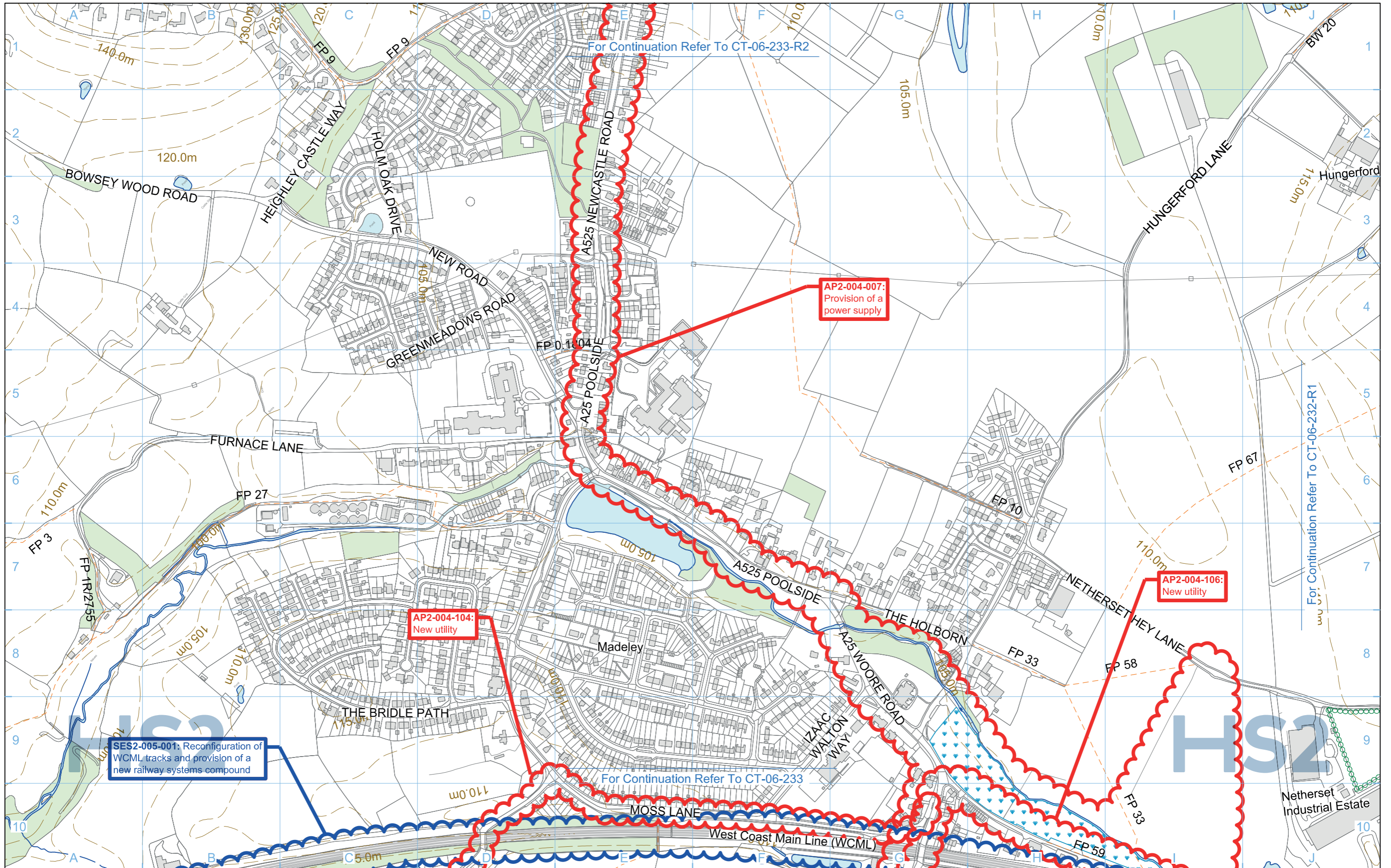
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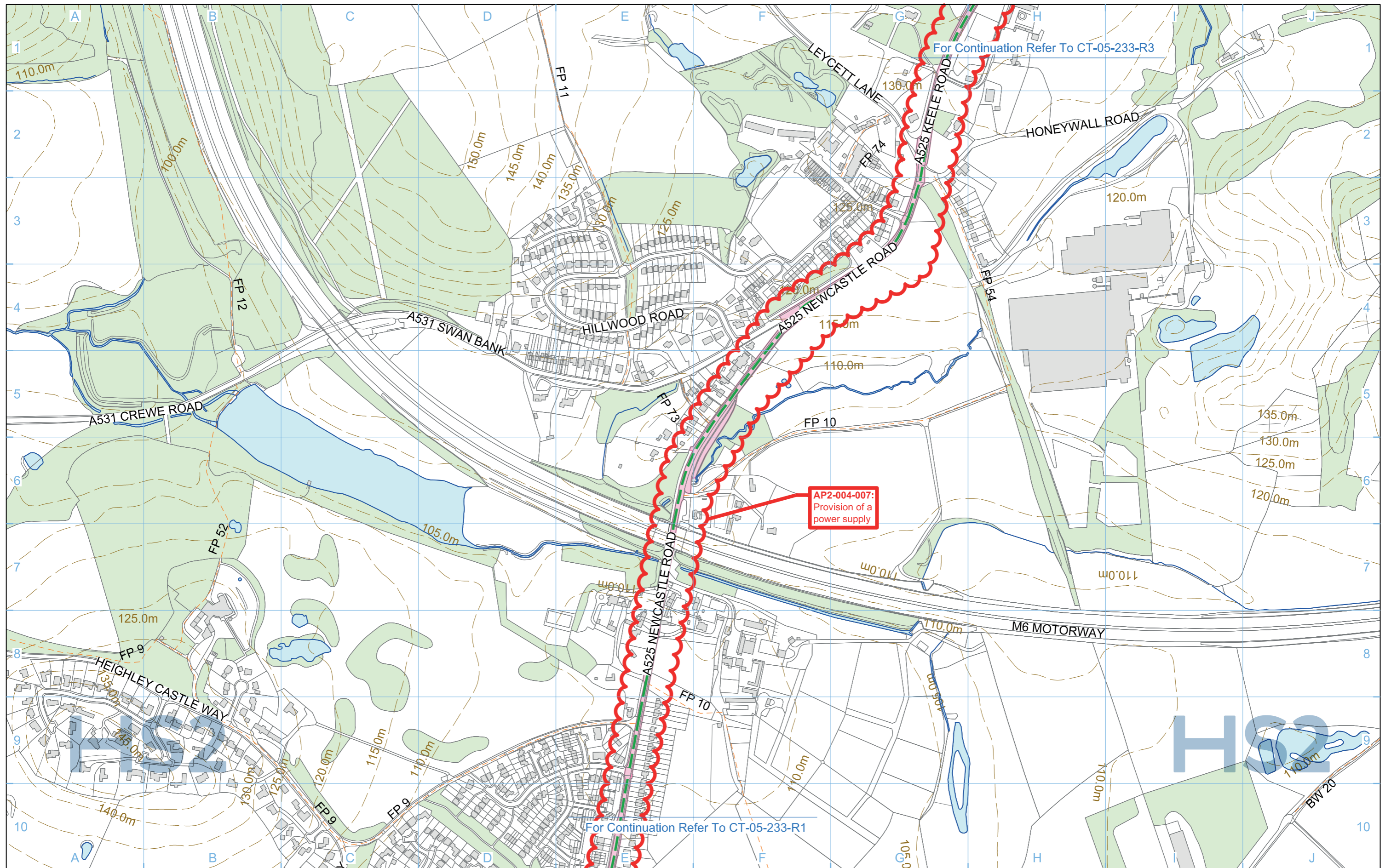
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Map Number CT-05-233-R1		Map Name Construction Phase SES2 and AP2 ES				Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA		Scale at A3: 1:5,000 	
Community Area CA4 Whitmore Heath to Madeley		© Crown copyright and database rights 2018. Ordnance Survey Licence Number 100049190.		Doc Number: 2PT02-ARP-EV-DPL-000-055433		P03		Date: 11/01/19	

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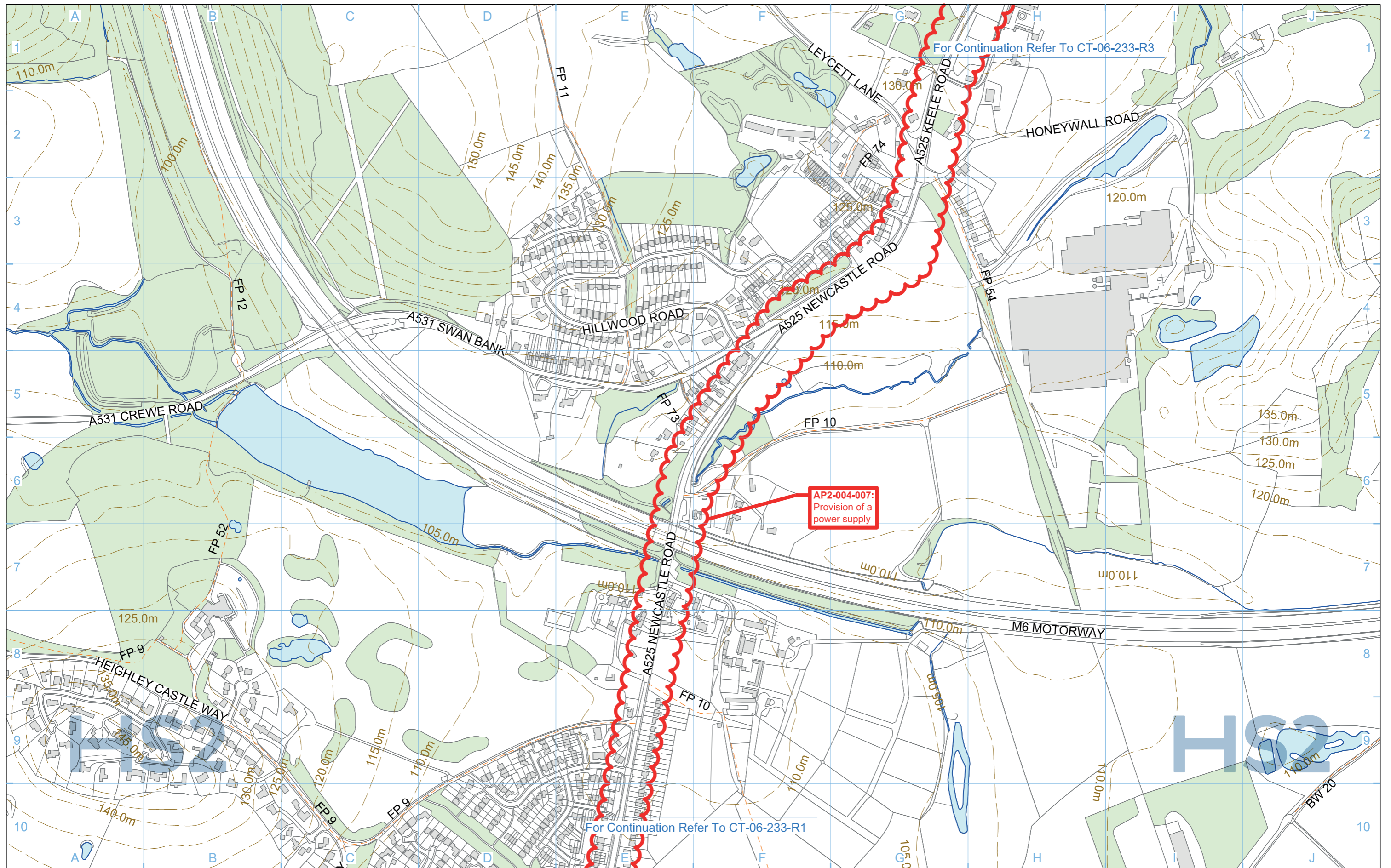
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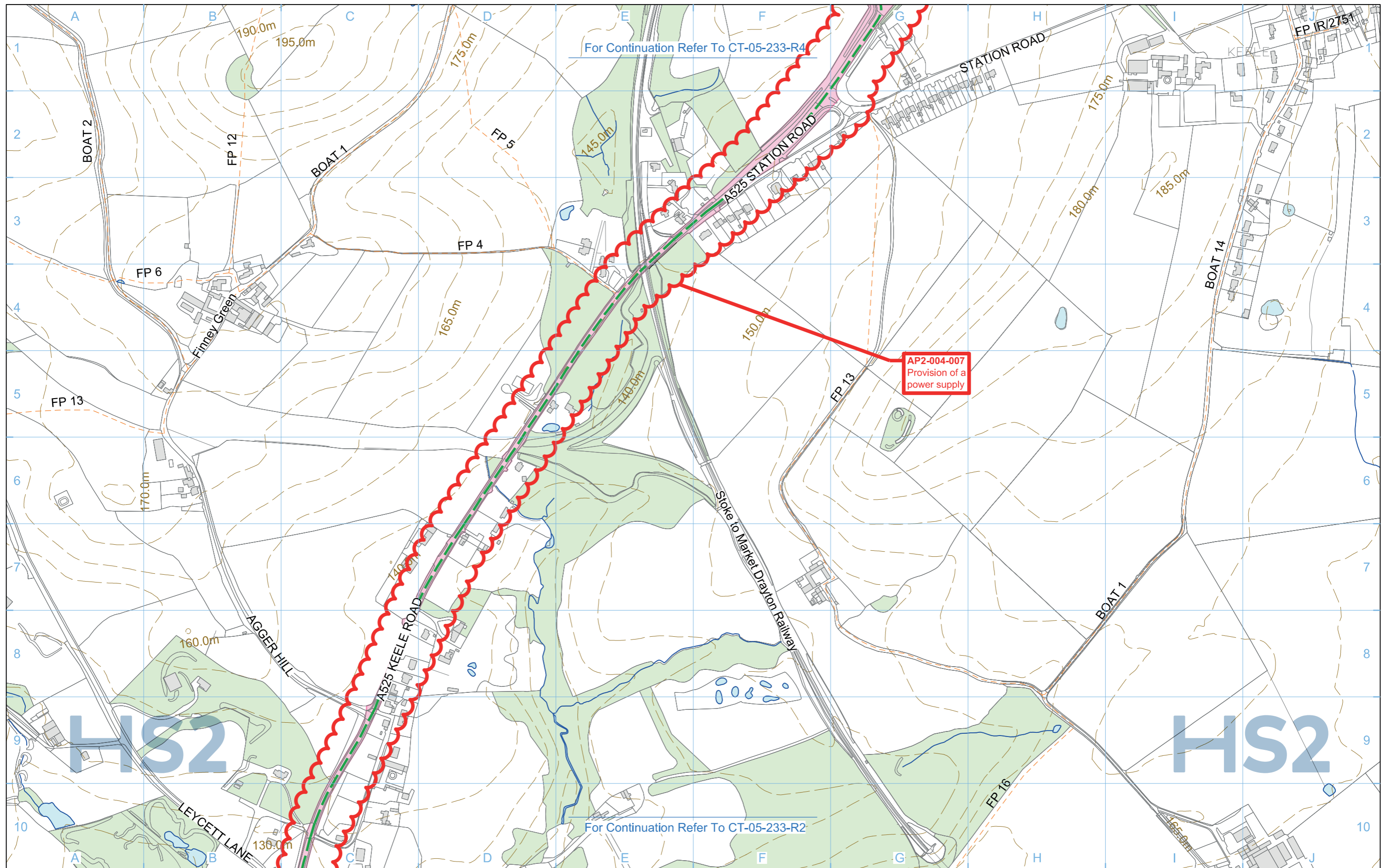
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Map Name Construction Phase SES2 and AP2 ES			
Community Area CA4 Whitmore Heath to Madeley			

No corresponding page in the main ES



Legend 						
<ul style="list-style-type: none"> Depot, station, headhouse or portal building Tunnel portal Electricity substation Land drainage area Ecological mitigation pond Balancing pond 	<ul style="list-style-type: none"> Replacement floodplain storage Woodland habitat creation Wetland habitat creation Grassland habitat creation Landscape mitigation planting (scrub / woodland) Grassed areas Local placement of surplus excavated material 	<ul style="list-style-type: none"> Public realm/Replacement community facility Engineering earthworks Landscape earthworks Rail alignment formation Returned to suitable development use County boundary Borough / District boundary 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Existing woodland Existing buildings Existing inland water Existing contours HS2 access road Noise fence barrier Rail alignment Chainage (e.g. 10+000) 	<p>Map Number CT-06-233-R2</p> <p>Map Name Proposed Scheme SES2 and AP2 ES</p> <p>Community Area CA4 Whitmore Heath to Madeley</p>	<p>Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA</p> <p>Scale at A3: 1:5,000</p> <p>© Crown copyright and database rights 2018. Ordnance Survey Licence Number 100049190.</p> <p>Doc Number: 2PT02-ARP-EV-DPL-000-056633 P03 Date: 11/01/19</p>

No corresponding page in the main ES



Legend	
	Depot, station, headhouse or portal building
	Tunnel portal
	Main construction compound
	Satellite construction compound
	Railway systems compound
	Temporary material stockpile
	Borrow Pit
	Storage / prefabrication / laydown areas
	Land potentially required during construction
	Extent of land potentially required during construction for mitigation planting
	Temporary replacement community facility
	Community Area boundary
	Tunnels external extent
	Construction traffic route
	Existing public right of way (PRoW)
	New, diverted or realigned PRoW
	Stopped-up PRoW
	Temporary PRoW diversion / realignment
	Landscape earthworks
	Engineering earthworks
	Temporary highway diversion / realignment
	Main utility works
	Rail alignment Chainage (e.g. 10+000)
	Existing woodland
	Existing buildings
	Existing inland water
	Existing watercourse
	Existing contours
	Rail alignment formation
	Temporary workers accommodation

Map Number	CT-05-233-R3
Map Name	Construction Phase SES2 and AP2 ES
Community Area	CA4 Whitmore Heath to Madeley

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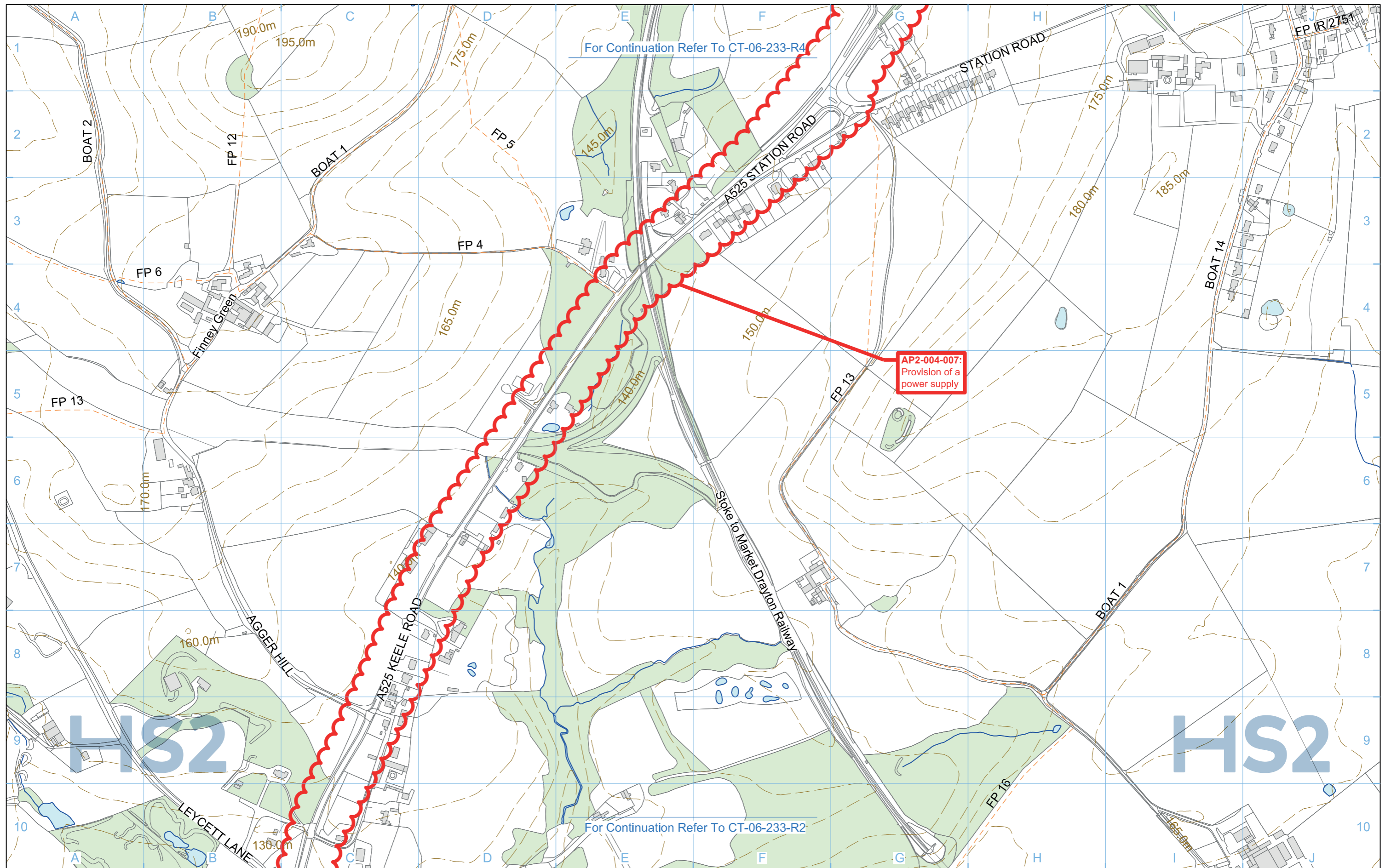
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Metres

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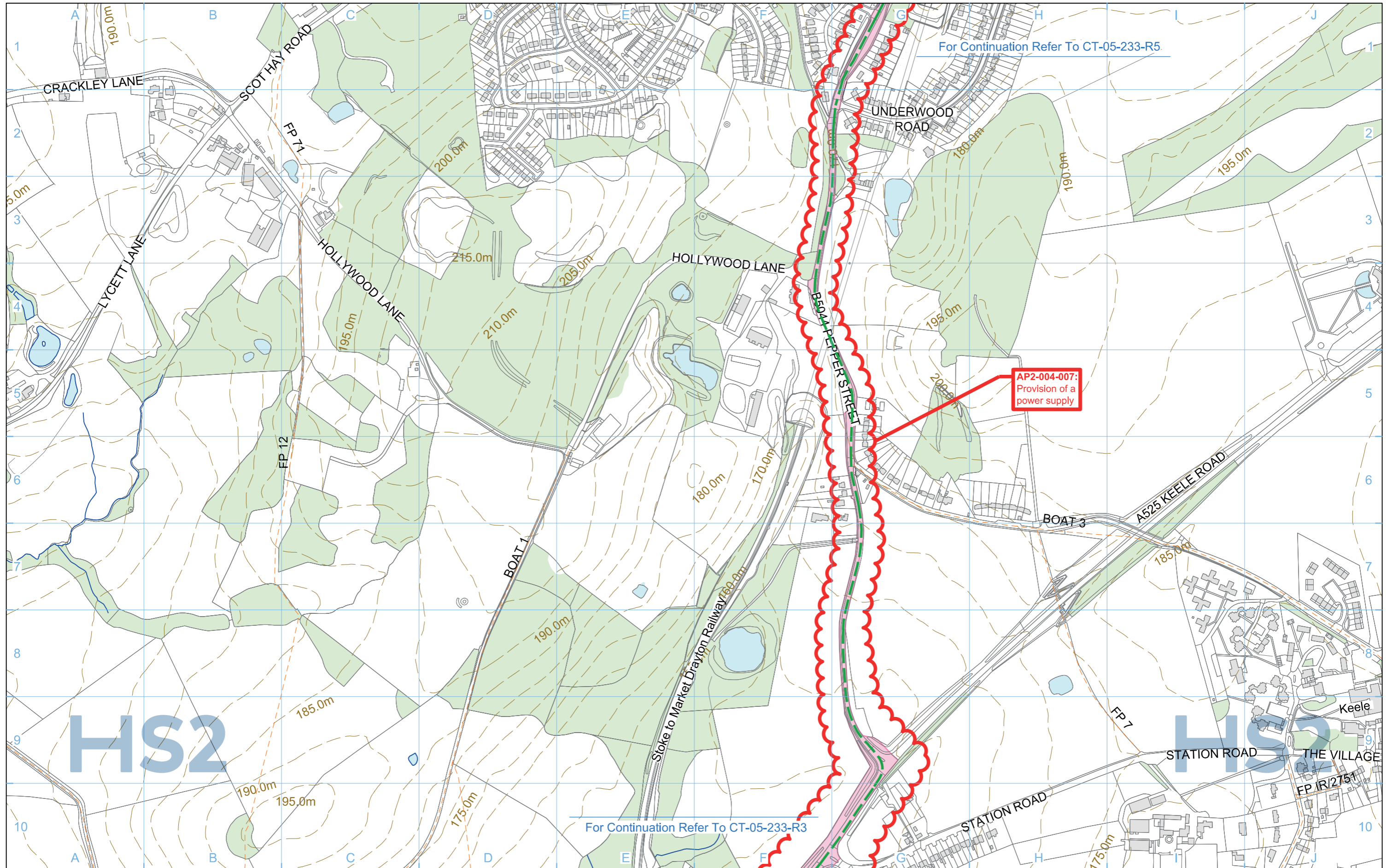
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No corresponding page in the main ES



Legend 		Map Number CT-06-233-R3 Map Name Proposed Scheme SES2 and AP2 ES Community Area CA4 Whitmore Heath to Madeley	 <small>Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA</small> Scale at A3: 1:5,000 <small>© Crown copyright and database rights 2018, Ordnance Survey Licence Number 100049190.</small> Doc Number: 2PT02-ARP-EV-DPL-000-056833 P04 Date: 11/01/19
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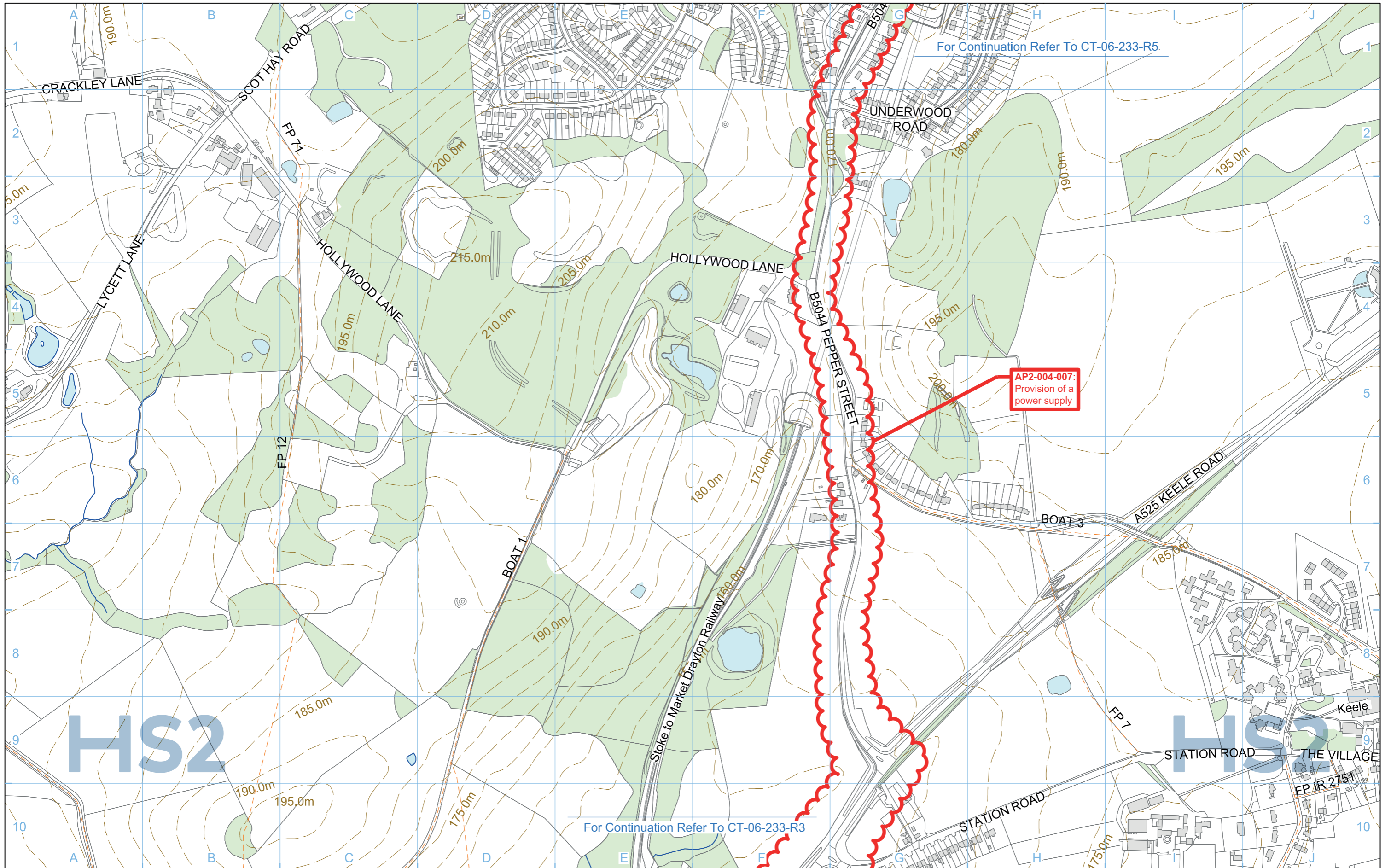
For Continuation Refer To CT-05-233-R5

For Continuation Refer To CT-05-233-R3

AP2-004-007:
Provision of a
power supply

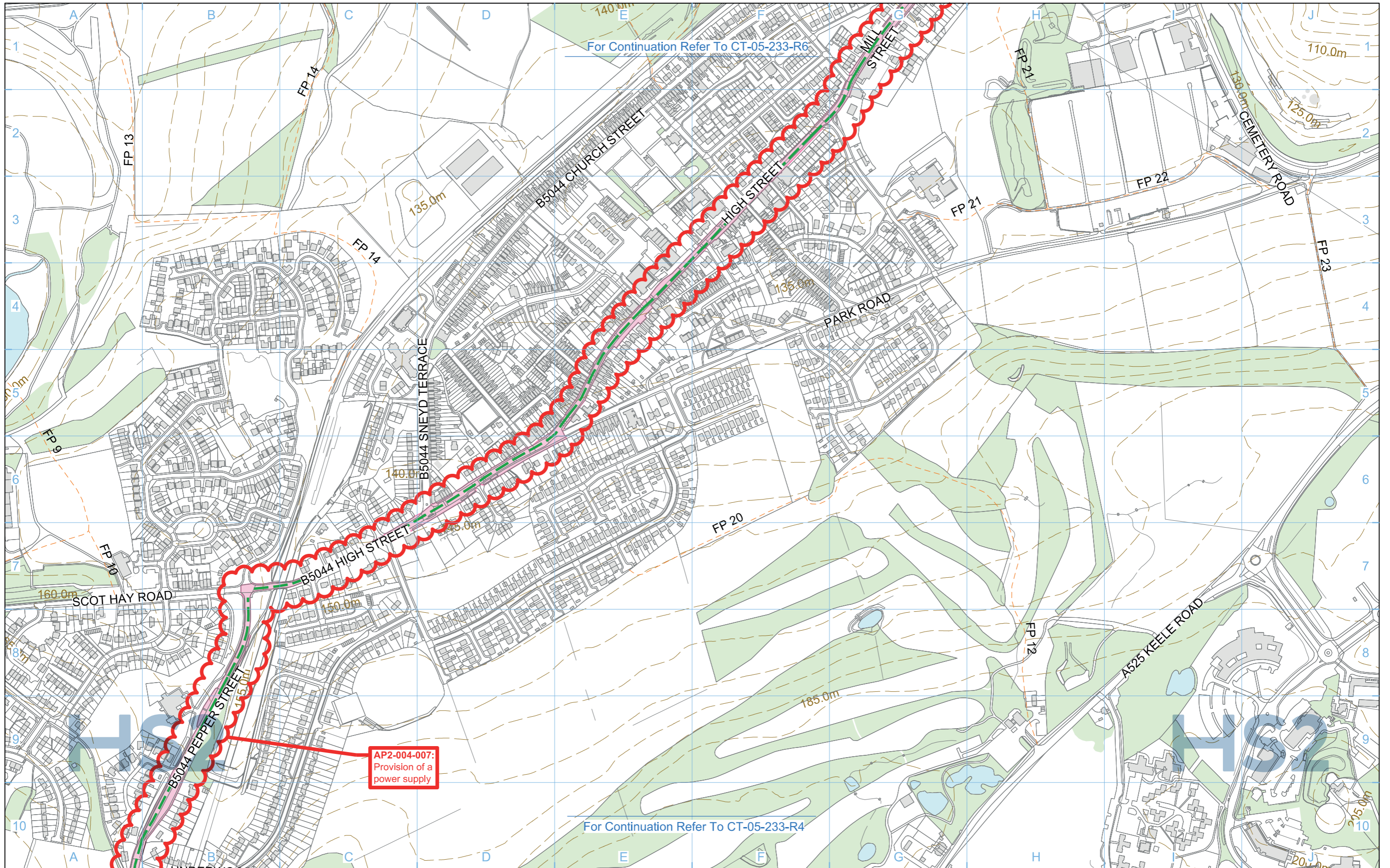
Legend 									
Map Number CT-05-233-R4		Map Name Construction Phase SES2 and AP2 ES				<small>Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA</small>		<small>Scale at A3: 1:5,000</small> 	
Community Area CA4 Whitmore Heath to Madeley		<small>© Crown copyright and database rights 2018, Ordnance Survey Licence Number 100049190.</small>		<small>Doc Number: 2PT02-ARP-EV-DPL-000-055843</small>		<small>P03</small>		<small>Date: 11/01/19</small>	

No corresponding page in the main ES



Legend 		Map Number CT-06-233-R4 Map Name Proposed Scheme SES2 and AP2 ES Community Area CA4 Whitmore Heath to Madeley	 <small>Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA</small> Scale at A3: 1:5,000 <small>© Crown copyright and database rights 2018, Ordnance Survey Licence Number 100049190.</small> Doc Number: 2PT02-ARP-EV-DPL-000-056843 P03 Date: 11/01/19
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Legend	
	Depot, station, headhouse or portal building
	Tunnel portal
	Main construction compound
	Satellite construction compound
	Railway systems compound
	Temporary material stockpile
	Borrow Pit
	Storage / prefabrication / laydown areas
	Land potentially required during construction
	Extent of land potentially required during construction for mitigation planting
	Temporary replacement community facility
	Community Area boundary
	Tunnels external extent
	Construction traffic route
	Existing public right of way (PRoW)
	New, diverted or realigned PRoW
	Stopped-up PRoW
	Temporary PRoW diversion / realignment
	Landscape earthworks
	Engineering earthworks
	Temporary highway diversion / realignment
	Main utility works
	Rail alignment
	Chainage (e.g. 10+000)
	Existing woodland
	Existing buildings
	Existing inland water
	Existing watercourse
	Existing contours
	Rail alignment formation
	Temporary workers accommodation

Map Number	CT-05-233-R5
Map Name	Construction Phase SES2 and AP2 ES
Community Area	CA4 Whitmore Heath to Madeley

HS2

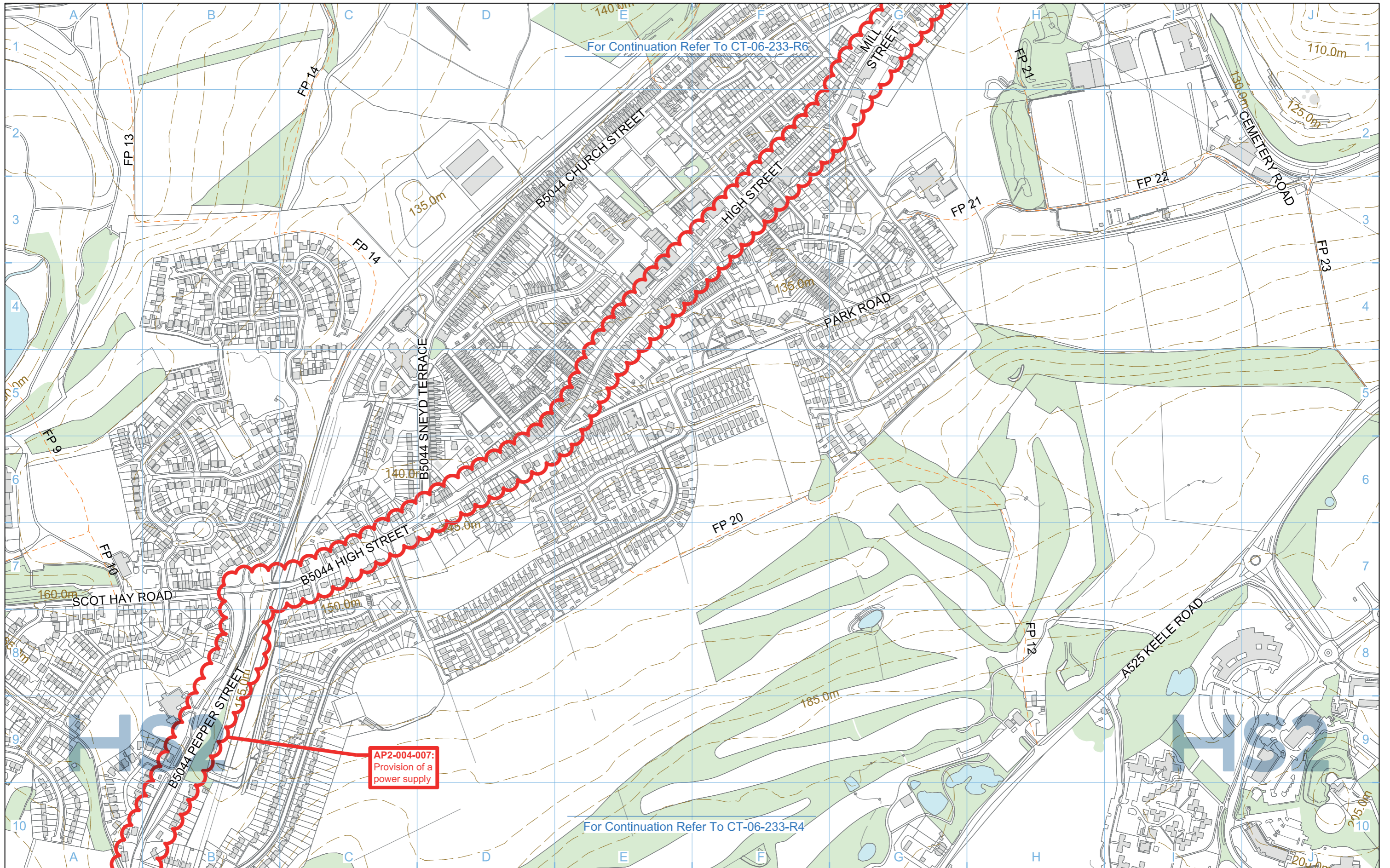
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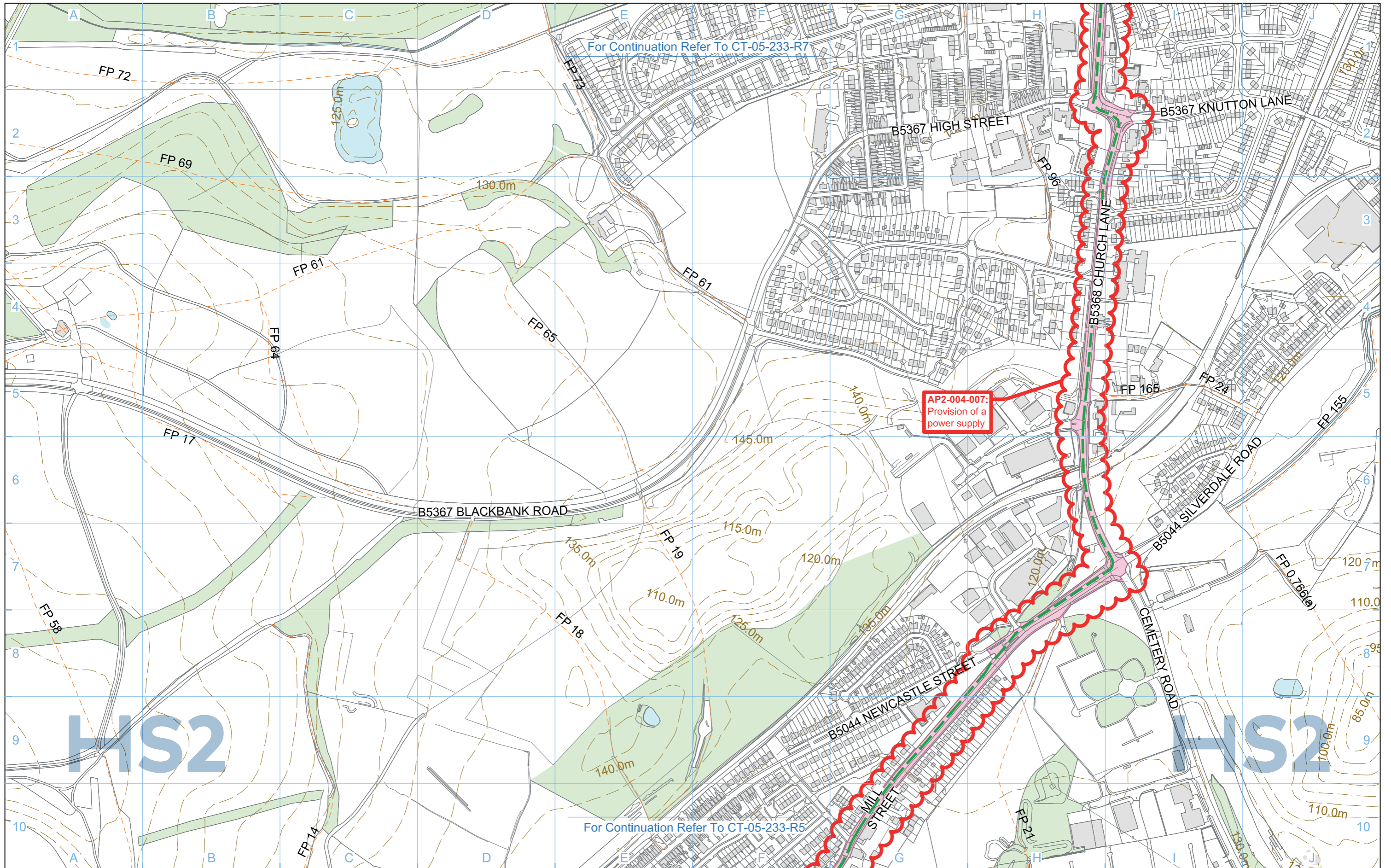
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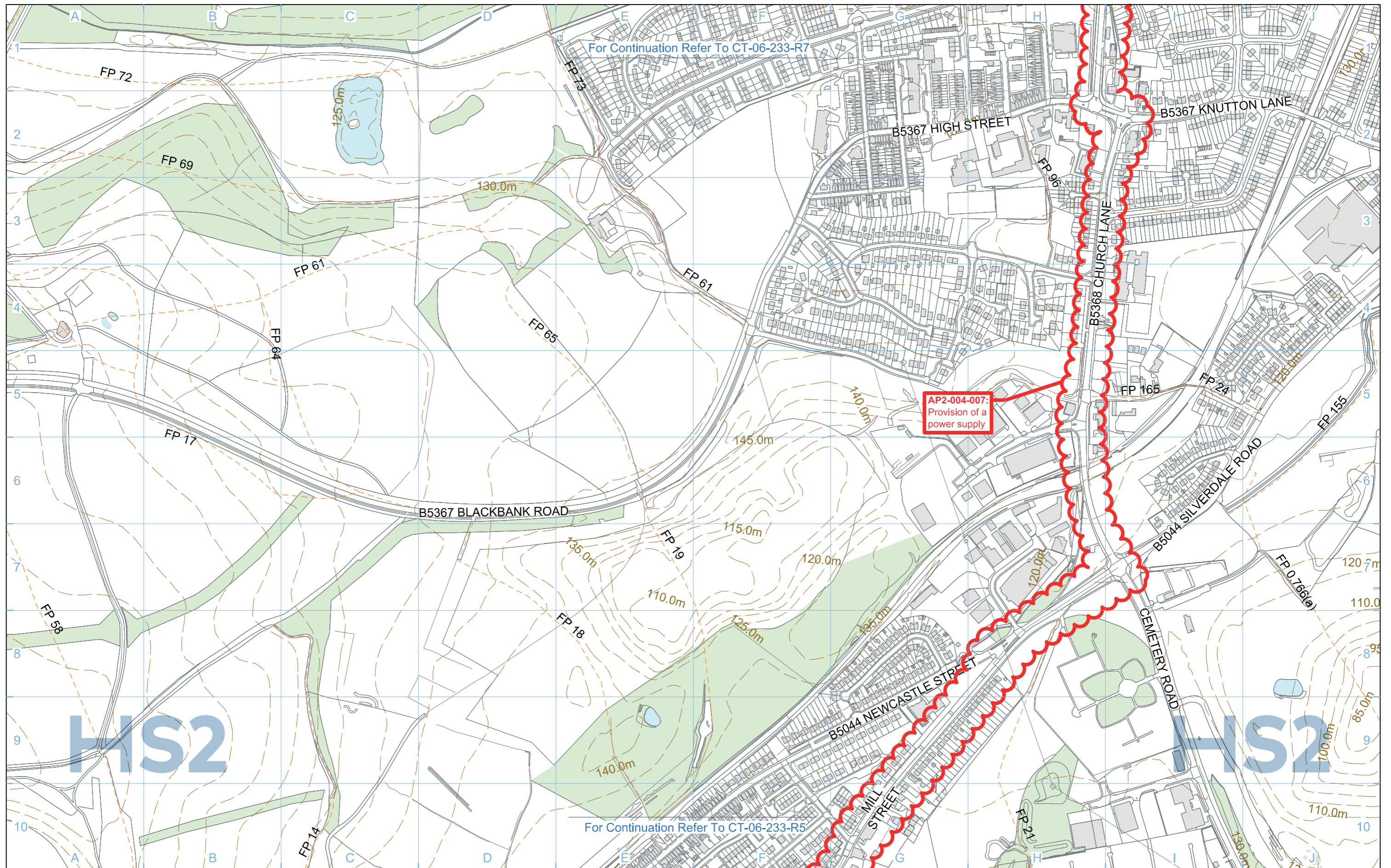
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										Community Area CA4 Whitmore Heath to Madeley				

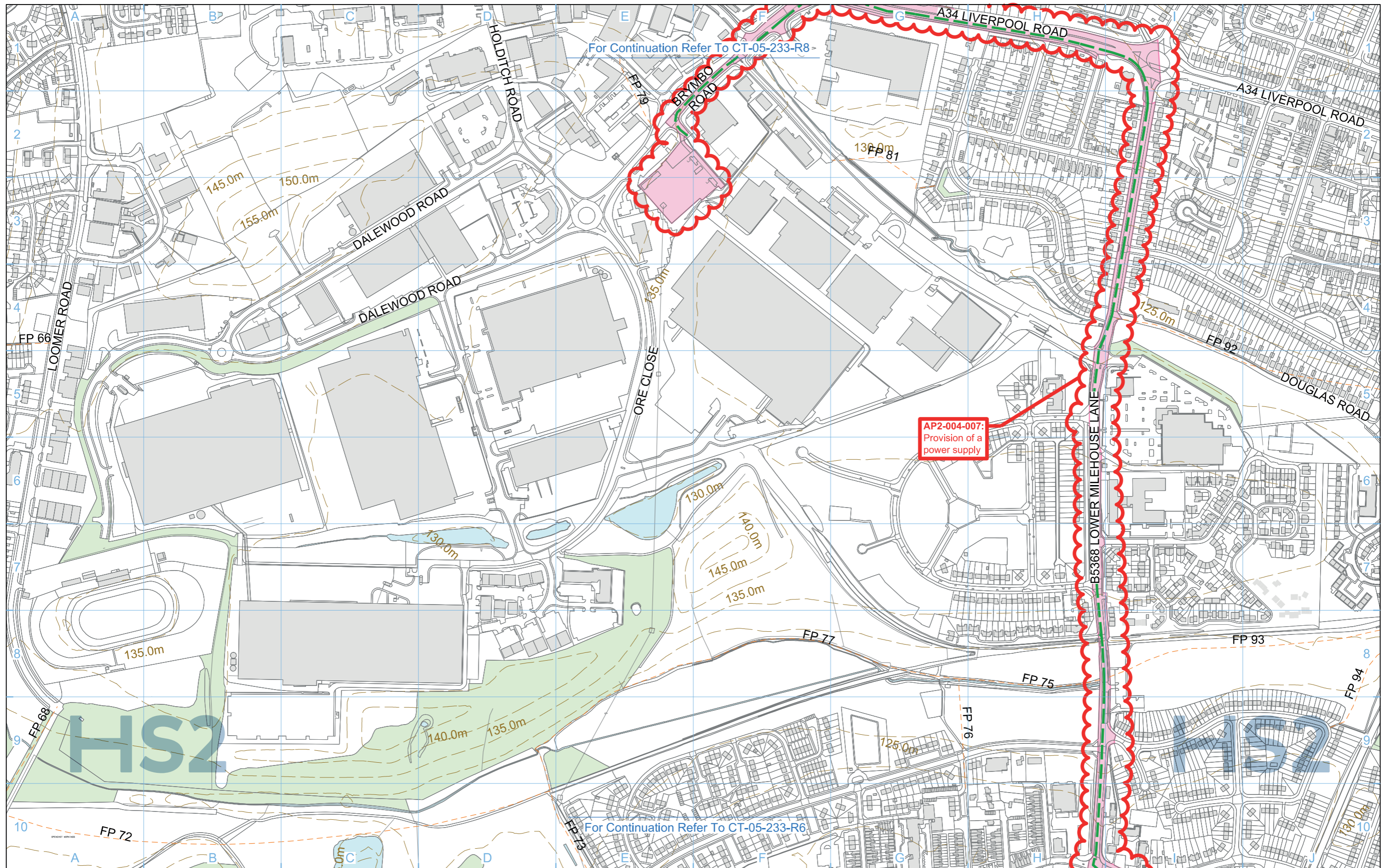
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AP2-004-007:
Provision of a
power supply

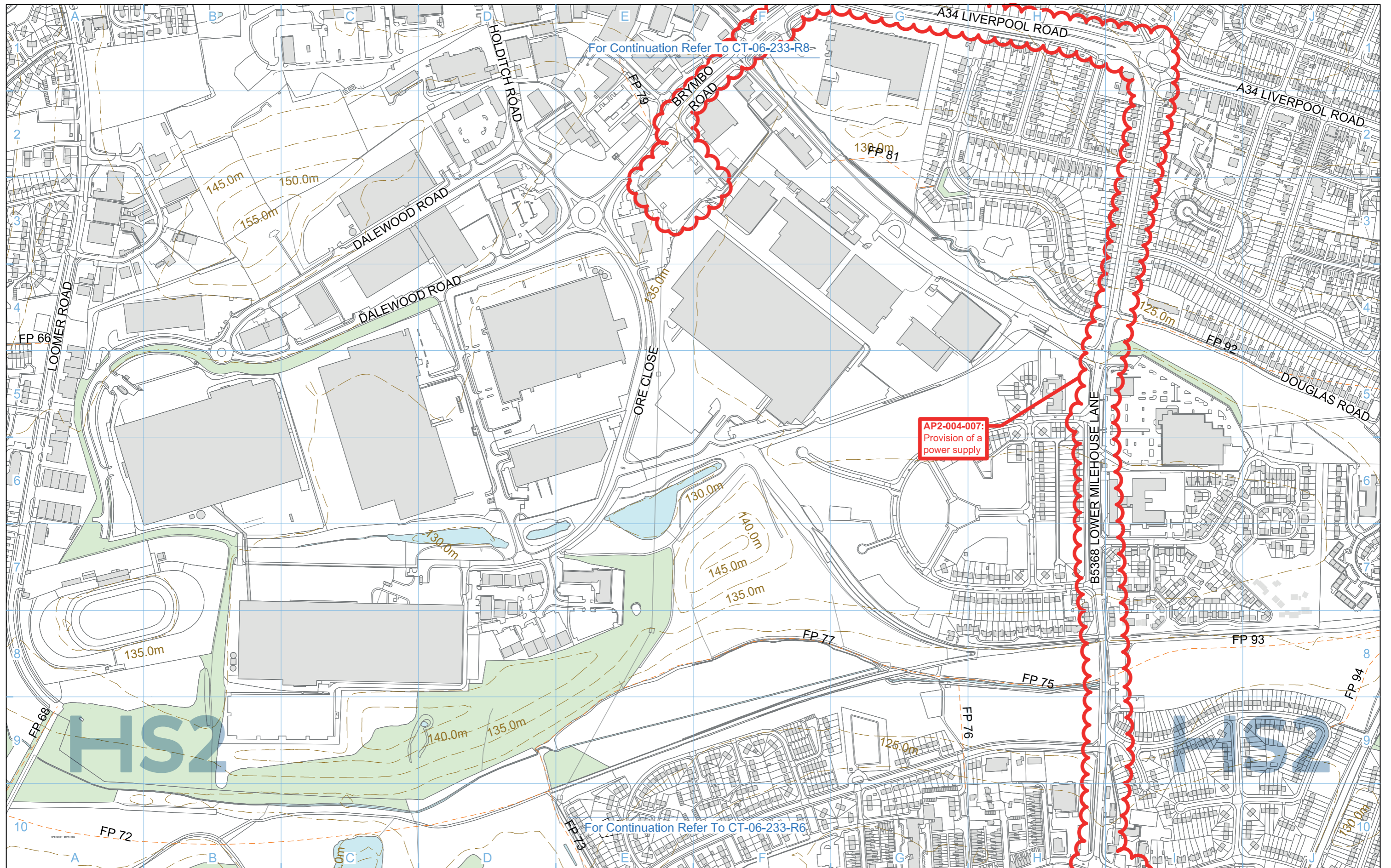
Legend 		Map Number CT-06-233-R6 Map Name Proposed Scheme SES2 and AP2 ES Community Area CA4 Whitmore Heath to Madeley	 <small>Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA</small> <small>Scale at A3: 1:5,000</small> <small>© Crown copyright and database rights 2018, Ordnance Survey Licence Number 100049190.</small> Doc Number: 2PT02-ARP-EV-DPL-000-056863 P03 Date: 11/01/19
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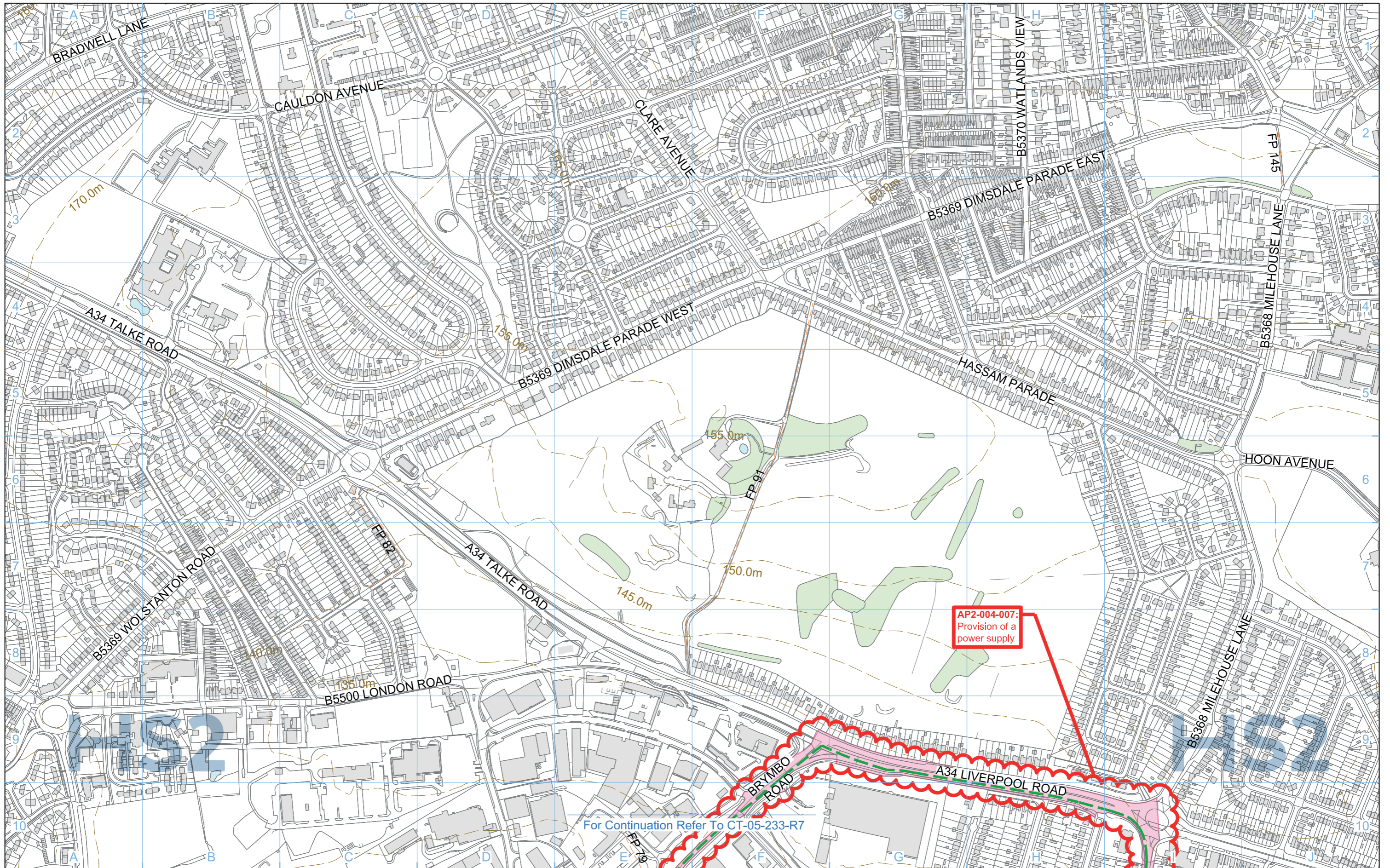
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										Map Name Construction Phase SES2 and AP2 ES	
										Community Area CA4 Whitmore Heath to Madeley	

No corresponding page in the main ES



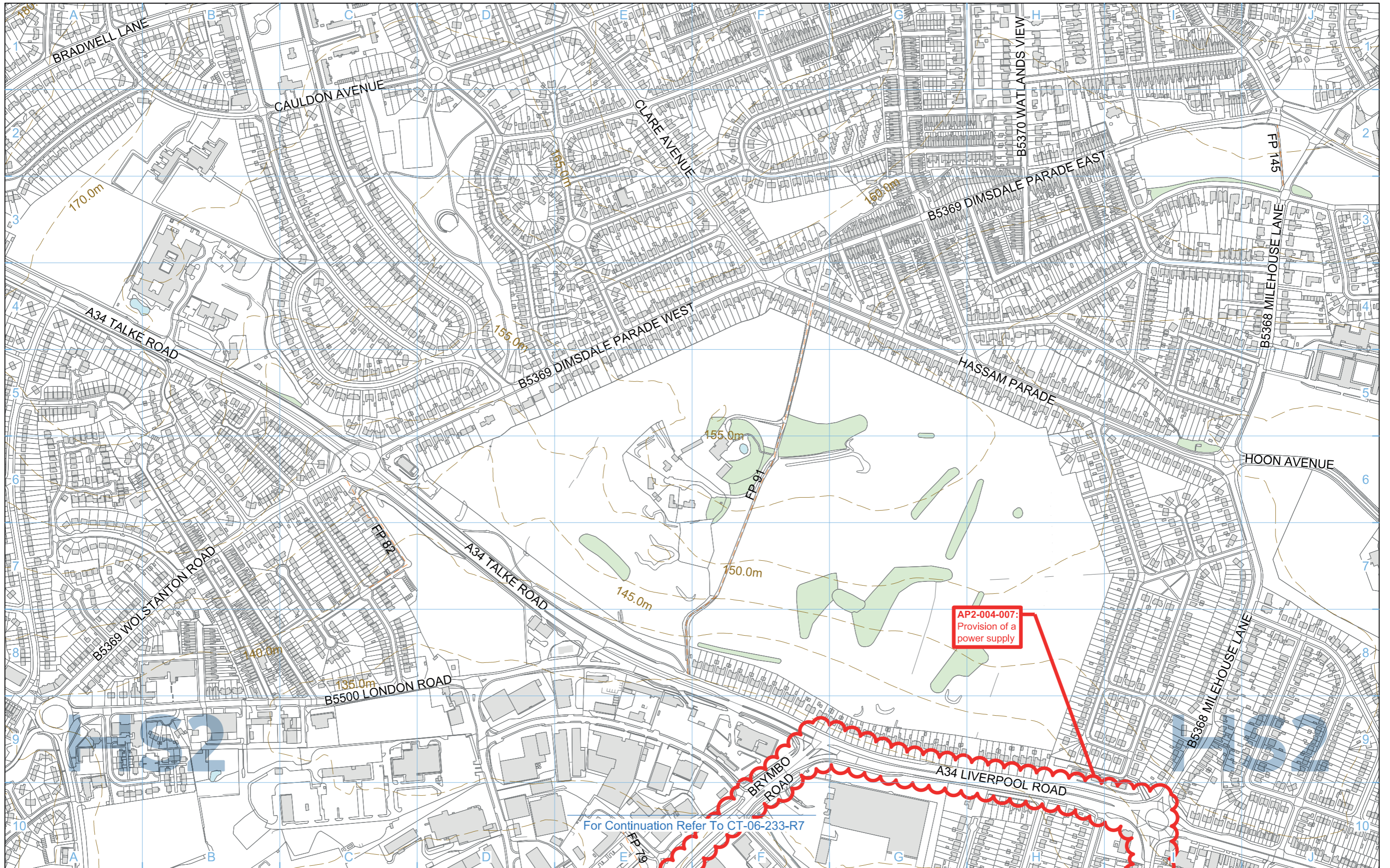
Legend 		Map Number CT-06-233-R7 Map Name Proposed Scheme SES2 and AP2 ES Community Area CA4 Whitmore Heath to Madeley	 <small>Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA</small> <small>© Crown copyright and database rights 2018, Ordnance Survey Licence Number 100049190.</small> Doc Number: 2PT02-ARP-EV-DPL-000-056873 P03 Date: 11/01/19 <small>Scale at A3: 1:5,000</small>
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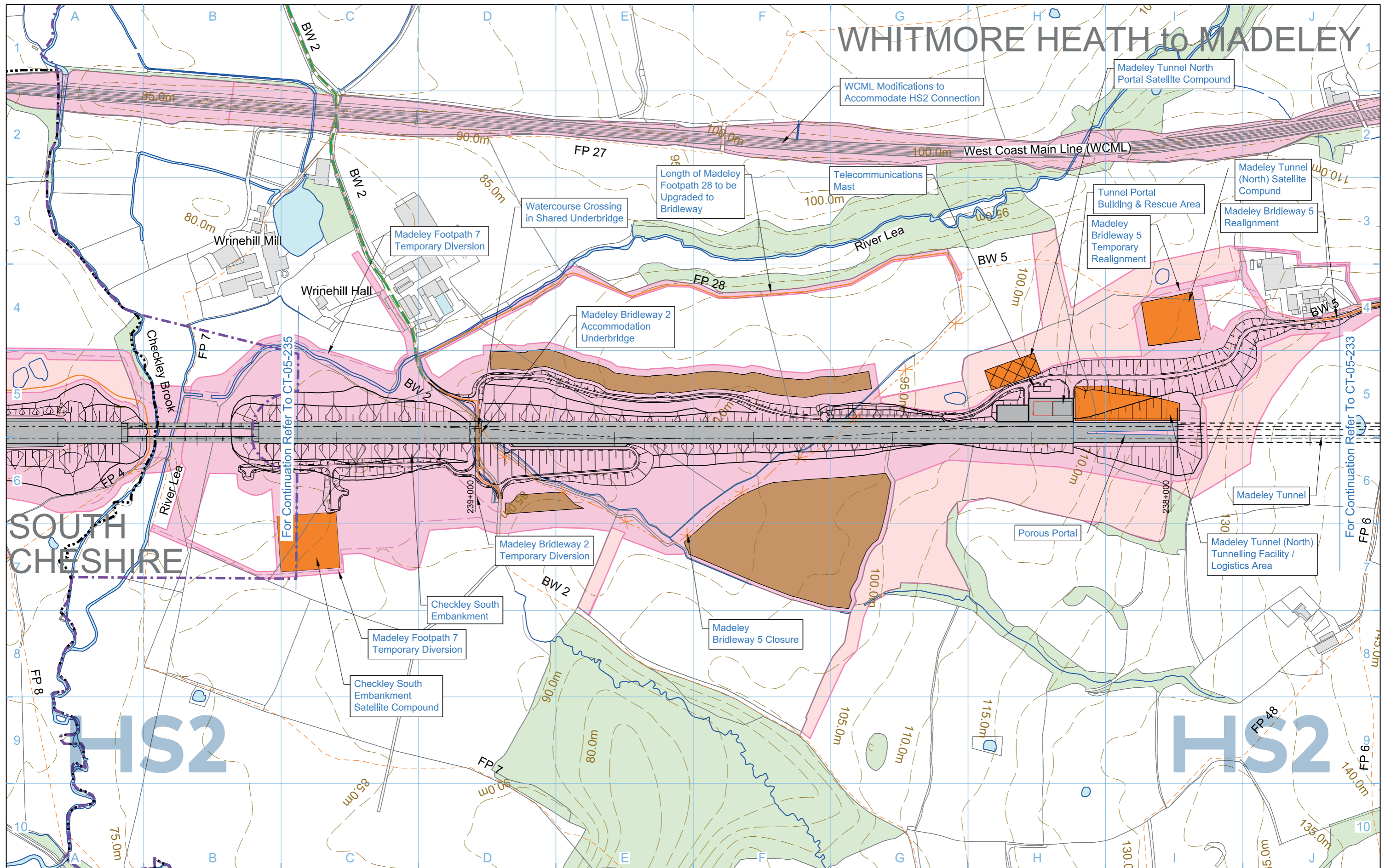
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Map Name Construction Phase SES2 and AP2 ES		Community Area CA4 Whitmore Heath to Madeley	
Doc Number: 2PT02-ARP-EV-DPL-000-055883		Date: 11/01/19	

No corresponding page in the main ES



Legend 		Map Number CT-06-233-R8	<p>Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA</p> <p>Scale at A3: 1:5,000</p> <p>© Crown copyright and database rights 2018. Ordnance Survey Licence Number 100049190.</p> <p>Doc Number: 2PT02-ARP-EV-DPL-000-056883 P03 Date: 11/01/19</p>
Map Name Proposed Scheme SES2 and AP2 ES		Community Area CA4 Whitmore Heath to Madeley	
Map Number CT-06-233-R8			

WHITMORE HEATH TO MADELEY



- Legend**
- Depot, station, headhouse or portal building
 - Tunnel portal
 - Main construction compound
 - Satellite construction compound
 - Railway systems compound
 - Temporary material stockpile
 - Borrow Pit
 - Storage / prefabrication / laydown areas
 - Land potentially required during construction
 - Extent of land potentially required during construction for mitigation planting
 - Temporary replacement community facility

- Community Area boundary
- Tunnels external extent
- Construction traffic route
- Existing public right of way (PRoW)
- New, diverted or realigned PRoW
- Stopped-up PRoW
- Temporary PRoW diversion / realignment

- Landscape earthworks
- Engineering earthworks
- Temporary highway diversion / realignment
- Main utility works
- Rail alignment Chainage (e.g. 10+000)

- Existing woodland
- Existing buildings
- Existing inland water
- Existing watercourse
- Existing contours
- Rail alignment formation
- Temporary workers accommodation

Map Number: **CT-05-234**

Map Name: **Construction Phase**

Community Area: CA4 Whitmore Heath to Madeley

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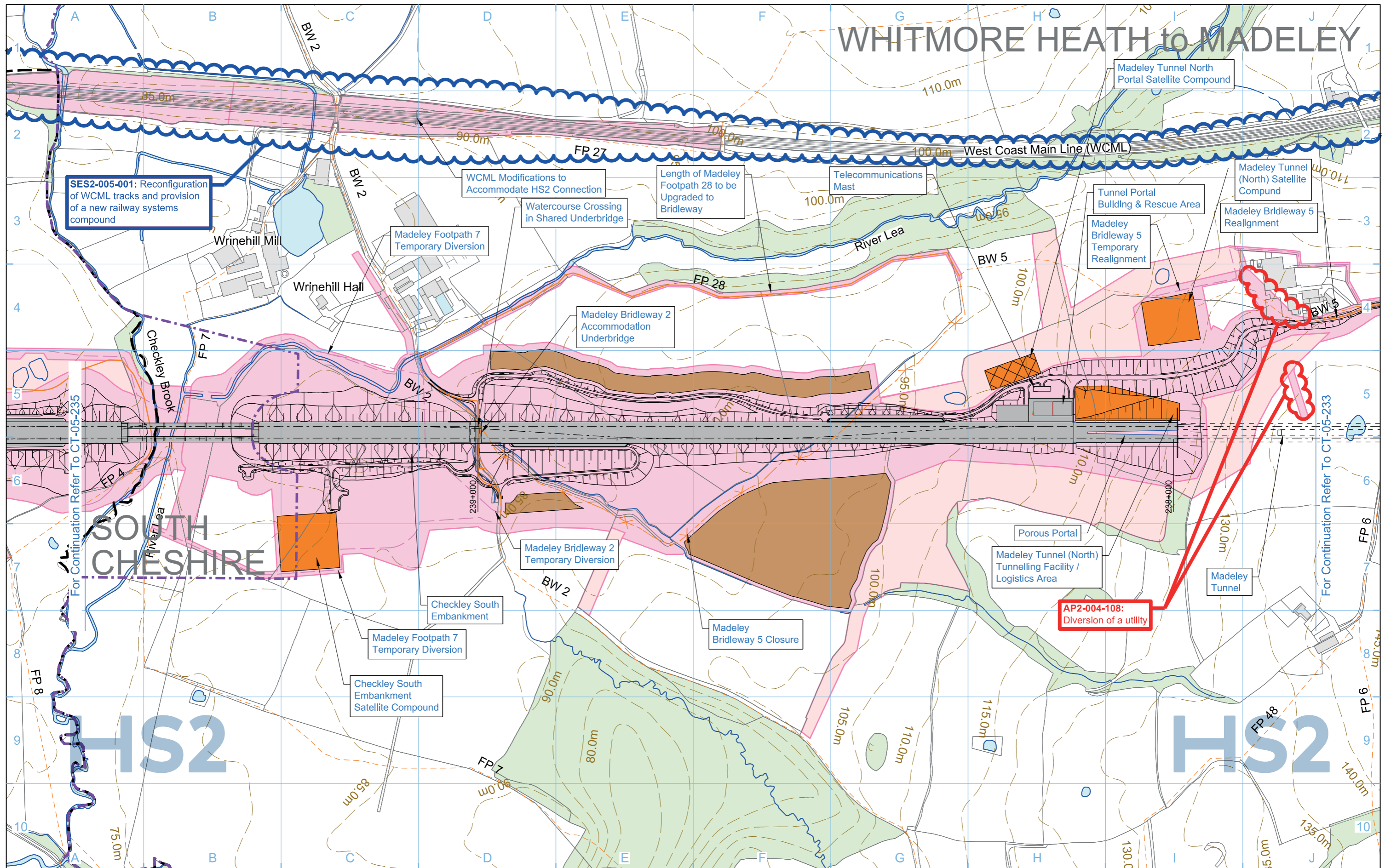
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0 50 100 150 200 250 Metres

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Doc Number: C861-ARP-EV-DPL-000-055234 P06 Date: 08/06/17

WHITMORE HEATH TO MADELEY



SES2-005-001: Reconfiguration of WCML tracks and provision of a new railway systems compound

WCML Modifications to Accommodate HS2 Connection

Length of Madeley Footpath 28 to be Upgraded to Bridleway

Telecommunications Mast

Tunnel Portal Building & Rescue Area

Madeley Tunnel (North) Satellite Compound

Madeley Bridleway 5 Realignment

Madeley Bridleway 5 Temporary Realignment

Madeley Bridleway 2 Accommodation Underbridge

Madeley Bridleway 2 Temporary Diversion

Porous Portal

Madeley Tunnel (North) Tunnelling Facility / Logistics Area

Madeley Tunnel

AP2-004-108: Diversion of a utility

Checkley South Embankment

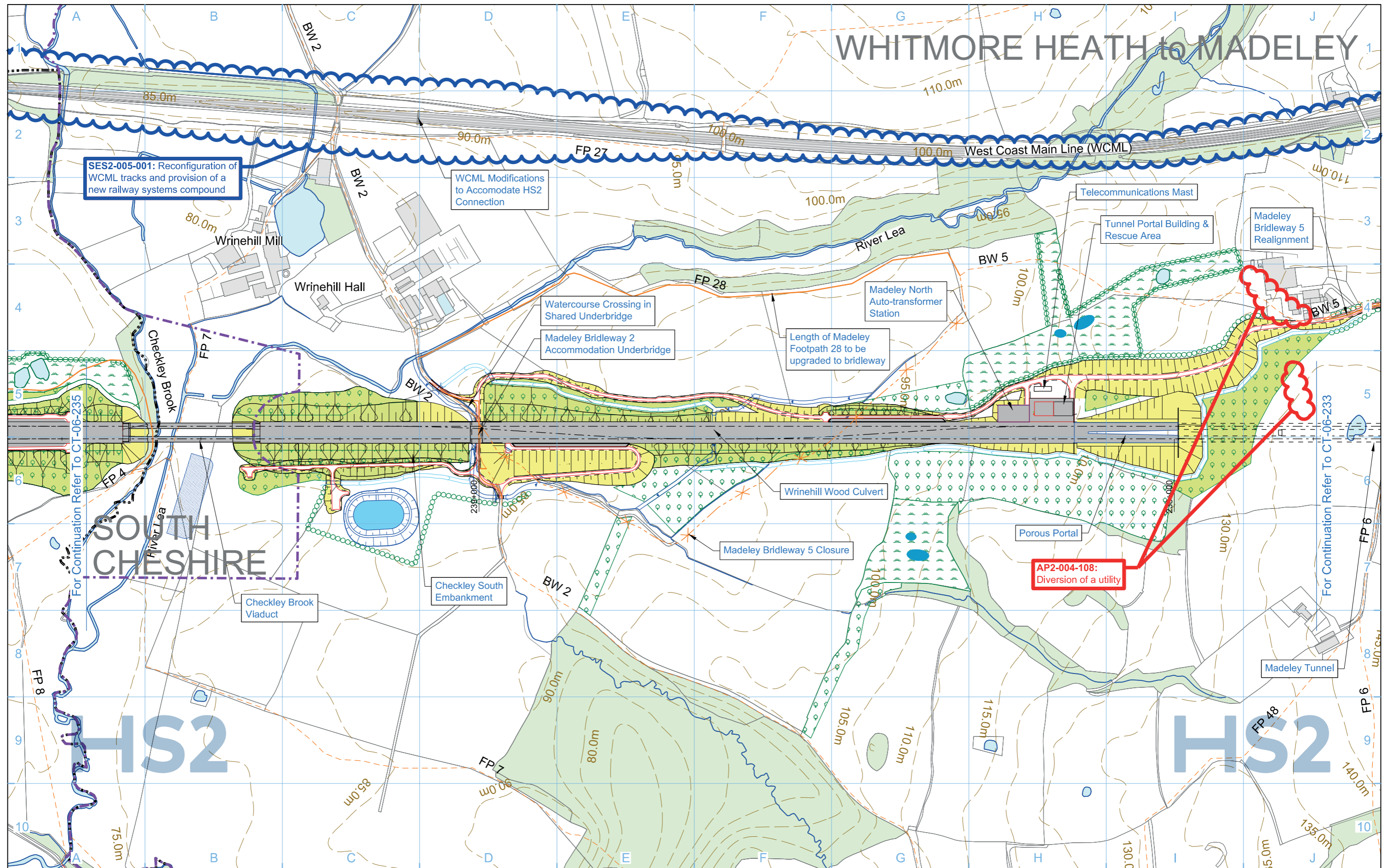
Madeley Bridleway 5 Closure

Madeley Footpath 7 Temporary Diversion

Checkley South Embankment Satellite Compound

Legend Depot, station, headhouse or portal building Tunnel portal Main construction compound Satellite construction compound Railway systems compound Temporary material stockpile Borrow Pit Storage / prefabrication / laydown areas Land potentially required during construction Extent of land potentially required during construction for mitigation planting Temporary replacement community facility Community Area boundary Tunnels external extent Construction traffic route Existing public right of way (PRoW) New, diverted or realigned PRoW Stopped-up PRoW Temporary PRoW diversion / realignment Landscape earthworks Engineering earthworks Temporary highway diversion / realignment Main utility works Rail alignment Chainage (e.g. 10+000) Existing woodland Existing buildings Existing inland water Existing watercourse Existing contours Rail alignment formation Temporary workers accommodation		Map Number CT-05-234 Map Name Construction Phase SES2 and AP2 ES Community Area CA4 Whitmore Heath to Madeley	HS2 Registered in England Registration No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA Scale at A3: 1:5,000 0 50 100 150 200 250 Metres © Crown copyright and database rights 2018. Ordnance Survey Licence Number 100049190. Doc Number: 2PT02-ARP-EV-DPL-000-055234 P03 Date: 10/01/19
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WHITMORE HEATH TO MADELEY



SES2-005-001: Reconfiguration of WCML tracks and provision of a new railway systems compound

WCML Modifications to Accomodate HS2 Connection

Telecommunications Mast

Tunnel Portal Building & Rescue Area

Madeley Bridleway 5 Realignment

Wrinehill Mill

Wrinehill Hall

Madeley North Auto-transformer Station

Watercourse Crossing in Shared Underbridge

Madeley Bridleway 2 Accommodation Underbridge

Length of Madeley Footpath 28 to be upgraded to bridleway

Checkley Brook

FP 7

Wrinehill Wood Culvert

Madeley Bridleway 5 Closure

AP2-004-108: Diversion of a utility

Checkley Brook Viaduct

Checkley South Embankment

Madeley Tunnel

SOUTH CHESHIRE

HS2

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 Local placement of surplus excavated material		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		Existing woodland Existing buildings Existing inland water Existing contours HS2 access road Noise fence barrier Rail alignment Chainage (e.g. 10+000)		Map Number CT-06-234 Map Name Proposed Scheme SES2 and AP2 ES Community Area CA4 Whitmore Heath to Madeley		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 No. 06791686 Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA Scale at A3: 1:5,000 0 50 100 150 200 250 Metres © Crown copyright and database rights 2018. Ordnance Survey Licence Number 100049190. Doc Number: 2PT02-ARP-EV-DPL-000-056234 P03 Date: 11/01/19	
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High Speed Rail (West Midlands - Crewe)

**Supplementary Environmental Statement 2 and
Additional Provision 2 Environmental Statement**

LV-01 - Photomontages

Viewpoint 021.02.005: View east from farmland near Snape Hall Farm

This viewpoint is representative of views of the Upper Lea valley experienced by residential receptors of Snape Hall Farm and recreational receptors using the Whitmore Footpath 5.

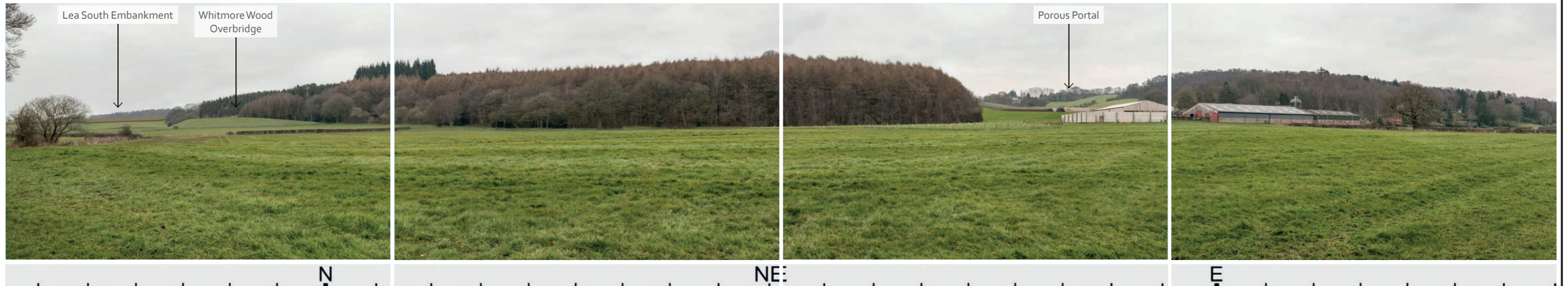
Current Baseline - Winter View

Date taken: 23/03/2016. Time taken: 16:18. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 379034.837, 341315.85. Elevation: 93.142 Metres AOD.



Winter Verifiable Photomontage - Operation Year 1 (2027)

Date taken: 23/03/2016. Time taken: 16:18. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 379034.837, 341315.85. Elevation: 93.142 Metres AOD.



The viewpoint has been taken approximately 334 metres away from the Proposed Scheme. Viewpoint location shown on Map LV-08-223. For full details of the visual assessment at viewpoint 021.02.005 refer to Volume 5: Appendix LV-001-003, Part 3.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2027 (opening year) to help inform the visual impact assessment. The design of the LV-01-552 Proposed Scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. 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.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (SMR Addendum Volume 5: Appendix CT-001-002).

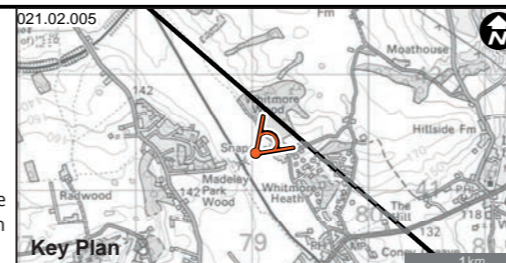


Figure Number	LV-01-552
Figure Name	Verifiable Photomontage Operation Year 1 (2027) - Winter Viewpoint 021.02.005
Community Area 4: Whitmore Heath to Madeley	

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Doc Number: C861-ARP-EV-MAP-000-101552-P01 **Date:** 12/06/17

Viewpoint 021.02.005: View east from farmland near Snape Hall Farm

This viewpoint is representative of views of the Upper Lea valley experienced by residential receptors of Snape Hall Farm and recreational receptors using the Whitmore Footpath 5.

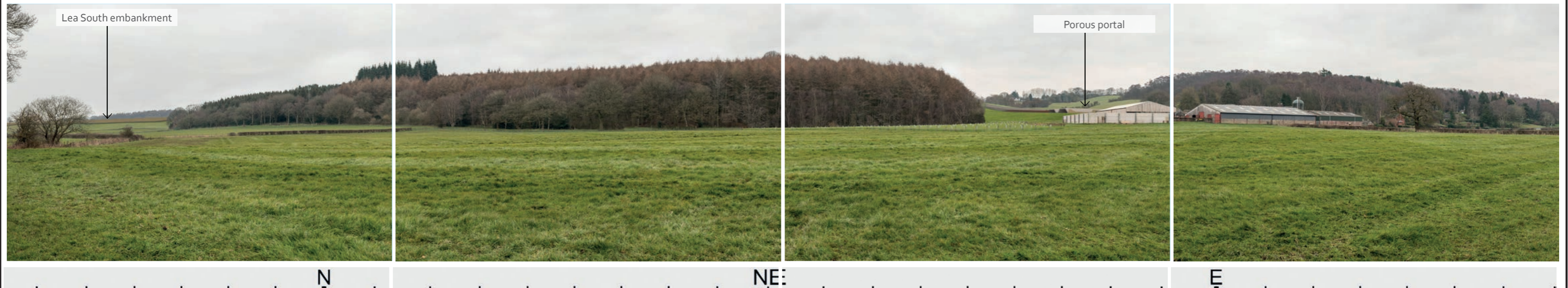
Current baseline - Winter view

Date taken: 10/03/2016. Camera: Canon EOS 6D, Canon EF 50mm lens (stitched panorama). Approximate GPS Co-ordinates ref. 379034.837, 341315.850.



Winter Verifiable Photomontage - Operation Year 1 (2027)

Date taken: 10/03/2016. Camera: Canon EOS 6D, Canon EF 50mm lens (stitched panorama). Approximate GPS Co-ordinates ref. 379034.837, 341315.850.



The viewpoint has been taken approximately 334 metres away from the AP2 revised scheme. Viewpoint location shown on Map LV-08-223.

This verifiable photomontage provides an illustration of how the AP2 revised scheme may look in 2027 (opening year) to help inform the visual impact assessment. The design of the AP2 revised scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. Where new planting is proposed, it has been shown as immature plants which would mature over time to further integrate the AP2 revised scheme into the landscape. At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (See the main ES, SMR Addendum Volume 5: Appendix CT-001-002).



Figure Number	LV-01-552
Figure Name	Verifiable Photomontage Operation Year 1 (2027) - Winter Viewpoint 021.02.005
Community Area 4: Whitmore Heath to Madeley SES2 and AP2 ES	

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Doc Number: C861-ARP-EV-REP-000-124794 **Date: 12/12/18**

Viewpoint 021.02.005: View east from farmland near Snape Hall Farm

This viewpoint is representative of views of the Upper Lea valley experienced by residential receptors of Snape Hall Farm and recreational receptors using the Whitmore Footpath 5.

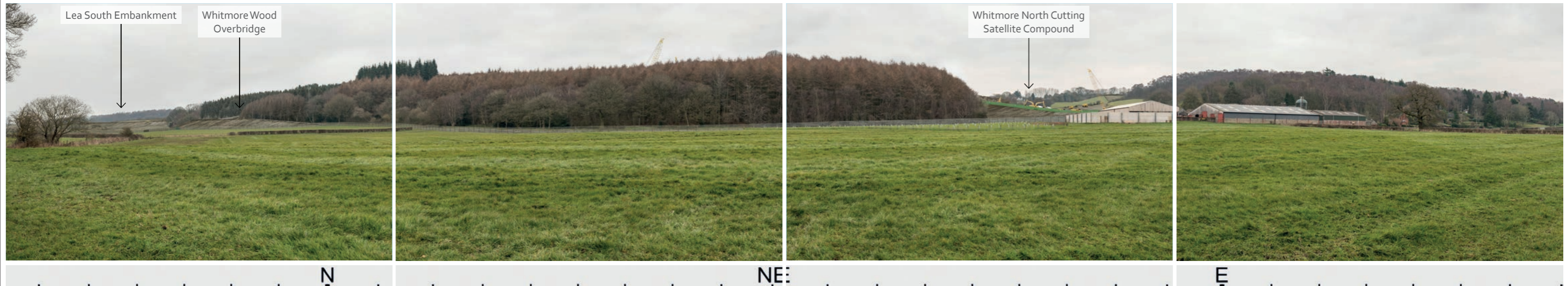
Current Baseline - Winter View

Date taken: 23/03/2016. Time taken: 16:18. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 379034.837, 341315.85. Elevation: 93.142 Metres AOD.



Winter Verifiable Photomontage - Peak construction phase (2023)

Date taken: 23/03/2016. Time taken: 16:18. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 379034.837, 341315.85. Elevation: 93.142 Metres AOD.



The viewpoint has been taken approximately 334 metres away from the Proposed Scheme. Viewpoint location shown on Map LV-07-223. For full details of the visual assessment at viewpoint 021.02.005 refer to Volume 5: Appendix LV-001-003, Part 3.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look during the peak construction phase to help inform the visual impact assessment. The construction methods and siting of construction activities of the LV-01-608 Proposed Scheme 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.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (SMR Addendum Volume 5: Appendix CT-001-002).



Figure Number	LV-01-608
Figure Name	Verifiable Photomontage Peak construction phase - Winter Viewpoint 021.02.005
Community Area 4: Whitmore Heath to Madeley	

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Doc Number: C861-ARP-EV-MAP-000-101608-P01

Date: 12/06/17

Viewpoint 021.02.005: View east from farmland near Snape Hall Farm

This viewpoint is representative of views of the Upper Lea valley experienced by residential receptors of Snape Hall Farm and recreational receptors using the Whitmore Footpath 5.

Current baseline - Winter view

Date taken: 10/03/2016. Camera: Canon EOS 6D, Canon EF 50mm lens (stitched panorama). Approximate GPS Co-ordinates ref. 379034.837, 341315.850.



Winter Verifiable Photomontage - Peak construction phase (2023)

Date taken: 10/03/2016. Camera: Canon EOS 6D, Canon EF 50mm lens (stitched panorama). Approximate GPS Co-ordinates ref. 379034.837, 341315.850.



The viewpoint has been taken approximately 334 metres away from the AP2 revised scheme. Viewpoint location shown on Map LV-07-223.

This verifiable photomontage provides an illustration of how the AP2 revised scheme may look during the peak construction phase to help inform the visual impact assessment. The construction methods and siting of construction activities of the AP2 revised scheme 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 AP2 revised scheme will not result in any significant adverse change in the environmental effects detailed in the photomontages of the AP2 revised scheme.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (See the main ES, SMR Addendum Volume 5: Appendix CT-001-002).



Figure Number	LV-01-608
Figure Name	Verifiable Photomontage Peak Construction Phase - Winter Viewpoint 021.02.005
Community Area 4: Whitmore Heath to Madeley SES2 and AP2 ES	

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Date: 12/12/18

Viewpoint 022.03.024: View south-west from Madeley Parish Cemetery

This viewpoint is indicative of views experienced by visitors to Madeley Parish Cemetery.

Current Baseline - Summer View

Date taken: 23/08/2016. Time taken: 12:18. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 377328.362, 343452.474. Elevation: 109.756 Metres AOD.



Summer Verifiable Photomontage - Operation Year 15 (2042)

Date taken: 23/08/2016. Time taken: 12:18. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 377328.362, 343452.474. Elevation: 109.756 Metres AOD.



The viewpoint has been taken approximately 126 metres away from the Proposed Scheme. Viewpoint location shown on Map LV-08-224. For full details of the visual assessment at viewpoint 022.03.024 refer to Volume 5: Appendix LV-001-003, Part 3.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2042 (15 years after opening) to help inform the visual impact assessment. The design of the LV-01-645 Proposed Scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. 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.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (SMR Addendum Volume 5: Appendix CT-001-002).

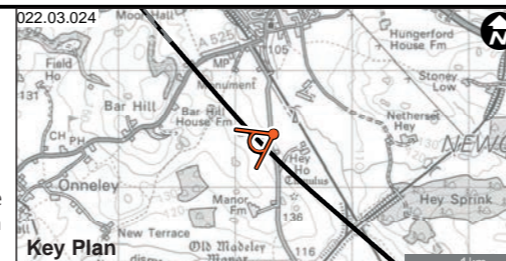


Figure Number	LV-01-645
Figure Name	Verifiable Photomontage Operation Year 15 (2042) - Summer Viewpoint 022.03.024
Community Area 4: Whitmore Heath to Madeley	

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Date: 12/06/17

Viewpoint 022.03.024: View south-west from Madeley Parish Cemetery

This viewpoint is representative of views experienced by visitors to Madeley Cemetery.

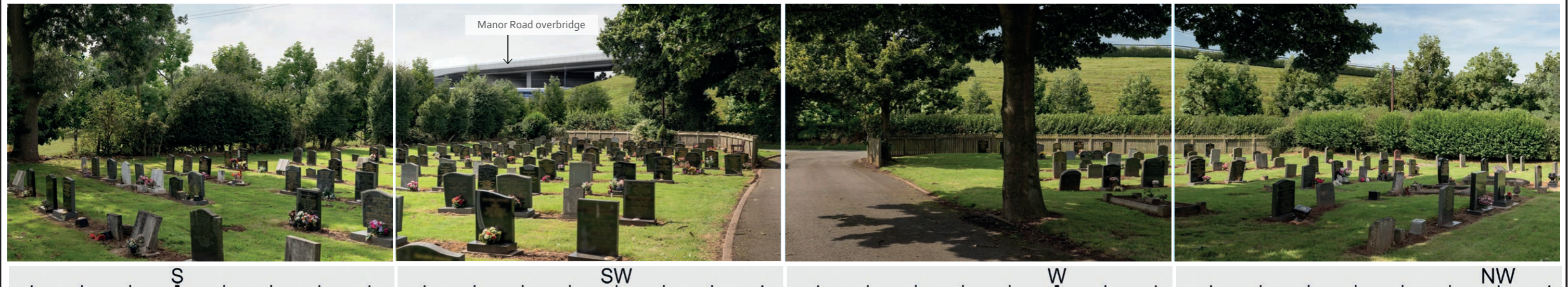
Current baseline - Summer view

Date taken: 23/08/2016. Time taken: 12:18. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 377328.362, 343452.474. Elevation: 109.756 Metres AOD.



Summer Verifiable Photomontage - Operation year 15 (2042)

Date taken: 23/08/2016. Time taken: 12:18. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 377328.362, 343452.474. Elevation: 109.756 Metres AOD.



The viewpoint has been taken approximately 126 metres away from the AP2 revised scheme. Viewpoint location shown on Map LV-08-224.

This verifiable photomontage provides an illustration of how the AP2 revised scheme may look in 2042 (15 years after opening) to help inform the visual impact assessment. The design of the AP2 revised scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. 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 AP2 revised scheme will further integrate into the landscape over time.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (See the main ES, SMR Addendum Volume 5: Appendix CT-001-002).



Figure Number	LV-01-645
Figure Name	Verifiable Photomontage Operation Year 15 (2042) - Summer Viewpoint 022.03.024
Community Area 4: Whitmore Heath to Madeley SES2 and AP2 ES	

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Doc Number: C861-ARP-EV-REP-000-124794 **Date: 12/12/18**

Viewpoint 021.02.005: View east from farmland near Snape Hall Farm

This viewpoint is representative of views of the Upper Lea valley experienced by residential receptors of Snape Hall Farm and recreational receptors using the Whitmore Footpath 5.

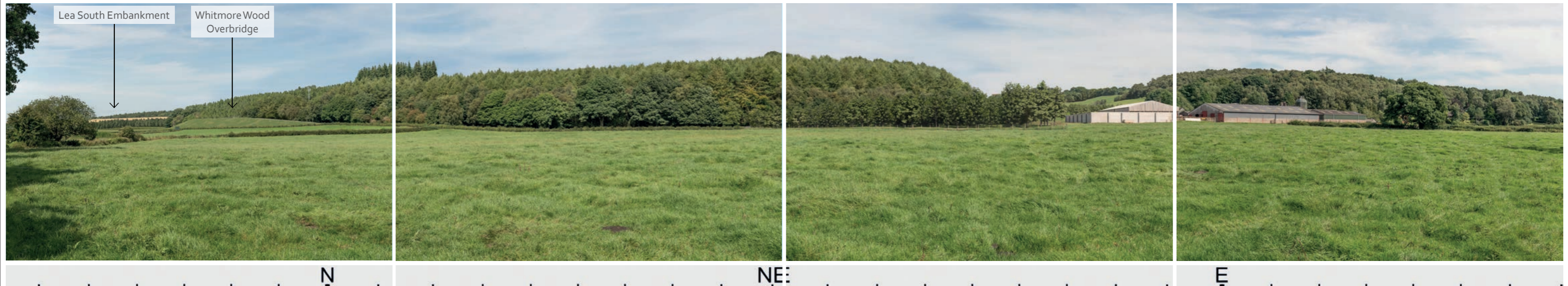
Current Baseline - Summer View

Date taken: 23/08/2016. Time taken: 14:25. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 379034.836, 341315.887. Elevation: 115.357 Metres AOD.



Summer Verifiable Photomontage - Operation Year 15 (2042)

Date taken: 23/08/2016. Time taken: 14:25. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 379034.836, 341315.887. Elevation: 115.357 Metres AOD.



The viewpoint has been taken approximately 334 metres away from the Proposed Scheme. Viewpoint location shown on Map LV-08-223. For full details of the visual assessment at viewpoint 021.02.005 refer to Volume 5: Appendix LV-001-003, Part 3.

This verifiable photomontage provides an illustration of how the Proposed Scheme may look in 2042 (15 years after opening) to help inform the visual impact assessment. The design of the LV-01-666 Proposed Scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. 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.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (SMR Addendum Volume 5: Appendix CT-001-002).



Figure Number	LV-01-666
Figure Name	Verifiable Photomontage Operation Year 15 (2042) - Summer Viewpoint 021.02.005
Community Area 4: Whitmore Heath to Madeley	

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Date: 12/06/17

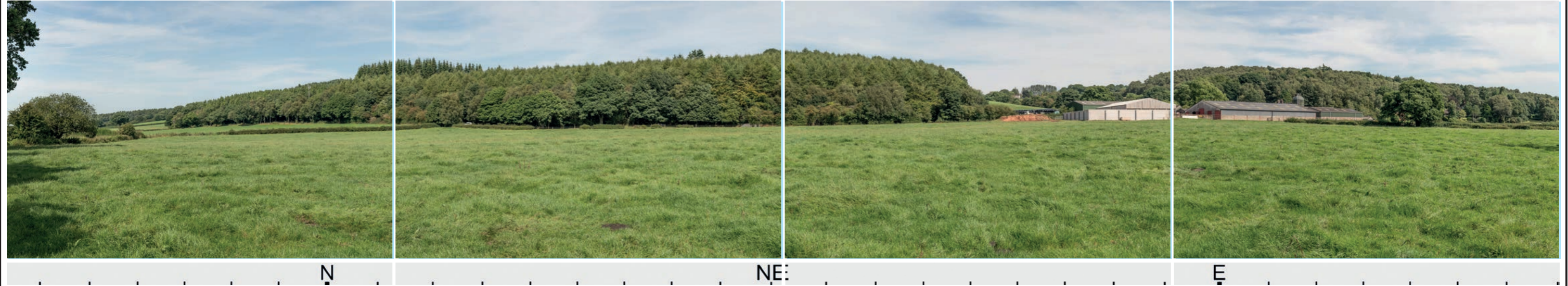
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Viewpoint 021.02.005: View east from farmland near Snape Hall Farm

This viewpoint is representative of views of the Upper Lea valley experienced by residential receptors of Snape Hall Farm and recreational receptors using the Whitmore Footpath 5.

Current baseline - Summer view

Date taken: 23/08/2016. Time taken: 14:25. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 379034.836, 341315.887. Elevation: 115.357 Metres AOD.



Summer Verifiable Photomontage - Operation year 15 (2042)

Date taken: 23/08/2016. Time taken: 14:25. Camera: Sony a7RII, Zeiss Loxia 50mm f/2.0 lens (stitched panorama). Co-ordinates: 379034.836, 341315.887. Elevation: 115.357 Metres AOD.



The viewpoint has been taken approximately 334 metres away from the AP2 revised scheme. Viewpoint location shown on Map LV-08-223.

This verifiable photomontage provides an illustration of how the AP2 revised scheme may look in 2042 (15 years after opening) to help inform the visual impact assessment. The design of the AP2 revised scheme may be subject to design development in response to consultation. Development of detail design after Hybrid Bill submission will not result in any significant adverse change in the environmental effects reported in the assessment. 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 AP2 revised scheme will further integrate into the landscape over time.

At this scale the images do not lend themselves to direct comparison out in the field. Therefore, for viewing in the field, it is recommended that each image from the panoramic photomontage is printed individually, onto an A3 landscape sheet for a viewing distance of 500mm. For further details on the selection of photomontage locations, verifiable methodology and presentation refer to the Landscape and visual assessment Technical Note - Approach to verifiable photomontages (See the main ES, SMR Addendum Volume 5: Appendix CT-001-002).



Figure Number	LV-01-666
Figure Name	Verifiable Photomontage Operation Year 15 (2042) - Summer Viewpoint 021.02.005
Community Area 4:	Whitmore Heath to Madeley SES2 and AP2 ES

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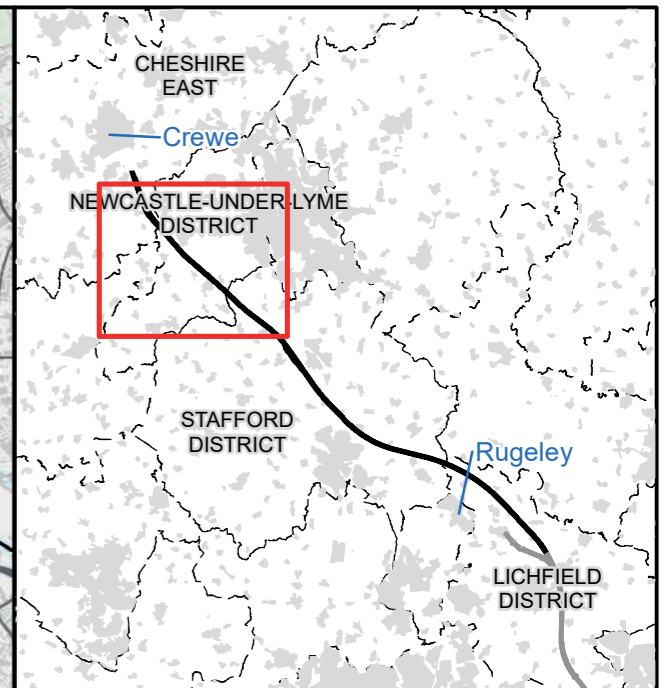
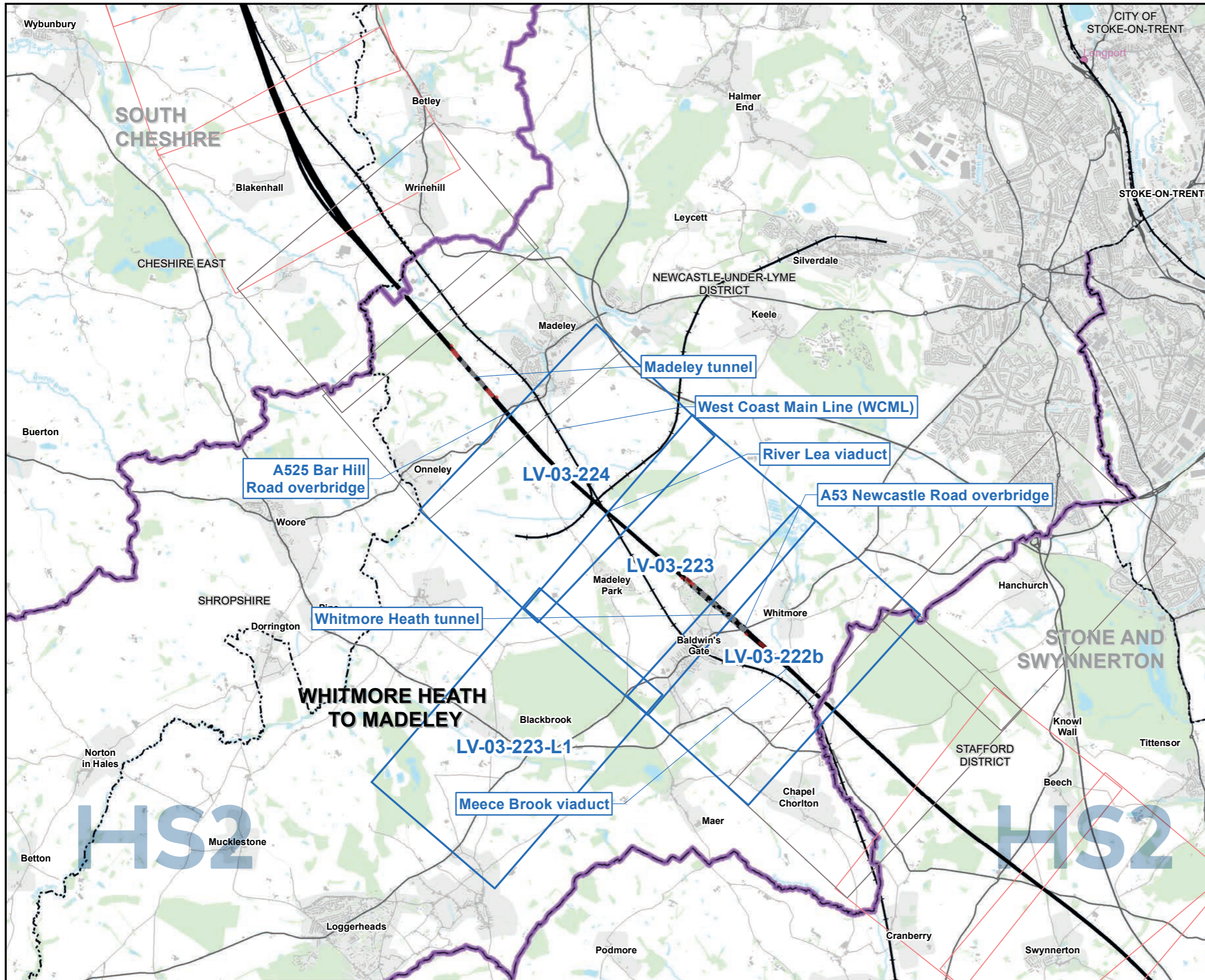
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High Speed Rail (West Midlands - Crewe)

**Supplementary Environmental Statement 2 and
Additional Provision 2 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 AP2 revised scheme has been assessed to give rise to new or different significant effects during the construction phase. (All significant and non-significant photomontage locations are shown).

Main Map Legend

Route on surface	Route in tunnel	Depot, station, headhouse or portal building	Community area boundary	Map sheets included in this community area with amendment
Existing railway station	County boundary	District/Borough boundary	Map sheets included in this community area with no amendment	Map sheets not included in this community area

Map Number	LV-03-INDEX-CA4
Map Name	Index Map of: Construction Phase Significantly Affected Viewpoints SES2 and AP2 ES
Community Area 4: Whitmore Heath to Madeley	

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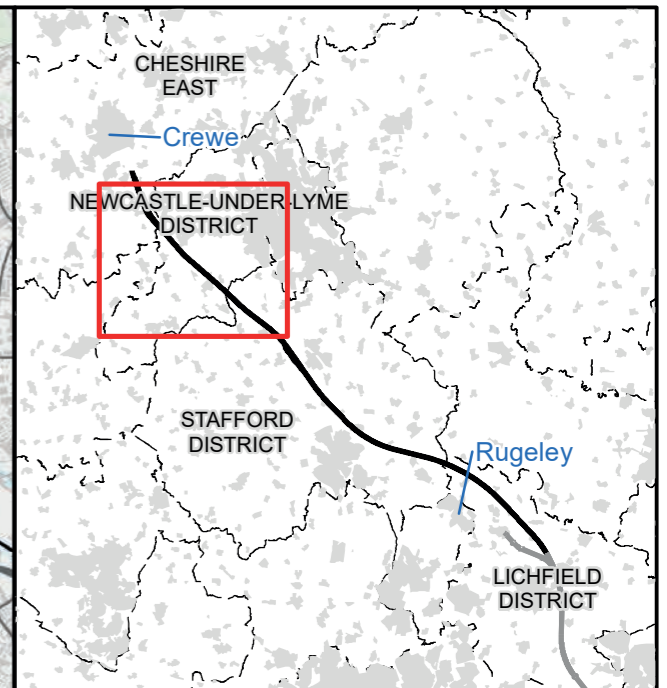
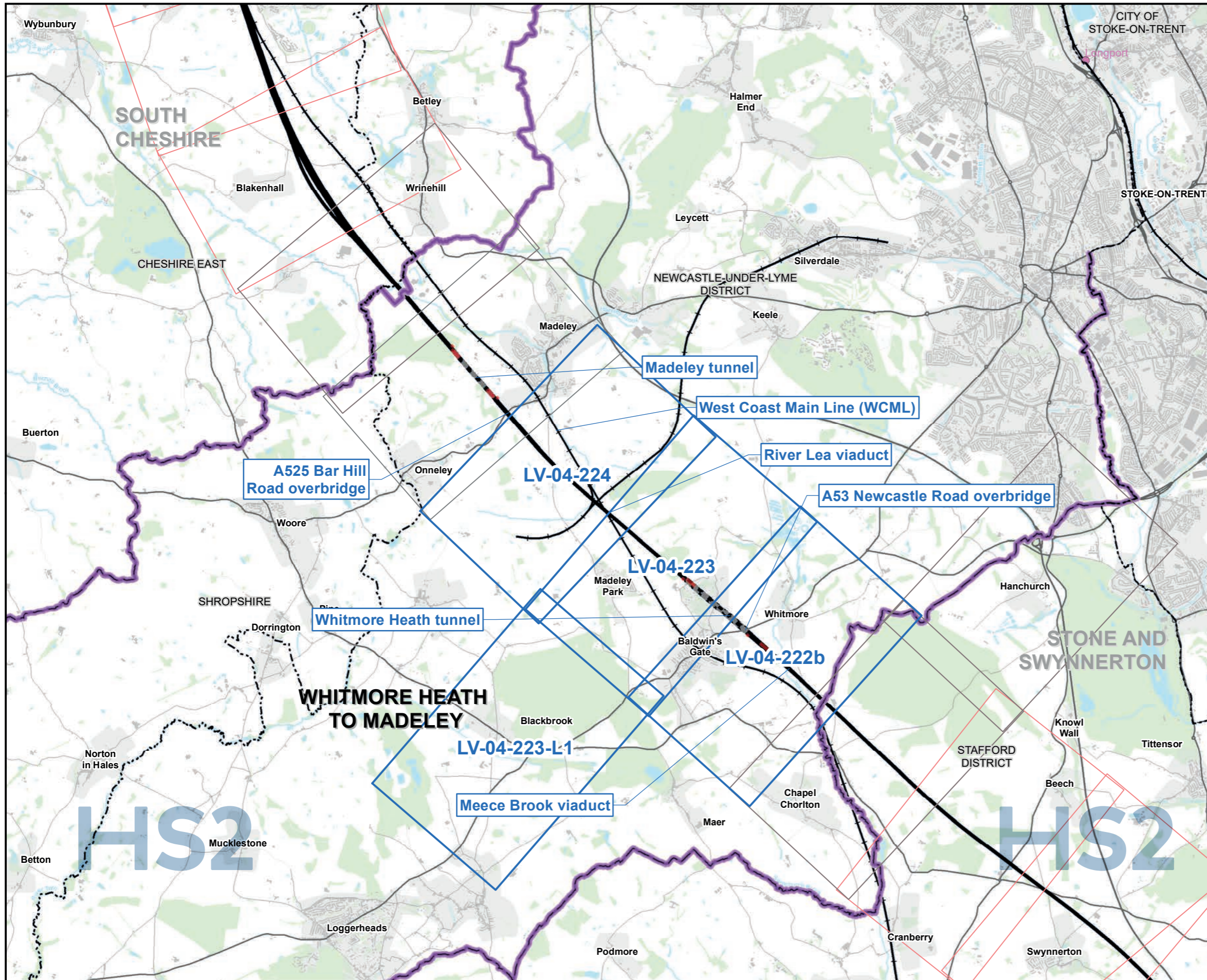
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Scale at A3: 1:60,000

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

Doc Number: 2PT02-ARP-EV-MAP-000-603004-P03 **Date:** 10/01/19



Map Series Information:

Maps showing the viewpoint locations from which the AP2 revised scheme has been assessed to give rise to new or different significant effects during the operational phase. (All significant and non-significant photomontage locations are shown).

Main Map Legend

Route on surface	Route in tunnel	Depot, station, headhouse or portal building	Community area boundary	Map sheets included in this community area with amendment	Map sheets included in this community area with no amendment
Existing railway station	County boundary	District/Borough boundary	Map sheets not included in this community area		

Map Number	LV-04-INDEX-CA4
Map Name	Index Map of: Operational Phase Significantly Affected Viewpoints SES2 and AP2 ES
	Community Area 4: Whitmore Heath to Madeley

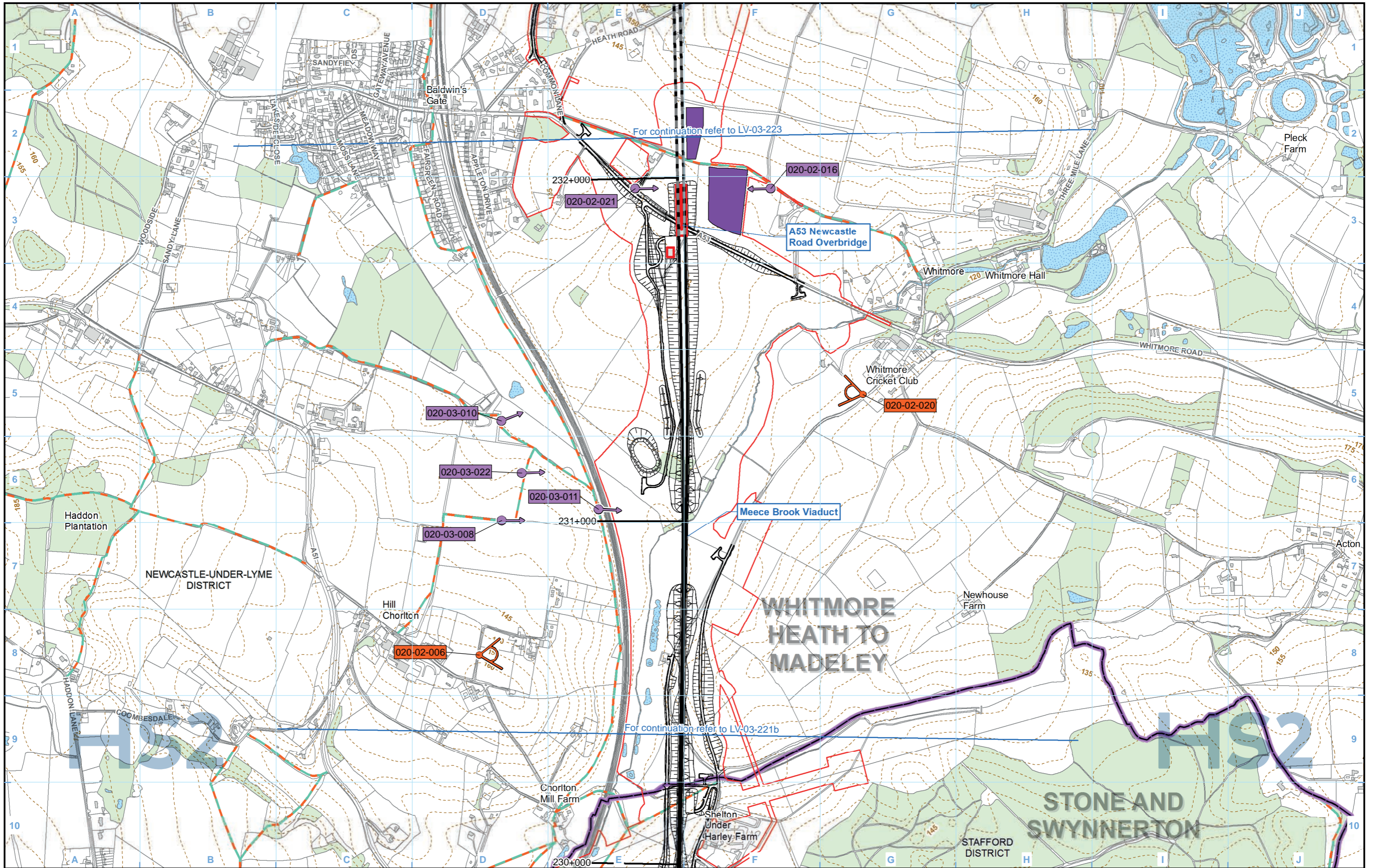
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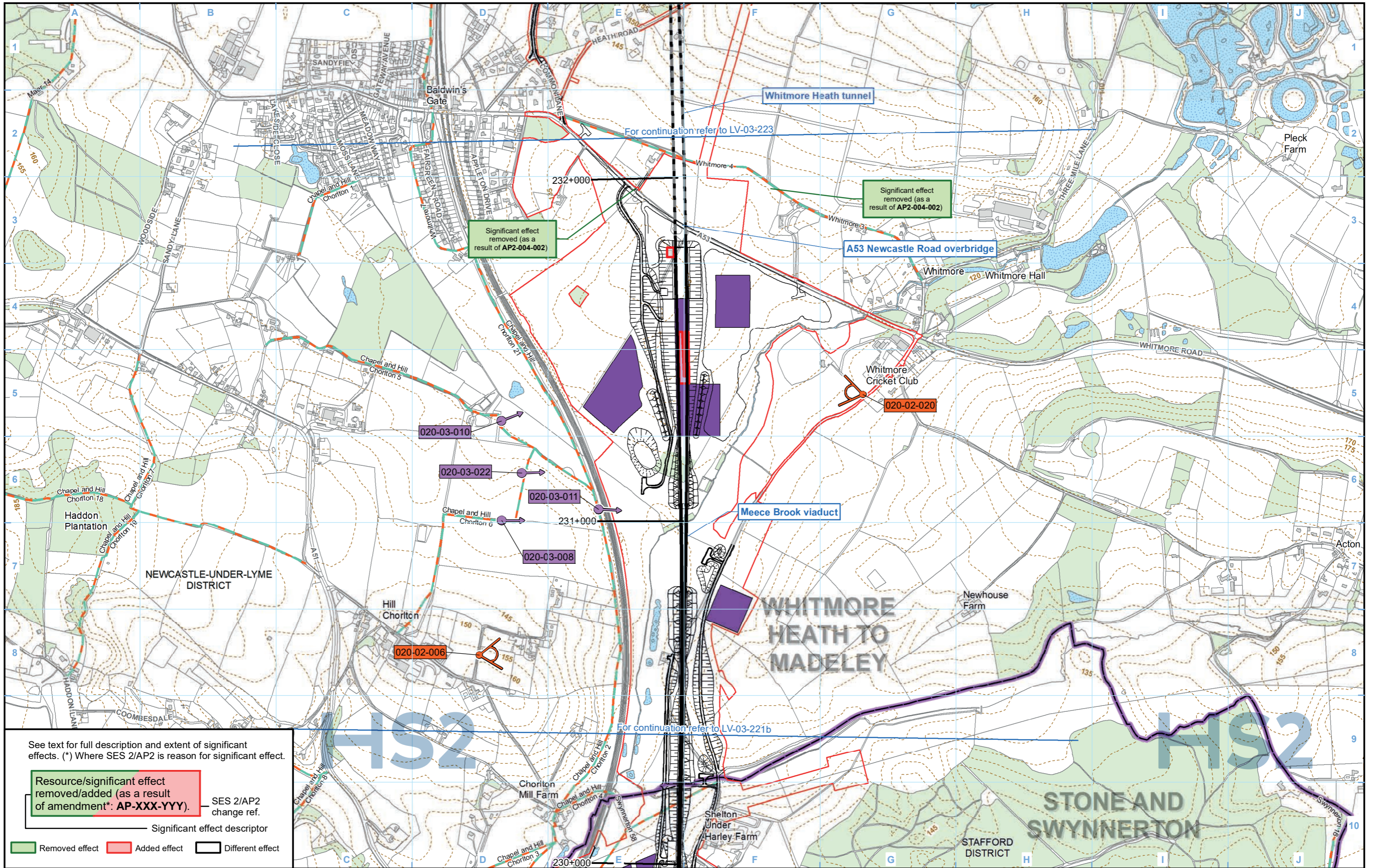
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Doc Number: 2PT02-ARP-EV-MAP-000-604004-P03 **Date:** 11/01/19



Legend <ul style="list-style-type: none"> 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 Public Rights of Way (PRoW) 5m contours Water body Existing woodland and tree belts Construction compounds Cannock Chase Area of Outstanding Natural Beauty (AONB) Significantly affected viewpoint Photomontage location 001-01-001 Significantly affected viewpoint number 001-01-001 Photomontage viewpoint number 		Engineering earthworks: <ul style="list-style-type: none"> Embankment Cutting Non engineering earthworks: <ul style="list-style-type: none"> Embankment Cutting 		Map Number LV-03-222b	 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 06791686. Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA. © Crown copyright and database rights 2017. Ordnance Survey Licence Number 100049190. Doc Number: C861-ARP-EV-MAP-000-103322-P03
Construction Phase Significantly Affected Viewpoints Community Area 4: Whitmore Heath to Madeley		Map Name Construction Phase Significantly Affected Viewpoints Community Area 4: Whitmore Heath to Madeley	Scale at A3: 1:10,000 Date: 06/06/17		



See text for full description and extent of significant effects. (*) Where SES 2/AP2 is reason for significant effect.

Resource/significant effect removed/added (as a result of amendment*: AP-XXX-YYY).	SES 2/AP2 change ref.
— Significant effect descriptor	
 Removed effect	 Added effect
 Different effect	

Legend

Engineering earthworks:

	Embankment
	Cutting

Non engineering earthworks:

	Embankment
	Cutting

Map Number: LV-03-222b

Map Name: Construction Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 4: Whitmore Heath to Madeley

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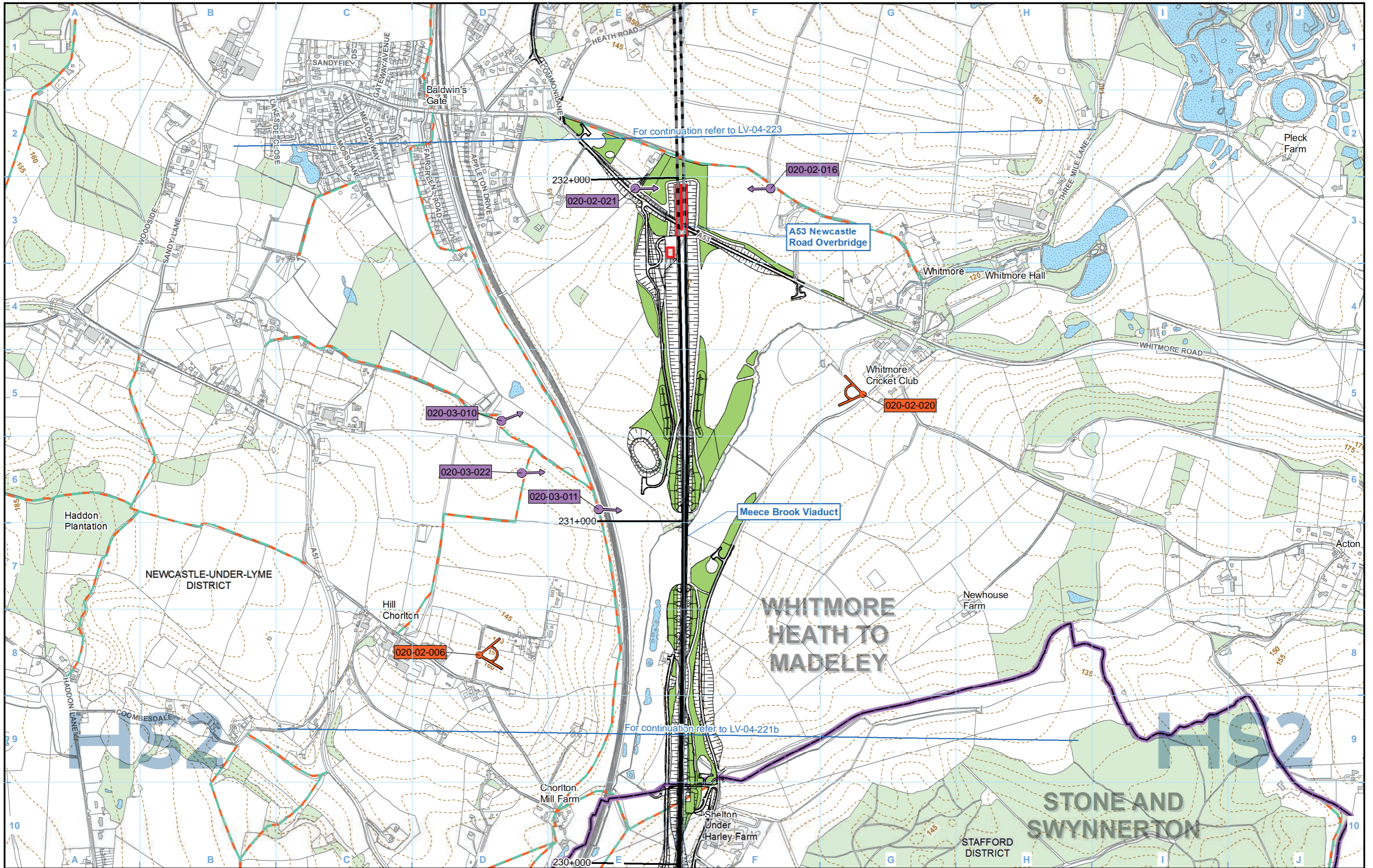
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Date: 11/01/19

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Legend

	Embankment
	Cutting
	Non engineering earthworks: Embankment
	Non engineering earthworks: Cutting

Engineering earthworks:	
Non engineering earthworks:	

Map Number	LV-04-222b
Map Name	Operational Phase Significantly Affected Viewpoints
Community Area 4:	Whitmore Heath to Madeley

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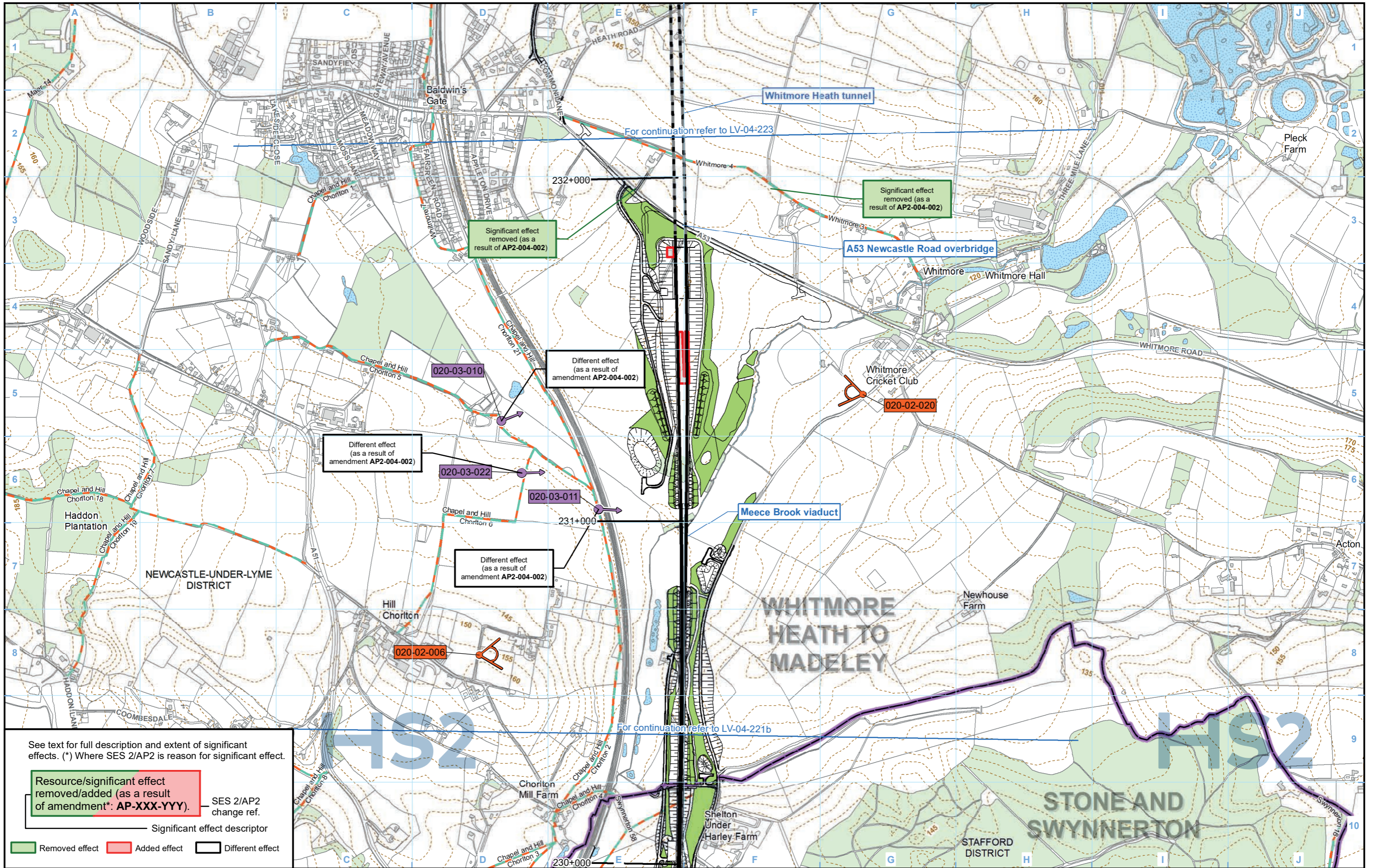
Date: 07/06/17

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0 100 200 300 400 Metres

Date: 07/06/17



See text for full description and extent of significant effects. (*) Where SES 2/AP2 is reason for significant effect.

Resource/significant effect removed/added (as a result of amendment*: AP-XXX-YYY).	SES 2/AP2 change ref.
Significant effect descriptor	
Removed effect	Added effect
Different effect	

Legend

Route in tunnel	Public Rights of Way (PRoW)	Significantly affected viewpoint
Route on surface	5m contours	Photomontage location
Depot, station, headhouse or portal building	Water body	001-1-001 Significantly affected viewpoint number
Community area boundary	Existing woodland and tree belts	001-1-001 Photomontage viewpoint number
County boundary	Proposed tree planting	
District/Borough boundary	Cannock Chase Area of Outstanding Natural Beauty (AONB)	

Engineering earthworks:

Embankment	Non engineering earthworks:
Cutting	Embankment
	Cutting

Map Number: LV-04-222b

Map Name: Operational Phase Significantly Affected Viewpoints SES2 and AP2 ES Community Area 4: Whitmore Heath to Madeley

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Date: 11/01/19

Map Number: LV-04-222b

Map Name: Operational Phase Significantly Affected Viewpoints SES2 and AP2 ES Community Area 4: Whitmore Heath to Madeley

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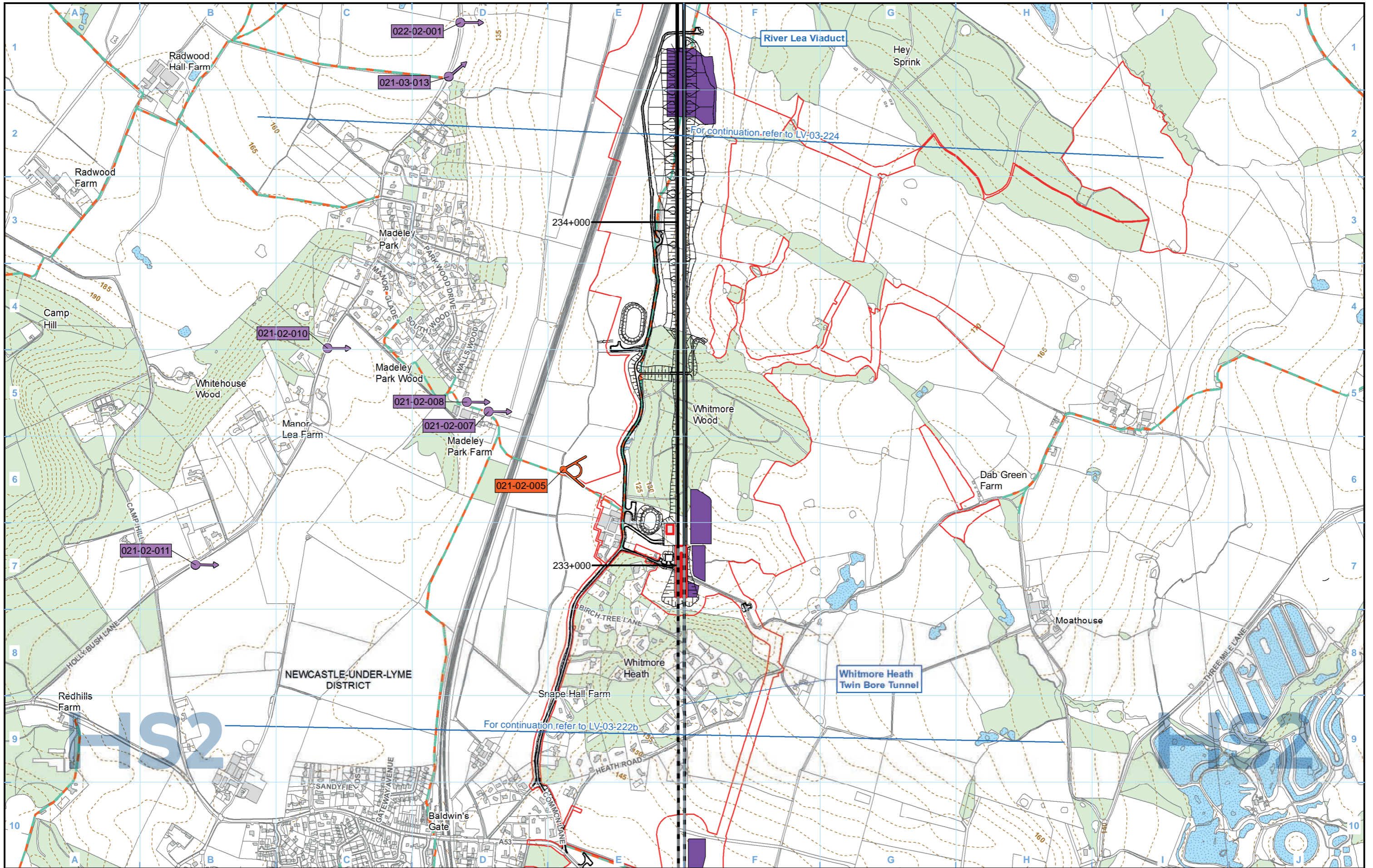
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Doc Number: 2PT02-ARP-EV-MAP-000-604222-P03

Date: 11/01/19



Legend

Route in tunnel	Public Rights of Way (PRoW)	Significantly affected viewpoint	Engineering earthworks:
Route on surface	5m contours	Photomontage location	Embankment
Depot, station, headhouse or portal building	Water body	001-01-001 Significantly affected viewpoint number	Cutting
Land potentially required during construction	Existing woodland and tree belts	001-01-001 Photomontage viewpoint number	Non engineering earthworks:
Community area boundary	Construction compounds		Embankment
County boundary	Cannock Chase Area of Outstanding Natural Beauty (AONB)		Cutting
District/Borough boundary			

Map Number: LV-03-223

Map Name: Construction Phase Significantly Affected Viewpoints

Community Area 4: Whitmore Heath to Madeley

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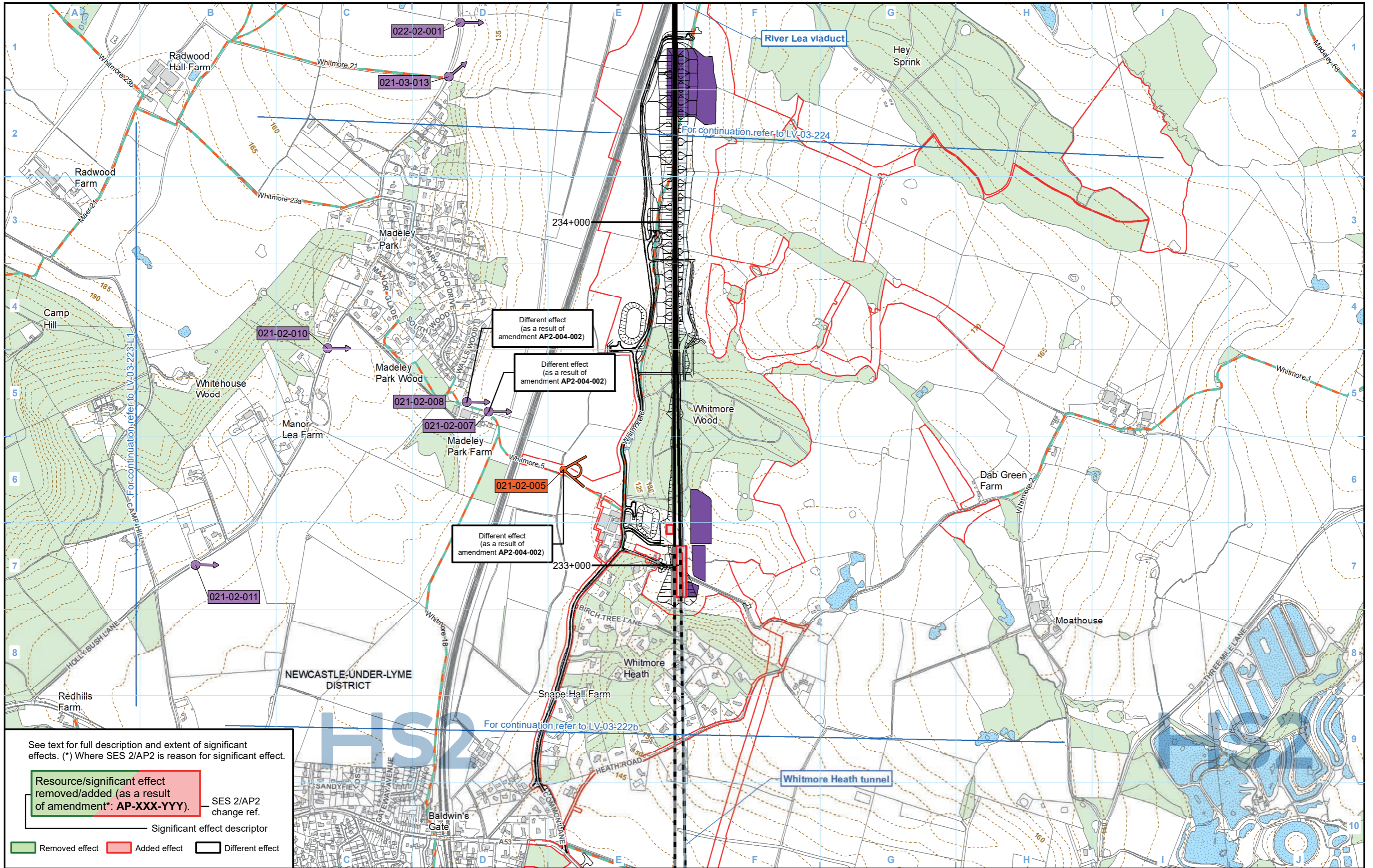
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Resource/significant effect removed/added (as a result of amendment*: AP-XXX-YYY). — SES 2/AP2 change ref.

Significant effect descriptor

Removed effect Added effect Different effect

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
- Public Rights of Way (PRoW)
- 5m contours
- Water body
- Existing woodland and tree belts
- Construction compounds
- Cannock Chase
- Area of Outstanding Natural Beauty (AONB)
- Significantly affected viewpoint
- Photomontage location
- Significantly affected viewpoint number
- Photomontage viewpoint number

Engineering earthworks:

- Embankment
- Cutting

Non engineering earthworks:

- Embankment
- Cutting

Map Number: LV-03-223

Map Name: Construction Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 4: Whitmore Heath to Madeley

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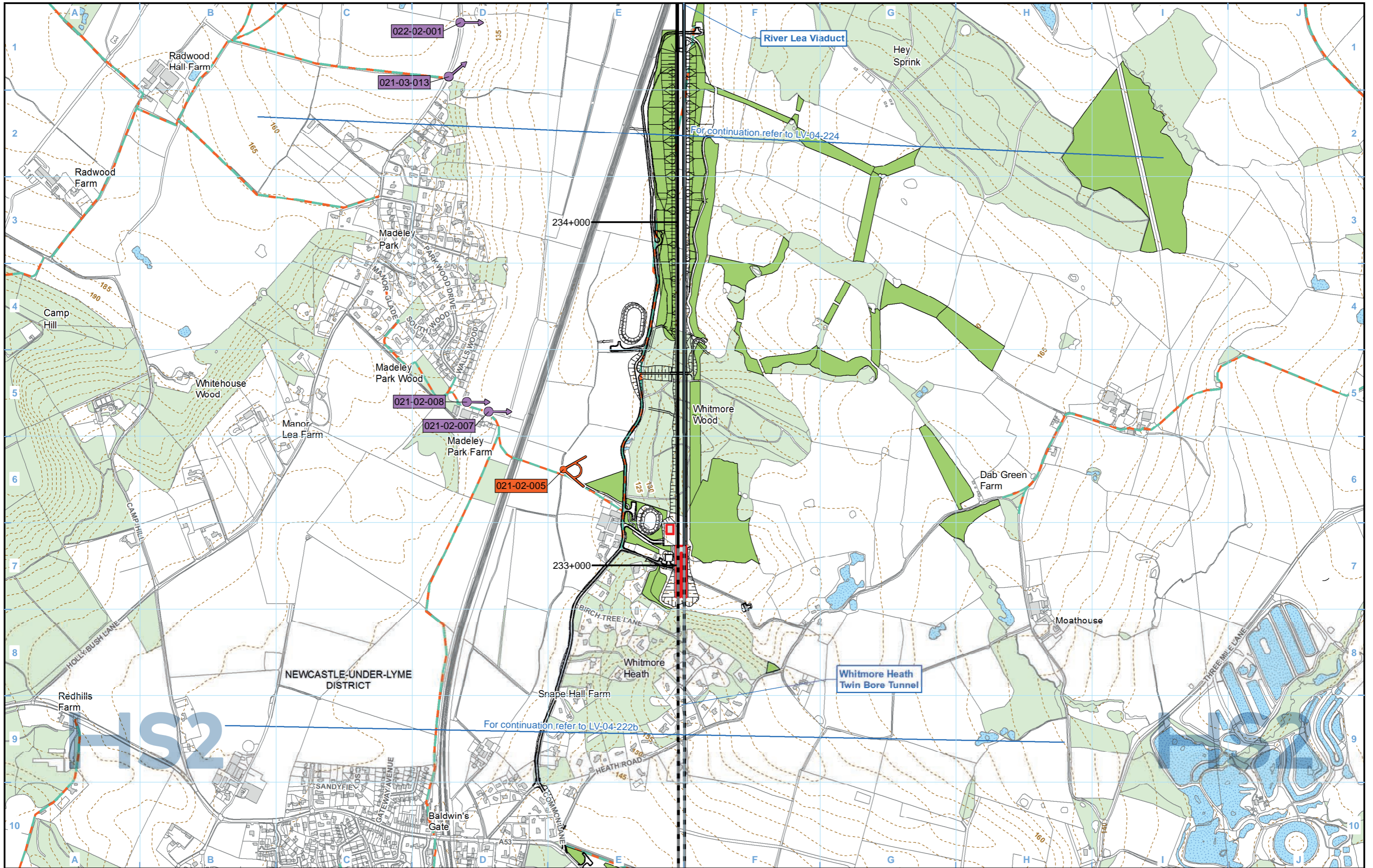
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Doc Number: 2PT02-ARP-EV-MAP-000-603123-P03

Scale at A3: 1:10,000

Date: 11/01/19



Legend

	Embankment
	Cutting
	Embankment
	Cutting

Engineering earthworks:	
Non engineering earthworks:	

Map Number	LV-04-223
Map Name	Operational Phase Significantly Affected Viewpoints
	Community Area 4: Whitmore Heath to Madeley

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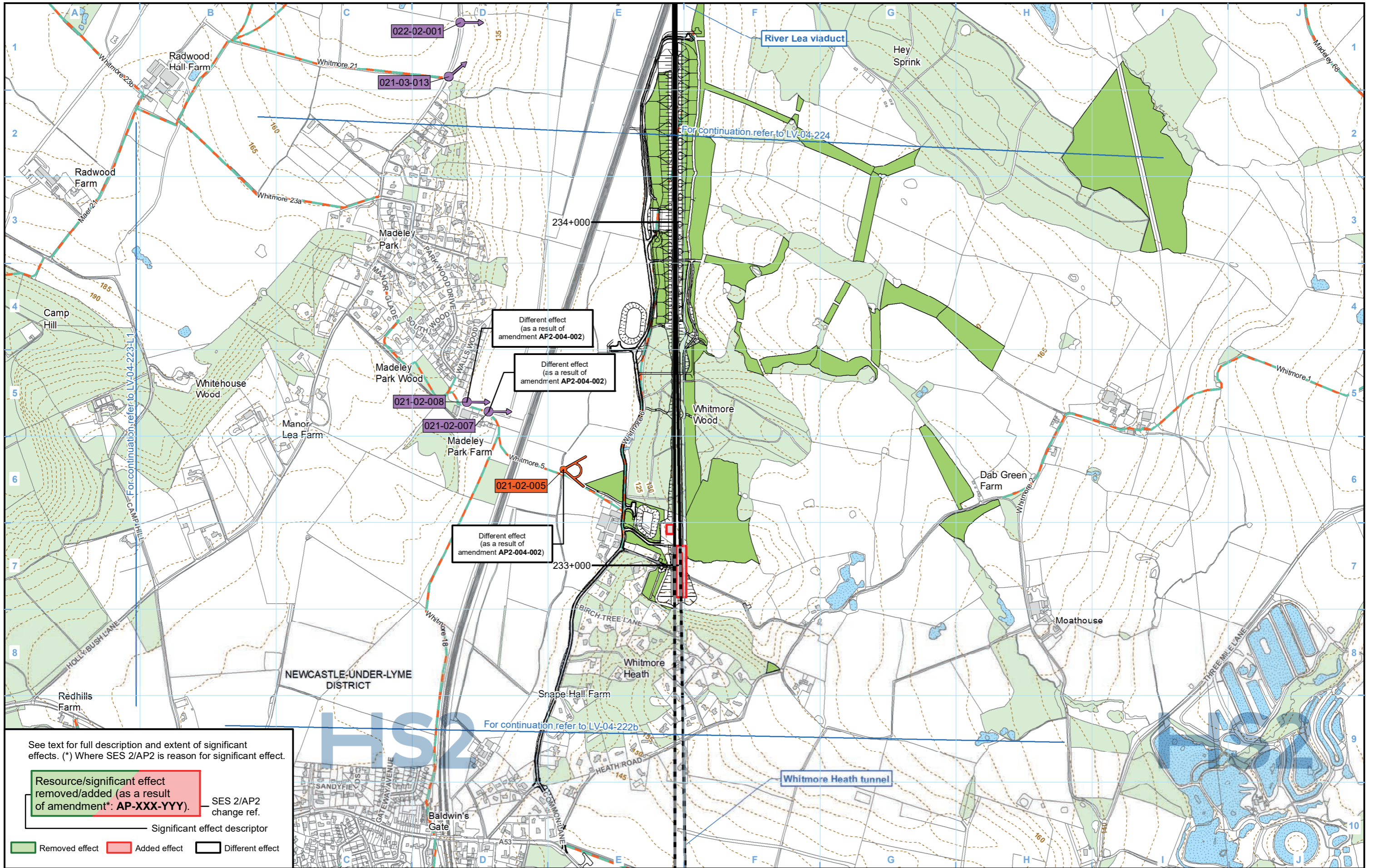
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Doc Number: C861-ARP-EV-MAP-000-104223-P03

Scale at A3: 1:10,000

Metres

Date: 07/06/17



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Resource/significant effect removed/added (as a result of amendment*: AP-XXX-YYY). — SES 2/AP2 change ref.

Significant effect descriptor

Removed effect Added effect Different effect

Legend

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary
- Public Rights of Way (PRoW)
- 5m contours
- Water body
- Existing woodland and tree belts
- Proposed tree planting
- Cannock Chase Area of Outstanding Natural Beauty (AONB)
- Significantly affected viewpoint
- Photomontage location
- Significantly affected viewpoint number
- Photomontage viewpoint number

Engineering earthworks:

- Embankment
- Cutting

Non engineering earthworks:

- Embankment
- Cutting

Map Number: LV-04-223

Map Name: Operational Phase Significantly Affected Viewpoints SES2 and AP2 ES Community Area 4: Whitmore Heath to Madeley

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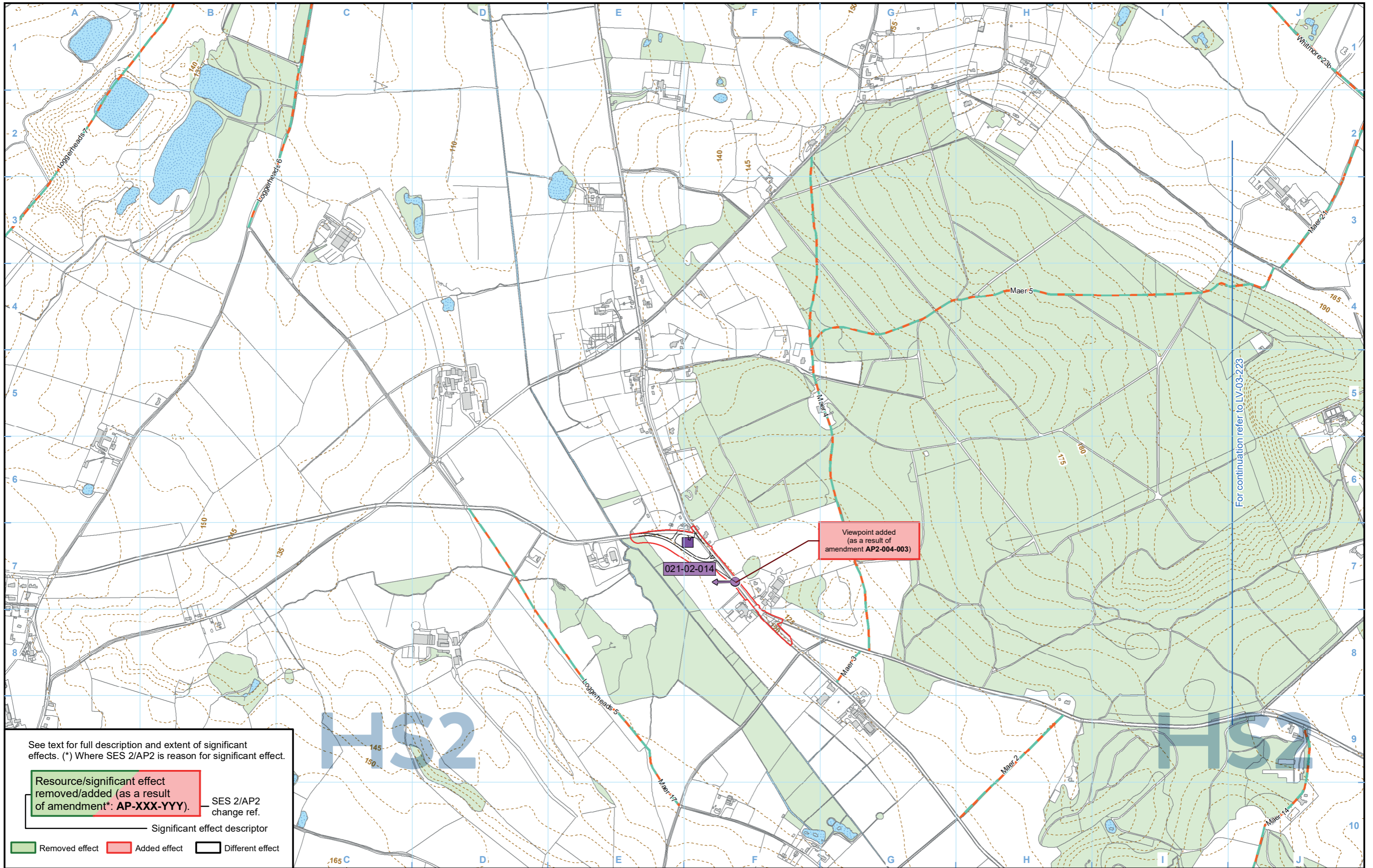
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Doc Number: 2PT02-ARP-EV-MAP-000-604123-P03

Scale at A3: 1:10,000

Date: 11/01/19

No corresponding page in the main ES



See text for full description and extent of significant effects. (*) Where SES 2/AP2 is reason for significant effect.

Resource/significant effect removed/added (as a result of amendment*: AP-XXX-YYY). — SES 2/AP2 change ref.

— Significant effect descriptor

Removed effect
 Added effect
 Different effect

- 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
 - Public Rights of Way (PRoW)
 - 5m contours
 - Water body
 - Existing woodland and tree belts
 - Construction compounds
 - Cannock Chase
 - Area of Outstanding Natural Beauty (AONB)
 - ↑ Significantly affected viewpoint
 - ∩ Photomontage location
 - 001-01-001 Significantly affected viewpoint number
 - 001-01-001 Photomontage viewpoint number

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

Map Number: LV-03-223-L1

Map Name: Construction Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 4: Whitmore Heath to Madeley

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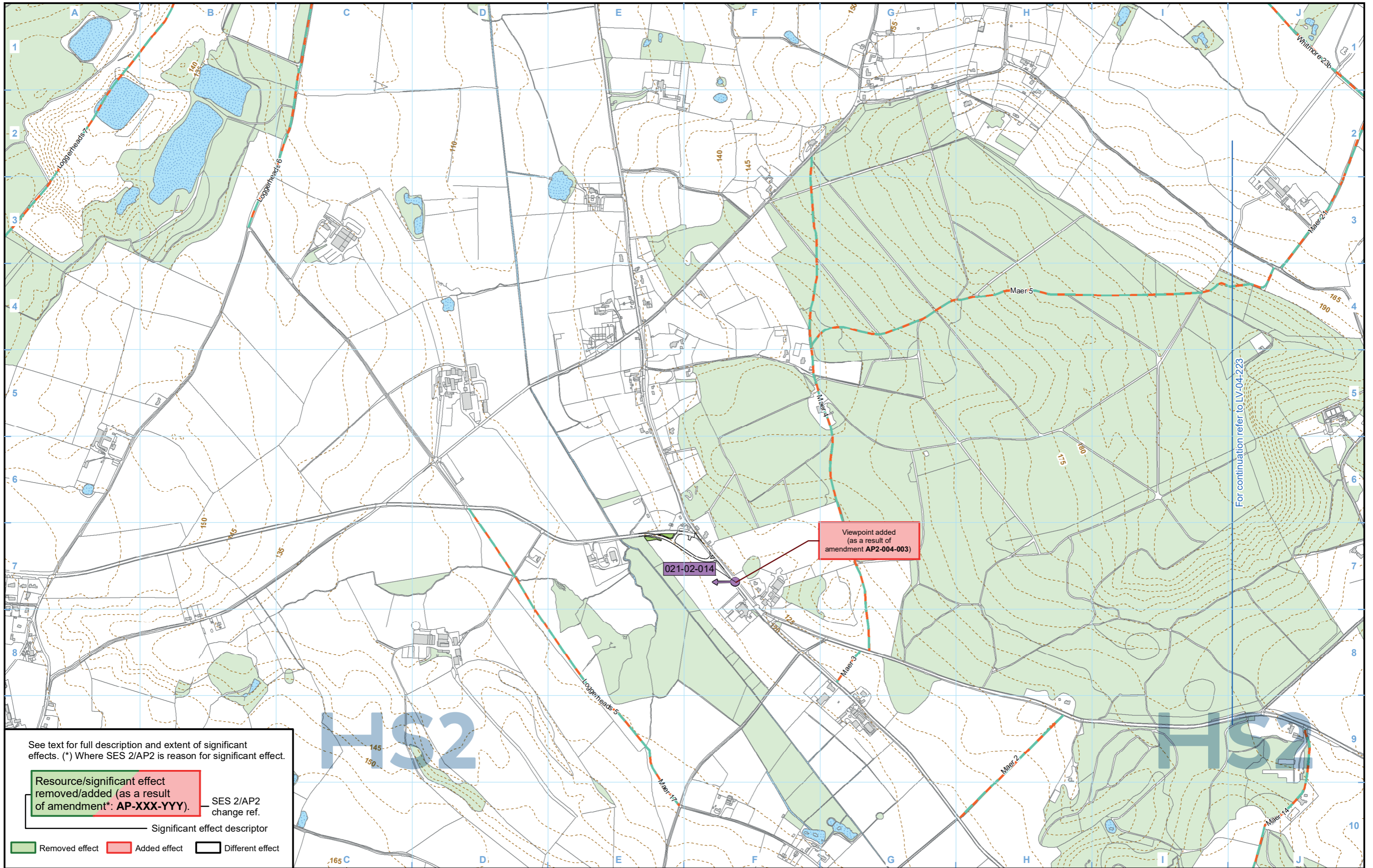
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Doc Number: 2PT02-ARP-EV-MAP-000-603223-P03

Date: 11/01/19

No corresponding page in the main ES



See text for full description and extent of significant effects. (*) Where SES 2/AP2 is reason for significant effect.

Resource/significant effect removed/added (as a result of amendment*: AP-XXX-YYY).	SES 2/AP2 change ref.
— Significant effect descriptor	
 Removed effect	 Added effect
 Different effect	

Legend

Route in tunnel	Public Rights of Way (PRoW)	Significantly affected viewpoint
Route on surface	5m contours	Photomontage location
Depot, station, headhouse or portal building	Water body	001-1-001 Significantly affected viewpoint number
Community area boundary	Existing woodland and tree belts	001-1-001 Photomontage viewpoint number
County boundary	Proposed tree planting	
District/Borough boundary	Cannock Chase Area of Outstanding Natural Beauty (AONB)	

Engineering earthworks:

Embankment
Cutting

Non engineering earthworks:

Embankment
Cutting

Map Number	LV-04-223-L1
Map Name	Operational Phase Significantly Affected Viewpoints SES2 and AP2 ES
	Community Area 4: Whitmore Heath to Madeley

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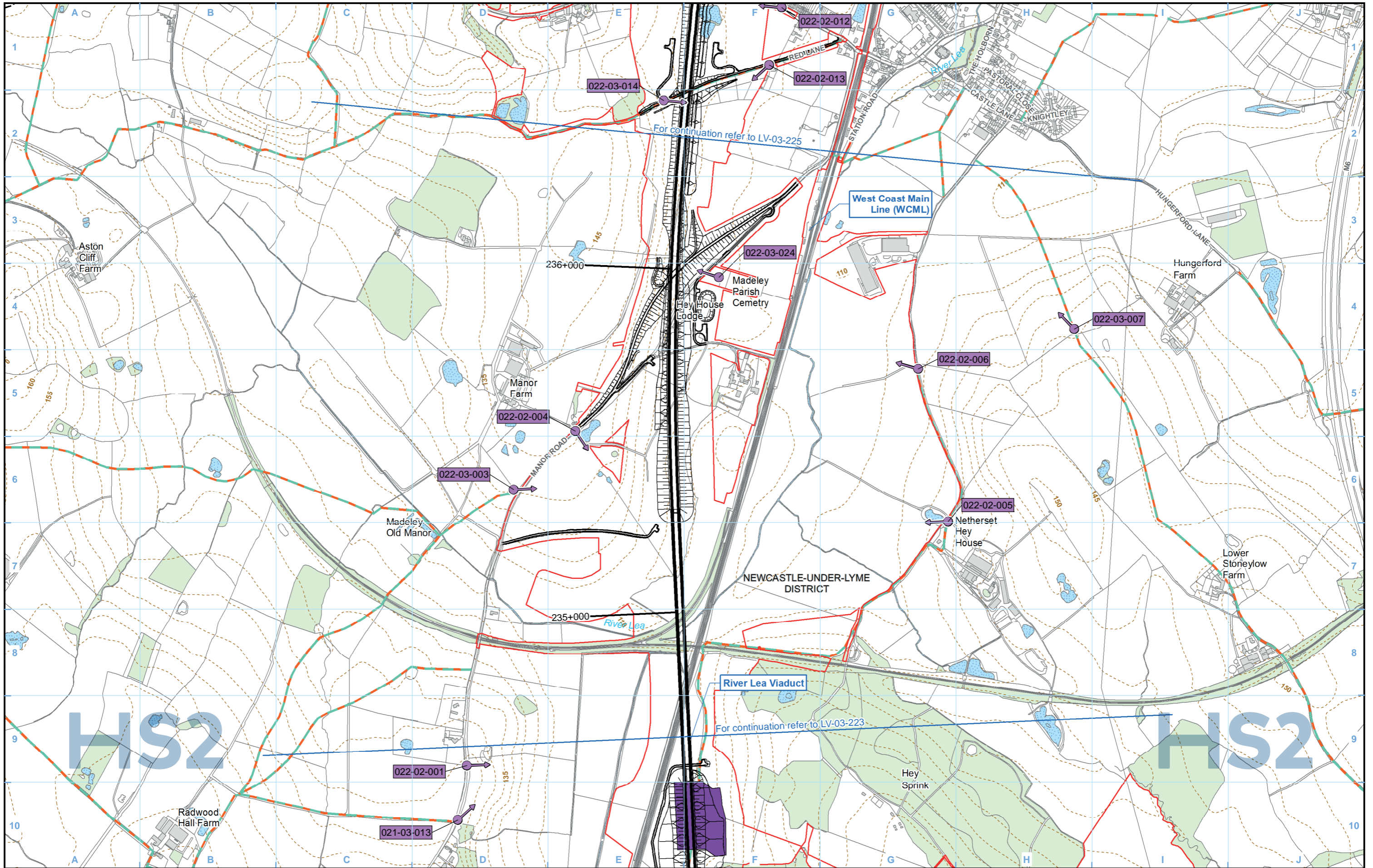
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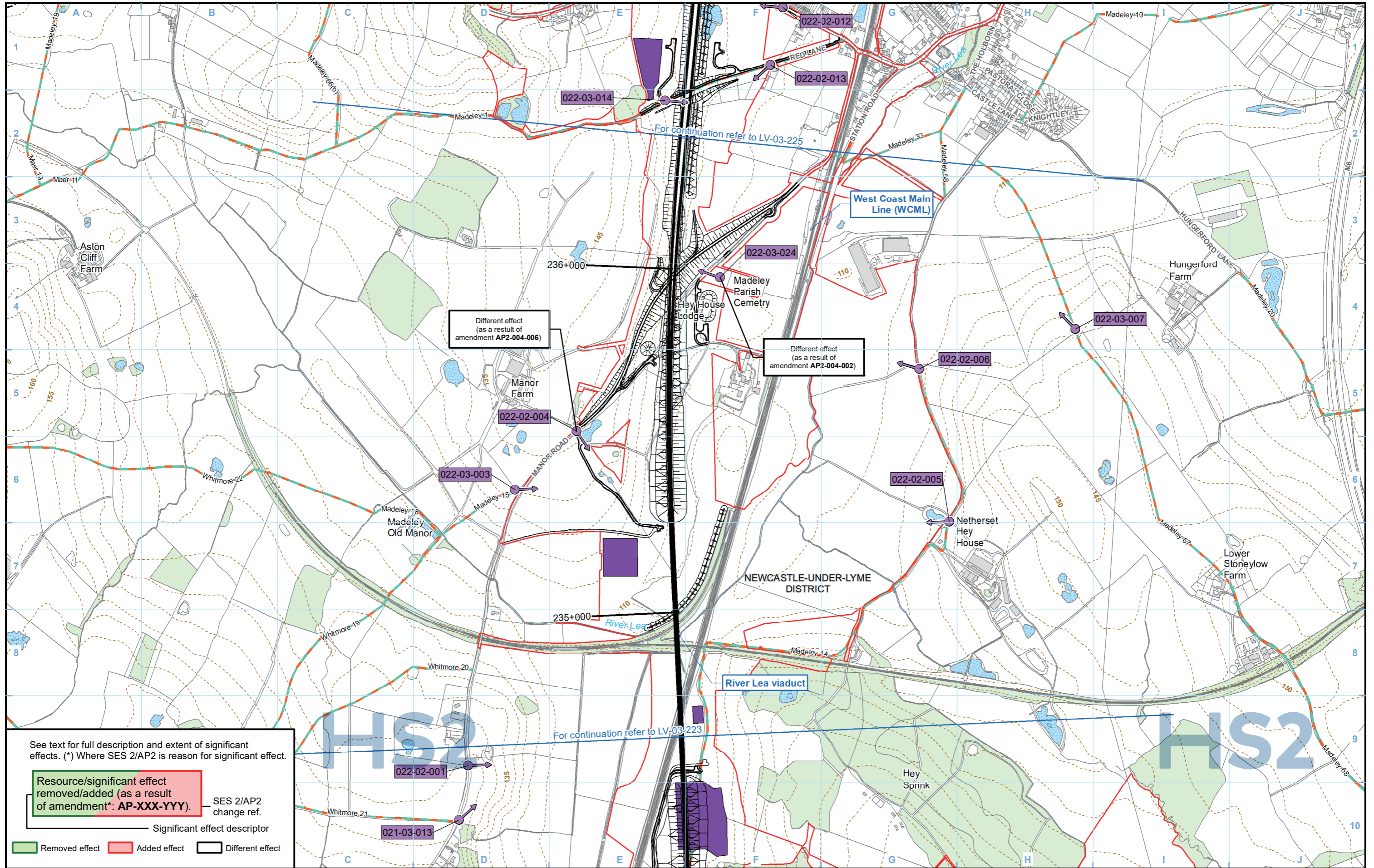
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Doc Number: 2PT02-ARP-EV-MAP-000-604223-P03

Date: 11/01/19



<p>Legend</p> <ul style="list-style-type: none"> 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 Public Rights of Way (PRoW) 5m contours Water body Existing woodland and tree belts Construction compounds Cannock Chase Area of Outstanding Natural Beauty (AONB) 	<ul style="list-style-type: none"> Significantly affected viewpoint Photomontage location 001-01-001 Significantly affected viewpoint number 001-01-001 Photomontage 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 	<p>Map Number LV-03-224</p> <p>Map Name Construction Phase Significantly Affected Viewpoints</p> <p>Community Area 4: Whitmore Heath to Madeley</p>	 <p>HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.</p> <p>Registered in England. Registration number 06791686. Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.</p> <p>© Crown copyright and database rights 2017. Ordnance Survey Licence Number 100049190.</p> <p>Scale at A3: 1:10,000</p>  <p>Doc Number: C861-ARP-EV-MAP-000-103224-P03</p> <p>Date: 06/06/17</p>
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See text for full description and extent of significant effects. (*) Where SES 2/AP2 is reason for significant effect.

Resource/significant effect removed/added (as a result of amendment*: AP-XXX-YYY).	SES 2/AP2 change ref.
Significant effect descriptor	
 Removed effect	 Added effect
 Different effect	

Legend

	Public Rights of Way (PRoW)		Engineering earthworks:
	5m contours		
	Water body		
	Existing woodland and tree belts		Non engineering earthworks:
	Construction compounds		
	Cannock Chase		
	Area of Outstanding Natural Beauty (AONB)		

Engineering earthworks:

- Embankment
- Cutting

Non engineering earthworks:

- Embankment
- Cutting

Map Number: LV-03-224

Map Name: Construction Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 4: Whitmore Heath to Madeley

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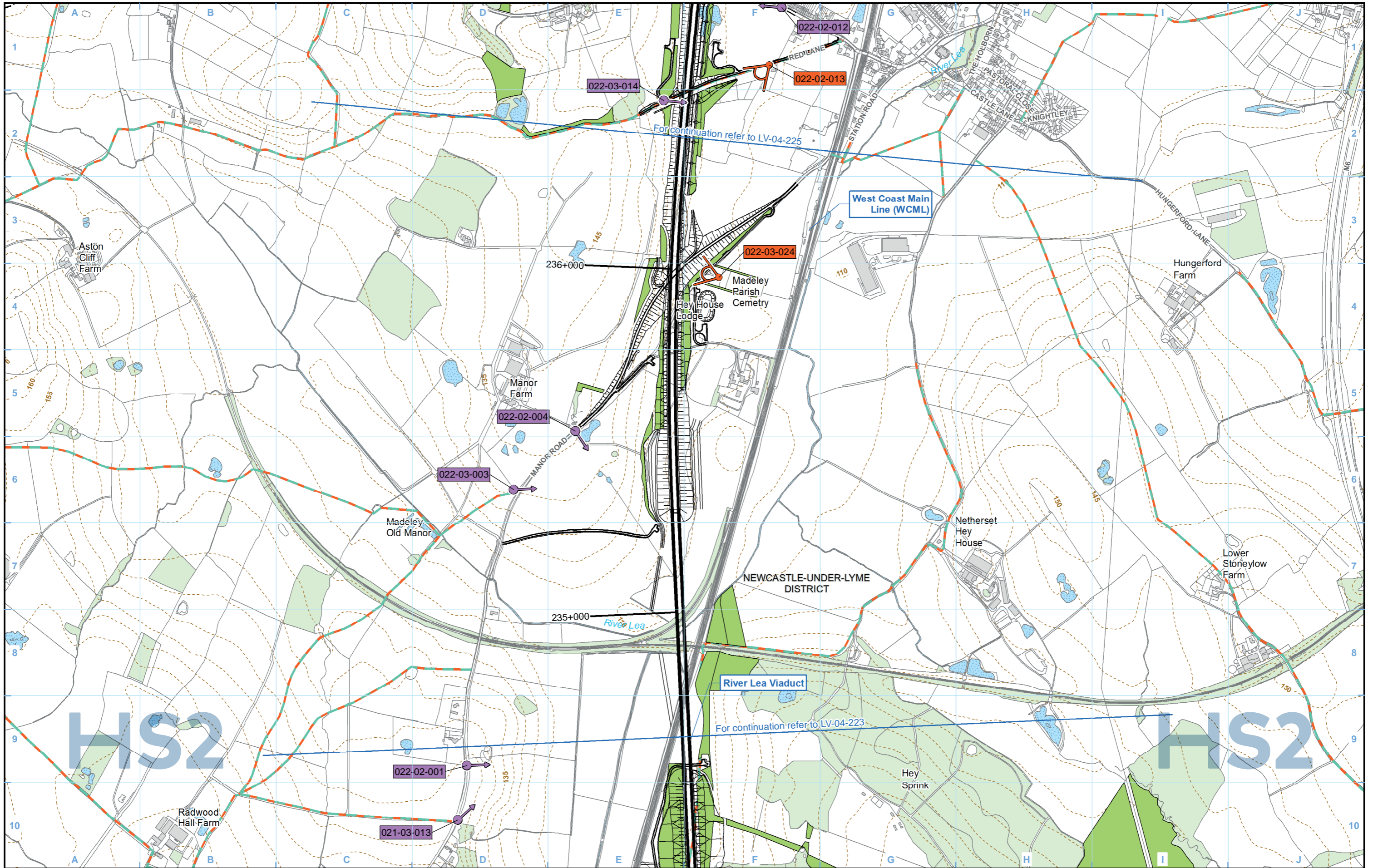
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Date: 11/01/19

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Legend

			Engineering earthworks:
			Non engineering earthworks:

Map Number: LV-04-224

Map Name: Operational Phase Significantly Affected Viewpoints

Community Area 4: Whitmore Heath to Madeley

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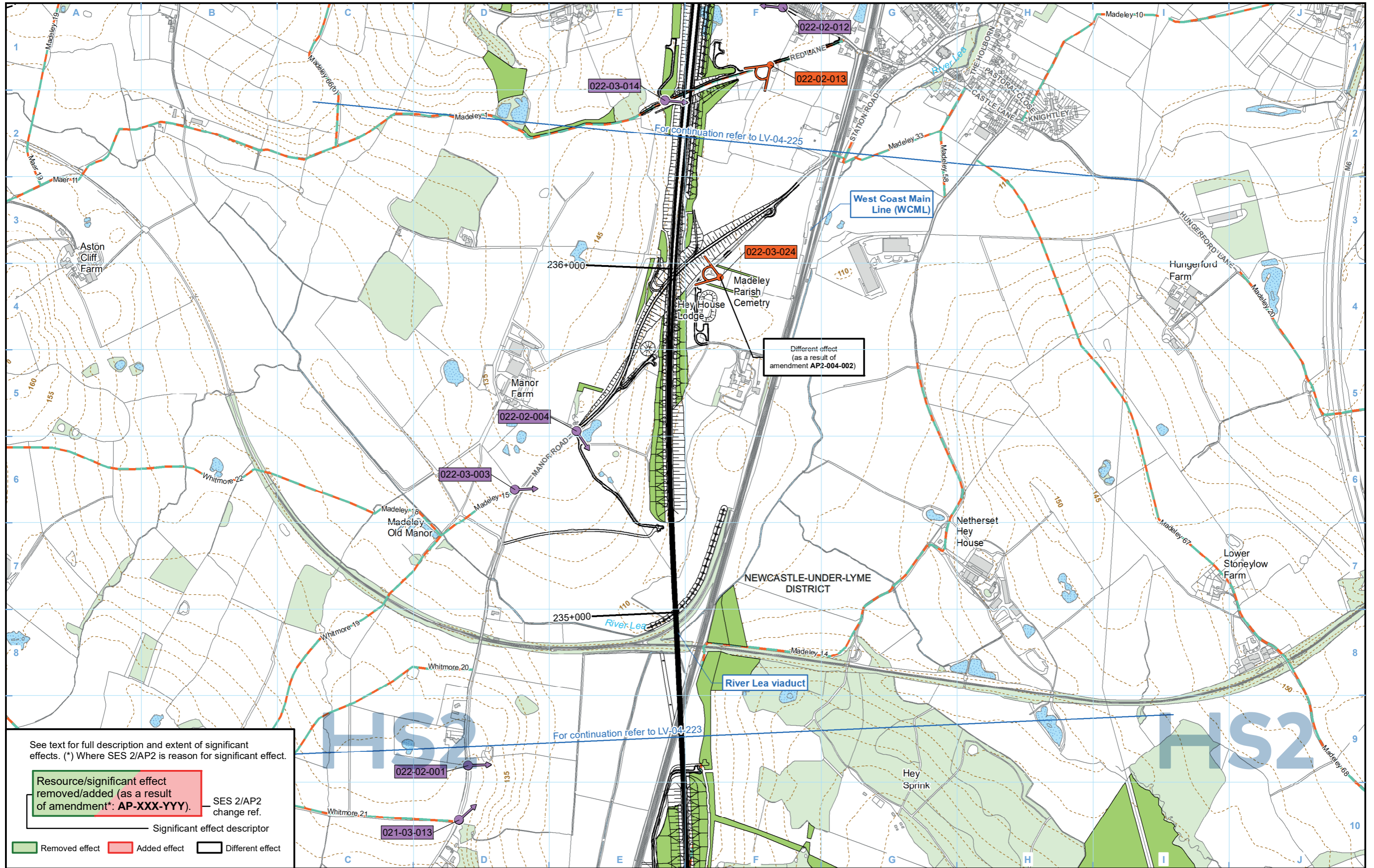
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Resource/significant effect removed/added (as a result of amendment*: AP-XXX-YYY).	SES 2/AP2 change ref.
Significant effect descriptor	
 Removed effect	 Added effect
 Different effect	

Legend

Route in tunnel	Public Rights of Way (PRoW)	Significantly affected viewpoint
Route on surface	5m contours	Photomontage location
Depot, station, headhouse or portal building	Water body	001-1-001 Significantly affected viewpoint number
Community area boundary	Existing woodland and tree belts	001-1-001 Photomontage viewpoint number
County boundary	Proposed tree planting	
District/Borough boundary	Cannock Chase Area of Outstanding Natural Beauty (AONB)	

Engineering earthworks:

Embankment
Cutting

Non engineering earthworks:

Embankment
Cutting

Map Number LV-04-224

Map Name Operational Phase Significantly Affected Viewpoints SES2 and AP2 ES

Community Area 4: Whitmore Heath to Madeley

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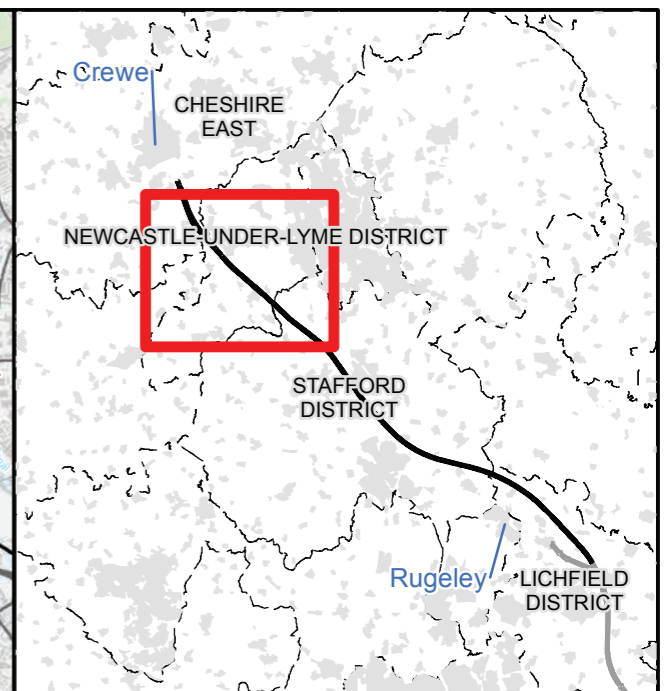
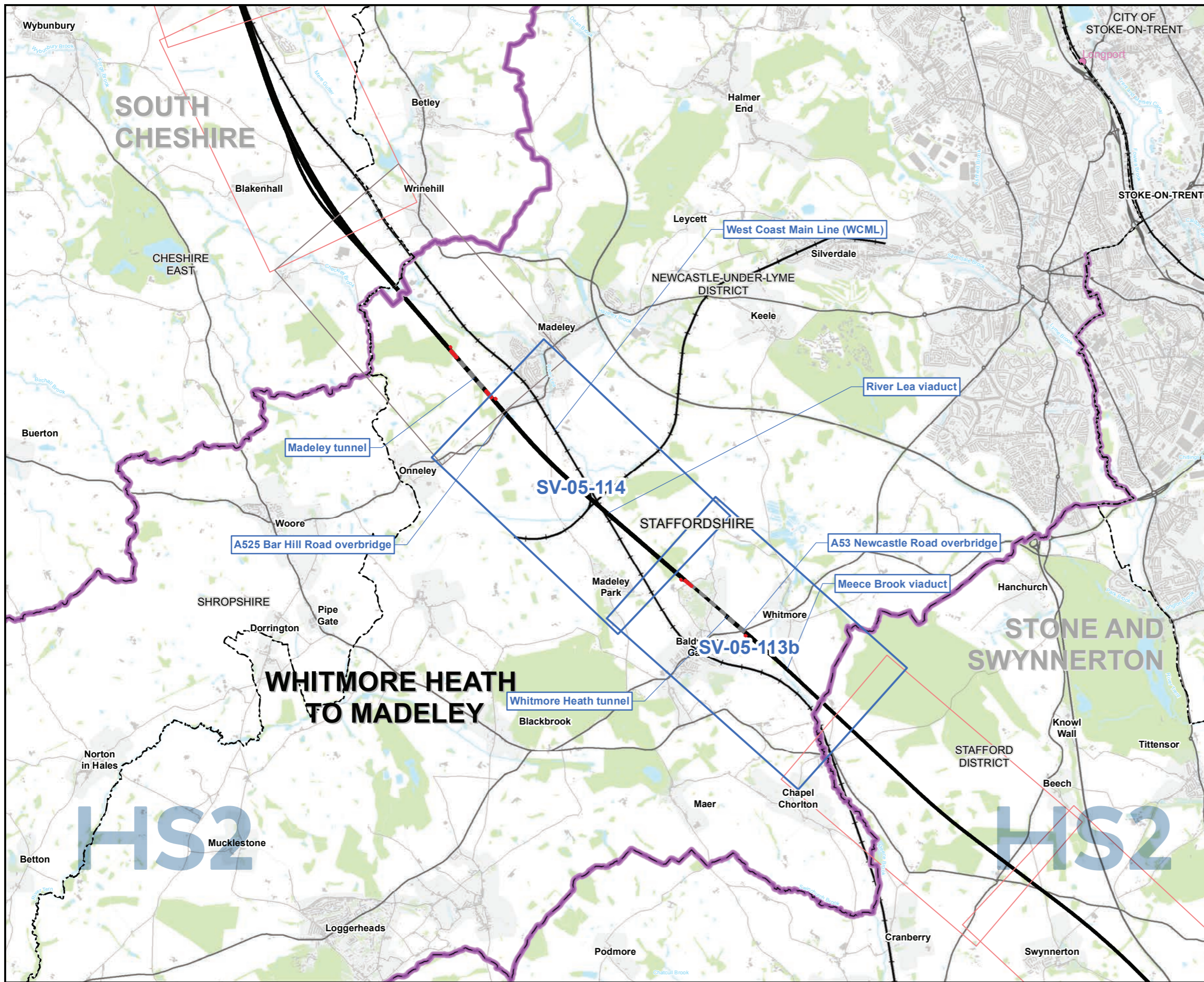
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High Speed Rail (West Midlands - Crewe)

**Supplementary Environmental Statement 2 and
Additional Provision 2 Environmental Statement**

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

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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.

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

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 area with amendment
Route on surface	Map sheets included in this community area with no amendment
Depot, station, headhouse or portal building	Map sheets not included in this community area
Community area boundary	
Existing railway station	
County boundary	
District/Borough boundary	

Map Number	SV-05-INDEX-CA4
Map Name	Index Map of: Operational Noise and Vibration Impacts and Likely Significant Effects SES2 and AP2 ES Community Area 4: Whitmore Heath to Madeley

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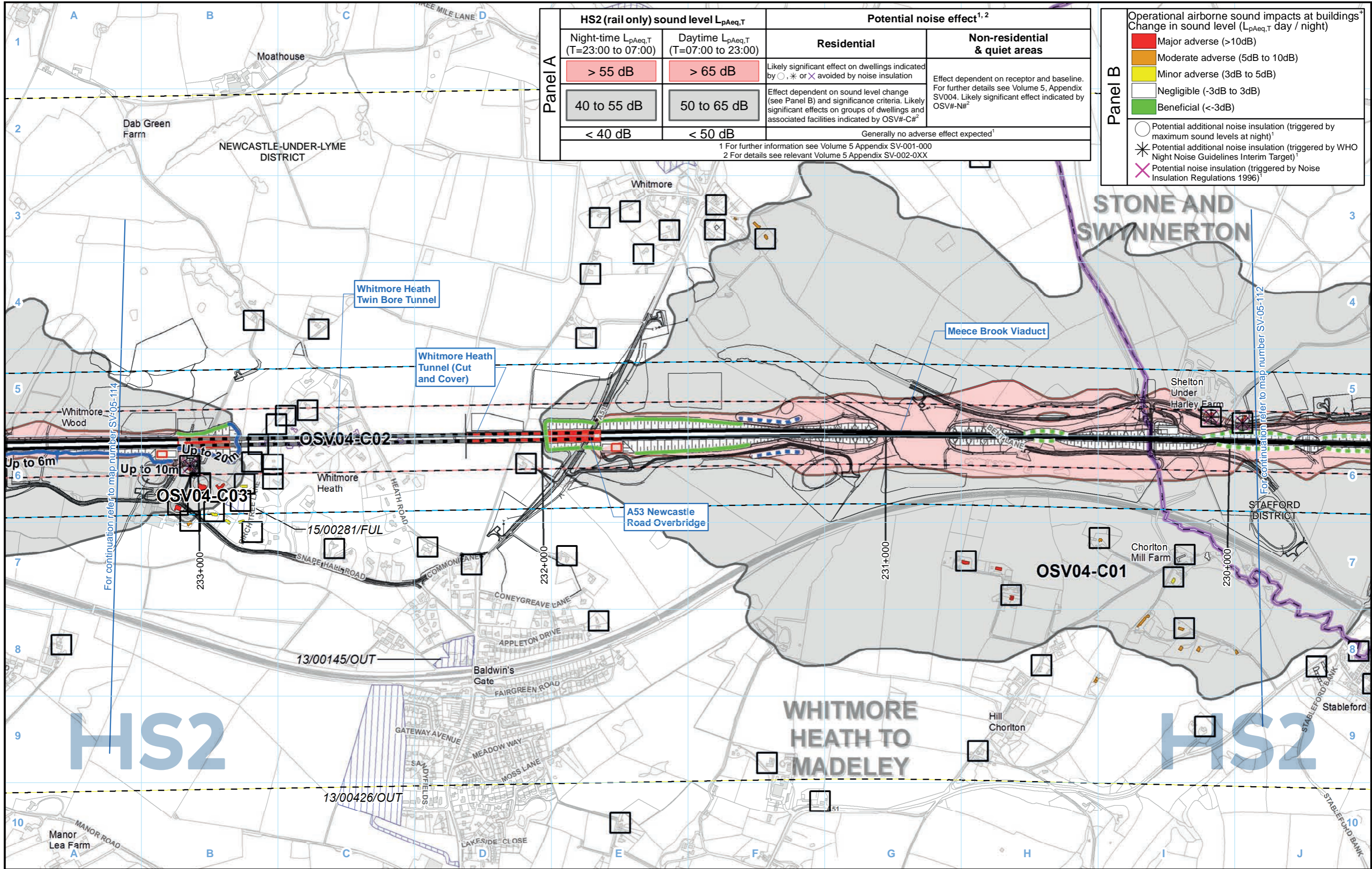
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Doc Number: 2PT02-ARP-EV-MAP-000-635004-P03

Date: 11/01/19



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-002-0XX

Panel B

Operational airborne sound impacts at buildings¹
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 cut and cover tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary

Legend - Sound related features

Engineering earthworks: Non engineering earthworks:

- Embankment
- Cutting

* Residential buildings only
* Labelled with total barrier height above rail level
** HS2 train only $L_{pAFmax} + 2.5dB$ façade correction

Legend - Sound related features

Committed developments - SV Only

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

- 1km Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Ground-borne noise or vibration impact*
- L_{pAFmax} exceeds 60dB façade**

Map Number: SV-05-113b

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

Community Area 4:
Whitmore Heath to Madeley

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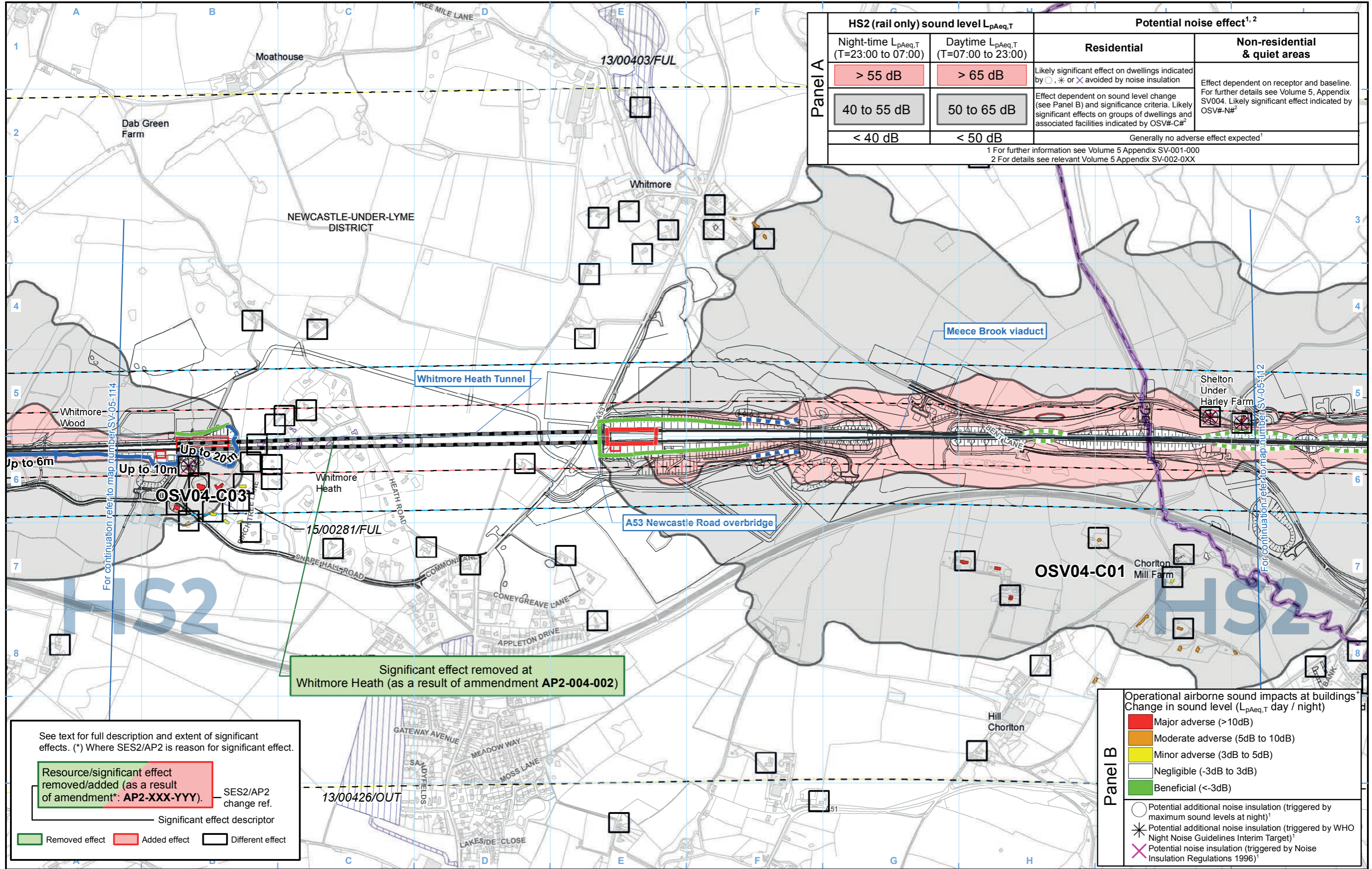
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Doc Number: C861-ARP-EV-MAP-000-135213-P03

Date: 07/06/17

Panel A	HS2 (rail only) sound level $L_{pAeq,T}$		Potential noise effect ^{1,2}	
	Night-time $L_{pAeq,T}$ (T=23:00 to 07:00)	Daytime $L_{pAeq,T}$ (T=07:00 to 23:00)	Residential	Non-residential & quiet areas
	> 55 dB	> 65 dB	Likely significant effect on dwellings indicated by ○, * or ✕ avoided by noise insulation	Effect dependent on receptor and baseline. For further details see Volume 5, Appendix SV004. Likely significant effect indicated by OSV#-N#*
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-002-0XX



See text for full description and extent of significant effects. (*) Where SES2/AP2 is reason for significant effect.

Resource/significant effect removed/added (as a result of amendment*: AP2-XXX-YYY). — SES2/AP2 change ref.

— Significant effect descriptor

Removed effect Added effect Different effect

Panel B

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

- Major adverse (>10dB)
- Moderate adverse (5dB to 10dB)
- Minor adverse (3dB to 5dB)
- Negligible (-3dB to 3dB)
- Beneficial (<-3dB)

○ Potential additional noise insulation (triggered by maximum sound levels at night)¹
* Potential additional noise insulation (triggered by WHO Night Noise Guidelines Interim Target)¹
✕ Potential noise insulation (triggered by Noise Insulation Regulations 1996)¹

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

- Legend - Sound related features**
- Engineering earthworks: Non engineering earthworks:
- Embankment
 - Cutting
- Committed developments - SV Only
- 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
- * Residential buildings only
* Labelled with total barrier height above rail level
** HS2 train only $L_{pAFmax} + 2.5dB$ façade correction

- 1km Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Ground-borne noise or vibration impact*
- L_{pAFmax} exceeds 60dB façade**

Map Number: SV-05-113b

Map Name: Operational Noise and Vibration Impacts and Likely Significant Effects SES2 and AP2 ES

Community Area 4: Whitmore Heath to Madeley

HS2

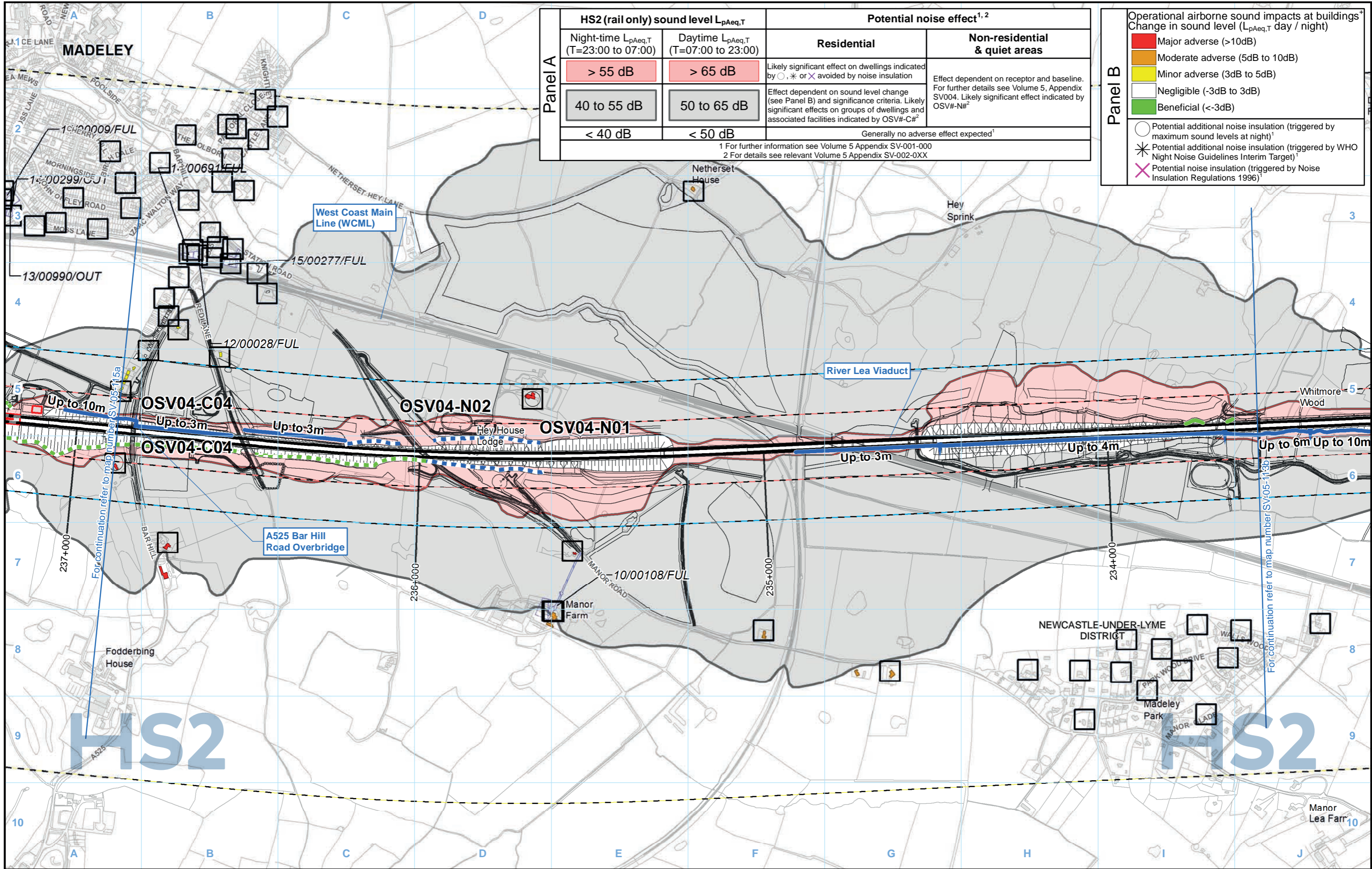
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Date: 16/01/19



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-002-0XX

Panel B

Operational airborne sound impacts at buildings¹
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 cut and cover tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary

Legend - Sound related features

Engineering earthworks: Non engineering earthworks:

- Embankment
- Cutting

Committed developments - SV Only

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

* Residential buildings only
* Labelled with total barrier height above rail level
** HS2 train only $L_{pAFmax} + 2.5dB$ façade correction

- 1km Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Ground-borne noise or vibration impact*
- L_{pAFmax} exceeds 60dB façade**

Map Number: SV-05-114

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

Community Area 4:
Whitmore Heath to Madeley

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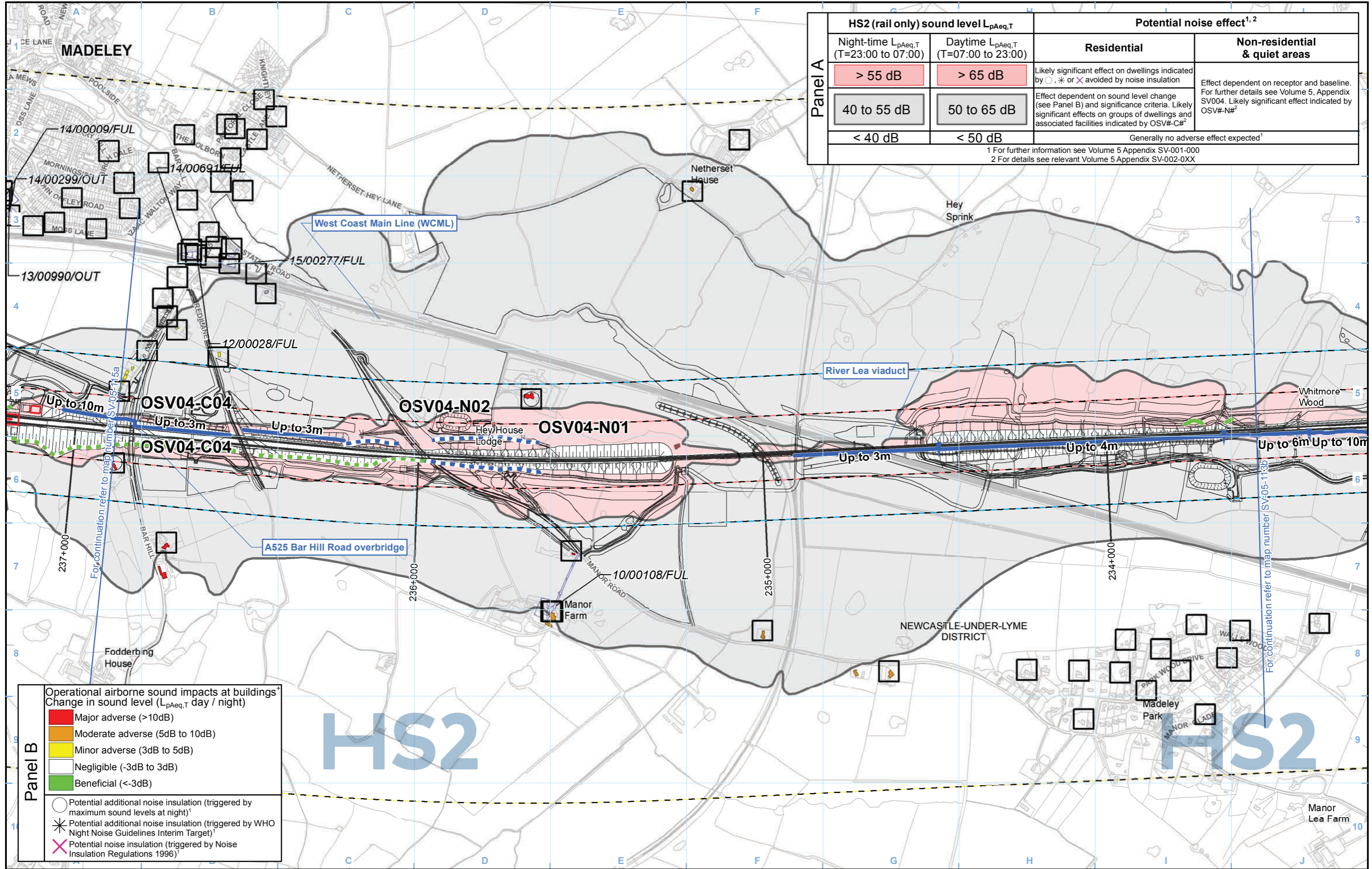
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Date: 07/06/17



Panel A	HS2 (rail only) sound level $L_{pAeq,T}$		Potential noise effect ^{1,2}	
	Night-time $L_{pAeq,T}$ (T=23:00 to 07:00)	Daytime $L_{pAeq,T}$ (T=07:00 to 23:00)	Residential	Non-residential & quiet areas
	> 55 dB	> 65 dB	Likely significant effect on dwellings indicated by ○, * or ✕ avoided by noise insulation	Effect dependent on receptor and baseline. For further details see Volume 5, Appendix SV004. Likely significant effect indicated by OSV#-N#*
	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-002-0XX

Panel B

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

Major adverse (>10dB)
Moderate adverse (5dB to 10dB)
Minor adverse (3dB to 5dB)
Negligible (-3dB to 3dB)
Beneficial (<-3dB)

○ Potential additional noise insulation (triggered by maximum sound levels at night)¹
* Potential additional noise insulation (triggered by WHO Night Noise Guidelines Interim Target)¹
✕ Potential noise insulation (triggered by Noise Insulation Regulations 1996)¹

Legend - General features

- Route in bored tunnel
- Route in cut and cover tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- County boundary
- District/Borough boundary

Legend - Sound related features

Engineering earthworks: Non engineering earthworks:

- Embankment
- Cutting

* Residential buildings only
* Labelled with total barrier height above rail level
** HS2 train only $L_{pAFmax} + 2.5dB$ façade correction

Legend - Sound related features

Committed developments - SV Only

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

- 1km Airborne sound study area
- Ground-borne sound & vibration study area (residential and non-residential)
- Ground-borne sound & vibration study area (highly sensitive non-residential)
- Ground-borne noise or vibration impact*
- L_{pAFmax} exceeds 60dB façade**

Map Number: SV-05-114

Map Name: Operational Noise and Vibration Impacts and Likely Significant Effects SES2 and AP2 ES

Community Area 4: Whitmore Heath to Madeley

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