

**High Speed Rail 2
London–West Midlands
Environmental Statement**



**Response from
Staffordshire County Council
and
Lichfield District Council**



Final

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EXECUTIVE SUMMARY

This document is a response to the HS2 London – West Midlands Environmental Statement consultation prepared jointly by Staffordshire County Council and Lichfield District Council. With the release of the Environmental Statement for consultation it is clear the proposed scheme will have significant effects on the rural environment of Lichfield District.

Despite an extension to the consultation period, we believe there has not been sufficient time to carry out a detailed review of the documentation – given the demands the Phase Two route also places on our limited resources. The lack of time has been exacerbated by the intervening Christmas period, the delay in receiving hard copies of the information and the omission of 877 pages from the original documentation. Having received hard copies of the documents a week after the consultation started, they are difficult to navigate around and whilst the documentation is available online, officers from the two authorities have experienced further navigation difficulties. Given the electronic size of the documentation, it is even more difficult for some of our rural communities to download the Environmental Statement documents with slower non-broadband internet speeds.

As mentioned in the introduction, the Council produced its own Mitigation and Enhancement Plan (“the Plan”) in response to the draft Environmental Statement, and that this response should be read alongside the Plan.

The Plan proposes mitigation in the form of a lower alignment, using engineered solutions, cut and cover structures, and measures to support communities affected by the route. It proposes detailed flood plain modelling information along with further details on proposed highway alignments and construction routes. It outlines environmental concerns and what is expected from the promoters of the scheme during construction and upon completion.

In summary, the Plan suggested that the effects of the proposals on the environment had not been properly assessed and reported in the draft Environmental Statement, and that the mitigation proposals shown in the draft Environmental Statement were inadequate. The published Environmental Statement does not show any significant differences on either count and in particular does not include any of the improvements suggested in the Plan. So, the Council remains of the general view that the Environmental Statement does not contain an adequate assessment of the environmental effects of the proposals and contains inadequate proposals for mitigation of those effects in the Council’s area.

In addition to the above, our primary concerns with the Environmental Statement are outlined below:

- There is a major inadequacy in recognising the importance of trees and woodlands. It is clear that little work has gone into assessing if the planting locations proposed are appropriate on a landscape scale and how they will alter the existing and historical landscape
- The principles for biodiversity of no net loss and a mitigation hierarchy prioritising avoidance and minimisation of harm are in accordance with the National Planning Policy Framework (NPPF) and White Paper on the Natural Environment. These principles are not, however supported by information contained in the Environmental Statement documents
- There is a lack of cross-referencing between Cultural Heritage Reports and other discipline reports, such as Ecology, Landscape and Visual Assessment; there are clear inconsistencies between the measurement of the Cultural Heritage significance of particular heritage assets groups. In addition, it is clear the Historic Landscape Character data has not been used to its fullest potential.
- There appears to be some inconsistency in the approach to assessment with regard to the Landscape and Visual Assessment Study Area. The Environmental Statement (Para 8.7.10) states that landscape character and visual receptors have generally been considered within 500m of the Proposed Scheme, with local variation of the study area to take account of variations of visibility. This approach does not accord with the Scope and Methodology Report, which says that the Landscape and Visual Impact Assessment (LVIA) Study Area, would be determined through the production of a Zone of Theoretical Visibility (ZTV) study. The Councils consider the 2km study area is inadequate in view of the height of the proposed embankments and viaducts.
- It is also a concern that the short term benefits for local businesses during construction will be overtaken by increased levels of business closures and unemployment once construction of the proposed scheme is complete. The Environmental Statement states that, '*Direct construction employment created by the Proposed Scheme could also lead to opportunities for local businesses to supply the project or to benefit from expenditure of construction workers.*' This is welcomed but greater consideration needs to be given as to what impact there will be on the area following the completion of the project.
- The Environmental Statement highlights sections of the highway network on which construction traffic will have a major effect on traffic flows and delay. However, there appears to be no mitigation proposed by way of accommodation works on the existing highway network to manage the increased HGV traffic flow during construction of the proposed scheme.

We believe accommodation works to the highway network will be required in a number of locations in order to make them suitable for construction traffic and improve safety for all highway users. Further detail and on-going engagement is required.

- Construction of the proposed scheme will impact on existing transport networks including Euston station – Volume 5 states this will place pressure on available capacity. While it is noted that some closures and possessions will be undertaken at night along with restrictions on the highway network through traffic management, a detailed holistic approach does not appear to have been taken which evaluates the cumulative impacts this will have on connectivity and the economy. This assessment should also include the movement of trains to and from the proposed rail sidings/railheads on the classic rail network.
- The construction of the proposed scheme has the potential to cause a range of significant impacts on residents for a sustained period of time. In addition to construction work associated with the route, there are a number of works depots and compounds located in the area. There are also works planned on the existing West Coast Main Line, which are proposed to take place at weekends and overnight. The proposed scheme appears to rely heavily on the provisions within the Code of Construction Practice to control a range of construction impacts. Comments contained with this response question the thoroughness of the construction work impact assessments, and the credibility of the Code of Construction Practice.
- Work to the West Coast Main Line between Lichfield and Colwich did not form part of the consultation on the draft Environmental Statement. It is very disappointing that the nature of the off-route effects has not been fully understood until the publication of the Environmental Statement. Landowners, residents and businesses have previously received letters from HS2 Ltd advising them that works to the West Coast Main Line will be needed to facilitate HS2. Despite a meeting with representatives from HS2 Ltd on 30th September 2013, and the promise of further information, nothing has been forthcoming since the Environmental Statement was released. This has left those impacted by the proposals with greater uncertainty.
- Comments have been provided on previous versions of the Code of Construction Practice. Whilst it is encouraging to see that some comments have been incorporated into the current draft, there are still areas that we believe require further amendment or consideration. Primarily we remain concerned with the continued use of ‘reasonably practicable’. There is currently no explanation of the term in the

document and therefore it is impossible for the communities to understand what protection this Code gives them. There are no details provided within CoCP for non-compliance of the control measures set out in the document.

- The status of the Health Impact Assessment (HIA) in relation to the Environmental Statement is unclear. As references to the Environmental Statement are made in the HIA, comments have been provided. Whilst the HIA appears to have taken stress and anxiety into consideration in terms of changes in travelling time congestion, loss of or moving homes, social isolation, and community severance there appears to be little consideration of the impacts the planning and development stages of the project has had on impacted communities.

We question the adequacy of the process introduced by the new House of Commons Private Business Standing Order 224A. It is our understanding that this Standing Order requires the Minister to publish comments made and to send them to an “independent assessor” (SO 224A(5)). The independent assessor must then produce a report and the report is required to summarise “the issues raised by those comments” (SO 224A(6)(i)); however, the Standing Order does not, for instance, require the assessor to reach any conclusion on those issues or to conduct any evaluation of the Environmental Statement. We question why there is no requirement within Standing Order 224A as to why the assessor is not required to reach any conclusion, or indeed conduct any research, on the issues raised in response to the consultation.

INTRODUCTION

Both the County Council and Lichfield District Council remain opposed to High Speed 2 as we believe there are no financial or economic benefits for Staffordshire.

Despite the consultation on the draft Environmental Statement in 2013, and the additional time given by the Standing Orders Committees, we remain of the view that there has not been sufficient time to carry out a detailed review of the information released for consultation.

This response is to be read in conjunction with the Council's developing [Mitigation and Enhancement Plan](#); the Mitigation and Enhancement Plan is a living document that will be updated in accordance with new information contained in the Environmental Statement.

It is the intention that a petition will be deposited against the Bill. This response to the Environmental Statement is without prejudice to anything that may be contained in the petition, and the Council reserves its rights to raise that additional and different points relating to the Environmental Statement in the petition and at other stages.

OVERARCHING COMMENTS

AGRICULTURE, FORESTRY AND SOILS

Forestry

There is a major inadequacy with the Environment Statement in recognising the importance of trees and woodlands. This area has been referenced into a number of different sections of the Environmental Statement, making it hard to review and assess the true impacts that the proposals will have on these assets. The impacts on trees and woodland are sufficiently large to merit their own comprehensive section of the Environmental Statement and should be so titled i.e. Trees and Woodland. This is not only relevant as a Local Authority assessing the information, but also as a community or as a resident affected by the proposals, finding all of the information is complicated and scattered, with very little presenting a holistic approach.

A major failing is the lack of identification of Veteran trees outside ancient woodland located along the route and the area affected by the proposals. These trees are highlighted in the NPPF, and the NPPF makes no differentiation in the treatment or protection of veteran trees outside ancient woodland. Therefore, within the Environmental Assessment these valuable assets should have been identified so that appropriate mitigation could be submitted.

It is clear that the detailed survey will only take place at a later stage, prior to the construction of the phase to be implemented. Although the final detail is often submitted as a "Condition", the local impacts of tree removal will only be clarified at a later stage and therefore the true impact of the proposals will be much greater than that shown. This is misleading to the public.

Mitigation must reflect the actual loss of assets, again this will not be known until a later date, by which time the mitigation plans, outlined in the proposals, will potentially be approved. We need to ensure that this later detail is still integrated into a local mitigation plan, which ensures there is no net loss in trees and that there is a commitment that the hedgerow and planting will reflect the existing landscape character and historic landscape setting.

We understand that the "Community Forest Partnership" are in dialogue with HS2 Ltd regarding off site mitigation planting. We are concerned that off-site mitigation does not address the impact that the development will have on local residents and communities that are directly affected by the proposals. Creating a new community woodland in a location far away from the residents who have had their lives changed by these proposals is not acceptable mitigation to our residents.

We are concerned that HS2 Ltd appears to go against the NPPF regarding safeguarding ancient woodland. Should Government decide that there is enough evidence to show that the benefits of the development clearly outweigh the loss of ancient woodland then the detail of mitigating this habitat needs considerable work as the current proposals are inadequate. There appears to be a lack of importance given to the mitigation that will take place; ancient woodlands are not re-creatable. The suggestion that mitigation for the loss of ancient woodland is about the use of translocated soils is a tiny part of the mitigation of habitat loss, some well thought out proposals need to be put together by HS2 Ltd that demonstrates they have taken on board the importance of these woodlands and are responding accordingly. Mitigation stating “*other measures may also be appropriate such as planting trees*” shows a lack of knowledge in ancient woodland mitigation. The documents do not clearly demonstrate that the re-created ancient woodlands will be managed into the future to ensure that they will have a similar level of ecological value. Maintenance for tree planting only states that it will occur “*during construction*”, we require detail which reassures us that all effort will be made to establish these woodlands into the future, not just for the length of the construction phase. This has not been achieved in the proposals to date.

Little work has gone into assessing if the planting locations proposed are appropriate on a landscape scale and how they will alter the existing and historical landscape. For example, locating woodland planting adjacent to the retained ancient woodland is appropriate ecologically, but how will it affect the landscape? An impact assessment on the mitigation proposals should have been carried out and submitted to support the proposals along with planting alternatives, such as natural succession for example that have been investigated.

Other concerns relating to forestry include:

- The use of ‘Forestry land’ as a term should be restricted to plantation woodland only. Strictly speaking most of the land affected is woodland rather than what most people would think of as ‘Forestry’. Forestry could imply land of less worth than ‘Woodland’.
- Disparity between the total amount of ‘Forestry’ land lost is variously quoted as 250ha lost and 310 ha lost with no indication which is correct.
- The terms used to describe the woodland resource do not accord with standard terminology and unfortunately it is very difficult to understand what is being affected. Four definitions would be sufficient and these are; ASNW (Ancient semi natural woodland), PAWS (planted ancient woodland site), semi natural woodland and plantation. This would simplify the assessment of the scheme’s effects.

- Only passing reference is made to individual or hedgerow trees. However they appear not to have been assessed in terms of numbers, quality or value.
- The method of removal, extraction and utilisation of trees/woodland along the route is not detailed.
- The amount of timber and arisings from trees removed has not been assessed and included. Preliminary calculations based on very conservative estimates, undertaken by the County Council, indicate 63000 tons of timber. The true figure is likely to be at least double that.
- Significant new planting is proposed. However it is unclear what 'local' provenance means and raises bio-security concerns. In addition the number of trees required is extremely high and it is unclear how and by whom these trees will be produced.

CULTURAL HERITAGE

A detailed assessment of the Volume 5 (Cultural Heritage) reports and the Cultural Heritage elements of the Volume 2 CFA Reports has identified a range of major and minor issues. With this in mind it is concerning to note that, for much of the documentation, this represents the first opportunity to review and comment on the Cultural Heritage submission. It should be noted that early consultation with relevant heritage organisations could have resolved many of the overarching and more detailed issues well in advance of this submission and it is strongly advised that early and continued consultation be a factor in future phases of the scheme.

- Despite previous advice there is a lack of cross-referencing between Cultural Heritage Reports and between discipline reports. Of particular concern, this approach (or lack of) manifests itself in a lack of consideration of archaeological potential in the mitigation of impacts upon landscape, forestry and ecological assets.
- There are clear inconsistencies between the measurement of Cultural Heritage significance of particular heritage assets groups and a lack of scope for the consideration of particular importance associated with individual heritage assets.
- The Historic Landscape Character data has not been used to its fullest potential; this is partly as a result of a lack of understanding of how the data should be utilised and its contribution to the wider historic environment.
- The modelling of archaeological potential is confused at times and does not consider the role of historic landscape character in the right place.

This issue has resulted in part from a lack of early and ongoing consultation between HS2 Ltd representatives and historic environment specialists from English Heritage, Local Authorities and other relevant organisations.

- It is concerning to note that previous comments on the draft Code of Construction Practice (CoCP) have not been considered. Particularly where monitoring and consultation is considered. Local Authorities will be consulted 'as appropriate'. Consultation and monitoring should be formalised and regular throughout the lifespan of the scheme and will include all relevant organisations.
- The Historic Environment is considered within the draft CoCP but Local Authority Historic Environment specialists must also be closely involved in the development as well as the implementation of Local Environmental Management Plans (LEMPs).
- A cursory review of similar CFA reports for Buckinghamshire and Warwickshire clearly demonstrates inconsistencies in approach, levels of detail and interpretation. This concern is particularly apparent in HS2 Ltd.'s approaches to understanding historic landscape character and medieval heritage assets.

ECOLOGY

The Environmental Statement principles for biodiversity of no net loss and a mitigation hierarchy prioritising avoidance and minimisation of harm are in accordance with the NPPF and White Paper on the Natural Environment. These principles are not, however supported by information contained in the Environmental Statement documents.

No net loss of biodiversity

The statement that there will be no net loss of biodiversity is not supported by a transparent and consistent assessment of habitat and species impacts while statements regarding the scope of mitigation and compensation are not justified. The basis for provision of compensation habitats is biodiversity offsetting. The biodiversity offsetting report is not, however provided and, it is understood will not be available until April 2014, after the close of the Environmental Statement consultation period, meaning that there is no opportunity for consultees to comment on the basis for ecological mitigation. Analysis carried out in Warwickshire indicates that insufficient compensation habitat has been provided. Warwickshire is a pilot area for Defra for the development of biodiversity offsetting and, with comprehensive habitat survey information, the ecologist from Warwickshire County Council is able to assess the Environmental Statement impacts and habitat provision using the Defra draft biodiversity offsetting metrics. This analysis has shown a deficit in compensation in Warwickshire of 32% of habitat lost. This also does not take

into account ancient woodland which Defra classify as irreplaceable. There is no reason to believe that the approach in Staffordshire is different from that in Warwickshire, indicating that mitigation proposed is not sufficient to achieve the aim of no net loss for habitats.

No clear provision is included in the Environmental Statement for establishment management and aftercare of habitats, the quality of which, and use of appropriate techniques, are essential for successful creation of quality habitats. There is no provision in the Environmental Statement for specialised soils management for habitats such as heathland and species-rich grassland that depend on soil chemistry and type. Residual impacts on species of habitat severance and loss and due to collision mortality are not acknowledged in the Environmental Statement which includes claims that impacts will be fully mitigated that are not supported by Environmental Statement text.

Mitigation hierarchy

The mitigation hierarchy proposed to avoid-reduce-abate-repair-compensate is appropriate but does not appear to have been followed in relation to minimisation of impacts on designated sites, ancient woodland and habitats of principal importance in CFAs 21 and 22, see comments on CFA reports and maps. The principle of repair has not been applied to compensating for impacts on designated sites and ancient woodland by proposals to enhance sections of the sites not affected by HS2 which would be a potentially valuable form of mitigation, e.g. by removal of rhododendron and other invasive species from woodland sites. Measures of this kind could be effective in bridging the biodiversity offsetting gap identified by Warwickshire County Council.

Landscape scale impacts

The Environmental Statement approach is that proposed habitat creation and planting will address habitat fragmentation and severance by establishment of new ecological networks. It is not clear, however, whether proposals have taken account of landscape character for example in design and location of woodland blocks and location of hedgerows. Provision is required for development of detailed design at the local level that takes account of landscape character. There is poor consideration of impacts on features in the landscape of importance for wildlife such as ponds, tree lines, small copses, contrary to Article 10 of the Habitats Directive meaning cumulative effects are not well considered.

Lack of clarity on environmental and ecological management of works

The draft CoCP does not include sufficient detail to give confidence that adequate ecological protection will be included in works or that ecological measures will be informed by relevant expertise or use appropriate techniques. The proposed Environmental Minimum Requirements (EMR's) and Environmental Management System are also very generalised. It is assumed that the proposed Local Environmental Management Plan's (LEMP's) will fill this

void. It will be important that LEMPs are informed by meaningful consultation with ecologists with local knowledge. In order for LEMPs to be prepared within a consistent framework that ensures effective mitigation and compensation of ecological impacts it is recommended that principles be prepared and/or a standard format. One of these principles should be to ensure that compensation habitat design is appropriate to impacts and to the local area and delivers habitats of biodiversity value such as by basing planting on NVC communities, preparing habitat specifications that should be met, monitoring establishment with provisions for intervention should specifications not be met, e.g. introduction of groundflora species into establishing woodlands where these have not developed in ancient woodland compensation planting. Another important principle is minimisation of loss of veteran and mature trees.

Lack of clarity on establishment and long-term management of habitats

Little is indicated of establishment and long-term management of habitats and how this will be secured, managed and monitored. Unless appropriate management is secured mitigation is compromised.

Utilities diversions and off-route works

There is a lack of clarity in the Environmental Statement regarding impacts of utilities diversions on designated sites, habitats and species and the minimal information provided indicates that there have not been efforts to minimise impacts. For example a pipeline diversion appears to be planned significantly increasing impacts on the designated woodland complex of Ravenshaw Wood, Black Slough and the Slaish and the significant bat assemblage recorded there. Off-route works in Staffordshire are not informed by ecological survey and there is a lack of controls over impacts such as hedgerow and tree loss. Off-route works should be subject to the same scrutiny and environmental control as the main works.

LANDSCAPE AND VISUAL ASSESSMENT

Methodology and approach

There appears to be some inconsistency in the approach to assessment with regard to the Study Area. The Environmental Statement (Para 8.7.10) states that landscape character and visual receptors have generally been considered within 500m of the Proposed Scheme, with local variation of the study area to take account of variations of visibility. This approach does not accord with the Scope and Methodology Report, which sets out that the LVIA Study Area, would be determined through the production of a Zone of Theoretical Visibility (ZTV) study. The Environmental Statement also states that the maximum extent of the Study Area is 2km either side of the centreline to take account of more extensive views in open countryside, however in the CFA report Sections on landscape and visual assessment, CFA Report 21 states that LCA and visual receptors within approximately 1km have been assessed and CFA Report 22 states receptors within 2km have been assessed. Rationale for this variance

should be fully explained. In view of the height of some of the proposed embankments and viaducts at up to approximately 16.5 metres high, the County Council has consistently voiced concern that a Study Area of only 2km from the centreline fails to consider a range of potential receptors at greater distance.

The assessment of the impact of the construction works is deficient. The scope of assessment of landscape and visual effects of 'Temporary Effects Arising during Construction' are defined in the CFA Reports as an 'assessment based on activities occurring during the peak construction phase' (defined as period when the main civil engineering works are taking place). This approach fails to make any assessment of impacts such as loss of vegetation associated with utility diversions, for example at Ravenshaw Wood, Black Slough and Slaish (CFA Report 22) where a linear gap of minimum width 40 metres will be created to accommodate National Grid Pipeline; or impacts due to potential vegetation loss resulting from use of Public Rights of Way and tracks for temporary access. It is a serious concern that a range of temporary and permanent landscape and visual impacts have not been assessed in the Environmental Statement.

The CFA reports refer to assessment of temporary effects during construction, stating that the use of land for soil storage and material transfer has been taken into consideration. However as the heights of storage mounds and the parameters for assessment are not specified, the accuracy of the assessment is questioned. Clarity is sought to ensure the full impacts of soil storage and processing fill materials, including stockpiling, crushing and screening has been properly assessed.

The County Council requested full reference to the Natural England NCA Profiles and evidence of how the proposals respond to the Statements of Opportunity set out in the profiles. We also expected the project to demonstrate that it has been informed by Natural England's Guidance on Green Infrastructure. This information is not evidenced in the Landscape and Visual Impact Assessment.

The Landscape and Visual Impact Assessment states that landscape character descriptions are based on the descriptions in *Planning for Landscape Change: Supplementary Planning Guidance*, which is welcomed. However there are some errors and the Landscape Character Type descriptions are a précis of the full descriptions and the policy objectives and guidance elements of the SPG are not referred to or considered. This is disappointing and results in a paucity of supporting information to inform judgments on sensitivity, impacts and mitigation, leading to a broad brush approach that fails to respond to local distinctiveness as required by the NPPF.

Overall there appear to be inadequate cross referencing between other related disciplines such as Cultural Heritage, Ecology and Forestry to inform the

assessment and mitigation measures. This weakens the integrity of the assessment and the mitigation proposals.

Historic Landscape Character does not appear to have been used to inform the intactness of the landscape and historical continuity, which are critical to assessing how replaceable a landscape is and therefore its sensitivity. Similarly the landscape and visual significance of hedgerows which meet the wildlife and landscape criteria under hedgerow Regulations 1997 has not been incorporated into the Landscape assessment.

The poor evidence of an interdisciplinary holistic approach leads to concerns regarding design development and securing appropriate mitigation, as a holistic approach is necessary to deliver satisfactory mitigation.

Consultation

The Environmental Statement (Para 8.7.41) states that impacts on selected views have been illustrated by preparing verified photomontages from locations agreed with the statutory consultees or through visualisations. A number of viewpoint locations and locations for photomontages that were agreed during consultation have not been included in the final document. These include Viewpoint 337-2-002 where a photomontage location was agreed to illustrate the significant impacts.

Mitigation

Assessment of the CFA Reports and Plans of the Proposed Scheme has raised a number of issues in relation to mitigation.

- In relation to '*Avoidance and mitigation measures*' referred to under section 9.4, whilst the use of well-maintained fencing and hoardings may deliver appropriate for mitigation in some locations, in others grass seeded temporary storage / screen bunds could prove a more effective and sensitive solution to minimise visual impact.
- In earlier consultations with HS2 Ltd the County Council expressed concern that permanent mitigation earthworks and planting should be informed by and integrated into the local pattern of landscape features responding to local distinctiveness, thereby supporting the objectives on the European Landscape Convention and the NPPF. Where the route passes through different landscape character types the proposals would be expected to respond to this local variation. Whilst the County Council welcomes the 'in principle' proposals for the gradients of land restored to agriculture and other earthworks that would enhance integration of the scheme as described in Volume 1, there is no evidence from the plans, photomontages or sections in Volume 6, of the delivery, or deliverability of these principles.

- It is considered there is little likelihood of additional screening from planting early in the construction phase, (e.g. 9.4.110 CFRA Report 21), as the majority of mitigation planting is proposed on earthworks and therefore is unlikely to be feasible sufficiently in advance to deliver enhanced mitigation.
- The Reports set out principles of a well-connected landscape. The Proposed Scheme plans however appear to be focussed on screening and show little or no evidence of re-establishing field pattern and connectivity with severed hedgerows (for example Plan CT-06-118), or developing structural landscape features extending into the wider landscape other than on severed land parcels / working areas. Planting of hedges and woodland up to the crest of high embankments, or along the crest of false cuttings are likely to emphasise the horizontal and in the case of floodplain crossings will be at higher elevation than woodland in the surrounding landscape. Location and pattern of proposed woodland and landscape mitigation planting needs to respond to landscape character at a local level. 'Planning for Landscape Change' includes Landscape Character subtypes, which are not included in the Environmental Statement descriptions. Assurances are required that more fine grained information, including District Landscape Character Assessments where they exist, will be taken into account when preparing the detailed landscape proposals in order to reflect variations in local character within the LCTs defined in the Environmental Statement.
- It is considered there is little likelihood of additional screening from planting early in the construction phase, as suggested in the CFA Reports (9.4.110 CFRA Report 21), as the majority of mitigation planting is proposed on earthworks and therefore is unlikely to be feasible sufficiently in advance to deliver enhanced mitigation.
- There needs to be a commitment to replacing hedgerow trees and field trees where these are characteristic and there appears to be no reference to this in either the Landscape and Visual Impact Assessment or the draft CoCP.
- Plans generally indicate landscape mitigation planting as scrub / woodland. Excessive use of scrub planting is not necessarily appropriate habitat replacement for lost woodland or hedgerows or and generally not sympathetic to landscape character.
- The documents state that maintenance will occur '*during construction*'. A minimum of five years aftercare is required to support establishment of newly planted habitats and mitigation planting, and long term

management and monitoring needs to be secured so that the proposals are sustainable.

SOCIO ECONOMICS

What will be important to the ultimate success of HS2 in providing any sort of economic benefit for the north, thereby going some way to helping Government's economic rebalancing agenda, is ensuring that ample resource is available for local transport projects and schemes that can provide effective links to surrounding HS2 stations. Without this, it seems likely that HS2 will simply result in a shift in economic activity away from the sub-regions and towards developments around the stations. This is very similar to evidence that shows that in the past Enterprise Zones have largely drawn in businesses from a very tightly defined local area, resulting in little overall economic benefit in many cases. Ensuring that as wide an area as possible has high quality and effective links to HS2 has the potential to mitigate against this somewhat. Therefore, Government should ensure appropriate levels of resource are available to enable areas and Local Enterprise Partnerships to bid for funding for such infrastructure improvements. Given that Phase One of the scheme is not expected to be completed until 2026, we currently have no commitment from Government as to what resource will be available for such schemes. Close attention should also be paid to Strategic Economic Plans and alike that highlight other potential infrastructure improvements which largely sit outside of local control, such as Network Rail and Highways Agency schemes.

Consideration also needs to be given as to how HS2 will restrict future growth within areas that it will pass through, a particular concern for Staffordshire given the length of the line that is expected to run through the county. The path of HS2 has clearly been chosen to minimise the impact on urban settlements, but it should be recognised that by directing the route through primarily rural areas, Staffordshire is losing prime agricultural land along with potentially losing a significant amount of land that may be used for future employment and housing developments. The route is also likely to prove to be a significant barrier to the future expansion of settlements, employment sites and infrastructure projects, something which will not be fully considered within emerging local plans meaning this problem may not be fully realised for many years to come.

A mechanism therefore needs to be put in place to mitigate HS2 restricting future growth by acting as a barrier to the development of land for employment and housing, constraining the expansion of urban settlements and dissuading investment in infrastructure projects. Essentially, we believe that we should not be disadvantaged in promoting future growth within the county due to there being a need to cross the HS2 route. In the future if a need arises to provide a road crossing over the route HS2 Ltd (or its nominated undertaker) should work proactively with the promoter of any scheme and in the interests economic growth nationally relinquish any claim they may have for an uplift in the value of

any land that is opened up for development as a result of the creation of the road link/access road.

As acknowledged within the Environmental Statement, the significant number of jobs created during the construction of HS2 will undoubtedly have benefits for local workers and businesses. This is to be welcomed as long as some of those benefits are provided to Staffordshire's residents and businesses. However, the temporary nature and scale of this employment is likely to also have adverse impacts on the local area which are not fully considered. This is particularly true in terms of local services, the demand for which will increase significantly during the construction period. Increased levels of services will be required to meet the needs of construction workers in the area, placing a significant strain on many local service providers. This is likely to be a particular problem for public sector organisations given the Government's spending reductions; HS2 Ltd should therefore consider the need to provide resource to those services required by construction workers.

It is also a concern that the short term benefits for local businesses could result in increased levels of business closures and unemployment once construction is complete. The Environmental Statement states that, '*Direct construction employment created by the Proposed Scheme could also lead to opportunities for local businesses to supply the project or to benefit from expenditure of construction workers.*' This is welcomed but greater consideration needs to be given as to what impact there will be on the area following the completion of the project. Any increase in employment as a direct result of being the location of temporary accommodation for construction workers will be vulnerable following completion and therefore appropriate support will be required to mitigate against potential job losses. The exact nature of support that will be required is not clear and is unlikely to be understood until the impact that the construction of HS2 has on the local economy can be fully assessed. At this stage HS2 Ltd should at least make a commitment to ensure that they will work with local partners and provide appropriate resource and support to address this issue as required.

Along with the increased levels of economic activity, the size of the construction compounds and particularly the Streethay construction sidings will result in, "*substantial increases in daily traffic flow.*" Given the wider development plans for the area, such as the Lichfield Park development on the opposite side of the A38 to the sidings, it seems highly likely that there will be a significant increase in congestion, contrasting the current view of HS2 Ltd. It is widely acknowledged that improvements to the A38 are required in order to ensure that it is not acting as a pinch point given the sheer scale of development along this transport corridor in recent years, not least at Fradley Park. Therefore greater consideration needs to be given to the impact HS2 and the construction of the line will have on traffic flows in this area, and where congestion levels will

be unacceptable HS2 Ltd should commit to work with local partners and resource necessary infrastructure improvements.

In order to limit any potential negative impacts following the development of the route, HS2 Ltd should work proactively with local partners to take opportunity for potential development that may arise as a result of the construction of the line. For example, where there is substantial investment in infrastructure that may be used following completion, HS2 Ltd should work with local partners to make effective use of the infrastructure in the aim of developing the local economy. We would therefore welcome further discussions as to what will happen to the land taken by HS2 Ltd for construction of the line following its completion.

Where there is a desire from local partners to develop land taken by HS2 Ltd for construction purposes, there should be a commitment from HS2 Ltd to assist in the development of such sites. This may include infrastructure improvements, and particularly where there is a need to cross the route itself, while consideration also needs to be given as to whether the infrastructure required for the development of the HS2 route satisfies the requirements of what locally is desired to ultimately be the end use of a site. Where it does not, HS2 Ltd should ensure that they are proactively engaging with local partners in order to future-proof the infrastructure it develops in the area.

Whilst it is acknowledged that compensation schemes are in place for landowners, it is not clear how HS2 Ltd will mitigate against the wider impact of losing some of Lichfield Districts' rural economic assets. The loss of Whittington Heath Golf Club and Packington Moor Farm complex in particular would be detrimental both in terms of economic vitality and local authority finances. With regard to the latter, the removal of these two properties from the Business Rates register amounts to approximately £113,000 in Rateable Value (RV), thereby impacting on the Lichfield District Council's capacity to generate income via the Government's Business Rates Retention Scheme.

This is not indicative of all businesses affected; neither does it include the loss of potential business properties affected at Fradley Park. In summary, there are no proposals as to how local authorities would be compensated for the loss of RV and the way in which this would cancel out gains made elsewhere in terms of new business floor space.

SOUND, NOISE AND VIBRATION

HS2 will cause a significant noise impact to a large number of residents. Both Staffordshire County Council and Lichfield District Council officers have liaised with HS2 Ltd and their consultants over the last 18 months via the Planning Forum Sub Group - Acoustics. This liaison has resulted in the narrowing of key issues with the noise assessment methodology. There remains a number of

significant issues where Staffordshire fundamentally disagrees with the methodology used. These are detailed further within the consultation response; however they include night time & maximum noise levels and disregarding single or small numbers of properties as significant effects. The consultation response also includes local issues such as the impact of work depots and the off route impacts on the West Coast Main Line from Handsacre onwards.

TRAFFIC AND TRANSPORT

The Environmental Statement emphasises that the scheme will not result in the temporary or permanent loss of any promoted recreational routes. However, it is not clear whether this refers only to the 'Heart of England Way' or to the entirety of the public path network which will be affected by HS2. We welcome HS2 Ltd.'s statement that *'the closure of routes will be kept to as short a duration as is reasonably practicable'* and that temporary diversions will be put in place to maintain access along the network during the development. We expect that any temporary diversion route is established before the definitive lines are temporarily closed. We also expect more detailed information into the design of each 'new' route in due course particularly in relation to the proposed path surface, path widths, details of any path furniture (including bridges), and mitigation measures as a result of comments made below in relation to certain routes.

NON-TECHNICAL SUMMARY

Document:		Non-technical Summary
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment
Community		
Page 131		This paragraph does not include the demolition of Barn Cottage, Lone Oak and Cranebrook located at the western end of Drayton Lane.
Cultural Heritage		
Page 45 Para 7.5		Reference to the Historic Landscape Character (HLC) should be included in this overview.
Page 131		We believe the second paragraph in this section should include the properties of Oak Tree Farm, South View Farm, Oak Dairy Farm and Stone House.
Ecology		
Page 132		(CFA21 area) 1.3ha of ancient woodland lost and 2ha of SBI woodland lost – this gives a total of 3.3ha of ancient woodland lost. However, this is not the total area of woodland to be lost to the scheme. Page 20 of Volume 5 Appendix AG0001-021 states that 8.1ha of 'forestry' land is required permanently; this paragraph is misleading and requires review.

Page 132		5.4ha of ancient woodland will be lost, however ancient woodland is only a small amount of the total woodland to be lost in this area. Page 19 of Volume 5 Appendix AG001-22 states that 20.5ha of 'forestry' land is required permanently. This paragraph is misleading and requires review.
Both of the above statements made are factually correct however it gives the impression that the only woodland lost is those that it mentions, which is not the case.		
Landscape and Visual Assessment		
Page 132		HS2 Ltd need to determine whether the Viaduct is Drayton Bassett Viaduct or Gallows Brook Viaduct. We believe the watercourse beneath the Viaduct is not Gallows Brook but the watercourse flowing eastwards from Trickleby Coppice.
Sound, noise and vibration		
Page 132		We believe properties of Oak Tree Farm, South View Farm, Oak Dairy Farm and Stone House need to be included as they are likely to be affected by noise from operation of the railway.

VOLUME 1: INTRODUCTION TO THE ES

Document:		Introduction to the ES
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment
General Comments		
Page 7 Para 1.3.4		We expect that any lateral movement of the proposed works, within the limits of deviation, will be accompanied by further environmental and community impact assessment. This is also to be accompanied by detailed consultation
Page 7 Para 1.3.4		An upwards increase of three metres has the potential to create additional environmental and community impacts that we believe have not been considered as part of this Environmental Impact Assessment. We expect further assessment work to be undertaken if the route is to be raised from the current proposals and believe that this requires amending for the upward deviation to be reduced to no more than 1 metre. The County Council believes this will aid in providing certainty for local planning authorities and local residents as to the likely impact when built.
Page 24 Para 2.6.1		In addition to environmental assessment being integral to the route development, it is expected that this should also extend to community impact being integral to the route development and design.

<p>Page 25 Para 3.1.1</p>	<p>Communities along the route in Lichfield have engaged with HS2 Ltd from the start of the process in April 2012. Whilst being opposed to the proposals, the communities of Lichfield have invested a huge amount of their own time and effort in trying to shape the project so as to reduce the impact of the route in their localities</p>	<p>Staffordshire's residents and businesses on the Phase One route have given hours of their own time to respond to various HS2 Ltd consultations in a bid to secure meaningful mitigation. This engagement process has yielded little or no change to the proposed scheme in Staffordshire</p>
<p>Page 25 Para 3.2.4</p>		<p>At the start of HS2 Ltd.'s engagement process the proposed Community, Planning and Environment Forums inter-linked. Despite repeated requests, there appears to have been a disconnect between the environment forum and the planning and community forums</p>
<p>Page 29 Para 3.3.1</p>		<p>Notwithstanding the consultation on the draft Environmental Statement, we consider it unacceptable to have a short consultation period for the formal Environmental Statement. This is exacerbated as the local authorities did not have hard copies of the documents to read from the start of the consultation and have had to wait one week (or longer) to receive a copy. A hard copy of document CFA 21 Drayton Bassett, Hints and Weeford which lies within the Parliamentary Constituency of Tamworth was not lodged at Tamworth Library from the start of the consultation. It is a hard copy of CFA 22 Whittington to Handsacre which are at Tamworth Library. This causes further difficulties to the community representatives who want to review and provide comments on the documentation.</p>

<p>Page 56 Para 5.2.3</p>	<p>Mitigation earthworks and planting should be informed by and integrated into the local pattern of landscape features responding to local distinctiveness, thereby supporting the objectives on the European Landscape Convention and the NPPF. We expect landscape and visual impacts to be minimised through a combination of mitigation earthworks and planting that is informed by and integrated into the local pattern of landscape features and responds to local distinctiveness, supporting the objectives on the European Landscape Convention and the NPPF. Where the route passes through different landscape character types the proposals will be expected to respond to this local variation.</p>	<p>Paragraph refers to '<i>where land is returned to agriculture arable slopes will be re-graded to no steeper than 1:8 although steeper grades may be adopted for pastoral</i>' There is no evidence from the photomontages or sections in Volume 6 that earthworks would enhance integration of the proposed scheme into the landscape.</p>
<p>Page 56 Para 5.2.4</p>		<p>Whilst we welcome the decision to re-use excavated material as a priority to form embankments, it is expected that environmental mitigation will raise the standard and not simply be focused on earthworks. This may require bespoke mitigation to fit into the needs of the local community and environment</p>
<p>Page 56 Para 5.2.4 and Page 83 Para's 6.3.35/6</p>		<p>There is still no clarity on the source of materials for embankments and use of locally ecologically appropriate materials</p>
<p>Page 72 Section 5.15</p>		<p>On completion of construction, it is expected that land (in some cases) will be returned to its previous use which is acceptable to the land owner – if desired. This acceptance also needs to be complete with a maintenance period. Where HS2 dissects</p>

		farmland it is expected that this will be offered, if the original land owner no longer requires it, to adjacent landowners who are looking to mitigate the impact of HS2 on their own farmland.
Ecology		
Page 58 Para 5.3.2		It is stated that all attenuation ponds will normally be dry. This is potentially missing an opportunity to create water habitat along the route and make up for the loss of ponds and areas of open water lost along the proposed route. HS2 don't seem to have made estimates of the amount of open water features lost as a result of the scheme. By holding some water in the many attenuation ponds, they could contribute to compensating for these losses.
Page 74 Para 5.17.11		No mention is made of light pollution from electrical arcing as is experienced on High Speed 1 (HS1). Furthermore no mention is made of measures to control pollution of static lighting at auto-transformer stations as mentioned in previous HS2 documents.
Page 77 Para, 6.2.1		We expect that land will also be required for ecological mitigation. This should not be regarded at a later stage but as an integral part of the construction process. For example protected species mitigation and habitat translocation such as where the route passes through ancient woodland mitigation good practice would mean translocation of woodland soils and vegetation to the mitigation site at the ground clearance stage of works. In other cases instatement of mitigation and compensation planting at an early stage is required to maintain the ecological resource and avoid long time periods of diminished biodiversity that would adversely affect species populations. See para.6.4.1 which identifies habitat

		translocation and creation as part of advance works and para.6.4.5 - 6.4.8
Page 90 Para.6.7		In places, ecological mitigation will be required prior to site clearance or as part of site clearance by means of habitat and/or species translocation or specific habitat management prior to habitat translocation or clearance. This should be made clear.
Page 161 Para 9.1.1		The proposed mitigation hierarchy is welcomed but requires better reflection in the EMRs. Enhancement should be added to reflect the NPPF guidance that development should deliver biodiversity benefit where possible.
Page 166 Para.9.8		The approach to mitigation appears theoretically appropriate and in line with planning guidance and best practice. This approach does not, however, appear to have been applied for several designated sites and priority habitats in CFA21 and CFA22.
Landscape and Visual Assessment		
Page 72 and 73 Para 5.15.2		This paragraph states that compensatory replacement habitat for wildlife species habitats or areas of valued landscape character adversely affected during construction. CF Plans indicate landscape mitigation planting as scrub/woodland which is not necessarily appropriate habitat replacement for lost woodland or hedgerow either ecologically or in terms of landscape character.

<p>Page 42 Para 8.7.10</p>	<p>The decision to only assess viewpoints within 500m of the alignment (Volume 1 s 5.10.3) ignores viewpoints indicated on the Viewpoints Plans and a range of receptors at greater distance that will experience detrimental impacts.</p>	<p>The paragraph describes that landscape character and visual receptors within 500m of the Proposed Scheme have generally been considered with local variation of the study area to take account of variations of visibility. However the maximum distance of the maximum extent of the Study area is 2km, which in view of the height of the proposed embankments and structures, ignores a range of potential receptors.</p>
<p>Page 143 Para 8.7.14</p>		<p>The paragraph states that Impacts on selected views have been illustrated by preparing verified photomontages from locations agreed with the statutory consultees or through visualisations. A number of viewpoints agreed in consultation have not been included in the final document. Viewpoints no longer included e.g. 330-3-001; 337-2-002 no photomontage though previously agreed (assessed as significant effect)</p>
<p>Page 162 Para 9.2</p>		<p>Paragraph states there is commitment to plant 2mill trees but there is no clear quantitative assessment of trees / hedgerow lost.</p>
<p>Traffic and Transport</p>		
<p>Page 59 Section 5.4</p>		<p><i>Shortest practicable route for realignment consistent with design and safety requirements will normally be adopted. PRow realignments will be designed to blend into their surroundings as far as possible and to retain the existing character of the route.</i> This statement is welcomed although two of the diversions currently proposed are significant – Public Footpath No 31 Alrewas and No 0.392 Kings Bromley – and do not appear to follow the shortest practicable route</p>
<p>Page 81 Para 6.3.32</p>		<p><i>The traffic management plan will be implemented during construction in consultation with local authorities. PRow will be one of the measures considered.</i></p>

		The main concern with this Statement is that it would seem to make more sense to finalise the traffic management plan prior to the beginning of construction.
Page 94 Section 6.10.1		<p><i>Where works cross existing roads or PRow and continued use of the highway is not possible, these routes will either be closed off and the traffic diverted onto other existing highways, or new crossings will be built. New crossings will either be built on the line of the existing road or PRow (termed 'online') thereby requiring its closure during construction or alongside or nearby (termed 'offline').</i></p> <p>HS2 Ltd should work to establish the closest and safest possible diversionary route for any of the public rights of way and should avoid diverting pedestrians, cyclists and horse riders onto the road network. It is important that the path is reinstated if any damage to the surface occurs as a result of the proposed development and potential increased vehicular use, particularly by HGV's.</p>
Page 174 Para 9.13.4		<p><i>Where PRow are temporarily closed they will usually be substituted or diverted/realigned (with appropriate signing) to the nearest available PRow (or road if suitable for non-motorised users) prior to closure, until either the original route is re-established (usually via an underpass or overbridge) or a</i></p>

		<p><i>permanent diversion is available. Where several PRow are affected along the same part of the railway, a phased closure programme will be implemented, where reasonably practicable, so as to maintain access.</i></p> <p>The general basis behind this statement is welcomed although we have concerns about the use of the word “usually” and feel that an alternative route for users should always be established during the construction phase. We would also be concerned about any proposal to divert users onto the nearby road network as it is likely that these routes will have increased traffic during the construction period which could create health and safety concerns for pedestrians, horse riders and cyclists. Off road routes should always be at the forefront of consideration. We welcome the decision to operate a phased closure programme rather than a blanket approach to closure of all routes during construction. Please also see comments under 6.10.1.</p>
Waste and Minerals		
<p>Page 155 Para 8.11.2</p>	<p>No indication of the demand for construction aggregates is indicated at this stage and it is not possible to assess whether any additional demand associated with the project needs to be taken into account in planning for local aggregate supply through the current review of Staffordshire’s Minerals Local</p>	<p>The ES does not consider the material inputs to construction (e.g. aggregates) Para 8.11.2 of Vol 1. The document also does not seem to mention minimising the levels of primary aggregates required by incorporating the use of secondary or recycled aggregates where appropriate.</p>

Plan which will assess provision for aggregate minerals over the next 10 to 15 years. Paragraph 3.6.8 of the introduction to the draft Environmental Statement indicates local sources of material would be identified where material from the construction scheme is not suitable or the benefits of importing material are outweighed by the impacts of transportation. The development of borrow pits may be appropriate and should take into account saved policies 51 and 52 of the Minerals Local Plan.

Proposed construction over the period 2017 – 2025 could place significant demand on local sources of aggregate minerals. This could affect the availability of these minerals for other purposes if provision is not taken into account as part of planning for these resources. Currently, the County Council as a Mineral Planning Authority is preparing a new Minerals Local Plan for Staffordshire which would include making provision for sand and gravel which is a significant concrete making material. The ES should consider whether resources sufficient for the concrete needs can be excavated along the construction route as well as providing materials to use as engineering fill. The ES should also identify where secondary aggregates could be used to reduce the burden on primary aggregates and the quantities involved.

VOLUME 2: COMMUNITY FORUM AREA REPORTS

This section contains outlines overarching comments on the two Community Forum Area reports, 21 and 22. This is followed by tables 2.1 and 2.2 which provide more detailed comments on CFA report 21 and accompanying map book; tables 2.3 and 2.4 provide more detailed comments CFA report 22 and associated map book.

CULTURAL HERITAGE

In general the documents appear comprehensive, however, there are anomalies, mistakes and in some cases a misunderstanding of the data (notably of the Historic Landscape Character) throughout. For example there is no clear indication as to how many Conservation Areas are considered and the cumulative assessment of values does not appear to be consistent. In the technical appendices (vol. 5) for CFA21 and CFA22 reference is made to historic map regression; no such map regression is included within the map books and there is only a cursory reference to some historic maps made within the main body of the text. Another example is to be found in paragraph 6.1.7 of CFA 22 where the evidence for the origins of 'piecemeal enclosure' around Whittington, as defined by the Historic Landscape Character (HLC) data, has been misunderstood.

The landscape and visual assessments do mention the spires of the skyline but only very briefly and not in the overall effects section. This needs to be brought out more clearly even if HS2 Ltd do not believe that the proposed scheme will impinge on views then HS2 Ltd will need to demonstrate that it has been considered. As the Cathedral is outside of the 2km study area HS2 Ltd have not assessed its setting and the effect on it. However, the documentation acknowledges that the rural area surrounding the city is part of the setting of the Cathedral therefore it does need to be assessed even though it is outside the 2km.

There appears to be minimal cross-referencing between Cultural Heritage reports as well as between discipline reports. The Cultural Heritage Review in Volume 2 (for both CFA21 and CFA22) makes little reference to Volume 5 and in particular to the Archaeological Character Areas (ACA)/Archaeological Sub-Zones (ASZ) and/or the maps. Areas of archaeological potential are discussed in some detail in Volume 2 for CFA22 but this is not reflected so well in Volume 5 and the lack of cross-referencing makes it difficult to identify the areas of interest. Paragraph 9.1.4 of the Landscape and Visual Assessment (paragraph 9 of the CFA 21 (Volume 2) Report) states that an assessment of the setting of heritage assets will be incorporated in Section 6 (Cultural Heritage), but this assessment is not achieved in Volume 5 of the CFA Baseline report. It is clear from this example that, while referenced, there has been little cross-referencing

or interdisciplinary discussion during the preparation or subsequent quality assurance of these documents.

Section 6 (Historic Landscape Character) of each CFA Baseline Report (vol. 5) has no clear aim and it appears that the data and its contribution to the Environmental Statement have not been fully understood. Section 6 in both CFA21 and CFA22 concentrates too greatly on evidence which should have or already has been discussed in Section 3 (for e.g. place name evidence and the understanding of the previous landscape character). Section 6 should have two inter-related aims:

The first is to assess the historic character of the current landscape. The evidence for this comes from the HLC data, as a starting point, but also other evidence from the Staffordshire Historic Environment Record (HER) including evidence for earthworks (ridge and furrow for example), historic parks and gardens as well as the built environment (historic buildings/settlement patterns/route ways etc.). Questions to be answered should include the extent to which the integrity of the historic landscape (all the components mentioned above) is legible within the landscape. This should then provide a transparent analysis of which of the historic landscapes are the most sensitive to change in order to consider the impacts of the development and the need for mitigation.

The second aim, as stated in paragraph 9.1.4 (of the Landscape and Visual Assessment) should be to use the analysis of the HLC to assess the effects of the development upon the individual heritage assets including the important hedgerows and ancient woodlands. References to the contribution of the setting of the individual heritage assets in Volume 5 Section 4 for example make no reference to the historic landscape character.

Furthermore the historic landscape character does not form part of either the Analysis of Understanding or the Research potential and priorities in Volume 5 Section 9.

A range of non-intrusive investigations comprising walkover survey, hyper spectral analysis, LiDAR survey and geophysical survey is reported on in the supporting reports for each CFA. It remains a concern that local authority officers were not involved in discussions to determine the locations, extent or timing of these works and that we have only just been made aware of the completed works and results. The reports do provide some interesting results which will inform further archaeological evaluation and do identify areas where the survey may have missed archaeological features (i.e. in areas of increased magnetic response) or where weak archaeological responses may not have been picked up during the survey. As such it appears as though a robust assessment is presented although it is not clear what criteria were used to locate the survey areas. The positioning of geophysical surveys was based in part on perceived risk and a 'risk model score' is identified. This is the first and

only time this scoring is mentioned and there is no clear methodology or indeed a breakdown to indicate areas that were scored or how this process was achieved. There is also no clear demonstration of areas where survey teams were unable to gain access to land. As a final note it is acknowledged that these reports are sensitive in nature but it is expected that all elements of the Cultural Heritage section and supporting reports (including preliminary fieldwork) will be submitted to the Staffordshire HER in a timely fashion in hard and digital (pdf) versions.

The methodology of modelling archaeological potential is not discussed at any point within the various Cultural Heritage volumes. When reading the Archaeological Character Areas (ACA) and the Archaeological Sub-Zones (ASZ) for CFA 21 and CFA22 there seems to be confusion within the reports as to the purpose of this characterisation process. Current Land Use should indeed inform the ascribing of ACAs but it is not referenced within individual ACAs. It is also apparent that some ACAs enter into detailed consideration of known archaeological remains and potential, a facet which should lie within the Archaeological Sub-Zones. Once again, the potential for modelling potential was discussed at early meetings of the Heritage Group but there has been no subsequent consultation regarding the methodology or the results before the submission of this document. The work on creating Archaeological Character Areas (ACA) and the ACZs has not adequately considered the historic landscape character. This is partly a result of the lack of understanding of the purpose of the HLC assessment (Section 6). The HLC is cursorily referred to in the ASZ tables, but in order to form an understanding of the archaeological potential and of the important/sensitive historic landscapes it should have been considered as part of the wider ACAs. There is also no clear link between the ACAs and the ASZ, it is assumed that the latter were informed by the creation of the former, but this is not made explicit. Furthermore the ACAs or sub-zones are not referenced in Volume 2; this document should have focused on the outcome of this assessment in order to inform the context of the archaeological potential and mitigation.

There are inconsistencies throughout the table concerning the measurement of Cultural Heritage significance. It is concerning to note that Conservation Areas and Grade II Listed Buildings are ascribed a moderate significance along with locally listed structures. This blanket ascription ignores the special historic significance of individual sites and leads to oversimplification. For example, a Conservation Area is seen as being of moderate significance, while an undesignated heritage asset which has particular special historic connections to a person or event could be considered to be of high significance. The first issue is if it is demonstrably of significance it should have been previously designated (although it is recognised that this is not always the case). Secondly, as an example, the Trent and Mersey Canal (funded by Josiah Wedgwood, built in

part by James Brindley and only the second arterial canal in the country) is considered to be of moderate significance. However, if this asset had not been designated, it would probably have been considered by the EIA methodology to be of high significance. This is one of many inconsistencies brought about by a rigid methodology for the assessment of significance.

There are general concerns regarding the proposals in relation to mitigation in association with impacts to landscape, ecology and forestry. In these sections there is little reference to potential impacts upon archaeological remains or the need to evaluate archaeological potential in response to mitigation. All areas of the scheme (the main route, off route activity, pipeline and road realignments, replanting, earthworks, relevant biodiversity enhancement schemes etc.) must be informed by all aspects of historic environment potential. The draft CoCP outlines this but it must form part of discussions to inform individual Local Environment Management Plans (LEMP). As such relevant officers from the local authorities must play an important part in the development of these LEMPs. Similarly the design, location and scaling of woodland planting and the reinstatement of hedgerows must also be informed by local historic landscape character.

LANDSCAPE AND VISUAL ASSESSMENT

Community Forum Area Report 21: Drayton Bassett, Hints and Weeford

CFR 21 identifies the area around Hints is identified as Sandstone hills and heaths LCA. Planning for Landscape Change in fact identifies the type as Sandstone hills and heaths, subtype estates, which affects the character description. Volume 5 LCA descriptions mention that this area was formerly designated a Special Landscape Area and this is reflected in *Planning for Landscape Change* through the policy objective of Landscape Maintenance and associated guidance. The County Council expects this to inform improved mitigation in order to minimise impacts in compliance with the guidance. The principle of mitigation woodland planting in this area is welcomed, but this needs to be better informed by the local pattern of woodland and guidance on Tree and woodland planting contained in Planning for Landscape Change.

Photomontages such as LV-01-143 illustrate the detrimental impact of incongruous features such as the viaduct with acoustic fence in urbanising and dominating the rural landscape and which result in substantial alteration to the character of the area. The Assessment concludes that for both Sandstone Hills and Heaths and Sandstone Estatelands LCA despite the mitigation proposed impacts from the Proposed Scheme will persist with a permanent moderate adverse effect, which the County Council considers is unacceptable.

Community Forum Area Report 22: Whittington to Handsacre

Comments have already been made generally on the lack of information provided temporary effects during construction, such as use of land for soil storage and material transfer. Specifically in relation to the temporary materials stockpiles and sidings south of the A38 there is little information regarding the impacts on landscape structure and remediation. The Proposed Scheme indicates that field pattern will be reinstated west of the Coventry Canal, but there is no indication of similar to the east. Such additional reinstatement would be essential to ensure impacts on the setting of the Canal and the wider landscape are minimised.

Although the report acknowledges that the engineered landforms of steep embankments will be incongruous as there is no reference to the height and scale of the structures it is difficult to appreciate and assess of the scale of the impact. Although the impact of the overhead line equipment and trains visible on embankment and viaduct are discussed in relation to the presence of the WCML, these would be at a much higher elevation and therefore significantly more intrusive.

Sandstone (outer) Estatelands LCA has been assessed as experiencing a medium magnitude of change. *Planning for Landscape Change* describes this character type as one of gently undulating landform and wide expansive views. The introduction of the viaducts and embankments through this area is considered as a major alteration to key characteristics and operation will markedly alter the tranquillity of the area. On these grounds the County Council consider that, referring to the Methodology Table 20, the magnitude of change should therefore be considered as high in year 1. We are of the opinion that the assessment for year 1, 15 and 60 are understated and the long term impact on this character type are significant. We also consider that statements such as in Paragraph 9.5.116 suggesting that 'landscape mitigation earthworks will help to assimilate the route into the local landform' are considered misleading. At this point the embankment would be up to around 16m high, cutting across floodplain and valley side slopes. There is no evidence from plans that the proposal offers any assimilation into the landform, and indeed this would appear not to be possible.

The setting of Lichfield Cathedral and its prominence on the skyline in rural areas to the south and east of the city is mentioned in 9.3.1. Some of the viewpoint assessments refer to the proposed scheme altering and cutting short views, and views towards Lichfield are specifically mentioned in some viewpoint descriptions (Viewpoints 354.3.006, 350.3.005, 350.3.007), but the effect of severance of views of the Cathedral is not assessed, There will be a fundamental change in the composition of some views, such that for some locations an open rural aspect towards Lichfield, and Lichfield itself will no longer be visible. Impacts need to be fully reported to highlight this as an impact

of development along with the predicted level of impact. Additionally with regard to these viewpoints (and others in the vicinity of extensive viaducts and embankments) the County Council remains of the opinion that residual effects of a such a fundamental change of view will not reduce to non-significant at year 60 as stated in in CFA Report. The foreshortening of views, obstructed by a major embankment where trains would still be visible would, despite maturing vegetation remain a noticeable deterioration in the existing view which is defined as moderate adverse significance in the LVIA Methodology and therefore should still be described as a significant effect.

Inconsistencies have been found between the CFA Report and Plans; for example paragraph 7.4.43 refers to heath and acid grassland creation near Tamworth Road, however this is indicated as woodland creation on Plan CT-06-123a. This not only gives rise to concern regarding other inconsistencies, but also to the accuracy of assessment if this has been considered as potential screening.

Photomontages such as LV-01-153 and LV-01-158 illustrate the dominance of the Proposed Scheme and incongruous nature of the proposal, particularly with respect to embankments viaducts and associated structures, within this rural landscape which result in substantial alteration to the character and that will remain incongruous despite maturing mitigation planting.

TRAFFIC AND TRANSPORT

Community Area Report 21 outlines the Public Right of Way diversions which have been indicated in the Map Books and there do not appear to be any significant errors within the information provided. However, Public Footpath No 9 Drayton Bassett is included as crossing an Overbridge but HS2 does not appear to cross this public right of way and clarification is needed as to why this has been included.

Table 2.1 CFA Report 21: Drayton Bassett, Hints and Weeford		
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment
General Comments		
Page 11 Para 2.2.8		Shortening of Drayton Bassett Viaduct from 255 metres to 155 metres is welcomed but we believe more detailed analysis is required to determine whether or not the proposed viaduct can be lowered across the floodplain to a minimum height commensurate with providing minimum required clearance between structure soffit and 1 in 100 year flood plain level. In addition, the increased length of approach embankments must not restrict material available for landscape earthworks and noise barriers for wider mitigation.
Page 23 Para 2.3.35		It is expected that finalisation works will be agreed, where appropriate, in discussion with relevant officers from both authority's
Page 26 Para 2.3.47		It is unclear why there is reference to contaminated material from the Stoneleigh, Kenilworth and Burton Green area.
Page 34 Para 2.5.5		It should be noted that another main theme to emerge from the community forum meetings was the introduction of fair compensation along with the removal of blight HS2 has caused in the area.

<p>Page 26 and 37 Para 2.6.16</p>	<p>Due to the depth of cutting and destruction of the ancient woodlands, and the designation of a Conservation Area, we expect HS2 Ltd to incorporate approximately 800m length of cut and cover structure (possibly through precast concrete units) between the sections of Roundhill and Rookery ancient woodlands.</p>	<p>The paragraph makes reference to Option C (800m green tunnel) providing a neutral environmental assessment. We believe this option should be explored further so as to develop options around Brockhurst Lane so as to achieve maximum environmental benefits.</p>
<p>Agriculture, Forestry and Soils</p>		
<p>Page 39 Para 3.1.3</p>		<p>"impacts have been calculated quantitatively" ...qualitative effects addressed in ecology and landscape sections 7 and 9" however, there appears to be no qualitative analysis of the habitat(s) that will be impacted, it is shown on maps and listed within sections, but also there is some analysis in Cultural Heritage, section 6. (see below) this spread of information makes it difficult to read and find within the documentation submitted</p>
<p>Page 46 Section 3.4</p>		<p>Within this section there is no recognition that mitigation measures for impacts to forestry (i.e. replanting) may in themselves impact upon archaeologically sensitive areas and so must be appropriately evaluated to determine the need for preservation <i>in situ</i> or through recording.</p>
<p>Page 47 Para 3.4.1</p>		<p>We believe this paragraph should make reference to the CoCP (or LEMP's) to provide the reassurance for developing bespoke avoidance and mitigation measures which are suitable for the surrounding environment and agricultural use. This paragraph should also provide reassurance that such measures will be reviewed to evaluate their effectiveness.</p>

<p>Page 48 Para 3.4.2</p>		<p>There appears to be little bespoke infrastructure provided to mitigate the impacts on agriculture that provide access to agricultural fields either side of the proposed route. We believe this requires review and further discussion with the land owners and affected businesses.</p>
<p>Page 53 Para 3.4.25</p>		<p>States that percentage cover of forest in this area "is higher than national average... making it a resource of low sensitivity, quantitative loss will be negligible". We disagree due to the fact that the percentage cover in this stretch is above the national average (by only 1%) that removing 4% of it will have low impact quantitatively.</p>
<p>Page 50 Para 3.4.11</p>		<p>Whilst it is envisaged by HS2 Ltd that there will not be any surplus topsoil or subsoil from the proposed scheme, should thicker layers of topsoil and subsoil be generated by surplus soils, then this needs to be in agreement with the land owner and have provision for suitable drainage to the requirements of the intended land use.</p>
<p>Page 53 Para 3.4.25</p>		<p>"<i>The qualitative assessment of loss is addressed in other relevant sections</i>" however there is no cross referencing so that this can be viewed easily, for the public, or those unfamiliar with environmental statements that is obstructive and unhelpful.</p>
<p>Page 55 Para 3.4.27 and 3.4.29</p>		<p>Paragraph 3.4.27 highlights that 13 of the 23 holdings '<i>will experience major or moderate permanent adverse effects, which are significant</i>' it is surprising to read in paragraph 3.4.29 that '<i>no significant cumulative effects on agriculture, forestry and soils have been identified for the construction of the proposed scheme</i>'. We believe the proposed scheme has the potential to disrupt and impact on the rural economy and cumulative assessment does not appear to have been carried out.</p>

<p>Page 55 Para 3.4.28</p>		<p>If the owner decides to replace assets using funds generated from compensation, we expect HS2 Ltd to provide support to the land owner given the holistic view of the proposed scheme. The same applies for para 3.4.32.</p>
<p>Page 56 Para 3.4.32</p>		<p>This section does not highlight the potential residual effects of the proposed scheme on Brockhurst Lane and the Canwell Park holding. The 2.7m clearance on Brockhurst Lane is noted but the residual effects are not understood. This requires further investigation.</p>
Air Quality		
<p>Page 57 Para 4.2.3</p>		<p>We disagree that a lower scale of effect should apply to less than 10 properties, and discount totally that a significant effect on a single property. Other Regulatory regimes recognise impact on single or small number of properties (Statutory Nuisance, Local Authority Planning, Local Air Quality Management). We believe HS2 Ltd should amend its air quality assessment to include effects on single and small numbers of properties.</p>
<p>Page 60 Para 4.4.1</p>		<p>As outlined in our comments on the CoCP the control of construction generated dust is solely reliant on those measures contained within the aforementioned document.</p>
Community		
<p>Page 73 Para 5.4.19</p>		<p>Brockhurst Lane underbridge to the south of Hints, will have limited headroom clearance that will restrict passage by higher vehicles and some emergency service vehicles. Further information is required to provide reassurance that suitable access for emergency vehicles is available along Brockhurst Lane from the south.</p>

<p>Page 76 Para 5.4.39</p>		<p>It is expected that HS2 Ltd will support the community displaced by the proposed scheme at Flats Lane/Knox's Grave Lane so develop mitigation and relocation measures that preserve local businesses, community links and quality of life.</p>
<p>Page 77 Para 5.4.42</p>		<p>It is expected, through early contractor involvement, that construction can be programmed and developed to provide a form of access to residents and businesses on Brockhurst Lane located south-west of Hints. This has the potential to reduce the degree of disruption during the proposed 12 month construction period.</p>
Cultural Heritage		
<p>Page 79 Para 6.3.11.</p>		<p>This section discusses the relative lack of evidence for prehistoric finds such as flint and pottery. This is appropriate in this context but it should be noted that this relates to late prehistoric activity and not early prehistoric activity as is identified.</p>
<p>Page 88 Para's 6.4.24 and 6.4.25</p>		<p>Refers to Rookery and Roundhill Wood, as "<i>designated historic features</i>" - sections will be removed of these woodlands but there will be an effect on "<i>the character of the remaining woodland where the proposed scheme and woodland meet.</i>" But there is no reference about how this will be mitigated in the proposals or what this impact will look like or what will happen at this interface. Further information is required.</p>
<p>Page 83 Para 6.3.11.</p>		<p>This section discusses the relative lack of evidence for prehistoric finds such as flint and pottery. This is appropriate in this context but it should be noted that this relates to late prehistoric activity and not early prehistoric activity as is identified.</p>

<p>Page 82 to 84 Para's 6.3.8 to 6.3.22</p>		<p>The Cultural Heritage Review does not refer back to Volume 5 particularly with reference to the ACAs or the maps. Archaeological potential is not discussed to the same level of detail in Volume 5 as it is here. It also fails to discuss HLC or reference it as providing context to the heritage assets.</p>
<p>Page 83 Para 6.3.14</p>		<p>Care should be taken in using evidence from Domesday Book as a guide to potential early medieval settlement as it may not have captured all the settlement present at the time. For example the entry for Drayton Bassett refers to its 'dependencies' suggesting settlement elsewhere.</p>
<p>Page 83 Para 6.3.15</p>		<p>It is suggest by Cantor (1968) that Sutton Chase was created out of the south-eastern part of Cannock Forest as a private hunting forest in 1125. This section should also note the potential for pre-Norman origins of at least the core area of Cannock Forest. The description "wooded landscape" could be taken to imply a reduced potential for medieval (and earlier settlement), it would be more appropriate to use 'woodland landscape" which infers a dispersed settlement pattern and a mixed economy (cultivation/woodland exploitation and pasture). This also does not take account of the population increase noted in Volume 5 and its impact on the landscape (referenced should be made to the HLC data).</p>

<p>Page 83 Para 6.3.16</p>		<p>This section questions whether scattered areas of ridge and furrow are likely to have originated in the medieval period (there is little record for steam ploughing in Staffordshire). This consideration of cultivation in the medieval period has not, however, taken into account the extent of open field agriculture as indicated by the HLC data (Previous Type 'Strip Fields') which is based on field morphology. Neither does it take account of the historic settlement in terms of how the landscape was managed in the medieval period. The impacts of population change and how this may be linked to a changing economy have also not been considered e.g. from the medieval to post medieval period appears to have been a decline in rotational cultivation and increase in pasture (and enclosure). Of the examples given to support the interpretation of small-scale field systems (presumably a reference to enclosure, although this is not made explicit) four of them relate to ridge and furrow rather than field patterns.</p>
<p>Page 84 Para 6.3.17</p>		<p>This paragraph seems out of sequence in the overall text. It is stating that the landscape is 'therefore' post medieval yet there is no discussion of the post medieval sites/landscape until the later paragraphs. Whilst it is noted that much of the legible field pattern is post medieval it fails to consider other components of the landscape e.g. routeways and settlement pattern.</p>

<p>Page 84 Para 6.3.18</p>		<p>There is no discussion of the landscape context of these historic settlements. The historic built character of the settlements may be predominantly 19th century (or 18th century), but does not discuss the settlement pattern (including plan form and historic streets and greens) and the potential for this to be a legacy of the medieval period. There is no reference to the medieval fabric of the church or the 16th century cross at Weeford. Neither does it discuss the nature of the built environment of the settlements for e.g. the surviving farm buildings which are a characteristic of the settlement pattern of Hints.</p>
<p>Page 84 Para's 6.3.19 and S6.3.20</p>		<p>These are the only references to historic landscape. They should be expanded to discuss the wider HLC e.g. the field patterns, surviving woodland, built heritage and how they contribute to the historic landscape character of the area.</p>
<p>Page 84 Para 6.3.20</p>		<p>Only seven important hedgerows have been identified, but it should be made explicit that this is as specifically defined by the historic descriptors contained within the Hedgerow Regulations. Many other important hedgerows (both 'historic' and otherwise) will be impacted by the scheme.</p>
<p>Page 84 Para 6.3.22</p>		<p>Reference should also be made to Canwell Park as a landscape park.</p>
<p>Page 85 Section 6.4</p>		<p>Throughout this section there are references to the impact upon the historic landscape and/or the setting of individual heritage assets, but nowhere in either this volume or in volume 5 is there any analysis of what the historic landscape or setting is. S.9.1.4 (of the Landscape and visual assessment Section (9)) states that "a separate but related assessment of the effects on the setting of heritage assets is included in Section 6", but this piece of work does not appear to have been undertaken.</p>

Page 85 Section 6.4		Specific issues have been raised regarding these sections within the comments on the draft Code of Construction Practice.
Page 89 Para 6.4.43		The first bullet point of this section identifies the use of planting to screen the 'setting of [heritage] assets'. The location and form of planting must be informed by local historic landscape characteristics.
Ecology		
There is an absence in the report of coverage of the impacts of utilities diversion or of proposed mitigation. In places impacts may be significant. As these diversions are an integral part of the works it would be expected that impact assessment and mitigation would be included in the ES but this does not appear to be the case.		
Page 11 Para 2.2.10	CT-05-118 & CT-06-118 show substantial loss of Waggoner's Lane SBI species rich hedgerows of extreme rarity in this part of the County. It is understood that translocation is proposed. Consideration of a green bridge is requested, to maintain habitat connectivity.	A green bridge was requested at Bangley Lane over-bridge to mitigate severance of connectivity for the Waggoners Lane SBI ancient and important hedgerow. This has not been included.
Page 13 Para 2.2.21		This states that woodland and grassland planting will be provided to replace heathland lost. This is not appropriate. Heathland is a rare and priority habitat for this part of Staffordshire and compensation should consist of heathland creation.
Figure 5		No indication is given of the programming of ecological mitigation
Pages 36 & 37 Para's.2.6.12 - 2.6.23	We are concerned with the complete severance of Whittington Heath lowland heathland SBI and expect HS2 Ltd to reduce severance	These sections do not provide a transparent assessment of why alternatives suggested by the community were discounted. Ecological benefits do not appear to have been considered with short term impact weighted over long term effects.

<p>Page 93 Para 7.1.2</p>		<p>Identification of key issues omits the key impact of severance of ecological networks and associated impacts on species. This of particular importance in this CFA for the Hints area. In terms of barn owls the significant issue of mortality should be identified and the consequent population impacts. Impacts on breeding and wintering populations of priority farmland bird species such as corn bunting, grey partridge and tree sparrow are also significant</p>
<p>Page 94 Para 7.3.4</p>		<p>Description of Waggoners Lane SBI here and elsewhere underplays its ecological and historic value.</p>
<p>Page 101 & 102 Table 13</p>	<p>Records cited within the draft Environmental Statement (S. 7.5.9) may be the first Leisler’s bat records for Staffordshire and are therefore significant. We expect HS2 Ltd to consult with Staffordshire Bat Group on their findings.</p>	<p>Records of Leislars bat should be recognised as significant and a high level of mitigation provided</p>
<p>Page 94 Section 7.3</p>		<p>It is clear that cumulative impacts on ecology within this CFA will be of as least County significance</p>
<p>Page 95 Para 7.3.5</p>		<p>Refers to three woodlands recorded as ancient woodland affected by the proposals as Rookery, Roundhill Wood and woodland west of Brockhurst Lane (with no name), however this woodland is not mentioned as showing habitat loss. See ref 7.4.12</p>
<p>Page 98 Para 7.3.28</p>		<p>There is no inclusion of ancient and veteran trees; they have not been assessed as an important natural or cultural asset, despite their National importance, even being referred to in the NPPF. This is a significant omission in the submissions and requires review.</p>

<p>Page 114 Para 7.4.13</p>		<p>We disagree with the evaluation impact is at a 'County' scale. The loss of ancient woodland is at a National/European scale it cannot be replaced as stated in the same document P.119 7.4.39. Mitigation can be carried out but it will never be ancient woodland again. The comment negates the value of the habits importance.</p>
<p>Page 114 Para 7.4.12</p>		<p>Work on existing overhead utilities will affect 1.4ha of PAWS, although the section goes on to say that "<i>work could have no impact</i>" clearly HS2 Ltd cannot say what the impact is going to be and as part of this documentation it is expected that some form of safeguarding the ancient woodland soils is of fundamental importance, despite the species of replanting already there, which is not discussed</p>
<p>Page 118 - 121 Para's 7.4.37 - 7.4.54</p>		<p>Efficacy of mitigation will depend on quality of habitat design and of implementation and appropriate aftercare and long-term management. Robust measures to ensure these will be required to include input of local ecological expertise so far excluded from the EIA process.</p>
<p>Page 119 Para 7.4.39</p>		<p>States that the "<i>ancient woodland soils with its associated seed bank will be salvaged and translocated</i>" but no details of how much and where are given in this document, you have to find that elsewhere. This should have been referenced.</p>
<p>Page 119 Para 7.4.40</p>		<p>Woodland creation adjacent to the SBI is supported; however we cannot find any analysis as to whether the large woodland to be created is appropriate within the landscape. The use of soils from the woodland area lost should be used in the creation of this woodland, where feasible.</p>

<p>Page 119 Para 7.4.42</p>		<p>Mitigation for hedgerow loss does not mention anything about the inclusion of hedgerow trees, but also having not done a basic survey of the tree assets that are affected directly by the proposals; we cannot see how these can be worked into assessing if mitigation will be appropriate. Mature trees are mentioned in 7.3.4 and discussed throughout the Cultural Chapter 6, but at no point has this information been pulled together to give well thought out mitigation.</p>
<p>Page 121 - 122 Para's 7.4.55 - 7.4.58</p>		<p>This assessment of residual impact of construction does not take into account the timescale between habitat loss and the development of mature replacement habitats - for grasslands, hedgerows and heathland probably 10 years, for woodlands many decades. These timescales will have an inevitable effect on species populations.</p>
<p>Page 122 - 123 Para's.7.5.2 - 7.5.11</p>	<p>Measures to reduce operational risks such as collision on bat and other species (e.g. barn owl) need to be considered especially for Leisler's bats where impact is likely to be at the County level.</p>	<p>Impacts on barn owls of collision and death through turbulence effects is not acknowledged nor mitigation proposed. This ignores an impact of County significance that will contribute to the impact of national significance for the route as a whole. The efficacy of proposed mitigation for impacts on bats of operation is not certain; the conclusion that impacts will be mitigated is not supported by robust evidence. Evidence should be provided from monitoring of other schemes e.g. HS1. A monitoring programme is required to inform Phase Two design.</p>
Land Quality		
<p>Page 125 Para 8.1.4</p>		<p>This identifies Mineral Safeguarding Areas, Mineral Consultation Areas and Preferred Areas to assess the potential of the scheme to impact on existing mineral resources and proposed areas of mineral exploitation. However, this has not included an assessment of where existing minerals could be used for the construction of the project at this stage.</p>

<p>Page 138 Para 8.4.40 and Para 9.1.4 of Volume 3</p>	<p>Staffordshire County Council remains concerned that there is a potential to sterilise important mineral resources.</p>	<p>In relation to mitigating the impact of minerals sterilisation, it is suggested minerals could be extracted prior to construction or the creation of landscaping areas. These opportunities should be identified to understand the extent to which the material requirements for the project can be met from prior extraction projects</p>
<p>Landscape and Visual Assessment</p>		
<p>Page 89 Para 6.4.43</p>		<p>Other mitigation - advance planting to reduce impacts on the setting of assets is unlikely to secure significant benefit unless it can be implemented 5-10 years prior to construction. Earthworks mitigation will need to be considered holistically with landscape character.</p>
<p>Page 140 Para 9.2.3</p>		<p>Landscape Character Assessment and visual receptors within 1km of the scheme have been assessed. This is an improvement on the original study area of 500m either side of the alignment but still considered insufficient.</p>
<p>Page 141 Para 9.3.10</p>		<p>Sandstone hills and heaths LCA: Planning for Landscape Change describes this area in the sub variant Estates therefore the character description is inaccurate and does not refer to pattern of woodland. There is no reference to Historic Landscape Characterisation and intactness of the landscape and whether this has informed assessment of sensitivity. Specific guidance on tree and woodland planting in Planning for Landscape Change should be used to inform appropriate mitigation planting.</p>
<p>Page 145 Para 9.4.6</p>		<p>The document has no mention of the embankment at Hints, only the cutting, and this requires review.</p>
<p>Page 159 Para 9.4.110</p>		<p>Potential for early planting is limited as the majority of mitigation planting is located on earthworks, therefore the possibility of securing any additional screening will be limited and unlikely to be sufficiently advanced to deliver enhanced mitigation.</p>

<p>Page 161 Para 9.5.2</p>		<p>There appears to be little evidence of ensuring a well-connected landscape where the proposal is well integrated as suggested in this paragraph - mitigation Plans are focussed on screening and show no attempt to re-establish field pattern and connectivity with severed hedgerows. E.g. plan CT-06-118. Planting such as hedges and woodland along the crest of false cuttings will emphasise the horizontal and be at variance with the surrounding landscape.</p>
Socio-economics		
<p>Whilst it is noted that possible employment loss in agricultural businesses as a result of the proposed scheme is being estimated at a route wide level, we believe it would be prudent to assess possible loss in a community forum area basis - some areas are likely to be impacted at a different level than others. At a route wide level, these impacts can be obscured. This section should make references to correspond with Section 3.</p>		
<p>There appears to be no reference to the cumulative effects of construction on the ability of goods and services to use the highway network during construction which will be impacted by increased construction traffic, road closures, diversions and other traffic management. Such impacts can have an effect on the local economy by impeding on the free flow of such goods and services.</p>		
<p>Page 188 Para 10.4.14</p>		<p>With the impact the proposed scheme has on a business on Drayton Lane, a cafe, farm shop, a wedding venue and an industrial unit on the A51, it appears that these impacts with the potential loss of employment have not been fully considered. Whilst it is noted there is potential for displaced businesses to relocate, it is the current setting of these businesses which could present difficulties in relocation.</p>
<p>Page 188 Para 10.4.14</p>		<p>It should be noted that the rural accountancy business in Flats Lane, employing 4 people, has been missed off the list of business premises to be displaced.</p>

Sound, Noise and Vibration		
CFA 21 Page 199 11.4.14		High levels of construction and operational noise would lead to Mill House and Packington Moor Farm qualifying for noise insulation. The Council seek assurances that HS2 will investigate other methods of providing mitigation to provide protection for external activities.
Page 199 Para 11.4.18		We fundamentally disagree. Rural impact will occur below 40 dB LAeq at night due to existing low background. Night time average screening level should be 30 dB not 40 dB.
Page 198 Para 11.4.12		We disagree with maximum night time noise level criteria of 85 dB for < 20 trains per hour and 80 dB >20 train per hours. These parameters do not allow a sufficient assessment of impact in rural areas where background noise levels are low.
Page 194 Para 11.3.2		Any night time working has the potential to be significant. Stating it is expected to be limited and dismissing it is not acceptable. Further detail will be required on how frequent it will be carried out and what mitigation measures will be proposed. Details are also required on what logistical controls will be implemented to ensure night time working will be kept to a minimum.
Page 200 Para 11.4.26		A number of statements appear in the ES following the identification of residential impacts, such as 'HS2 will continue to seek reasonably practicable measures to further reduce or avoid these significant effects'. An explanation of this together with specifying details is required. Non-inclusion of this information makes it difficult to fully appraise the ES.

Traffic and Transport		
Page 11 Para 2.2.11		Public Bridleway No 10 Drayton Bassett will be diverted to form a junction with Drayton Lane. Users heading east will need to cross the Drayton Lane overbridge before continuing along the road. Further details are requested about the width of the bridge to accommodate non-motorised users, particularly horse riders and any mitigation measures that HS2 Ltd will need to implement including bridge parapets, pavements, etc.
Page 20 Para 2.3.33		Public Footpath No 11 Drayton Bassett will be temporarily diverted for a period of approximately 15 months. Details about this diversion are required.
Page 20 Para 2.3.33		Public Footpath No 9 Hints will be permanently diverted for approximately 10 months for construction of a new underpass close to the existing route. This route is being permanently diverted as a result of the works to implement HS2 but the report should say <i>temporarily</i> for 10 months instead of permanent. Details about this diversion are required.
Page 23 Para 2.3.33		Public Footpath No 11 Hints is described as being diverted to the west of the route to a new connection with Brockhurst Lane then underneath HS2 via an underbridge. This is not clearly shown in the Map Books highlighted above.
Page 23 Para 2.3.33		Public Bridleway No's 5 and 7 Swinfen and Packington will be permanently diverted to the realigned Flats Lane. This is not strictly true as part of Public Bridleway No 7 Swinfen and Packington will need to be extinguished, not diverted

<p>Page 71 Para 5.4.8</p>		<p>The report states that use of route will be affected during construction as increased HGV traffic will be going along Drayton Lane which is a narrow road without a footway and this will 'impair users enjoyment of the route'. Drayton Lane carries the Heart of England Way and is also well used by horse riders due to its links with Public Bridleway No's 9 and 10 Drayton Bassett. There is no mention of the safety impacts of the usage of this road by HGV traffic particularly in relation to equestrians. We would request that HS2 Ltd provide details of any mitigation measures that may be applied to reduce the risk of any accidents.</p>
<p>Page 73 Para 5.4.23</p>		<p>The above comments also apply to this section concerning Weeford where the usage of routes by local riders and people using the Heart of England Way is highlighted.</p>
<p>Page 208 Para 12.4.14</p>		<p>With Brockhurst Lane being closed for up to 12 months, we expect HS2 Ltd to develop suitable construction methods to limit the duration of the permanent closure. Whilst it is stated that there are low flows expected, Brockhurst Lane is used by agricultural vehicles. The cumulative impact on farming which use Brockhurst Lane needs to be understood when developing a diversion route and duration of closure. See comments above for paragraph 5.4.42</p>
<p>Page 209 Para 12.4.22</p>		<p>The minor increased travel distances for Public Footpath No 9 and Public Footpath No 14 Hints, which will both be diverted by approximately 100 metres, is highlighted. We do not believe these distances will have a significant negative impact on users.</p>
<p>Page 209 Para 12.4.23</p>		<p>Public Bridleways No's 5 and 7 Swinfen and Packington will be required to cross a road utilised by construction traffic. These</p>

		routes are particularly well used by horse riders and the report does not say how the safe passage of non-motorised users will be managed during the construction. Further details are required.
Page 209 Para 12.4.23		Public Bridleway No 20 Hints and Public Bridleway No 10 Drayton Bassett will be required to operate alongside the route. This needs to be clarified as it is not clear whether this is during construction or following it. The Map Books do not show either route as running alongside HS2 following diversion, further clarity is required.
Page 210 Para 12.4.28		Having highlighted the residual significant effects on the highway network during construction, it is not clear what mitigation is proposed to reduce delays and congestion on the A38/London Road/A453 Tamworth Road/A446 London Road junction, the A38/A5148/A5206 London Road junction and the A5/A5127 Birmingham Road/A5148 junction. It is also not clear in this section what accommodation works are required to facilitate the safe movement of HGV's along Drayton Lane and Flats Lane.
Page 211 Para 12.5.9		The report states that 14 public rights of way will be realigned/diverted. This needs to be clarified as other information within the Environmental Statement indicates that more than 14 of the routes are subject to diversion or partial extinguishment. This paragraph also states that 5 of these routes will be realigned by less than 100 metres and the effects will not be significant. The maximum alignment is approximately 300 metres which is for Public Footpath No 19 Hints.
Water Resources and Flood Risk Assessment		
We have no comments to make at this stage		

Table 2.3 CFA Map Book 21: Drayton Bassett, Hints and Weeford		
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment
General Comments		
It would be useful if the map book contained a plan illustrating the intended construction routes as it is difficult to determine exactly what the proposed construction routes will be without referring to Volume 5, Map Book, Traffic and Transport.		
Whilst the map books do contain details of the proposed construction routes, they do not show accommodation works to the existing highway. Such accommodation works will be required to facilitate the safe movement of construction traffic and other users of the highway - for example at Drayton Lane and Flat's Lane		
Where access is required to carry out utility diversions, it is not clear from the map books what accommodation/reinstatement works are required and as a result what additional land is required on a temporary basis. It is also not clear how the highway will be used to access the proposed temporary accesses (CT-05-124a-L3 and CT-05-120-L2) - further details outlining vehicle movements and access are required		
We are concerned with the curvature of the route at Hints and question whether or not the tracks are operating close to the limit of the railways technical specification, potentially generating more noise as a result of wheel flanges pressing against the rails at high speed. We believe there is increased potential for more-frequent night-time maintenance resulting in disturbance to the village – the Environmental Statement makes no reference to this. The line speed through the section at Hints has been reduced to 350kph in order to increase curvature which suggests additional noise and night-time maintenance has been incorporated into the design of the project. With this in mind while notwithstanding the environmental and social impacts, we believe enhanced mitigation is required in this location as outlined in this response.		
Ecology		
CT-05-118		Configuration of the cutting and location of temporary storage bunds appears to increase impacts on Roundhill Wood SBI and ancient woodland in contradiction to the adopted mitigation hierarchy prioritising avoid-minimise of damage to significant ecological interest.

CT-05-120	SCC proposal for an 810m cut and cover tunnel to maintain habitat connectivity and reduce impacts on the adjacent ancient woodlands.	The works footprint appears larger than needed and includes loss of priority wet grassland habitat which qualifies as SBI and more impact on SBI ancient woodland than strictly necessary in contradiction to the adopted mitigation hierarchy prioritising avoid-minimise of damage to significant ecological interest. The proposed green overbridge appears too narrow to provide ecological connectivity.
CT-05-122		It is not clear how the proposed Heathland Habitat Creation will support or enhance the loss of heathland at Whittington Golf Club. This proposal removes a field which has the potential for agricultural use. We question whether or not this heathland habitat would be better located by being directly linked into Whittington Heath Golf Club and incorporated into their proposals.
CT-05-123a	SCC proposal for a 400m cut and cover tunnel to maintain habitat connectivity.	Damage to and fragmentation of SBI. Inclusion of temporary stockpiles within the Whittington Heath Site of Biological Importance appears to increase the impact on this LWS and priority habitats in a way that could be avoided.
Landscape and Visual Assessment		
	Clarity is required on the meaning of the term 'planting' on the plans	Landscape mitigation planting now indicated as scrub / woodland. Excessive use of scrub planting would not be an appropriate solution sympathetic to all landscape character types.

Page 91		Viewpoint 333-2-005 absent from Summary Table referred to in report as major adverse effect. On upon review of the documentation, there appears to be other omissions.
Traffic and Transport		
CT-05-117	Drayton Lane is used by agricultural machinery; the current alignment and road width at the structure does not consider an oncoming vehicle approaching a large agricultural machine. This is further exacerbated by the reduced forward visibility. There is also concern regarding who is going to maintain the proposed landscaping as illustrated on the current drawings. The highway authority has concerns regarding the safety of the proposed alignments, in particular the forward visibility and horizontal alignment. The residents of Drayton Bassett also share concerns of the proposed alignment and expect the alignment of Drayton Lane and Shirral Drive to remain at their current position	Despite meetings with HS2 Ltd highway engineers to outline our concerns over the proposed alignment at Drayton Lane, the County Council remains concerned over this proposed alignment - in particular the potential lack of forward visibility and carriageway width at the over bridge
CT-06-117		Public Bridleway No 10 Drayton Bassett is clearly shown being diverted to the west of HS2 to link with Drayton Lane. The route will terminate at Drayton Lane but users heading east will need to cross the Drayton Lane overbridge before continuing along the road. Further details are requested about the width of the bridge to accommodate non-motorised users, particularly horse riders and any mitigation measures that HS2 Ltd will need to implement including bridge parapets. Also on this map Public Footpath No 9 Drayton Bassett has been shown as Public Footpath No 6 Drayton Bassett which requires amending.

CT-06-118 (Proposed Scheme)		It is not clear how the vehicles exiting out of the access (F7) to White House Farm (or remaining property) will see vehicles travelling on Bangley Lane passing over the proposed scheme towards the access.
CT-06-118		Public Bridleway No 20 Hints will be diverted for a short distance to cross an accommodation Overbridge. Further details are requested about the width of the bridge to accommodate non-motorised users, particularly horse riders and any mitigation measures that HS2 will need to implement including bridge parapets.
CT-06-118		Public Footpath No 9 Hints will be diverted for a short distance to cross an accommodation Overbridge. The longer diversion of Public Footpath No 8 Hints is also shown running at the bottom of the embankment to the north of the railway
CT-06-118	The current proposal illustrates a reduced height rail overbridge at Rookery Lane and we expect HS2 Ltd to provide information relating to the impacts of this restriction on the village and surrounding area	As outlined in response to section 3, we are unclear as to the long term impacts of reduced headroom clearance of 2.7m at Brockhurst Lane. We believe this requires further assessment and investigation
CT-06-120		Public Footpath No 14 Hints will be diverted for a short distance to cross a Green Overbridge. Public Footpath No 13 Hints will be subject to a longer diversion between Brockhurst Lane and Public Footpath No 14 Hints at the eastern side of the Green Overbridge is shown as a footbridge which correlates with the preliminary design documents in 2012.

CT-06-120		The sighting of the access to the road head appears to be in a low point of Watling Street. With reduced forward visibility for vehicles approaching the access from the north-easterly direction, and based on the anticipated number of HGV movements (970 - 1000), additional works maybe required to improve highway safety for all users.
CT-06-120		Public Footpath No 11 Hints is shown as a 'Stopped up PRoW'. A diversion of this route is not clearly shown and this needs to be clarified.
CT-06-121		Public Footpath No 19 will be diverted along the western side of HS2 before passing beneath the line under a viaduct. A short section of both Public Footpath No 0.377 and 0.378 are shown as being 'Stopped Up PRoW'. From the Legend it is difficult to ascertain the detail about the diversion although there appears to be a new access road which would create a link with Watling Street. HS2 Ltd need to clarify the proposals at this point.
CT-06-121		Public Bridleway No 4 Hints will be diverted for a short distance to run along the eastern side of HS2 before crossing the A5 Trunk Road via an Overbridge. Further details are required about the width of the bridge to accommodate non-motorised users, particularly horse riders and any mitigation measures that HS2 Ltd will need to implement including bridge parapets.
CT-06-121		Public Bridleway No 5 Swinfen and Packington will be diverted for a short distance to the west of the railway to link with Flats Lane. Further details are required to determine how the bridleway will be maintained through the area of planting. Part of Public Bridleway No 7 Swinfen and Packington will need to be extinguished if Flats Lane is diverted to the west. It is

		disappointing that Public Bridleway No 5 is being diverted, albeit slightly, as this currently provides a direct link with Public Bridleway No 7 without the need for any travel along the road.
CT-06-122		Public Bridleway No 8 Swinfen and Packington and part of the Heart of England Way is shown diverted to the east of the railway running through an area of planting before crossing to the west side of the line at the 'Horsley Brook Farm Green Overbridge'. Further details are required to determine the width of the bridleway as it runs through the area of planting. Further details are also required concerning the width of the bridge to accommodate non-motorised users, particularly horse riders and any mitigation measures that HS2 Ltd will need to implement including bridge parapets.
Sound, noise and vibration		
SV-05-059		The current proposals of 1.4m high barriers across the viaduct and 3m high barriers on the approach embankments are both visually intrusive and wholly ineffectual when compared with the 4-8m high landscaping provided on the approach to Drayton Lane Cutting. Re-siting of the Auto-transformer Station and Balancing Pond to the other side of the approach embankment will improve protection from visual and noise intrusion if they cannot be moved further away into Drayton Lane Cutting. Oak Tree Farm, South View Farm, Oak Dairy Farm and Stone House in particular but also Oak Farm and Oak Cottages are vulnerable to noise and visual intrusion from Drayton Bassett Viaduct and the Auto-transformer Station and Balancing Pond. Volume 2 CFA21 paragraph 9.4.29 viewpoint 332.2.005 acknowledges this as major adverse effect during construction. Volume 2 CFA21 paragraph 9.5.42 viewpoint 332.2.005 assesses the operational effect as moderate adverse in spite of

		<p>established planting from year 15 onwards. Baseline sound levels at Oak Dairy Farm and Stone House were measured at 47.3 dB and at Oak Tree Farm as 50.3 dB both during daytime. Night-time sound levels were approximately 3 dB lower. It is noted that Oak Dairy Farm, Stone House and South View Farm all lie within the 50 to 65 dB area of HS2 generated daytime rail noise (40 to 55 dB night-time) shown on Map SV-05-059. This noise does not include aerodynamic noise generated by HS2 trains. HS2 Ltd refer to Japanese research into aerodynamic noise. The suggestion is that the research is incomplete and that HS2 are unable to unequivocally declare the aerodynamic noise within the Environmental Statement.</p>
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Table 2.3 CFA Report 22: Whittington to Handsacre		
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment
General Comments		
Page 12 Para 2.2.4		The Streethay sidings and the reception sidings set to the north alongside the South Staffordshire Line pass over the Coventry Canal and not the Trent and Mersey Canal as the text explains.
Page 12 Para 2.2.4		The passing places that appear to be incorporated along the remaining length of Shaw Lane are not shown on drawing CT-05-129
Page 12 Para 2.2.4	For the reuse and recycling of excavated materials, there will be a need for construction sites to carry out processing and stockpiling materials. The draft Environmental Statement includes proposals for the import, processing and storage of materials at Streethay including the provision of rail sidings and this facility is planned for 6 years duration. We expect this significant facility to be assessed in terms of relevant policy found in the Waste Local Plan in terms of sustainable design (policy 4.1) and protection of environmental quality (policy 4.2).	The extent of the site at Streethay has been reduced. Given the reduced size of the site will there be sufficient capacity within this site to process and store recycled aggregates?
Page 24 Para 2.3.24		Further details are required to understand the phasing of the highway works and closures to ensure vehicle access is available to the village of Whittington and reduce the impacts of community severance.

<p>Page 24 Para 2.3.36</p>		<p>The cumulative overnight and weekend closures of the railway need to be assessed. More detailed comments are provided in response to volume 3.</p>
<p>Page 28 Para 2.3.40</p>		<p>HS2 Ltd propose to facilitate construction by use of temporary rail sidings at Streethay. We are concerned that the use of this siding particularly at night will cause unacceptable noise disturbance and seek assurances that mitigation will be provided to ensure adverse effects are minimised.</p>
<p>Page 30 Para 2.3.49</p>		<p>It is expected that finalisation works will be agreed, where appropriate, in discussion with relevant officers from both the County Council and Lichfield District Council.</p>
<p>Page 33 Para 2.3.62 to 2.3.66</p>		<p>It is expected that detailed engagement with both the county Council and Warwickshire County Council will take place to understand the traffic impacts and movements of Kingsbury Road Railhead to access the Cappers Lane auto-transformer station satellite compound.</p>
<p>Page 38 Para 2.5.3</p>		<p>It should be noted that another main theme to emerge from the community forum meetings was the introduction of fair compensation along with the removal of blight HS2 has caused in the area.</p>
<p>Page 44 Para's 2.6.30 & 2.6.32</p>	<p>The current proposal illustrates significant structures over the WCML, South Staffordshire Railway Line and A38 which will have huge visual and noise impacts to those residents on Cappers Lane and in Whittington as well as the general landscape. The proposals illustrate the railway being on a new structure at a height of</p>	<p>Section 2.6.32 outlines a lower route option in this area providing an overall reduction in environmental impacts but that they have been discounted on the grounds of cost and disruption to existing transport infrastructure. We believe this option of a lower route with improved environmental benefits should be explored further and should not be discounted on the</p>

	<p>10m–15m above current ground level with a further 9m required for the overhead power equipment. These structures will have visual impacts far beyond the outlying villages of Lichfield with no effective means of reducing its effect.</p>	<p>grounds of cost or potential disruption to existing transport infrastructure. With further investigation an engineered solution can be found to reduce disruption on existing transport infrastructure.</p>
<p>Page 45 Para 2.6.36</p>	<p>We expect appropriate phasing of construction from Phase One and Two so as to reduce the duration of disruption to the local community. At the very least, we expect HS2 Ltd to have seamless construction between Phase One and Phase Two. If construction of Phase Two is delayed then we expect HS2 Ltd to construct at least 1km of the Phase Two line under Phase One.</p>	<p>We expect a seamless construction between Phase One and Phase Two so as to reduce the duration of disruption on the local community and environment. We believe the proposed 150m of the Phase Two route should be extended further north of the Trent and Mersey Canal, possibly to Shaw Lane, to avoid repeated impacts.</p>
<p>Page 45 Para 2.6.41</p>	<p>In reaching a balance of capital, environmental and social cost, we believe the line could be significantly lowered by diverting the Trent & Mersey Canal to run in a parallel corridor of the HS2. This would eliminate the two over-bridge structures and provide a visual screen from the railway with planting to the banks of the canal and towpath. The remaining canal would remain as an ecological compensation area and remain connected to the existing (diverted) canal. Any environmental mitigation in this area is to be monitored for its effectiveness and further work required by HS2 Ltd if necessary.</p>	<p>We believe options surrounding a lower alignment in the vicinity of the Trent & Mersey Canal need further investigation in order to develop wider environmental and social benefits. We are aware of proposals being out forward by other organisations and we await further details in order to examine these proposals in greater detail.</p>

Agriculture, Forestry and Soils		
Page 47 Para 3.1.3		This paragraph states that <i>'forestry is considered in this chapter as a land use and is assessed quantitatively and states that the qualitative effects on forestry land and woodland area addressed in the ecology and visual assessments (in sections 7 and 9)'</i> . It has omitted to comment that the importance of woodland is also discussed in depth throughout section 6 Cultural Heritage
Page 55 Para 3.4.1		There appears to be little infrastructure provided to mitigate the impacts on agriculture that provide access to agricultural fields either side of the proposed route. We believe this requires review and further discussion with the land owners and affected businesses.
Page 59 Table 11		We would anticipate the disruptive impacts on Hill Farm Streethay to be high given that it appears to be extinguished to facilitate the proposed Streethay rail sidings. The table references low disruptive effects.
Page 61 Para 3.4.19		This paragraph states <i>"no cumulative effect"</i> and yet on page 62 paragraph 3.4.25 states that the extent of the forest cover is less than average - the loss of this woodland is significant.
Page 61 Para's 3.4.17 and 3.4.19		Having highlighted that <i>'27 holdings will experience major or moderate adverse effects during construction, which are significant'</i> this is contradicted in para 3.4.19 which states <i>'no cumulative effects on agriculture, forestry and soils have been identified for the construction of the proposed scheme'</i> . We consider these impacts to have a significant impact on our rural economy which doesn't appear to have been assessed.

<p>Page 62 Para 3.4.25</p>		<p>This paragraph states that the "<i>qualitative assessment of loss is addressed in other relevant sections</i>" but doesn't give any indication where those sections are so that you can look at them. This is unhelpful and with the amount of documentation within the details deposited it is difficult to assess.</p>
<p>Page 65 Para 3.4.28</p>		<p>If the owner decides to replace assets using funds generated from compensation, we expect HS2 Ltd to provide support to the land owner given the holistic view of the proposed scheme. The same applies for para 3.4.32.</p>
Air Quality		
<p>Page 67 Para 4.2.3</p>		<p>We disagree that a lower scale of effect should apply to less than 10 properties, and discount totally that a significant effect on a single property. Other Regulatory regimes recognise impact on single or small number of properties (Statutory Nuisance, Local Authority Planning, Local Air Quality Management). We believe HS2 Ltd should amend its air quality assessment to include effects on single and small numbers of properties.</p>
<p>Page 70 Para 4.4.1</p>		<p>As outlined in our comments on the CoCP the control of construction generated dust is solely reliant on those measures contained within the aforementioned document but it is expected that these control measures will be review if they are found not be working.</p>
Community		
<p>Page 77 Para 5.3.8</p>		<p>Further details are required to understand the phasing of the highway works and closures to ensure vehicle access is available to the village of Whittington and reduce the impacts of community severance.</p>

<p>Page 81 Para 5.4.5</p>	<p>We expect specialists employed by HS2 Ltd to assist in the redesign of the course and buildings to a standard which the club and the local planning authority are happy with. We expect a seamless transition of the golf course in order for it to remain functional. This seamless transition will require HS2 Ltd to start the accommodation works in advance of the work required specifically for the railway. Due to the depth of cutting through the course, we believe HS2 Ltd can incorporate a 400m cut and cover structure (green tunnel) from the south of the A51 through the course where the route begins to emerge from cutting to current ground level.</p>	<p>The Health Impact Assessment makes reference to Whittington Health Golf Club being closed for 12 months during construction and a further period of time after to reinstate it. We believe this needs to be suitably referenced in the CFA report. Although a private members club, this facility does provide employment and attract business from outside of Staffordshire. There appears to be no assessment of the impacts this will cause both during construction and operation of the proposed scheme. On-going, more detailed engagement is expected by HS2 Ltd with the representatives of the club as outlined in para 5.4.42</p>
<p>Page 84 Para 5.4.17</p>		<p>We question whether or not the presence of the structure at Cappers Lane, and its peers, can be designed so as to reduce the permanent effects on Lichfield Cruising Club's operations and activities.</p>
<p>Page 84 and 85 Para's 5.4.19 and 5.4.24</p>		<p>The loss of two thirds of land at Horsepower Equestrian Centre for a period of 6 years will have a major adverse effect on the facilities ability to operate during construction, as stated in the ES. However, the permanent effects of this facility assume that it will be able to remain functional (which are discounted in para 5.4.19) during construction. We believe the impacts of HS2, once operational, on this facility require review. Para 5.4.42 is welcomed.</p>

Cultural Heritage		
Page 91 Para 6.2.3.		This section refers to the interdisciplinary approach of the ES and identifies that the historic environment is considered within other discipline topic reports (i.e. ecology, landscape and visual, agriculture, soils and forestry). A review of these topics reports can find little reference to the historic environment. It is concerning that this apparent lack of an inter-disciplinary approach is apparent in the reports despite this issue being raised at a number of meetings and in previous consultations.
Page 91 Para 6.2.3.		Cross-referencing between Cultural Heritage reports and with other disciplines is undertaken in a fragmentary manner. The Landscape and Visual Assessment (s9.1.4) states that a separate but related assessment of effects on the setting of heritage assets will be undertaken in section 6 (Cultural Heritage). While this does happen, this does not appear to influence or inform the Landscape and Visual Assessment through an understanding of historic landscape character, parkland estates, farm complexes etc.
Page 91 Para 6.2.3.		It is questioned whether ancient woodland is in fact classed as a designated asset. NPPF identifies ancient woodland as being of national importance although there is not statutory designation. These assets could be designated as, for example SSSIs although such protections are not made explicit here. It is good to see this asset identified within the historic environment reports however, beyond reference to specific woodland areas these assets are not used to inform historic character.
Page 92 Para 6.3.3 and Page 63 Para 6.3.4		Lists ancient woodlands as "designated heritage assets"

<p>Page 96 Para 6.3.13.</p>		<p>This section considers that settlement 'appears to have focused in the prehistoric and Roman periods around the valleys and tributaries of the rivers Trent and Tame.' This is a somewhat dangerous assumption based upon a bias in the archaeological record based associated with development and extraction within the Trent and Tame valleys. This scheme should not discount the potential that upland areas and heavier soils may also contain evidence for settlement and exploitation. For example, up until recently a similar model of riverine focus was proposed for Warwickshire before investigations on heavier 'woodland soils' and on elevated positions recovered evidence for in particular prehistoric activity (<i>A Stocks pers comm</i>). This section also fails to consider the potential for Palaeolithic remains and associated environmental evidence within deep gravel deposits. This potential is highlighted in the cultural heritage baseline report and while of low potential, if discovered, would represent discovery of some considerable archaeological significance.</p>
<p>Page 96 Para 6.3.11</p>		<p>The paragraph describes the landscape as predominantly 18th/19th century in origin, but does not mention evidence for earlier origins and the survival of earlier landscape types (e.g. at Curborough and Longdon), although both of these landscapes are identified as being of particular importance in the Gazetteer and the Impact Assessment Tables. The paragraph also fails to discuss other aspects of the historic landscape such as the settlement pattern, historic parks and gardens, built environment or routeways and their contribution to the legible historic landscape character.</p>

<p>Pages 95 to 97 Para's 6.3.8 to 6.3.20</p>		<p>The Cultural Heritage Review does not refer back to Volume 5 particularly with reference to the ACAs or the maps. Archaeological potential is not discussed to the same level of detail in Volume 5 as it is here. It also fails to discuss HLC or reference it as providing context to the heritage assets.</p>
<p>Page 97 Para 6.3.19</p>		<p>This section fails to consider the role that the construction and maintenance of water meadows during the late 16th-19th centuries may have had within the low-lying areas of the study area.</p>
<p>Page 97 Para 6.3.16</p>		<p>The paragraph states that there is no evidence for early medieval settlement in the study area (although presumably it means physical evidence) and it does not consider the evidence of Domesday Book to determine the potential for early settlement sites at Packington and Handsacre for example. It should also make reference to the fact that physical evidence for early medieval activity is known from the wider landscape at Lichfield, Tamworth and Catholme (as is noted in Vol. 5).</p>
<p>Page.97 Para 6.3.17</p>		<p>There appears to be limited understanding in this paragraph of the development of the historic landscape (described here as being enclosed from the early medieval period, not something which is stated in Vol. 5). The references to the scattered ridge and furrow are not put into any kind of context in terms of the extent of the exploitation of the landscape in the medieval period which can to a degree be identified in the HLC dataset which is based on evidence from field morphology.</p>

<p>Pages 98 and 100 Para's 6.4.4 and S.6.4.6</p>		<p>Throughout these two sections there are references to the impact upon the historic landscape and/or setting of individual heritage assets, but nowhere in either this volume or in Volume 5 is there any analysis of the historic landscape or setting. S9.1.4 (of the Landscape and visual Assessment Section (9)) states that "a separate but related assessment of the effects on the setting of heritage assets is included in Section 6", but this piece of work does not appear to have been undertaken.</p>
<p>Page 100 Para.6.4.6 (bullet point 4)</p>		<p>With reference to the historic landscape at Curborough (WHA227); the preceding sections fail to mention piecemeal enclosure or discuss the wider historic landscape. Consequently, it is not transparent as to why this landscape has been identified as being of significance, although we do not disagree with the assumption. It has not been put into context with the quality of the surrounding landscape for example. It is also concerning to note that the impact on this landscape is identified as being moderate but that the landscape and visual assessment section has not raised this as a significant asset. Once again there is a marked lack of an interdisciplinary approach to assessment and, as a result, to the development of mitigation proposals.</p>

<p>Page 103 Para 6.4.9</p>		<p>In bullet point 1 the use of planting to reduce impacts on the setting of (heritage) assets is supported, however, this and more general landscape and planting design must be informed by an understanding of the unique historic character or an area. In bullet point 2 preservation <i>in situ</i> through the design of earthworks is to be supported where this design reduces impact. The draft CoCP suggests that archaeologically sensitive assets will be 'preserved <i>in situ</i>' beneath earthwork embankments. It is difficult to see how burying potentially sensitive sites under hundreds of tonnes of soil will preserve the site for future generations. Anything that survives such compression will have undergone a prolonged and massive amount of compression. Design should look to minimise impact and preserve <i>in situ</i> and should be informed by significance and an understanding of the asset to be preserved. Where such preservation is proposed there must also be a mechanism for long term monitoring of asset condition.</p>
<p>Page 114 Para 7.3.18</p>		<p>This paragraph does not pick up the detail which is found in 7.3.4 which states that the hedgerow is contains "<i>mature pendunculate oak standards up to 20m... every 50m</i>" There is clearly the potential for this hedgerow to have a number of ancient and veteran trees, which are highlighted in the NPPF due to their rarity and National importance. However the documentation has failed to collate any of this detail.</p>
<p>Page 117 Para 7.3.32 and 7.3.33</p>		<p>There is no inclusion of ancient and veteran trees. They appear not to have been assessed as an important asset, we require HS2 Ltd to review this and provide assessment conclusions.</p>

<p>Page 132 Para 7.4.12</p>		<p>We disagree with the evaluation that the impact is at a "County" scale. The loss of ancient woodland has a national/European impact as it cannot be replaced. Mitigation can be carried out but it will never be ancient woodland again. The document even states this in 7.4.36. This comment negates the value and its importance</p>
<p>Page 137 Para 7.4.13</p>		<p>Discusses the significance at a local/parish level, which contradicts the value placed on the cultural importance in Part 3 of the document</p>
<p>Page 137 Para 7.4.36</p>		<p>5.4ha of ancient woodland is sighted as being lost. However this paragraph then states that "<i>other measures may also be appropriate such as planting</i>" This is ambiguous; we believe appropriate planting is very much required, to ensure soils are protected and to prevent the entire area becoming scrub not woodland. If this is part of the mitigation proposal this is inadequate, we expect HS2 Ltd to undertake further work on mitigation arrangements</p>
<p>Page.138 Para 7.4.41</p>		<p>Mitigation for hedgerow loss does not appear to include hedgerow trees. In completing a basic survey of the tree assets that are affected by the proposals we cannot see how these can be worked into assessing if mitigation will be appropriate. Mature trees are mentioned in 7.3.4 and discussed throughout the Cultural chapter 6 of this document but it should be noted that the loss of the trees changes the historic context and at no point do the different chapters of this document try and pull together well thought out mitigation. This needs addressing.</p>

Ecology		
<p>There is an absence in the report of coverage of the impacts of utilities diversion or of proposed mitigation. In places impacts may be significant such as on the woodland complex of Ravenshaw Wood, Black Slough and the Slaish and the significant bat assemblage recorded there. As these diversions are an integral part of works it would be expected that impact assessment and mitigation would be included in the ES but this does not appear to be the case.</p>		
<p>Pages 13 - 17 Para's 2.2.12 - 2.2.23</p>		<p>It should be acknowledged that this substantial stretch from Cappers Lane to the WCML will have a high impact on ecological connectivity due to the physical barrier of 16 metre embankments that cannot be adequately mitigated. Different ecological connectivities can be created and are proposed as compensation but it should be acknowledged that there will be fundamental changes to ecological networks in this area.</p>
<p>Pages 17 - 18 Para's 2.3.5 - 2.3.7</p>		<p>Advance mitigation works should include translocation of ancient woodland soils and replacement woodland planting; heathland habitat creation at Whittington and other habitat creation that is feasible at this stage to provide as much ecological continuity as possible.</p>
<p>Page 109 Para 7.1.2</p>		<p>This summary of significant ecological impacts omits the significant impacts on ecological connectivity see comments on s.2.2.12-2.2.23. Impacts on species are also omitted.</p>
<p>Page 114 Para 7.3.14</p>		<p>Wood End Lock SBI is mis-identified as of district value. As an SBI this site is of county value.</p>

<p>7.3.34 Table 14</p>		<p>There are very few Daubenton's bat maternity roosts known in the County therefore the small roost identified in a residential building east of Ravenshaw Wood is significant and maintenance of commuting and foraging routes is important plus mitigation of construction impacts such as creation of barriers to movement and lighting. Records of Leislars bat are significant at the County level. Bat Conservation Trust guidance is that in view of its rarity in Britain all known roosts are important and special care should be taken of roosts in buildings and of wooded areas where the species is known to occur. This indicates that further work is required to assess impacts on this species and identify appropriate mitigation especially in the Ravenshaw, Black Slough and Slaish woodlands. In particular it is noted that Vol 5 Technical Appendices CFA16-22 Ladbroke-Handsacre Ecological baseline data: mammals (EC-003-003) Ecology Table 14.8 confirmed tree roosts within CFA22 identifies several tree roosts of unknown bat species within the working area. Further assessment to determine impact on Leisler's bats is required With records of nine bat species and a considerable volume of activity this woodland complex, significantly affected by HS2 in terms of habitat loss and fragmentation, is clearly of high importance for bats and therefore impacts are of potentially County significance.</p>
<p>7.3.34 Table 14</p>		<p>Veteran field maple on the field boundary of Hanchwood House Wood - measures for protection of this significant tree are required.</p>

<p>Page 110 Section 7.3</p>		<p>It is clear that cumulative impacts on ecology within this CFA will be of at least County significance. Significant impacts on ancient woodland and important species of National Grid high pressure pipeline diversion have not been identified or assessed with consequently no mitigation offered.</p>
<p>Page 129 Para 7.4.1</p>		<p>Inclusion of temporary stockpiles within the Whittington Heath Site of Biological Importance appears to increase the impact on this LWS and priority habitats in a way that could be avoided. The installation of underpasses will not provide mitigation for severance of foraging and commuting routes for all bat species recorded. Some, including rarer species, may well be highly vulnerable to collision and air pressure mortality from trains.</p>
<p>Page 133 Para 7.4.18</p>		<p>It should be acknowledged that even a temporary prevention of bats from foraging could have an adverse effect to the bat population affected due to the nutrition requirements of these species. Where foraging or commuting routes are disrupted by construction activities or lighting measures to ensure that alternative habitat is available are required especially for rarer bat species and maternity roost populations. Measures outlined in s7.4.20 should be utilised to protect the Daubenton's maternity roost.</p>
<p>Page 134 - 135 Para's 7.4.23 - 7.4.25</p>		<p>These sections make clear the impact on bats of this section of the line which will be permanent adverse and significant at least district and perhaps county level. S.7.4.24 is inaccurate in suggesting impacts to the bat assemblage on the woodland complex of Ravenshaw Wood, Black Slough and the Slaish will be temporary when it will clearly be permanent. Consideration is required of alternatives to the proposed National Grid pipeline</p>

		diversion route as this greatly increases impacts on ancient woodland and rare bat species.
Page 137 Para 7.4.37		This section acknowledges that ancient woodland is irreplaceable but then goes on to say that mitigation will result in overall benefit. This is clearly misleading and conflicts with s.7.4.46. Planted and secondary woodland lacks the ecological complexity and diversity of ancient woodland and will not provide the habitat for bats and invertebrates that will be lost.
Page 138 Para 7.4.42 - 7.4.43		The success of proposed compensation for impacts on Whittington Heath SBI will depend on heathland establishment techniques which are likely to require soil inversion to create suitable edaphic conditions. The appointed contractor will need to be made aware of requirements to ensure measures are incorporated into the scheme. Habitat design will need to take account of the requirements of terrestrial invertebrates of conservation importance recorded on site
Page 139 Para 7.4.47		Impacts on woodland will only be neutral or beneficial if woodland establishment and management are appropriate. Planting trees alone does not compensate for loss of woodland. If mitigation is to be successful introduction of woodland groundflora would be required after 5-10 years as the canopy develops and long-term management is required to create structural diversity. It is disappointing that mitigation does not include restoration/enhancement of the remaining areas of woodlands affected which would be of significant benefit in places.

<p>Page 140 Para.7.5.4</p>		<p>This states that as bats forage over a wide area operational impacts would be low but ignores the fact that the line passes through features in the landscape of high importance to bats and therefore affecting populations disproportionately.</p>
<p>Page 142 Para.7.5.13</p>		<p>The statement that the mitigation, compensation and enhancement measures described reduce the residual ecological effects during operation to a level that is not significant, except for the barn owl pair south-east of Handsacre near Kings Bromley Wharf is not robust as impacts on ancient woodland cannot be mitigated, time lapses will mean inevitable impact on habitats and mitigation of some species impacts is by no means certain.</p>
Land Quality		
<p>Page 143 Para 8.1.4</p>		<p>This identifies Mineral Safeguarding Areas, Mineral Consultation Areas and Preferred Areas to assess the potential of the scheme to impact on existing mineral resources and proposed areas of mineral exploitation. However, this has not included an assessment of where existing minerals could be used for the construction of the project at this stage.</p>
Landscape and Visual Assessment		
<p>Page 138 Para 7.4.43</p>		<p>Refers to heath and acid grassland creation near Tamworth Road, which is indicated as woodland creation on Plan CT-06-123a. This not only gives rise to concern regarding other inconsistencies, but also to the accuracy of assessment.</p>
<p>Page 161 9.3.5</p>		<p>LCAs identified through reference to PLC: 'Sandstone Outer Estatelands LCA ' - assume this is Sandstone Estatelands</p>

<p>Page 164 Para 9.4</p>		<p>Temporary effects during construction – there are no details of heights of stockpiles and as such are no detailed parameters to have informed assessment.</p>
<p>Page 165 Para 9.4.4</p>		<p>Maximising retention of trees and vegetation. This paragraph refers to the CoCP, but the clauses in the CoCP don't protect some aspects of access for enabling works</p>
<p>Page 165 Para 9.4.4</p>		<p>The use of hoardings may increase visual impact. In some locations seeded mitigation bunds may be more effective and sensitive landscape solution and this option should be considered on a site by site basis.</p>
<p>Page 188 Para 9.5.8</p>		<p>The effects on Settled outer Estatelands LCA have been assessed as moderate adverse effect. This is considered understated and should be major due to the significant height of the proposed structures crossing the A38 and mainline railway and far reaching impacts on landscape and tranquillity extending within beyond the 2km study area.</p>
<p>Page 188 Para 9.5.17</p>		<p>This paragraph does not appear to consider the higher elevation of the structure although the proposals is considered as highly prominent which in view of the Methodology should therefore be assessed as high magnitude of change</p>
<p>Page 199 Para 9.5.116</p>	<p>Landscape and visual impacts should be minimised through a combination of mitigation earthworks and planting that is informed by and integrated into the local pattern of landscape features and responds to local distinctiveness, supporting the objectives on the European Landscape Convention and the NPPF. Where the route passes through different landscape character types the proposals will be expected to respond to this local variation.</p>	<p>Embankments will be visible in the foreground... <i>'landscape mitigation earthworks will help to assimilate the route into the local landform'</i> - at this point the embankment cuts across the floodplain and valley side slopes at a high elevation. There is no evidence from plans that the proposal offers any assimilation into the landform, and indeed this would appear not to be possible. Lack of clarity on the height of proposed embankments relative to existing embankments results in ambiguity and possible distortion of the impacts.</p>

<p>Page 175 Para 9.4.73</p>	<p>This has the potential to dramatically impact on the views of Lichfield Cathedral for example and surrounding landscape approaches to the historic City of Lichfield</p>	<p>Some of the viewpoint assessments refer to the proposed scheme blocking views of Lichfield e.g. Viewpoint 354.3.006, but the effect of severance of views of the Cathedral is not assessed.</p>
<p>Section 9.4</p>		<p>Temporary effects arising during construction as assessment of Landscape and Visual effects based on activities occurring during the peak construction phase (defined as period when main civil engineering works take place). This fails to make any assessment of impacts such as due to potential vegetation loss resulting from use of Public Rights of Way and tracks for temporary access or loss of vegetation associated with pipeline diversions.</p>
<p>Volume 5 Landscape Report (LV-001-022)</p>		<p>Historic landscape around Curborough is highlighted in the Cultural Section 6.4.6 bisected by the alignment which is identified as high adverse impact, but this is not mentioned in the landscape character description or in the Landscape Assessment.</p>
<p>Page 187 Para 9.5.8</p>		<p>Engineered landform incongruous in the adjacent landscape context</p>
<p>Socio-economics</p>		
<p>Whilst it is noted that possible employment loss in agricultural businesses as a result of the proposed scheme is being estimated at a route wide level, we believe it would be prudent to assess possible loss in a community forum area basis - some areas are likely to be impacted at a different level than others. At a route wide level, these impacts can be obscured. This section should make references to correspond with Section 3.</p>		

<p>There appears to be no reference to the cumulative effects of construction on the ability of goods and services to use the highway network during construction which will be impacted by increased construction traffic, road closures, diversions and other traffic management. Such impacts can have an effect on the local economy by impeding on the free flow of such goods and services.</p>		
<p>Page 225 Para 10.4.14</p>		<p>With the impact the proposed scheme has on Whittington Health Golf Club, airfield buildings at Streethay and the entertainment business at Ravenshaw Wood, it appears that these impacts with the potential loss of employment have not been fully considered. This requires further investigation.</p>
<p>Sound, Noise and Vibration</p>		
<p>Page 230 Para 11.3.2.</p>		<p>HS2 Ltd propose to facilitate construction by use of temporary rail sidings at Streethay. We are concerned that the use of this siding particularly at night will cause unacceptable noise disturbance and seek assurances that mitigation will be provided to ensure adverse effects are minimised.</p>
<p>Page 230 Para 11.3.5.</p>		<p>HS2 Ltd were unable to obtain permission for baseline monitoring in some locations. Although HS2 Ltd indicate that sufficient information was obtained, the Council wish to ensure that HS2 Ltd engage further with local landowners to ensure that incomplete baseline data in these areas is obtained to enable a full impact assessment to be carried out.</p>
<p>Page 235 Para 11.5.16</p>		<p>HS2 Ltd have identified Streethay Farm, Mill Farm and Ravenshaw House as being eligible for noise insulation. The Council's would like to see HS2 Ltd investigate further into providing other alternative mitigation measures that provide protection both internally and externally.</p>
<p>Page 236 Para 11.5.22</p>		<p>80 dwellings south of Handsacre would be subject to a major adverse effect. The Councils believe that this is unacceptable and seek assurances from HS2 Ltd that further work will be</p>

		carried out to offer improved levels of mitigation.
Page 237 Para 11.5.30		A significant noise effect has been identified on Hayes Meadow Primary School (identified as Handsacre Primary school). The Councils are concerned that adverse levels of noise will occur externally which will impact on the teaching. Measures to reduce this must be investigated.
Page 235 Para 11.5.20		We fundamentally disagree. Rural impact will occur below 40 dB LAeq at night due to existing low background. Night time average screening level should be 30 dB not 40 dB.
Page 235 Para 11.5.13		We disagree with maximum night time noise level criteria of 85 dB for < 20 trains per hour and 80 dB >20 train per hours. These parameters do not allow a sufficient assessment of impact in rural areas where background noise levels are low.
Page 237 Para 11.5.31		A number of statements appear in the ES following the identification of residential impacts, such as ' <i>HS2 will continue to seek reasonably practicable measures to further reduce or avoid these significant effects</i> '. An explanation of this together with specifying details is required. Non-inclusion of this information makes it difficult to fully appraise the ES.
Traffic and Transport		
We are concerned that when the Lichfield Road/Whittington Common Road and Darnford Lane bridges are constructed, traffic will use the inter-connecting Marsh Lane. This is a narrow single track road and is unsuitable for the intensity of traffic which is assumed will result. The County Council expects further discussion on the phasing and programming of the works in order to reduce the impact on the local highway network and accessibility to Whittington village.		
Page 7 Para 2.1.8		This paragraph states that the proposed route will cross 7 public rights of way. None of the routes between Whittington and Handsacre will cross over HS2.

<p>Page 7 Section 2</p>		<p>Public Footpath No 44 Alrewas is not mentioned in this section although; it appears from the Map Books that it will pass beneath the viaduct. This has not been made entirely clear within the whole Environmental Statement and associated maps and clarification is sought.</p>
<p>Page 11 Para 2.2.18</p>		<p>Further information is required to understand the proposed highway pumping station and the two balancing ponds. Such information is to include the maintenance and ownership of this equipment.</p>
<p>Page 24 Para 2.3.28</p>		<p>Please refer to our comments regarding the temporary closure of routes during construction outlined in HS2 Environmental Statement Volume 1 subsection 6.10. In addition to this we request clarification on the vast differences in terms of the length of closure of some routes during construction. We would ask that HS2 Ltd consider suitable alternatives for Public Footpath No 6 Streethay which will affectively be extinguished for 6 years without an alternative route being made available.</p>
<p>Page 24 Para 2.3.28</p>		<p>Temporary diversion of unnumbered footpath through Streethay Farm. The County Council's Public Rights of Way team can provide HS2 with the details of these routes if required.</p>

<p>Page 240 Para 12.3.7</p>		<p>Bus number X55 every half hour between Lichfield and Tamworth started on 6th Jan 2014; this has increased to 4 buses per hour between Tamworth and Lichfield. Bus numbers 428 and 825 operate between Lichfield and Handsacre via the A515 Lichfield Road and the B5014 Lichfield Road. The 825 runs half hourly and the 428 less frequently.</p>
<p>Page 241 Para 12.3.9</p>		<p>South Staffordshire Line is used by Cross Country services on diversion, not those operated by London Midland.</p>
<p>Page 247 Para 12.4.14</p>		<p>Potential weekend closures of the A38 would be likely to cause significant impacts on the local road network as there is not a suitable diversion to carry this amount of traffic and HGV vehicles in particular. Further details and discussion with the Highways Agency and the local authority is required.</p>
<p>Page 249 Para 12.4.27</p>		<p>Comments made in relation to Volume 4 should be noted - provision of rail replacement services.</p>
<p>Page 248 Para 12.4.20</p>		<p>This paragraph states that construction vehicles will operate alongside footpaths. This statement needs clarifying as it is not clear what impacts this will have and how conflicts will be managed.</p>
<p>Page 250 Para 12.5.10</p>		<p>This paragraph states that 5 public rights of way will be diverted. 2 crossed without need for diversion. Of these there will be increased length of less than 100 metres and the effects will be significant. This needs to be clarified as other information within the Environmental Statement indicates that more than 14 of the routes are subject to diversion or partial extinguishment.</p>

<p>Page 250 Para 12.5.10</p>		<p>This paragraph states that there will be a minor adverse effect on two public rights of way – Public Footpath No 31 Alrewas and Public Footpath No 0.392 Kings Bromley. The maximum length increased will be approximately 490 metres for the diversion of Public Footpath No 0.392 Kings Bromley. HS2 Ltd state that no usage of the PRow was recorded during the surveys that were undertaken. Please refer to our comments made under Volume 2 – Map books – CFA 22 – Whittington and Handsacre about the necessity of this diversion. We are concerned that HS2 Ltd believe a longer diversion is appropriate because the route was little used during their site surveys carried out in 2012.</p>
<p>Water Resources and Flood Risk</p>		
<p>We have no comments to make at this stage</p>		

Table 2.4 CFA Map Book 22: Whittington to Handsacre		
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment
General Comments		
It would be useful if the map book contained a plan illustrating the intended construction routes as it is difficult to determine exactly what the proposed construction routes will be without referring to Volume 5, Map Book, Traffic and Transport.		
Whilst the map books do contain details of the proposed construction routes, they do not show accommodation works to the existing highway. Such accommodation works will be required to facilitate the safe movement of construction traffic and other users of the highway - for example at Broad Lane and Wood End Lane		
Where access is required to carry out utility diversions, it is not clear from the map books what accommodation/reinstatement works are required and as a result what additional land is required on a temporary basis. It is also not clear how the highway will be used to access the proposed temporary accesses (CT-05-125-R1) - further details outlining vehicle movements and access are required		
Ecology		
CT-05-123b	SCC proposal for cut and cover tunnel to maintain habitat connectivity.	Damage to and fragmentation of SBI. Inclusion of temporary stockpiles within the Whittington Heath Site of Biological Importance appears to increase the impact on this LWS and priority habitats in a way that could be avoided.
CT-06-123b	CT-05-123 & CT-06-123 show impacts on Whittington Heath lowland heathland SBI including complete severance. Council proposals reduce severance. Appropriate mitigation and the location of this require discussion	Compensatory heathland proposed is welcomed but as discussed with HS2 Ltd would be better located to be continuous with the existing habitat to reduce fragmentation impacts. If this is not possible recommend inclusion of a linking habitat corridor along the top of the proposed cutting.
CT-06-125 & CT-06-125 R1		This plan does not appear to show restoration of all of the land affected by temporary compounds nor replacement of features such as hedgerows. Where hedgerows have been lost from

		the landscape the opportunity should be taken where possible to restore landscape patterns and improve ecological quality.
CT-05128 & CT-06-128		Plans fail to show the National Grid pipeline diversion which will significantly increase impacts on ancient woodland and important wildlife species. This requires assessment.
Traffic and Transport		
CT-06-123b		It is not clear what the 2 access points are for in B7 and B6. Further information is required so as to understand its intended use.
CT-06-123b		Public Bridleway No 17 Whittington is shown as being diverted on the map but it should be noted that this bridleway is also an access to residential properties – used by service vehicles. The proposed diversion of this route is onto another pre-existing highway - Public Footpath No 16 Whittington. This short section of Public Footpath No 16 will need to be upgraded from a public footpath to a bridleway to maintain access for the residential properties, pedestrians, horse riders and cyclists. It is expected that the materials used in construction will be designed to blend in with their surroundings in order to retain the existing character of the route. It is expected that footpath 17 (and the vehicle access) will only be stopped up once the reconfiguration of footpath 16 has been complete so that, along with the use of the bridleway, access to the properties can be maintained at all times.
CT-06-124		Public Bridleway No 17 to be stopped up is shown. This needs to be amended on plan CT-06-123b.

CT-06-124 (Proposed Scheme)		It is not clear what the 2 access points are for in I7 and I6. Further information is required so as to understand its intended use.
CT-06-124 (Proposed Scheme)		The new private access (F7) onto Darnford Lane appears to have visibility constraints for vehicles travelling over the proposed new bridge from Whittington to the A51. Further information is needed
CT-06-127		Public Footpath No 44 Alrewas has not been identified using a key. The route is shown on the map and from the information provided it appears that it is not subject to any alterations and will pass beneath HS2 via the North and East Viaduct over the Trent and Mersey Canal. Clarification is sought from HS2 Ltd to confirm that this is the case
CT-06-128 & 129		Public Footpath No 0.392 Kings Bromley is shown passing beneath HS2 via an underpass. This route is shown on either side of the railway as altering significantly from its current, very direct, alignment. Further details are requested about the necessity of this change and details about the gradient levels of the embankment on the northern side of the railway. Further details are also required so as to understand how this PRow will function in conjunction with a proposed HS2 access track and access to the property adjacent to Black Slough wood
CT-05-125 (Construction Phase)		There is a height restricted bridge (4.2m) on Broad Lane.
CT-06-127 (Proposed Scheme)		It is not clear who will take ownership or maintenance of the proposed highways pumping station (G/H6). Further details are required

CT-06-127 (Construction Phase)		Wood End Lane from its junction with Gorse Lane is not suitable for the HGV construction traffic – it is typically 6.4m wide. Wood End Lane will require widening to 7.3m in order to accommodate the increased traffic flow; further discussions with the highway authority are required.
CT-06-129 (Construction Phase)		It is not clear how the proposed haul/site access road will interact with the A515 Lichfield Road (G/H6)
CT-06-129 (Proposed Scheme)		The passing places on Shaw Lane are not shown
CT-06-130a (Proposed Scheme)		It is not clear what vehicles will be required to access the permanent access road at Hayes Meadow Primary School and if the roads within the housing estate are suitable for such traffic or vehicular movements.
Water Resources and Flood Risk		
CT-06-124 (Proposed Scheme)		It is not clear what the 2 ponds are for and who will own and maintain them as illustrated in F5 and F7. Further information is required.

VOLUME 3: ROUTE WIDE EFFECTS

EXISTING TRANSPORT NETWORKS

It is clear to see from Volume 3 (Route-wide effects) the significant disruption HS2 poses to the current transport infrastructure during construction. This transport infrastructure plays an important part in Staffordshire's ability to attract business, create employment and provide economic growth. Both the County Council and Lichfield District Council have concerns with the proposed works on the existing transport networks; these can be summarised as follows:

- The impacts on Euston station
- The disruption to the West Coast Main Line through possessions and track remodelling
- Works to the M42/M6/M6 Toll in the vicinity of Coleshill junction

Euston station – construction impacts

The proposed extent of change during construction at Euston station will inevitably result in some level of disruption to services that run on the WCML. Although paragraph 13.3.12 of volume 3 states that *'overall capacity will be maintained through efficient use of available platform space'* there appears to be little supporting evidence to understand how this capacity will be used with a reduction in platforms from 18 to 13. Paragraph 13.3.13 of volume 3 raises further concern by stating *'...all of these activities during construction will place pressure on the available capacity and will have a potential impact on network performance and consequent delays to services and passengers on the WCML. The extent of change during construction at Euston station could result in some level of disruption to the services which run on the WCML'*.

We expect HS2 Ltd to provide a clear demonstration of the impact on service performance using the baseline train service pattern, as stated in Table 6.6 and 6.7 from volume 3, along with further details as to how this will be accommodated in 13 platforms.

Euston station – operational impacts

Once HS2 becomes operational, high speed services will start to use the new platforms at Euston. However, the take up of relieved capacity means that the number of conventional services is expected to be broadly similar to present levels (volume 3 table 11, 2026 baseline 253 trains, 2026 with scheme 259).

These services will need to be accommodated in 13 platforms on an ongoing basis, and it appears that no analysis of the ability to accommodate this level of service is contained in the documentation. These concerns are therefore similar to those outlined in the construction phase.

We expect HS2 Ltd to provide additional information in order to provide a clear understanding of how future train services can be accommodated in 13 platforms along with a clear demonstration that the lengthening of platforms 8

and 11, and the consequent loss of platforms 9 and 10, is a better solution than retaining four shorter platforms.

West Coast Main Line – construction impacts

In addition to the proposed works at Euston station, the works to the WCML could potentially '*create disruption and delay to rail passenger and freight services*' (volume 3 13.3.7) we believe this will be exacerbated as a result of the long programme of works over a period of time. There appears to be little detailed information to understand the cumulative impacts construction of the proposed scheme will have on WCML rail services. In CFA 22 paragraph 2.3.27 outlines that works will be undertaken to coincide with other works being undertaken on the railway by HS2 or others where possible.

Whilst it is noted that the works will be delivered through possessions of the WCML it is surprising to read in paragraph 13.3.15 (volume 3) that the assessment has concluded '*that there will be no significant route-wide effects arising as a result of the required railway possessions*'. This statement appears to have very little backing, other than generic points outlined in volume 3 13.3.14, and does not give confidence that a robust assessment has been carried out. Furthermore, there appears to be little assessment of the cumulative impacts of works at Euston station and to the WCML. We believe a holistic approach to the assessment should be undertaken to further understand how this important rail line will be impacted during construction.

West Coast Main Line – operational impacts

Whilst it is noted that there is the potential for a transfer of long distance passengers from the classic WCML to the proposed scheme, subject to ticket pricing, there appears an inherent capacity problem in the intervening period between Phase One and Phase Two.

The Environmental Statement appears to make no reference as to how the classic WCML between Handsacre and Colwich junction will operate given the apparent increase in the number of rail services as a result of classic compatible services becoming operational. There is also a paragraph in volume 3 which suggests that there will be an increase in freight services running between London and the Midlands (paragraph 13.4.17). There is no mention of increased freight services beyond the Midlands or how this will operate between Handsacre and Colwich. This requires review.

M42

In addition to the impact on the rail infrastructure, we have concerns regarding the level of disruption to the M6, M6 Toll and M42 to facilitate the proposed junction at Coleshill.

Paragraph 2.3.24 of CFA 19 states that *'The traffic management will operate for a period of approximately two to three years over lengths of the M42, M6 Toll and M6, and will be likely to include periods of speed restrictions for safety, uses of the hard shoulder, and reduced lane widths'*. Whilst it is understood that some elements of the works will be undertaken under limited night-time closures and at weekends, there appears to be little assessment of the cumulative impacts of these planned works in conjunction with the proposed works to the WCML.

It appears as though the majority of the works will be taking place during night time closures or possessions however, if rail services are to be substituted by replacement services (bus or taxi) there is a danger that further delay and disruption could be caused by the planned works to the aforementioned motorway network.

We expect HS2 Ltd to provide further details which assess the cumulative impacts of construction on the different transport networks; the current documentation appears to have undertaken separate assessments and not a holistic approach.

Specific comments relating to Volume 3 can be found in table 3.1.

Table 3.1			Volume 3: Route Wide Effects		
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment			
Ecology					
Pages 72 - 73 Para's 8.1.10 - 8.1.13		Impacts on 89 Local Wildlife Sites are acknowledged, of which 17 are in Staffordshire representing 2% of the overall LWS in the county.			
Pages 73 - 75 Para's 8.1.14 - 8.1.16		It is asserted that impacts on LWS will be fully mitigated and that habitats created will when mature meet LWS criteria. These statements are false. As acknowledged elsewhere in the ES ancient woodland is irreplaceable. The majority of the LWS affected in Staffordshire are designated for ancient woodland. Quality on maturity will depend on a range of factors including establishment methods, provenance of planted species, long term management, interventions to introduce species which do not translocate, etc. Maturity of woodland will take many decades and will not be attained by woodlands in our lifetimes.			
Page 74 Para 8.1.19		Here and elsewhere there is reference to ecological mitigation including planting of species of local provenance. HS2 Ltd needs to put measures on place without delay if there is to be availability of native tree, shrub and other species of local provenance as it is well known that UK nursery stock is not available in sufficient amounts to serve current needs let alone the large volume of planting HS2 will require. Robust means of ensuring contractors and sub-contractors comply with the requirement to use species of native provenance as the default tends to be to source European stock.			

<p>Page 74 Para 8.1.20</p>		<p>States that 195ha of semi-natural woodland is 0.1% resource in the UK. Paragraph 8.1.27 states that <i>'195ha of lowland mixed woodland will be lost'</i> clearly this is the same figure as the above, we question the differing terminology and request that HS2 Ltd demonstrate understanding of other woodland</p>
<p>Page 74 Para 8.1.19</p>		<p>States that ancient woodland is an irreplaceable resource...<i>'loss is considered to be a permanent adverse residual effect, which is significant at a national level'</i> whilst we agree with this point, it appears to conflict with Volume 2 CFA 21 and 22 section 7 which place them at County scale. Further clarity is required.</p>
<p>Page 77 Para 8.1.36</p>		<p>It is proposed that all replacement bat roosts will be located within land required for the scheme. This would appear to suggest that new roosts will be close to the line, increasing risks of mortality due to collisions and turbulence.</p>
<p>Page 78 Para 8.1.39</p>		<p>It is stated that measures such as green bridges and underpasses have been provided to address ecological connectivity. Measures in Staffordshire are insufficient as only one green bridge is proposed on the 19 km stretch and the number of underpasses, which only allow movement of a selection of species, is limited. This needs addressing</p>
<p>Page 81 Para 8.1.57</p>		<p>As well as in Staffordshire impact on barn owls will be significant at the national level with populations forecast to be lost from a three mile wide swathe along the line.</p>
<p>Page 81 Para 8.1.58</p>		<p>To offset the likely loss of barn owl from the vicinity of the Proposed Scheme, opportunities to provide barn owl nesting boxes in areas greater than 1.5km from the route will be</p>

		<p>explored with local landowners as the ES states that availability of nesting sites is a limiting factor for this species. This assertion that nest sites are limiting factor is not wholly correct. As habitat creation/nest site provision within 1.5km of major transport infrastructure is not appropriate, HS2 have merely proposed erecting nesting boxes in agreement with landowners outside the Proposed Scheme. There is no mention of trying to secure suitable habitat creation outside red line and no acknowledgement that grassland habitat creation (to compensate for losses to Grassland habitats) and along route corridor within red line are likely to attract Barn Owls which are then at high risk of being killed by trains. Ecological mitigation may act as a population sink for this species. Further thought is required regarding barn owl mitigation to reduce this nationally significant impact. Measures should be a requirement with a means of recording numbers of new roost sites which should at the very least equal nesting and roosting site lost and be located in landscapes with sufficient foraging opportunities. Monitoring of barn owl populations will be required.</p>
<p>Page 84 Para 8.1.75</p>		<p>The commitment to no net loss of biodiversity is in line with government policy as expressed in the NPPF and White Paper on the Natural Environment. Use of the developing biodiversity offsetting metric is proposed to ensure no net loss but this system excludes ancient woodland as irreplaceable.</p>

<p>Page 84 Para 8.1.75</p>		<p>"The UK government is committed to halting overall loss in biodiversity by 2020" HS2 Ltd is seeking to achieve no net loss in biodiversity at the route wide level. However this cannot possibly be achieved if the natural assets have not been assessed, significant omissions are the ancient/veteran trees along the route, the loss of individual trees, loss of hedgerow connectivity etc. We expect HS2 Ltd to demonstrate that this is a true commitment and it should be noted that the lack of data collection does not mean that the assets aren't there</p>
Traffic and Transport		
<p>Page 105 Para 13.3.2</p>		<p>The suggestion that the collective impacts associated with the movement of excavated and fill materials being scoped out of further consideration appears unwise. The volumes of excavated and fill material quoted in the ES gives rise to increased HGV and rail movements - as outlined in Volume 2. The increased demand on minerals will, we believe, place increased pressure on existing infrastructure networks; such impacts have the potential to increase congestion beyond the road network close to the proposed scheme.</p>
Waste and Minerals		
<p>Page 87 Para 9.1.4</p>		<p>SCC supports the intention of HS2 to undertake pre extraction of surface minerals (after discussion with landowners, Minerals Planning Authorities and relevant stakeholders) under landscaping areas adjacent to the route to avoid unnecessary sterilisation of minerals, where this is environmentally acceptable.</p>

<p>Page 120 Para 14.1.19</p>		<p>The disposal of waste off site is not anticipated to have a significant impact in Staffordshire but in the event that there is a requirement for off-site disposal of inert excavated wastes, we support the design approach and would urge the nominated undertaker to liaise with the Waste Planning Authority at the earliest opportunity to identify appropriate disposal schemes. Such schemes may include the restoration of closed quarries for the establishment of land for wildlife habitat as well as for agricultural and forestry use. This would be preferred rather than the use of additional agricultural land for ecological mitigation.</p>
<p>Page 133 Para 14.6.5</p>	<p>Paragraph 3.6.8 of the introduction to the draft Environmental Statement indicates local sources of material would be identified where material from the construction scheme is not suitable or the benefits of importing material are outweighed by the impacts of transportation. The development of borrow pits may be appropriate and should take into account saved policies 51 and 52 of the Minerals Local Plan.</p>	<p>Paragraph 14.6.5 indicates that the scheme is aiming for 'Sustainable placement' which is the on-site placement for disposal of surplus excavated material to avoid causing environmental effects (e.g. transport) that would otherwise be associated with the off-site disposal of that material. Should this material prove to be unsuitable then the development of borrow pits may be appropriate and should take into account saved policies 51 and 52 of the Minerals Local Plan</p>
<p>Page 171 Table 42</p>	<p>Staffordshire is fortunate to have extensive reserves of aggregate materials, but we are concerned that this may mean the county is identified as a source for a large proportion of the mineral required within this region.</p>	<p>The total volume of concrete is reported as 13.62 million tonnes for Phase 1. Figures are not available for concrete needs for those sections of the proposed rail line within Staffordshire and adjacent areas. Given the fact that specific sources for the supply of aggregate have yet to be identified, SCC remains concerned that the county may be identified as a source for a large proportion of the mineral required within the region. This,</p>

		<p>in turn, might affect the planned extraction at existing quarries, the phasing of new workings, and may create a need for borrow pits to meet large scale needs. All these issues require sufficient lead-in time to allow proper planning including consideration of relevant planning policies for the development of new extraction sites (such as borrow pits) to ensure that the impacts associated with the supply of materials are minimised.</p>
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VOLUME 4: OFF-ROUTE EFFECTS

It is very disappointing that the nature of the off-route effects has not been fully understood until the publication of the Environmental Statement. Landowners, residents and businesses have received letters from HS2 Ltd advising them that works to the West Coast Main Line will be needed to facilitate HS2 and integrate the scheme into the classic network. Despite a meeting with representatives from HS2 Ltd on 30th September 2013, and the promise of further information, nothing has been forthcoming until the release of the Environmental Statement which has left those impacted by the proposals with greater uncertainty. Work to the WCML between Lichfield and Colwich did not form part of the consultation on the draft Environmental Statement.

It appears as though the document does not take into account the effects of increased access (both vehicular and non-motorised) to classic rail stations as a result of increased passenger demand from the released capacity HS2 is thought to bring.

With regard to Stafford station, paragraph 3.6.8 states that *'there may be an increase in parking demand and use of drop-off facilities as a result of the increased passenger numbers using the station. The station owner/operator and the local highways authorities may need to give consideration as to any measures to control traffic and parking in the area. However, in the absence of clear plans to increase parking provision or otherwise manage parking, the increased pressure on parking and drop-off facilities has been assessed as having a minor adverse significant effect'* this appears to be contradicted in paragraph 3.11.2 where the *'forecast increase in daily passengers may increase pressure on car parking and drop-off facilities at Northampton, Rugby, Wolverhampton, Stafford, Crewe and Runcorn stations, leading to significant effects in these areas'*. Given the potential 'step change' HS2 could bring to the rail network and anticipated forecast growth in patronage, it is disappointing that there are no plans to undertake a collaborative approach to implement traffic control measures and parking in the area around the aforementioned stations. This appears to be a missed opportunity.

It should be noted that the impact of Public Rights of Way are not fully included in the Data Dictionary and Definitions within Volume 4 (Off-Route Effects) Map Books.

Specific comments relating to volume 4 and its supporting map book can be found in table 4.1.

Table 4.1		
Volume 4: Off Route Effects		
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment
Page 9, Para 2.3.2		The assumption made in relation to significant environmental effects, as a result of the proposed works between Lichfield and Colwich, appears unjustified.
Page 19, Para 3.6.8		Clarity is required as to whether or not the assumptions made take into account the forecasted growth figures within Stafford Borough Council's emerging Local Plan. This Plan details an allocation of approximately 7,200 new homes in the Stafford area. Further discussions are required so as to understand the long term plan for Stafford station which sees a joined up approach to traffic control and parking provision
Page 20 Para 3.7.1		It is not clear what area is within scope for the increase in passenger demand at Crewe station is. There is potential for some of Staffordshire's residents and businesses to access HS2 from Crewe station which could increase vehicle movements to and from the station
Page 23 Para 3.11.1		In noting that increased traffic flows on roads close to Runcorn and Wolverhampton stations will make it slightly harder for non-motorised users to cross, the conclusion of a minor adverse significance does very little to promote intermodal connectivity to existing rail stations. This needs addressing.
Page 23 Para 3.11.2		This statement appears to contradict paragraph 3.6.8

<p>Page 43 Section 5.2</p>		<p>This section reports new works which had not been previously identified in the draft ES. These include an increase in train numbers and train speed along the WCML, night time working, satellite work compounds (5.2.14) and piled foundations for signals (5.2.20). These works are likely to be carried out over a two year period. We are concerned that there has been no prior community/stakeholder engagement regarding these off route works and that the assessment concludes that a negative impact will occur with no specific mitigation identified. The significant construction effects are to be mitigated by the CoCP measures. Please refer to specific CoCP consultation comments.</p>
<p>Page 46 Para 5.2.18</p>		<p>It is not clear whether or not the community impacts of overnight works either on weekdays, weekends or during bank holidays has been assessed.</p>
<p>Page 56 Para 5.6.49</p>		<p>Whilst it is noted that the works will largely take place during night time possessions, there is still potential for the work to impact on the rail network. There appears to be little consideration for the delays caused to current rail services by the proposed works on the WCML. The works along the WCML and to the junction at Handsacre has the potential to disrupt the existing 'free flowing' rail services which has the potential to impact on economic activity.</p>
<p>Page 57 Para 5.6.52</p>		<p>No consultation with the Local Authorities or other stakeholders was carried out regarding baseline monitoring locations for the off-route works.</p>
<p>Page 57</p>		<p>It is expected, in addition to 'more stringent criteria', that the</p>

Para 5.6.57		correct plant, equipment and working methods will be adopted so as to reduce noise from night time working. It would be expected that these off-route works would be subject to local agreement of design and mitigation.
Page 58 Para 5.6.64		A number of statements appear in the ES following the identification of residential impacts, such as 'HS2 will continue to seek reasonably practicable measures to further reduce or avoid these significant effects'. An explanation of this together with specifying details is required. Non-inclusion of this information makes it difficult to fully appraise the ES.
Page 59 Para 5.6.71		Further details are required so as to understand the accommodation works required to facilitate the movement of construction vehicles along access routes that are also PRow. This information should also detail reinstatement works and how the PRow will be used and managed during the movement of construction vehicles. The CoCP does not appear to provide details on this.
Off Route Effects - Map Book		
CT-05-130b		The frequency of use and vehicle type is needed to be known so as to further understand the proposed access road as shown in C5. It is assumed that the temporary and permanent land take will be wholly within the field adjacent to Hayes Meadow School as this is unclear from the plan. There is also no construction route illustrated on this plan.
CT-05-142		Further information is required so as to understand the exact location of the proposed Armitage Shanks compound.

CT-050143-R1		There are no construction routes illustrated on the drawing. Further details are required so as to understand construction access and accommodation works that may be required to the existing highway. It is expected that detailed liaison and engagement will take place prior to construction in order to limit disruption to the local farm and its operation.
CT-05-143, para.5.6.31		Measures to protect the priority habitat floodplain grazing marsh, such as fencing the working area, will be required.
CT-05-144		There are no construction access routes illustrated on this drawing.
CT-05-145		Further information is required in order to understand the access and egress arrangements from the A51 to the proposed A51 satellite compound (E7). B5013 Colton road is not illustrated as a construction route despite a proposed construction access point being shown at footpath Colton 70.
CT-05-146		There are no construction access routes illustrated on this drawing.
CT-05-147		The proposed land take at D6 appears to be within the access to Colwich Church England Primary School. Further information is required so as to understand the requirements of this access and what impacts it will have on the school and the learning environment. There appears to be little information relating to the diversion or protection of the footway and existing overbridge which passes through the proposed land take.
CT-19 Cover Sheet		There is no 'T' in Lichfield

Document: Off Route Effects - Supporting Information		
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment
Cultural Heritage		
Section 3.1.1		This section states that 'nothing substantial has been located within the large gravel extraction sites...' It should be noted that historic premissions and associated archaeological conditions have not required archaeological investigation of deep gravel deposits. Therefore the lack of apparent evidence comes from a bias in the extent of archaeological investigations and may not indicate a lack of human activity at this period. Areas of historic bias like this potential bias should be recognised in the report.
Ecology		
Table 26: Ecology baseline data and assessment – Area C		Further survey and impact assessment is required to avoid impacts on important hedgerows and protected species - principally great crested newts, reptiles and badgers. Hedgerow survey is required so that impacts on important hedges such as due to track widening can be avoided or minimised. The CoCP does not include sufficient detail to give protection without specific ecological advice targeted on this area. This work should be included in the local LEMP.
Table 26: Ecology baseline data and		Further survey and impact assessment is required to avoid impacts on important hedgerows and protected species -

<p>assessment – Area D</p>		<p>principally great crested newts and reptiles. Hedgerow and tree survey is required so that impacts on important hedges and tree such as due to track widening can be avoided or minimised. The CoCP does not include sufficient detail to give protection without specific ecological advice targeted on this area. This work should be included in the local LEMP</p>
<p>Table 26: Ecology baseline data and assessment – Area E</p>		<p>Further survey and impact assessment is required to avoid impacts on important hedgerows, trees and protected species - principally great crested newts, reptiles, bats and badgers. Hedgerow survey is required so that impacts on important hedges such as due to track widening can be avoided or minimised. The CoCP does not include sufficient detail to give protection without specific ecological advice targeted on this area. This work should be included in the local LEMP</p>
<p>Table 26: Ecology baseline data and assessment – Area F</p>		<p>Further survey and impact assessment is required to avoid impacts on important hedgerows and protected species - principally great crested newts, reptiles and badgers. Hedgerow survey is required so that impacts on important hedges such as due to track widening can be avoided or minimised. The CoCP does not include sufficient detail to give protection without specific ecological advice targeted on this area. Great crested newts are reported in this area. This work should be included in the local LEMP</p>

VOLUME 5: TECHNICAL APPENDICIES

Document: Volume 5: Cultural Heritage		
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment
CFA 21: Survey Reports (CH-004-021)		
Page 3 Section 2.6		The LiDAR imagery provided in s2.6 is not of a sufficient scale to enable a detailed assessment of the efficacy of the Cultural Heritage assessment work on this resource. This is concerning as one of the few large scale LiDAR plots from CFA22 (Ravenshaw Wood) was found to contain the omission of an area of ridge and furrow and appeared to lack interpretative depth(water meadows labelled as a series of drainage ditches). The key concern in this case is that similar issues are present elsewhere within the LiDAR assessment for CFA21.
Page 3 Section 2.6		There is no key to indicate what the blue and red lines on the LiDAR plots are although the subsequent plans (Figures 6 and 7) do actually indicate what they are; as they have the keys should they not precede the detailed plots? Also, could Figures 6 and 7 not include boxed area to locate the LiDAR plots referenced in Figures 1-5? On a final note on Figure 1, the ridge and furrow (green) is identified while the mauve area to the bottom right is not described at all.

<p>Sections 3.1, 3.2 and 3.3.</p>		<p>Geophysical survey reports CN038 and CN040 are not ascribed a 'risk model score' while CN043 is. Consistency is required here along with a description of the methodology for determining what the 'risk model score' is; particularly as this scoring is not repeated anywhere else within the Cultural Heritage documentation apart from the geophysical survey reports for CFA22.</p>
<p>CFA 22: Survey Reports (CH-004-022)</p>		
<p>Page 21 to 22 Figures 8 and 9</p>		<p>The LiDAR identifies an area of probable water meadow within the south eastern area of Ravenshaw Wood. These are interpreted as 'drainage ditches' and while this is relatively accurate an element of 'deeper' interpretation would have been appreciated to inform the HER. At the north western end of the wood and area of ridge and furrow is present on the LiDAR but the assessment does not appear to have identified this and it is certainly not marked on the plan. The only features marked in this area are a drainage ditch (26) and a field boundary (27). This is understandably not marked on the HER and so would represent a valuable addition. It is unfortunate that at this juncture we do not have the time to go through the LiDAR results in detail. However, with this in mind it is advised that the LiDAR be reappraised to identify the presence of further earthworks missed in the initial assessment.</p>

<p>Page 37 Section 4.1.2</p>		<p>This section is used as an example but can be applied to all other geophysical reports in this section. The justification for geophysical survey in this area is linked to it being at 'medium risk' and has been ascribed 'risk model score: 3'. It is not clear how this score has been arrived at and this scoring does not appear to have been discussed anywhere else in the Cultural heritage documentation and in particular within this document. The reasoning for the selection of this area must be expanded and the scoring methodology fully explained, particularly as the Local Authority archaeologists were not involved in the site selection process.</p>
<p>Baseline Report (CH-001-021)</p>		
<p>Section 3.1.1</p>		<p>This section states that 'nothing substantial has been located within the large gravel extraction sites...' It should be noted that historic permissions and associated archaeological conditions have not required archaeological investigation of deep gravel deposits. Therefore the lack of apparent evidence comes from a bias in the extent of archaeological investigations and may not indicate a lack of human activity at this period. Areas of historic bias like this potential bias should be recognised in the report.</p>

<p>Sections 3.1.3 - 3.14</p>		<p>This section fails to consider or discuss the discovery of a nationally important faunal assemblage at Whitemoor Haye (2002) which including elements of four woolly rhinoceros and associated palaeoenvironmental remains. While outside the study area, the find is also outside the study area for CFA22 but the Baseline Report (CH-001-022) does introduce these discoveries. This evidence points to activity in the area at around 50,000BP and may support human exploitation at this period or more likely after the most recent glacial maximum. Consistency is required between the two Community Forum area reports when considering broader contextual information.</p>
<p>Section 3.1.6, line 2</p>		<p>Structural evidence is indeed rare during the mesolithic period although there is some discussion around possible temporary hutments at Bowmans Farm, Hampshire. However, environmental remains are considerably more prevalent as within waterlogged deposits from Kings Pool (Stafford), where environmental evidence was recovered which provided a continuous record back to c.10,000BC.</p>
<p>Section S3.1.7 - 3.2.4.</p>		<p>The HER records the presence of numerous find spots of flint scatters at Weeford and Canwell Parks. These are not specifically considered in this report. While definitive dating is not available, the discovery of this cluster of flint scatters does point to a broader pattern of activity in this area. This evidence informs as to potential in the area and must therefore be considered in this report.</p>

<p>Section 3.2.8 and 3.3.3.</p>		<p>It is likely that the process of agricultural exploitation during particularly the late Iron Age changed little into the Romano-British period in the hinterland of Wall and within the study area. There may have been an intensification in association with Wall but essentially the landscape remained comparatively intensively exploited throughout these periods.</p>
<p>Section 3.4.1.</p>		<p>This section states that occupation at Catholme occurred between the 9th and 13th centuries (quoting Hooke). This is contradicted by CH-001-022, s3.4.7 which states that pottery dates activity at Catholme to between the 6th and 9th century. CH-001-022 would seem to be more accurate with the 13th century date possibly originating from an outlying radiocarbon date recovered from a pit (Loscoe-Bradley and Kinsley 2002, 121).</p>
<p>Section 3.4.1.</p>		<p>This section should acknowledge that sparsity of evidence does not necessarily mean a lack of activity. For example, comparatively little pottery from this period may reflect a lean towards an aceramic culture or may suggest technological inadequacies in the production of pottery which makes ceramics less likely to survive in the soil.</p>
<p>Section 3.4.2.</p>		<p>In 2006 excavations at Lichfield recovered evidence for 6th-9th century (a post-Roman two-celled building overlain by two phases <i>grubenhaus</i>) activity outside the immediate bounds of the cathedral Close. This supports Slater's view that early Anglo-Saxon activity was present at Lichfield providing a reason for the location of an early medieval ecclesiastical foundation in this area.</p>

Section 3.5.1.		Historic population figures are notoriously difficult to estimate and so should be discussing these here even as percentages? If there were such large increases in population what are the impacts on the landscape? What is the HLC telling us about extent of open fields etc. which may be linked to assarting during this period?
Section 3.5.2		This section does not allow for the possibility that Cannock Forest (or at least its core) has pre-Norman origins.
Section 3.5.3.		This section oversimplifies the historic landscape character by describing it as 'wooded'. Referring back to the reference (Powell et al) it is clear that this should be described as a 'woodland landscape' which is a term used to provide contrast to areas of 'Champion land' common for the central counties. Woodland landscape by definition implies a landscape of dispersed settlement, mixed economy (based on cultivation/woodland exploitation/pasture). Furthermore (as noted in S3.5.1 above) there is also no reference to the impact of the high population expansion and its influence upon the medieval landscape. This section also fails to identify Weeford medieval deer park which does appear in part to retain elements of its boundary (although it is not known whether earthworks associated with this boundary survive).
Section 3.5.6		Does the location between Tamworth and Lichfield suggests that the settlements may have benefitted from access to markets and stimulated trade? This section should remove reference to the sites location close to the county boundary as this has no obvious influence on the exploitation of the landscape.

Section S3.5.7		The ridge and furrow earthworks are not the only evidence for medieval open field agriculture within this landscape. This section should also be considering evidence from field morphology as indicated by the 'Strip Fields' in the Previous Types of the HLC dataset.
Section 3.6.1		The 18th/19th century field pattern is one of the principal features of this landscape, but it was not enclosed under an Act of Parliament. It was probably created by private agreement between the landowners (unless it was in single ownership) and thus would not have required an Act to impose enclosure. Yates' map (1775) suggests that this landscape was already in agricultural use and there is some evidence for the re-organisation of an earlier field pattern within the HLC (e.g. around Hints). This section should also include a discussion of other contemporary components of this historic landscape such as the historic farmsteads (cf. comments on S3.6.2) as well as the land estates mentioned in more detail in S.3.6.2.
Section 3.6.2.		It is concerning that the report does not explicitly demonstrate the link between the major estates, the development of regular courtyard farmsteads (which dominate the landscape of the study area) and the agricultural rationalisation which took place during the late 18th and 19th centuries. This points to a general concern regarding the development of links between landscape character and the known archaeological record.

Section 3.6.3		The South Staffordshire coalfield does not extend this far east/north east so there appears to be little point in describing its impacts in this amount of detail. The importance of charcoal and woodland management is noted, but it will have been an important part of the wider medieval economy since at least the medieval period. It is a little superfluous to state that the landscape remained largely agricultural in the post medieval period when it is still agricultural in the early 21st century.
Section 3.6.6		Marl pits are more usually considered as evidence for increasing land fertility and should therefore be seen as an indicator of the agricultural economy rather than evidence for industry.
Section 3.6		The post-medieval element of the study at no point identifies the presence of water meadows within the broader study area despite several areas being recorded on the HER. These systems represent a significant development in the management of marginal agricultural land during the 17th-19th centuries. Many survive to varying degrees as earthworks and some contain structural remains. These heritage assets must be considered as part of this assessment.
Section 4.2.3.		This notes the 6 Conservation Areas that are wholly or partially within the study area. It then refers to 'other villages within the study area that are not designated, and includes 'Mavesyn Ridware'. Mavesyn Ridware was designated a Conservation Area in 1974 (CA054 on the HER). It is suggested that this is removed to avoid confusion.

<p>Section 5</p>		<p>This section states that the 'analysis of the cartographic evidence for the study area has been integrated within the archaeological and historical baseline narrative (Sections 4.6-4.8 above)'. There are no sections 4.6-4.8 within this report and no appendix to contain copies of the historic mapping. Similarly, historic mapping is not contained within the map books. Within the narrative section there is little reference to historic mapping beyond references to the First Edition OS mapping (s3.6.2 onwards). There are no references to later OS mapping, tithe maps, estate maps or any other historic mapping across the study area.</p>
<p>Section 6.1.1</p>		<p>There is inconsistency in the approach to HLC between this report and Volume 5 for CH-001/022. The latter discusses the National Character Areas (NCA) while this one does not. There is a reference to a Staffordshire County Council publication which is not correctly referenced and consequently it is not clear which document is being referred to. It is assumed that this relates to HECA 2a in Appendix 1 of the Lichfield HEA? The field systems are associated with the 18th century country houses and landscape gardens, so it is not clear why they are then described as being 'of relatively recent date'. This statement seems to underestimate their contribution to the historic landscape character of this area. Reference should also be made to the influence of the estates upon the creation of this landscape and upon the historic farmsteads, which are not mentioned. There is also no mention of the role of fox hunting in influencing the design of this landscape - fox coverts are mentioned in S 6.1.4.</p>

<p>Section 6.1.3</p>		<p>There is no analysis of the HLC types or reference to the proportions of landscape type surviving across the area. This is a landscape, as noted elsewhere in the document (S. 3.6.1 and S. 3.7.1) which is still dominated by 18th/19th century planned enclosure (cf. also comment on S. 6.1.1). Whilst landscape change is influenced by historic land use there have clearly been more recent influences upon the landscape than the Earls of Warwick (presumably a reference to medieval land management). The landscape which we have inherited largely originated in response to intensive changes in the 18th/19th century (as already noted). This is an important aspect of the history and character of this landscape. There is also no discussion of earlier historic character which may be fossilised in this landscape e.g. settlement pattern and road networks. How wholesale were the 18th/19th century changes?</p>
<p>Section 6.1.4</p>		<p>There is too much emphasis on placename evidence in this paragraph. It would be sufficient to state that it indicates a more historically woodland landscape and cross reference back to Section 3.5 and 3.6 where this is already considered in some detail. There is no comment here about the extent to which woodland survives within the current landscape despite the fact that a number of Ancient Woodlands are identified within the Heritage Assets Gazetteer.</p>
<p>Section 6.1.5</p>		<p>This is a landscape of (mostly) late enclosure, although it is unclear the extent to which it could be considered to have historically been 'common land'. Furthermore you need to consider the number of private deer parks (e.g. Drayton Park) which is still marked on Yates' map (1775). These are historically not part of common land. This data should already have been considered in sections 3.5 and 3.6.</p>

Section 6.1.6		It is important to discuss time-depth within the Historic Landscape Character section. There is also evidence from field morphology; the HLC Type '18th/19th Century Semi Planned Fields' by definition suggest that less regular field boundaries survive which may attest to the fossilisation of an earlier pattern following a period of field re-organisation.
Section 6.1.9		The planned enclosure at Botany Bay is not associated with an Act of Parliament it was probably created as a private agreement between the landowners (if there was more than one). The planned landscapes of Staffordshire often represent the replanning of an earlier enclosure pattern rather than of an open field (as was the case for large areas of Leicestershire) or of common land. An assessment of the significance of this landscape should also have considered the associated historic farmsteads (including Packington Moor (DHW214) and the Listed complexes of Ingleyhill (DHW042) and Horseley Brook (DHW045).
Section 6.2.4		Reference to the medieval origins of Canwell Priory should also be made in Section 3.5. Although it is not registered and Canwell Hall has been demolished the landscape park is still clearly legible and should be referenced in this section.

Section 4.2.6		The Listed structure at Bucks Head Farm is to be retained but maps show planting up to its edges and most of the other buildings including the farmhouse are to be demolished. This will therefore have a high impact on (the setting of) the Listed barn and a high impact (from their complete demolition) of the farmhouse and other buildings which are also considered by this documents methodology to have a moderate heritage value. It is difficult to see how a viable and sustainable future use will be found for the Listed structure and so details need to be provided on how the buildings will be maintained and conserved in the long term.
Baseline Report (CH-001-022)		
Section 4.3.18. and 4.4.9		The effects on Streethay manor, the Trent and Mersey canal and Wood End Lock Cottage are all major and the only proposed mitigation is planting. The long term future of these designated heritage assets is not considered. In particular the dwellings will be blighted for many years and it is debatable whether they will indeed have a viable use as dwellings in the future. This issue is not considered within this document - the buildings may be retained, but what is a viable future for them?
Map Books (Country North - Part 3 of 4)		Within the 'Heritage Assets within Study Area' for CFAs 21 and 22 the full extent of the study area buffer zone is not included. This results in the omission of some heritage assets and uncertainty concerning the extent of assets impacted.

<p>Section 7.</p>		<p>There is little discussion in this report or within the Scope and Methodology Report (CT-01-000/1) regarding the approach to the modelling of archaeological character and potential along the route. The Baseline Report states that the archaeological sub-zones were initially defined and characterised by current land use although it is largely unclear as to how this would provide an more 'in-depth' understanding of archaeological potential' beyond survival (which I would imagine is considered in the ACA). It is heartening to note that archaeological sites, historic landscape character, topography and geology are also considered even though the mechanism for sub-zone development is opaque at best.</p>
<p>Section 7.2.2 and 7.2.3 ACA 6.1</p>		<p>Our understanding of ACAs is that these are used to define the potential for the survival and recovery of archaeological remains (as identified in s7.1.1) with the sub-zones (Table 1) containing detailed assessment of potential within particular portions of the study area. ACA 6.1 instead seems to be rather confused conflating a broad description encompassing geology and topography with more detailed assessment of potential for prehistoric activity along Gallows Brook. There is also little information on current land use or likely impacts to the surviving archaeological record (such as arable agriculture, gravel extraction etc.). It is also strongly advised that Historic Landscape Character be considered at the ACA level rather than within sub-zones. ACAs 6.2 and 6.3 are a little less confused but do not consider current land use; this is a concern as it was clearly identified as a factor for consideration within s7.1.1.</p>

<p>Page 22 Table 1</p>		<p>There is no cross-referencing between the Archaeological Sub-Zones and the ACAs. It is therefore not clear in the table which ACA individual sub-zones lie within. As previously stated, historic landscape character should lie at the broader ACA level. There is sporadic consideration of potential within the 'archaeology' column of the table which is a little confusing as the main discussion on potential lies within s8. The intention to separate the discussion on potential from the main body of Table 1 should be clearly highlighted in s7.1.2 or within s7.3.1.</p>
<p>Section 8.1.4.</p>		<p>This section refers to the Whittington barracks sub-zone (14). Whittington Barracks lies within CFA22 on Map CH-01-INDEX-CFA22 and is not referenced as a sub-zone within Table 1 of the CFA21 baseline report. Indeed, Whittington Barracks is recorded as sub-zone 15 on Table 1 (p.41) of the CFA22 baseline report. This error demonstrates a concerning lack of cross-referencing and checking between documents within the Cultural Heritage section of the Environmental Statement. Furthermore it also questioned whether Hints was a historically nucleated settlement - there is no evidence for planning and the buildings are quite dispersed (cf. Brian Roberts work on village classification). Is it appropriate to describe Whittington Barracks as a nucleated settlement?</p>
<p>Section 8.1.7.</p>		<p>This section discusses two sub zones but only references one (Gallows brook (sub-zone 2). It is presumed that Black-Bourne Brook lies within sub-zone 5 as identified in Table 1.</p>

<p>Section 8.2.1.</p>		<p>It is suggested that a number of other research questions be considered: (1) What is the potential for the survival of Palaeolithic evidence within gravel deposits throughout the CFA, (2) Is the model of prehistoric occupation focused on river valleys appropriate? To what extent is there evidence for clearance and occupation on high heavier soils as is being identified currently in Warwickshire during the late prehistoric period? (3) What is the evidence for medieval and early post-medieval industrial development within the CFA? Is this restricted to the principal watercourses or do other factors come into play (i.e. raw materials, woodland etc.)? (4) What is the evidence for rapid settlement growth and decline during the very early medieval period as discussed in s3.4.3 of this report? As a final note it is advised that the potential for medieval industries be added to the final research bullet point.</p>
<p>Section 1.3</p>		<p>The introduction does not define the extent of the study area for the HLC element.</p>
<p>Section 2.1.6</p>		<p>The section states that the geological character 'dictated' the historic land use, which underplays the human dimension in terms of land use in response to population growth (c.f. Volume 5 CH-001-021 S3.5.1 for example). It would be more correct to state that the geological character influenced historic land use.</p>

<p>Section 3.1.11</p>		<p>There is little evidence for concerted Neolithic activity within the study area. However, the recovery of evidence from close to Lichfield Cathedral including half a dozen pits, flint flakes and pottery does suggest activity in the wider area. This, coupled with the relative proximity of the Trent Valley monument group and nearby (and regionally rare) causewayed enclosures does suggest broader activity and monument building during this period. This activity would probably require a strong and stable population and economy.</p>
<p>Section 3.1.12</p>		<p>This section identifies recent aerial photographic work and in particular the comprehensive assessment associated with the national Forest mapping programme. It should be noted that this programme covered a limited area and revealed extensive crop mark evidence. It is considered that this intensive crop mark evidence is likely to extend beyond the bounds of the River Trent and possibly into the study area.</p>
<p>Sections 3.2.3 and 3.2.4</p>		<p>S3.2.3 appears to be contradicted somewhat by S3.2.4. S3.2.3 states that there is 'virtually no settlement evidence of the period in the region'. If this statement is based on excavated evidence then the contradiction is understandable as S3.2.4 proceeds to highlight several areas of enclosure, pit alignments and other landscape features which could be related to settlement. If these are found to represent bronze age settlement then these should be considered to be extremely significant to understanding the region during this period.</p>

<p>Section 3.5.1</p>		<p>There is some confusion in this paragraph over the location and extent of the Royal Forest of Cannock and the woodland belonging to the Bishop's estate of Lichfield as recorded in Domesday Book. The land described as probably reaching as far as the Trent and including 'King's Standing' is the area which fell under Forest Law and belonged to the King. This does not include the woodland owned by the bishop in Domesday which in any case should not be presumed to represent one contiguous wood (as seems to be being postulated here). It is likely that the woodland described was part of the bishop's demesne and was dispersed across the vast episcopal estate in Staffordshire (with much of it possibly being located in the west of the county).</p>
<p>Section 3.5.2</p>		<p>It is not clear where the reference to the Earl of Chester building a castle at Lichfield comes from? VCH Staffs (vol. XIV p.60) states that the Bishop fortified his castle in 1129-30 and that later documents make it clear that it is the Cathedral Close that is being referred to. There is no evidence of a seignorial castle in Lichfield. It should also be made clear that the settlements mentioned belonged to the manor of Lichfield.</p>
<p>Section 3.5.4. 9</p>		<p>The administration of rural communities was well established prior to the Norman period (cf. 3.4.6 p.11). The word 'manor' is a Norman introduction not the administrative system itself. It would be less confusing if the property belonging to the lord of the manor were referred to as 'manor house' or 'manorial complex' which were sometimes moated. The general description of moated sites given in this paragraph is somewhat extraneous and should perhaps be included in a separate glossary.</p>

Section 3.5.5		What does the moat being used as a 'fish farm' tell us about the wider history of this landscape and its development? This is an unsourced reference from the HER and should in any case be treated with caution.
Section 3.5.6		Handsacre is recorded in Domesday Book so there was potentially settlement here by at least 1086 so it is unclear what is meant by the moat being the focus of the later medieval village? Moated sites are not well understood and this could be the site of an earlier manorial complex, but there is also the potential that it was relocated to this site in the 13th/14th century as the lord of the manor sought greater privacy something medieval historians have recognised elsewhere (e.g. at Yoxall).
Section 3.5.4 to 3.5.7		The moated sites are described in some detail as individual sites, which seems superfluous. They are all believed to represent manorial complexes but there is no attempt to discuss the influence of these sites on the wider settlement or the historic landscape.
Section 3.5.8		This essentially repeats what was said in 3.5.4. As stated previously the essence of the manorial system pre dated the Norman period (including churches etc.) and does not appear for the first time in the high medieval as implied in this paragraph. It is useful to think about the impact of an increased population in the 13th century but this is not considered in any depth and should also refer back to the HLC (extent of open field cultivation) to support the evidence of ridge and furrow earthworks. At what period is this landscape enclosed what does the (presumed change in agricultural production from cultivation to enclosed pasture suggest about the associated society and its relationship to the landscape/settlement.

Section 3.5.10 to 3.5.14		These paragraphs on the settlement should include a discussion on their historic landscape context using evidence including that from the HLC and the HER. What does the settlement pattern, field morphology (from the HLC), the ridge and furrow, and the watermills suggest about the nature and extent of the exploitation of this landscape in the medieval period?
Section 3.6.1		This section underestimates the potential for at least some of the extant road system to have originated the medieval or earlier periods?
Section 3.6.2		This section should also consider the piecemeal enclosure (from the HLC) particularly around Whittington which had previously been farmed as open fields. This would suggest that in at least some parts of this landscape there was a degree of greater enclosure rather than a general opening up of the landscape. The 18th/19th century enclosure pattern should also be discussed as it is particularly distinctive within this landscape. This should include its association with the farmsteads many of which were developed (or redeveloped) in response to agricultural intensification and practice in this period, which is an important element in the nation's history.
Section 3.6.2.		This section fails to consider the potential impact on the landscape of the development of water meadows during the late 17th, 18th and 19th centuries.

Section 3.6.3 and 3.6.4		These paragraphs should be amalgamated with 3.6.1 which also begins to talk about the importance of communications networks. What is the impact of these innovations (particularly the railways) on the prosperity of the rural landscape? Is this reflected in the built environment e.g. in the settlement cores with their (apparently) predominantly 19th century character.
Section 3.6.6		The discussion of the 18th/19th century landscape and its components should be considered in one paragraph rather than split between this one and S3.6.2 (p.16).
Section 4.3.5.		The Coventry Canal extends through the temporary materials stockpile and sidings area. There is still limited information as to what the construction and maintenance of this area will maintain. This large area (60ha) will apparently be maintained for six years but little consideration of its impacts on the setting of the Coventry Canal heritage asset is considered here.
Sections 6.1.1 to 6.1.3		These sections mention the NCAs, but does not consistently discuss the key aspects of the landscape provided in these documents. Neither does it explain to what extent the key elements of the individual NCAs is reflected in the study area.

<p>Section 6.1.7</p>		<p>It is unclear what is meant by 'Common Land' in this context. The HLC data makes it clear that the piecemeal enclosure around Whittington can be associated with the gradual enclosure of the settlement's open fields (representing cultivation) where agreements between landholders result in the creation of landholdings rather than in individual strips dispersed across the landscape. This paragraph, which mostly discusses Whittington Heath, suggests that it was created out of the heathland which is a misunderstanding of the data (and of the field morphology). Furthermore Whittington parish was not enclosed under an Act of Parliament of 1879. An Act passed in 1882 enclosed a couple of very small areas of land within the parish. As the HLC suggests the landscape was largely enclosed piecemeal (out of open fields as previously mentioned) in the late medieval/early post medieval period (probably between 14th and 17th centuries).</p>
<p>Section 6.1.8</p>		<p>The hay names mentioned in this section probably refer to enclosures within Cannock Forest. Alrewas Hay in particular was an area of surviving unenclosed land (representing the remains of the Royal forest) within a landscape which had been officially disafforested in the early 14th century. The HLC types are recorded in the text, but there is no attempt to explain what the term 'Piecemeal Enclosure' implies about the exploitation of this landscape in the medieval period (as open fields). The enclosure pattern originated in the late medieval or early post medieval period and consequently the hedgerow alignment could potentially be over 300 years old. The reference to aerial photography showing evidence for enclosures in fields near Streethay, but these do not appear to be included in the Gazetteer?</p>

Section 6.1.9		<p>The discussion of Alrewas Hays in this section clearly contradicts the assumed understanding of the term 'hay' as stated in S6.1.8. There is too much emphasis on placename evidence in this paragraph. It would be sufficient to state that placename evidence suggest it was historically a woodland landscape (although this evidence does not tell us when this was the case?) and cross reference back to S 3.5 and 3.6 where this should already have been discussed. This section should be discussing the current landscape - to what extent does woodland continue to contribute to the historic landscape character. This should then reference the Ancient Woodlands are identified within the Heritage Assets Gazetteer and the Impact Assessment tables.</p>
Section 6.1.11		<p>This section should also consider other aspects of the historic landscape such as the historic parks and gardens and the built environment (e.g. farmsteads/settlements and their relationship with the historic landscape character). To what extent are these historical associations still legible within the landscape and how does this landscape contribute to the setting of these heritage assets?</p>
Section 6.1.12		<p>WHA227 (Curborough piecemeal enclosure) states that this is a landscape which survives in an "an area otherwise developed, 20th century and later patterns", but nowhere in Section 6 is there a discussion of the current historic landscape character in order to judge whether this is only one of two such landscapes to survive within the study area.</p>
Sections 7.1.1 to 7.1.9		<p>How do the parks and gardens interact with the surrounding landscape - what is the evidence for their influence in the changing field systems and the planned farmsteads. This should be considered either in this section, or perhaps more appropriately under Section 6.</p>

Section 8.2.3.		The Historic Environment Record records the presence of numerous finds, features and crop marks which have been ascribed a late prehistoric date close to Kings Bromley. It is therefore considered that the Kings Bromley area <u>is</u> of demonstrable high significance.
Section 8		Within CH-001-0021 the Archaeological Character Areas were accompanied by a plan. No such plan accompanies the ACAs in the report for CFA 22.
Page 47 Table 1		There is no cross-referencing between the Archaeological Sub-Zones and the ACAs. It is therefore not clear in the table which ACA individual sub-zones lie within. As previously stated, historic landscape character should lie at the broader ACA level. There is sporadic consideration of potential within the 'archaeology' column of the table which is a little confusing as the main discussion on potential lies within s8. The intention to separate the discussion on potential from the main body of Table 1 should be clearly highlighted in s8.1.2 or within s8.3.1.
Section 9		HLC has not been considered in either the analysis of understanding (S.9.1) or the Research potential and priorities (S.9.2).
Section 9		Despite the discussion within the main body of the text there is no consideration of the potential to encounter evidence for Palaeolithic activity within the river valleys and particularly where deep groundwork's are considered. Because of their rarity any finds or sites of this date would be of national importance and while of low potential should be considered.

Scope and Methodology Report (CT-001-000/1)		
Section 8.1.5.		This section identifies the range of heritage assets which are to be considered during the Cultural Heritage Assessment. However, these are not to be viewed as independent of each other as comes through in certain areas of the subsequent reports.
Section 8.2.5.		Under 'undesigned archaeological or historic landscape sites', bullet point 6 should not 'hedges protected under the Hedgerow Regulations fall under designated assets? Ancient Woodland is not formally designated but is identified as 'designated'. Consistency please.
Section 8.6.9 Table 11.		This issue is raised within individual Cultural Heritage Baseline Reports. There are inconsistencies within the measurement of Cultural Heritage significance. It is concerning to note that Conservation Areas and Grade II Listed Buildings are ascribed a moderate significance along with locally listed structures. This blanket ascription ignores the special historic significance of individual sites and leads to oversimplification. For example, a Conservation Area is seen being as of moderate significance while an undesigned heritage asset which has particular special historic connections to a person or event could be considered to be of high significance. Therefore, the Trent and Mersey Canal (funded by Josiah Wedgwood, built in part by James Brindley and only the second arterial canal in the country) is considered to be of moderate significance; while if it had not been designated, it would potentially have been considered by the EIA methodology to be of high significance. This is one of many inconsistencies brought about by a rigid methodology for the assessment of significance.

Document:		Volume 5: Ecology
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment
Vol 5 baseline surveys ecology		The consultation period has not allowed detailed verification of survey findings. Surveys appear comprehensive and appropriate where access was achieved and followed appropriate methodologies. There are concerns that large proportions of the route in CFA21 and CFA22 have not been surveyed due to access being denied. This should be remedied as soon as possible. As previously agreed, survey data should be supplied to Staffordshire Ecological Record. Off-route works should be subject to the same level of ecological survey, assessment and mitigation as on-site works.
Technical Appendix CFA16-22 Ladbroke to Handsacre Register of Local Effects (EC-005-003) Ecology - CFA21		Impacts on Local Wildlife Sites are not acknowledged. Notably loss of or damage to several ancient woodlands and to heathland and associated habitats at Whittington Heath Golf Course SBI not listed. Loss of large number of water bodies only acknowledged as an impact on amphibians. This document lacks quantification of impacts on habitats by area, number of water-bodies or length of hedgerow. This register should not be used to inform assessment or works due to its incomplete and mis-leading nature.

<p>Technical Appendix CFA16-22 Ladbroke to Handsacre Register of Local Effects (EC-005-003) Ecology - CFA22</p>		<p>Impacts on Local Wildlife Sites not acknowledged. Not all impacts on habitats are identified for CFA22. Notably loss of heathland and associated habitats at Whittington Heath Golf Course SBI not listed. Loss of several areas of woodland such as ancient woodlands at Ravenshaw, Black Slough and the Slaish and Vicars Coppice Loss of large number of water bodies only acknowledged as an impact on amphibians. Lack of quantification of impacts on habitats by area, number of water-bodies or length of hedgerow. No register of impacts on significant bat assemblages including at Ravenshaw, Black Slough and the Slaish where 9 bat species including several rare species recorded with considerable activity. This register should not be used to inform assessment or works due to its incomplete and mis-leading nature.</p>
<p>Technical Appendix CFA16-22 Ladbroke to Handsacre Ecological baseline data: designated sites, habitat surveys and flora (EC-001-003) Ecology s.4.4.176</p>		<p>It is noted that only 62% of CFA area surveyed with several SBIs and ancient woodlands not surveyed; therefore it could not be possible to fully identify and assess impacts particularly in the Hints area where SCC proposals to reduce impacts have not been incorporated into the scheme.</p>

<p>Technical Appendix CFA16-22 Ladbroke to Handsacre Ecological baseline data: designated sites, habitat surveys and flora (EC-001-003) Ecology s.4.4.195</p>		<p>It is not clear from text whether this significant habitat is affected by the scheme. It is within the red line indicating land needed for the scheme but should be avoided if possible as a rare example of a quality grassland habitat in the CFA. This area should be included in an extended SBI. Text in vol 2 however indicates that this habitat will be lost in its entirety; this should be made clear here.</p>
<p>Technical Appendix CFA16-22 Ladbroke to Handsacre Ecological baseline data: designated sites, habitat surveys and flora (EC-001-003) Ecology s.4.4.198-4.4.203</p>		<p>Insufficient information is provided to allow assessment of impacts on water-bodies as most were not surveyed. S.10.4.39 states that in the absence of field data it is considered unlikely that any of the small ponds affected in CFA21 will be of conservation value. There is no basis in fact for this assertion. The same applies for CFA22 S.10.4.46.</p>
<p>Technical Appendix CFA16-</p>		<p>Noted that only 40% of CFA area surveyed; Areas not surveyed include Fulfen Wood, Tomhay Wood, John's Gorse, Harvey's</p>

<p>22 Ladbroke to Handsacre Ecological baseline data: designated sites, habitat surveys and flora (EC-001-003) Ecology s.4.4.207</p>		<p>Rough, Vicar's Coppice and Little Lyntus Wood of potential ancient woodland status therefore it could not be possible to fully identify and assess impacts. Indeed virtually none of the woodland habitats in the CFA have been surveyed.</p>
<p>Technical Appendix CFA16-22 Ladbroke to Handsacre Ecological baseline data: designated sites, habitat surveys and flora (EC-001-003) Ecology s.4.4.218-4.4.222</p>		<p>It will be important to maintain the hydrological conditions that support the wet woodland of the Slaish identified a rare plant community by the NVC survey. Appropriate mitigation of impacts would include enhancement of remaining woodland by suitable management including rhododendron removal and restoration of heathland where possible to contribute to landscape-scale policy for this habitat. Here and elsewhere a mechanism is required to allow for mitigation outside the land identified as required for the scheme or the land take should be increased to allow mitigation to be carried out.</p>
<p>Technical Appendix CFA16-22 Ladbroke to Handsacre Ecological baseline data: designated sites, habitat surveys and flora (EC-001-003) Ecology s.4.4.230-4.4.235</p>		<p>Insufficient information is presented to allow assessment of impact on hedgerows as no actual information is presented on the hedgerows to be lost with no identification of lengths affected, species composition only described for a selection that does not include some of those most significantly affected and no information presented on habitat connectivity.</p>

Document:		Volume 5: Landscape and Visual
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment
	Concern that the 2km study area is insufficient. Concern that only assessing viewpoints within 500m of the alignment ignores viewpoints indicated on the viewpoint plans and other receptors more distant who will suffer detrimental impacts from elevated structures and embankments.	2km Study area is not in accordance with the Scope and Methodology Report that the LVIA study area would be determined through the production of a ZTV.
		Minimal reference to Historic Landscape Character and impacts on Historic Landscape Character.
	Requested full reference to the Natural England NCA Profiles and evidence of how the proposals respond to the Statements of Opportunity set out in the profiles. We also expect the project to demonstrate that it has been informed by Natural England’s Guidance on Green Infrastructure.	No reference to Statements of Opportunity
	Mitigation earthworks and planting should be informed by and integrated into the local pattern of landscape features responding to local distinctiveness, thereby supporting the objectives on the European Landscape Convention and the NPPF.	
Methodology of LVIA		Medium impact is defined as partial loss or alteration to one or more key characteristics, prominent additions introduction of elements that noticeably alter the tranquillity of the character area. Based on this description the majority of viewpoints would

		Question the assumption that the density of leaf cover in summer could result in the difference between winter and summer effect from significant to not significant.
	Photomontages LV-01-143 illustrates incongruous features - acoustic fence, viaduct, detrimental effect of urbanising and dominating the rural landscape. Particularly in relation to elevated viaducts and embankments.	

Document: Volume 5: Sound, noise and vibration		
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment
These comments should be read in conjunction with comments provided in relation to the other volumes of the ES including the CoCP.		
Operational		
	It is vital that the impact in rural areas is included in the process and we believe that a minimum contour level of 40 dB LAeq day and 30 dB LAeq night should be used.	Contour levels have remained at 50 dB LAeq day and 40 dB LAeq night and we believe that the impact on rural locations has not been adequately conveyed.
	We are concerned that the cumulative effect of LAMax levels from the passing trains will have an adverse effect on communities and expect that HS2 Ltd take this factor fully into account	We are concerned that the cumulative effect of LAMax levels from the passing trains has not been fully taken into account due to use of LpAFmax of 85 dB.
	We are concerned that the information provided on noise mitigation is only indicative. We believe that this makes it difficult for communities to not only visualise the type of mitigation proposed but also to submit suitable and feasible alternatives.	The information on noise mitigation is still indicative and we maintain our view that it is difficult for communities to visualise the type of mitigation and provide ideas for alternatives.
	We are concerned that some locations may not be able to be sufficiently mitigated to prevent adverse effect. These include locations where the line is on viaduct or where it joins the WCML. Examples of this are the viaduct near Streethay and at Handsacre.	We maintain our belief that some locations such as Streethay, Handsacre have not been sufficiently mitigated to prevent adverse effect and we seek assurances from HS2 that work in this area will continue.

	<p>Where the proposed line joins the WCML near to Handsacre, we believe intensification of train movements on this section will have an impact on the community and in particular Hayes Meadow Primary School. We expect that the intensification of the WCML is included within the assessment process and appropriate mitigation provided where an increase in noise is identified</p>	<p>Intensification of the existing the WCML between Handsacre and Colwich will have a significant impact on the community and in particular Hayes Meadow Primary School. This impact has not been fully assessed in the ES and we expect this to be carried out in order that appropriate mitigation is identified.</p>
	<p>The route passes close to the Trent & Mersey Canal where we are concerned that increased levels of noise near the Kings Bromley Marina and Fradley Junction will impact on the leisure industry and we seek reassurances that suitable and effective mitigation will be provided</p>	<p>Measures to mitigate against noise impact along the Trent & Mersey Canal have not been identified. We seek assurances that canal users will not subject to increased levels of noise and that HS2 Ltd provides mitigation to ensure this does not occur.</p>
	<p>We also have a concern regarding the impact of Rayleigh waves which can be associated with high speed rail and the type of ground conditions the line is constructed on. The area of research on this is limited and we are concerned that the actual impact may not be known until after the line is open</p>	<p>We are pleased that HS2 Ltd have recognised the potential problem of Rayleigh waves but seek assurances that where concern over soft ground conditions in certain locations exists, these areas are identified and full remediation measures made known.</p>
	<p>The noise impact on all properties, including isolated dwellings, to be fully included in the analysis of the impact assessment process</p>	<p>We continue to believe all communities large and small are entitled to the same level of noise protection and that where an adverse noise impact occurs it is always identified whether it is an individual dwelling or forms part of a larger community.</p>

	The cumulative effect of high LAMax noise levels is fully assessed in particular to the potential impact on sleep disturbance	The cumulative effect of high LAMax noise levels is fully assessed in particular to the potential impact on sleep disturbance
	We request HS2 Ltd to monitor actual noise levels once the railway becomes operational so the readings can be compared with the predicted noise levels during design. This may require further / additional mitigation by HS2 Ltd.	We maintain the need for HS2 Ltd to monitor actual noise levels once the railway becomes operational in order that any requirement for additional mitigation can be identified.
Construction		
	We have strong concerns regarding the construction impact on Streethay from the Cappers Lane compound and Streethay construction sidings.	Although the area and layout for the proposed construction compound and sidings has been amended, we maintain concerns about the impact on Streethay and in particular the users of the Coventry Canal and Kings Orchard Marina.

Document: Volume 5: Traffic and Transport		
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment
Part 1 Introduction Page 4-9 Para 4.10.4		The report highlights the expected proportions of construction traffic during the peak periods but doesn't mention how the remainder of construction traffic is distributed throughout the day. A significant proportion of vehicles travelling during the afternoon school peak could produce a local impact.
Part 2 Base line conditions Page 5 - 310 Para 5.23.8 and Page 5 - 316 Para 5.24.7		The Transport Assessment indicates queue length surveys have been undertaken to support the model calibration; however the ES does not provide this information to allow Staffordshire to validate this.
Part 7 Country Assessment Page 7-503, Para 7.17 and Page 7 - 528 Para 7.18		Overarching Comments on Transport Assessment for both CFA 21 & CFA 22: • No input modelling files have been provided to establish how the junctions have been modelled and on what basis these were assessed i.e. geometry data based on O.S. or from actual

		<p>survey?</p> <ul style="list-style-type: none"> • Further clarification and justification needs to be provided on what parameters have been used in the modelling process, particularly in relation to the type of profile used for the peak hours (i.e. real demand or flat profile?) and whether an assessment has been undertaken to assess if a worst case scenario occurs between the peak movements of the background traffic and construction/workforce traffic outside the peak hour identified in the ES (8-9am and 5-6pm)? • Turning movement diagrams have not been provided for the base flows/construction flows with no information on how these are assigned onto the highway network or evidence to support the arrival/destination assumptions? • Has a gravity model been used for employee and operational movements and if so where is it? • From the ES there seems to be an indication that some junctions have been assessed on a “rule of thumb” approach? Can further information be provided to identify what junctions within Staffordshire have been subject to this educated guess approach?
<p>Part 7 Country Assessment Page 7-504 Table 7-271</p>		<p>Fazeley (main) PM growth rate should be 1.1 not 1.01; this requires amendment.</p>
<p>Part 7 Country Assessment Page 7 - 506 Para 7.17.13</p>		<p>The junctions of Drayton Lane/Bangley Lane/Watling St (north of A453) and Flats Lane (east of Watling St) have all been identified as suffering traffic impact from construction and mass haul routing. However the Transport Assessment does not appear to have assessed the magnitude of this impact which is required by Staffordshire.</p>

<p>Part 7 Country Assessment Page 7 – 507 Para 7.17.15</p>		<p>The Transport Assessment has identified a number of key Staffordshire junctions that will be over capacity during the construction phase of HS2, these being:</p> <ul style="list-style-type: none"> • A453 (NE) • A446 • A5148 (N) • A5127 Birmingham Road (N&S) <p>Assuming the modelling is validated, Staffordshire would expect that these impacts are mitigated through improvement measures submitted to and approved by the County Council.</p>
<p>Part 7 Country Assessment Page 7 – 520 Para 7.17.37 and Page 7 – 547 Para 7.18.39</p>		<p>The assessment used to identify carriageway capacity is felt to be too liberal. The majority of roads within Staffordshire affected by the construction compounds and related traffic movements are served from the rural road network. These can be narrow with poor forward and horizontal alignments and therefore should not be considered as having a generic capacity to safely accommodate 1600 vehicles per hour.</p>
<p>Part 7 Country Assessment Page 7-518 Para 7.17.30 and Page 7-544 Para 7.18.32</p>		<p>Framework Travel Plan</p> <ul style="list-style-type: none"> • In a number of chapters with the ES and Travel Plan there seems to be references to the “potential” and “encouragement” to restrict travel to and from compounds at certain times of day. However, if this was to be implemented it would require significant monitoring strategy to maintain the integrity of the highway network for which no supporting detail has been provided. • The Travel Plan weighs heavily on sustainable travel such as cycling/walking and bus travel. However the majority of roads

		and proposed compounds are served from the County's rural road network which do not benefit from supportive bus operations i.e. to cover shift patterns, and have no suitable footpaths or ideal road widths to support walking and cycling. Specific measures should be considered that are relevant to the areas in question and not generic as provided within the ES.
Part 7 Country Assessment Page 7-522 Table 7-288		Clarity is required in order to understand whether or not the junction assessment for Wall Island A5/ A5127/ A5148 include the pinch point scheme improvement?
Part 7 Country Assessment Page 7 - 547 Para 7.18.12		The junctions of Broad Lane north of Capper's Lane, A51 Tamworth Road Whittington Common – Cricket Lane, Cricket Lane A51-A5206, A5206 London Rd Cricket Lane – A38 have all been identified as suffering traffic impact from construction and mass haul routing. However, the Transport Assessment does not appear to have assessed the magnitude of this impact which is be required by the County Council.
Part 7 Country Assessment Pages 7 - 532/3 Para 7.18.14		<p>The Transport Assessment has identified a number of key Staffordshire junctions that will be over capacity during the construction phase of HS2, these being:</p> <ul style="list-style-type: none"> • A5192 Eastern Avenue • A5127 Trent Valley Road • A5192 Cappers Lane <p>Assuming the modelling is validated, Staffordshire would expect that these impacts are mitigated through improvement measures submitted to and approved by the County Council.</p>

Document: Volume 5: Water Resources and Flood Risk Management		
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment
Route wide appendix		
Page 17 Para's 2.3.19, 2.3.30 & 2.6.32		This paragraph states that hydro morphological sub-elements have not been scoped out for surface water (non-Main River) watercourses. Some non-Main Rivers are large enough to be significant and if deemed necessary, we would ask for such an assessment as part of a Land Drainage Consent application.
Page 35 Para, 2.6.1 & Table 7		Siphons are mentioned in this table as a way of conveying watercourse flows underneath the newly constructed track. We are very concerned about the inclusion of the use of siphons. We would very much like HS2 Ltd to design these out if possible. Siphons often result in localised problems due to rapid silt build up, trapping of floating debris and lack of maintenance regarding these issues. They also impede fish and wildlife migration.
Page 37 Para, 2.6.9		This section states that culverts will be designed using SEPA Design Guidance. We would question whether this is the industry standard and would ask whether or not there is guidance prepared by the Environment Agency which is equivalent to this guidance?
Page 38 Para, 2.6.16		This section suggests that watercourse diversion design will incorporate the creation of new habitats. However, this is being

		left to the detailed design stage. If permission is granted through the Hybrid Bill, what powers will the County Council have (as the Lead Local Flood Authority) to influence this and other aspects of design?
Page 93 Para, 3.5.11		<p>This section suggests that peak surface water discharge from all elements of the built infrastructure will be set at 100 year + climate change levels. We believe this is a mistake. This seems to be suggesting that discharge from infrastructure could potentially run at 100yr + CC flow rates to local receiving water bodies even for lower return period storms. This would put significant additional pressures on those water bodies and would increase the risk of flooding to downstream property for any storm up to the 100 year event. This is obviously unacceptable and contrary to NPPF. Any other developer is normally asked to control discharge rates in this way and we believe the wording for this paragraph might be:</p> <p><i>'All drainage will be attenuated in order that the surface water run-off from the proposed infrastructure will be to the same local receiving water bodies and the rates of discharge will resemble the run-off from the existing land, before construction. The peak run-off from the infrastructure should therefore be the same as, or less than, the equivalent peak run-off for the original piece of land across a range of storm events, up to the 100yr plus climate change event'</i></p> <p>Unless this is changed, we believe this will place increased flood risk to other parties.</p>
CFA 21; Drayton Bassett, Hints and Weeford		
Page 9 Para, 2.6.7		The modelling approach states that where a watercourse passes through an embankment or raised ground as delineated by the Digital Terrain Model (DTM), it was assumed there was a

		5m width channel opening. It is unlikely that this is the case except for the very largest watercourses. As a result, the modelling may have missed flooding that is generated by undersize culverts not far downstream of the route. This will probably be resolved by more detailed design later, but if a particularly restrictive culvert causes problems like this, we would expect HS2 Ltd to look at replacing these structures as part of the scheme, so long as it did not increase flood risk downstream.
Page14 Para, 3.2.8		Once again, it is stated that peak rates of discharge from infrastructure will be at 100yr + CC rates - see comments for WR-001-000 Section 3.5.1 above.
Page 14 Para, 3.3.1		This is a more considered statement that there should be no increase in run-off to the receiving watercourse as a result of the railway; further clarification is required to understand this.
Page14 Para, 3.3.4		This section states that an allowance of 30% was added to design events. Further clarification is required to understand whether or not this 30% is added to rainfall or flow?
Page15 Para, 4.1.3		HS2 Ltd have produced detailed LIDAR surveys of the route. Would it be possible for HS2 Ltd to make the LIDAR survey DTM available to the County Council to assist in future planning and flood relief purposes?
Page18 Para, 5.2.2		This section outlines that HS2 Ltd will obtain consent as required, for works affecting a watercourse. The County Council will be happy to co-operate in this process and it will give us a further opportunity to ensure the works do not adversely affect our local environment and communities. However, the County Council has a limited staff resource and we would suggest you talk to us as early as possible regarding the submission of temporary and permanent works consent applications. Whilst

		we would seek to turn these around as quickly as possible, if they all arrived together, this may overwhelm our ability to respond in the time frames that HS2 Ltd would require. So we would suggest that applications are staggered.
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Document: Volume 5: Waste and Mineral Resources		
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment
CFA 21; Drayton Bassett, Hints and Weeford		
Page 111 Para 22.2.1		Appendix WM-001-000 Chapter 22 Drayton Bassett, Hints and Weeford (CFA 21) paragraph 22.2.1 shows no estimated quantity of surplus excavated material for disposal to landfill (tonnes). The disposal of waste off site is not anticipated to have a significant impact in Staffordshire but in the event that there is a requirement for off-site disposal of inert excavated wastes, we support the design approach and would urge the nominated undertaker to liaise with the Waste Planning Authority at the earliest opportunity to identify appropriate disposal schemes.
CFA 22; Whittington to Handsacre		
Page 116 Para 23.2.2		Chapter 23 Whittington to Handsacre (CFA22) paragraph 23.2.2 shows no estimated quantity of surplus excavated material for disposal to landfill (tonnes). The disposal of waste off site is not anticipated to have a significant impact in Staffordshire but in the event that there is a requirement for off-site disposal of inert excavated wastes, we support the design approach and would urge the nominated undertaker to liaise with the Waste Planning Authority at the earliest opportunity to identify appropriate disposal schemes.

DRAFT CODE OF CONSTRUCTION PRACTICE

Both the County Council and Lichfield District Council have already provided comments on previous versions of the Code of Construction Practice; these comments were submitted in response to the draft Environmental Statement and the first draft in October 2012. Whilst it is encouraging to see that some comments have been incorporated into the current draft, there are still areas that we believe require further amendment or consideration which are outlined in table 6.1.

We remain concerned with the continued use of 'reasonably practicable' within the Code of Construction Practice document; there is currently no explanation of the term in the document and therefore it is impossible for the communities to understand what protection this Code gives them. We expect HS2 Ltd to remove the uncertainty and ambiguity.

Table 6.1			Volume 5: Code of Construction Practice		
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment			
Construction Worker Impacts					
It is expected that those construction workers who reside in camps or local accommodation will use public services in the town in which they are working in addition to their home town. Experience should be obtained from other large infrastructure projects such as M6 Toll or High Speed 1. Construction delays combined with shift patterns can often result in construction workers staying 'on camp' when weighing up the journey time home and the length of stay within their home town.					
Draft Code of Construction Practice					
Implementation					
Page 8 Para 4.3.1		It is expected that <i>'all'</i> contractors will undertake the necessary monitoring as outlined for each environmental topic and not just the lead contractors. If it is deemed that lead contractors will undertake monitoring, control measures should be in place to monitor compliance for sub-contractors			
General Requirements					
Page 11 Para 5.1.6	The use of a community helpline number is welcomed. However, local communities had questioned the procedure for contracting the contractor out of normal office hours where immediate action is required. A remove and centralised call centre must have the facility to ensure local issues, which require an immediate response, can be resolved in a timely manner	Whilst it is noted that the helpline will be available 24 hours a day 7 days a week, there is still little reassurance to support concerned communities in how to resolve concerns out of normal office hours. Such concerns can include leaving contractors staff accidentally leaving generators and ancillary site lighting on over a weekend or bank holiday.			

<p>Page 13 Para 5.2.2 & 5.2.5</p>	<p>Whilst it is accepted that core working hours will be from 08:00 to 18:00 on weekdays, the one hour start-up and close-down of activities is a concern. Although the one hour time periods do not include the operation of plant or machinery likely to cause a disturbance, we are concerned that by virtue of ‘starting up’ and ‘closing down’ construction activities, it will require the operation of plant or machinery which is likely to cause disturbance. We are also concerned that this is ambiguous and could ultimately result in a construction period of 07:00 to 19:00 each day</p>	<p>We remain concerned of the ambiguity relating to working hours and the start-up and close-down periods. The requirement for the nominated undertaker to ensure contractors adhere to these core working hours for each site so far as reasonably practicable does very little to provide reassurance.</p>
Agriculture, forestry and soils		
<p>Page 23 Para 6.2.5</p>		<p>There appears to be some wording or reference missing from the last sentence of this paragraph.</p>
<p>Page 23 Para 6.2.2</p>	<p>It is expected that retained trees and hedgerows will receive adequate protection throughout the development phase. As a minimum, we would expect protection to be in accordance with BS5837:2012 Trees in relation to design, demolition and construction.</p>	<p>It is expected that retained trees and hedgerows will receive adequate protection throughout the development phase. As a minimum, we would expect protection to be in accordance with BS5837:2012 Trees in relation to design, demolition and construction.</p>
<p>Page 24 Para 6.3.1</p>	<p>We expect HS2 Ltd to provide details for non-compliance as part of monitoring of topsoil and subsoil stripping. We also expect HS2 Ltd to provide assurances on the work completed along with details for the maintenance period including timescales for correction.</p>	<p>There still appears to be no information which details action to be taken by the environmental management staff for non-compliance</p>
Air Quality		
<p>Page 26</p>	<p>Whilst it is noted that water will be one of the primary</p>	<p>There appears to be little details which require the nominated</p>

<p>Para 7.2.3</p>	<p>methods to suppress dust, we expect the cumulative effects of run-off and increased moisture content to be considered on the wider environment as well as watercourses.</p>	<p>undertaker to consider the cumulative effects of run-off and increased moisture content on the wider environment as well as watercourses.</p>
<p>Page 27 Para 7.2.4</p>	<p>We expect HS2 Ltd to carry out dust suppression activities as well as enforce site speed limits on haul roads to control dust emissions. We expect dust suppression will not be limited to working hours only and that in some circumstances it will need to extend outside normal working hours that includes weekends.</p>	<p>There is no detail provided on the hours by which dust suppression activities will take place.</p>
<p>Page 28 Para 7.2.8</p>	<p>We expect HS2 Ltd and its nominated undertaker to position and undertake conveying, processing and crushing activities within the material stockpile areas (Tewnal's Lane and Streethay) so as to minimise the effect of dust on the surrounding environment. We expect the Local Environment Management Plan and control measures to consider the cumulative effects of these operations which include traffic movements within the compounds and haul routes.</p>	<p>There appears to be no requirement for the contractors to undertake conveying, processing and crushing activities within material stockpile areas.</p>
<p>Page 29 Para 7.3.1</p>	<p>We expect HS2 Ltd to develop penalties for non-compliance of approved best practice or redress in the event of a breach. We expect HS2 Ltd and its nominated undertaker to review the impact of dust, noise and vibration arising from construction activities that are not controlled by the measures set out within the CoCP. The contractor could be complying with the measures set out within the CoCP but sufficient monitoring and review is required to ensure the effectiveness of the CoCP's control measures.</p>	<p>There appears to be no details for review of the proposed control measures to evaluate their effectiveness. An additional item should be included which relates to the review of the control measures which are specific and suitable for the area in which the construction activity is taking place.</p>

Cultural Heritage		
<p>It is a concern to note that previous comments on the draft Code of Construction Practice have not been incorporated into the document. In particular the section which states '...English heritage and the relevant Local Authority... will be consulted as appropriate...' The question arises 'Who will determine when and whom to consult?' Monitoring and liaison throughout the project lifespan must be undertaken as part of a formal and regular process agreed by all participants. There should be regular liaison meetings between English Heritage, other relevant organisations, the relevant Local Authority, the Lead Contractor/Consultant and any archaeological sub-contractors.</p>		
<p>Page 30 Para, 8.1.3, bullet point 7.</p>		<p>This section states that '<i>English heritage and the relevant Local Authority... will be consulted as appropriate...</i>' The question arises 'Who will determine when and whom to consult?' Monitoring and liaison throughout this project must be undertaken as part of a formal process agreed by all participants. There should be regular liaison meetings between English Heritage, other relevant organisations, the relevant Local Authority, the Lead Contractor/Consultant and any archaeological sub-contractors. It has been advised that the Lead Contractor/Consultant should prepare regular briefing reports and that these be copied to all parties involved in the archaeological works. These reports should highlight for example elements of work completed, working ongoing, significant discoveries, changes to working practices, health and safety and issues arising.</p>
<p>Page 30 to 31 Para 8.1.4, bullet point 6.</p>		<p>This bullet point should also state that, following an unexpected archaeological discovery and the subsequent notification to the Lead Contractor Project Manager, the area of discovery shall be secured to prevent subsequent disturbance from ground workers or machinery.</p>

<p>Page 30 to 31 Para, 8.1.4, bullet point 3.</p>		<p>Paragraph 6.4.43, bullet point 2 in CH-001-022 identifies that physical impact on below ground assets will be reduced through 'the design of earthworks' suggesting that the design process will seek to reduce impact through avoiding or minimising earthworks over below ground archaeological assets. However, paragraph 8.1.4 of the CT-003-000, bullet point 3 indicates that archaeological remains will be preserved <i>in situ</i> beneath earthworks. Preservation <i>in situ</i> should be informed by significance and it should be noted that earthworks (depending on their scale) can have a significant impact through compression on sensitive buried archaeological remains. Where preservation <i>in situ</i> is proposed it is recommended that designers look to avoid or minimise the scale of earthworks in areas of archaeological sensitivity. Where this is not possible, designers should consider weight distribution solutions and long term monitoring of impacts (as identified in paragraph 8.3.2).</p>
Ecology		
<p>General</p>	<p>This CoCP is clearly a framework document only. A mechanism for development and agreement of more detailed documents that address specific issue, site, habitat and species requirements will needed. Integration will be required regarding ecology and landscape issues in preparation of plans, documents etc. with appropriate specialist staff and consultations being part of the process.</p>	<p>This CoCP is clearly a framework document only with insufficient detail to control contractor works. A mechanism for development and agreement of more detailed documents that address specific issue, site, habitat and species requirements will needed. Integration will be required regarding ecology and landscape issues in preparation of plans, documents etc. with appropriate specialist staff and consultations being part of the process. Provisions for Ecological Clerk of Works supervision of works affecting designated sites, priority habitats and habitat of protected and priority species would be expected as good practice</p>

Page 22 Para 6.1,2	In section 6, addition to agriculture, forestry and woodland, there should be reference to other habitats (e.g. grasslands, heathlands, and wetlands) in terms of soils management. There will need to be local plans for soils management related to specific mitigation and landscaping requirements.	In addition to agriculture, forestry and woodland, there should be reference to other habitats (e.g. grasslands, heathlands, wetlands) in terms of soils management as successful habitat translocation or creation depends on suitable soils with particular characteristics. Low fertility soils suitable for heathland creation and for species-rich grassland need to be maintained separately from agricultural topsoil's and woodland soils. There will need to be local plans for soils management related to specific mitigation and landscaping requirements.
Page 23 Section 6.2		Specific advice is required regarding soils for wildlife habitats such as heathland and species-rich grassland
Page 34 Para 9.1.5		This states: "The contractors will, where it is reasonably practicable reduce any habitat loss within the land required for the Proposed Scheme by keeping the working area to the minimum required for construction of the Proposed Scheme." The wording "where it is reasonably practicable" is unnecessary and dilutes protection.
Page 36 Para 9.3.1		It would be appropriate for this monitoring programme to be agreed by LPAs. Guidance should be provided to contractors regarding survey and monitoring standards, reporting etc.
Page 37 Para 9.3.2		It should be specified that survey and monitoring should be carried out by ecological consultants with suitable expertise and experience.
Ground Settlement		
We have no comments to make at this stage		
Land Quality		
Page 39		The start of the last sentence should be amended to include

Para 11.2.1		'Procedures will be agreed in consultation with <i>all</i> stakeholders for any works which may affect....'
Landscape and Visual		
<p>Temporary compound and materials storage locations may not have taken ecological and landscape issues fully into account as identification of locations precedes full surveys. In particular landscape character and features that support ecological connectivity such as hedgerows, small woods, field trees and ponds need to be considered in compound location and design.</p>		
<p>Soils management for a range of habitats (e.g. woodlands, grasslands, heathlands, and wetlands) is required. There also needs to be a local plan for soils management related to specific mitigation and landscaping requirements.</p>		
Page 44 Para 12.1		The 12th bullet point within needs amending to cover ecological habitats and species impacts 'provision of suitable specialist landscape management and <i>ecology</i> staff with specific responsibility for monitoring and supervising the landscape works....'
Page 44 Para 12.1		The 13th bullet point within requires amending to include 'use of appropriate lighting <i>that minimises impacts on wildlife habitats and species</i> '.
Page 46 Para 12.3		Reduce impacts on the landscape - 'locations for landscape measures will relate to findings in the ES and will be aimed at protection and mitigation of adverse effects on sensitive and valued landscape features and characteristics. As loss of some features has not been assessed in detail (e.g. temporary access) this provides on assurance of mitigation, and it is not clear how features will be valued.
Page 46 Para 12.3.4		This should also include for temporary access routes
Page 46 Para 12.3.5		This should also include for selection of soils so that composition pH etc. is appropriate for habitat creation.

Page 46 Para 12.3.6		This should also include for decompaction of soils.
Page 47 Para 12.3.8		The use of locally harvested seed should be encouraged where possible for habitat creation (this may be done through liaison with Wildlife Trusts and local authorities). Seed mixes and suppliers should conform to the 'Flora locale Code of Conduct'. It should be noted that topsoil may not always be desirable for wildlife habitat restoration or creation.
Page 47 Section 12.4 and Para 12.4.3	It is noted that monitoring and maintenance of landscaping and planting will be undertaken throughout the construction period. It will be essential for all planting to have a 5 year aftercare period, potentially beyond completion of the construction works, during which time any failures would need to be replaced.	Long term management and monitoring will be required to ensure appropriate habitat development.
Sound, Noise and Vibration		
General	We have significant concerns regarding construction noise. We expect HS2 Ltd to work closely with all Local Authorities to ensure consistent and co-ordinated responses can be made to Section 61 consents.	We believe the CoCP lacks credibility for reasons outlined below. Further dialogue is required.
General		The CoCP is an important document and is made reference to throughout the ES as the primary method of controlling construction impacts on communities. It is the key document in controlling construction noise, dust and land contamination. It

		<p>details how local environmental teams will liaise with the communities and develop local solutions to control construction impacts. The document’s credibility is borne from the proposal to place these measures into a legal consent as agreed by the local authority (Section 61 Control of Pollution Act 1974). However, there are additional construction controls that are not being made available for open consultation. These are contained in Schedule 25 of the Hybrid Bill and are provisions that fundamentally flaw the credibility of CoCP. These provisions change the S61 consent appeal process by moving it from under the jurisdiction of the courts directly to Government. The provisions also make the project immune, subject to a S61 being in place, from Statutory Nuisance. We believe that diverting the appeal procedure of a Government sponsored project from the independence of a court to the Government themselves leaves the CoCP with no credibility. We believe HS2 Ltd should remove the Schedule 25 provisions form the Hybrid Bill in order to reinstate the credibility of one of the most important documents of the ES.</p>
Traffic and transport		
<p>Page 57 Para 14.1.1</p>		<p>Vehicle sharing by the workforce has historically not been achieved to any significant scale. No detail has been provided to promote this initiative and further information is required.</p>
<p>Page 57 Section 14.2</p>		<p>The CoCP traffic management states ‘measures’ will be put in place to mitigate traffic impact. When and where will these procedures and measures be set out in more detail?</p>

<p>Pages 57 and 58 Para 14.2.2</p>		<p>More information is needed in local Traffic Management Plans on monitoring requirements. For PRow, further details are required on:</p> <ul style="list-style-type: none"> • Generic details such as path width, surface type, structures needed for stock control (such as gates) and accessibility provisions for the less able ; • The reinstatement and possible improvement of those public rights of way affected during construction, with a condition survey prior to and post-construction; • What maintenance will be carried out on temporarily diverted PRow, such as a summer mowing programme, signposting and surfacing where necessary.
<p>Page 58 Para 14.2.3</p>		<p>Whilst routes of construction traffic will be subject to approval of the relevant planning authority, further detail is required at the stage/point in the design and construction traffic which these routes will be agreed; this is not made clear in this document or in any of the other parts of the Environmental Statement. The Councils expect that timeframes for such agreement should be set out more clearly.</p> <p>The Councils expect that there should be some indication in the CoCP or within a more localised Traffic Management Plan, of the specifics of what highway maintenance will be carried out.</p>
<p>Page 58 Para 14.2.4</p>		<p>Traffic Management Plans must be consulted on and agreed with relevant authorities and services.</p>
<p>Page 58 and 59 Para 14.2.5</p>		<p>Phasing of the works' should be discussed at the earliest opportunity with the Councils and in particular the Highway Authority.</p> <p>The site specific traffic management measures include, 'A list of roads which may be used by construction traffic in the vicinity of the site'. The scope of this needs to be extended to include all</p>

roads leading to the nearest major highway (A road or higher) Beyond this point vehicles should be limited to using major highways up to the closest access point to the place of final delivery.

Section 50 of the Highways Act requires pre-start surveys on all vulnerable roads.

HS2 contractors will need to ensure that their negotiations with landowners include provision for lorry holding areas

Staffordshire welcomes the use of GPS tracking to manage traffic movement. However, the Councils expect that where possible GPS or at the very least a clear map of appropriate construction routes be provided to all construction vehicles. The Councils expect that a lorry driver training programme be implemented along with a Communications Plan that sets out how information on the routes and appropriate behaviour will be disseminated to construction traffic.

Other site-specific measures should be included (if not covered elsewhere):

- recording the highway condition at access points;
- recording the condition of relevant parts of the highway prior to the commencement and after the completion of HS2's works, in consultation with the highway authorities. The highway authorities will be notified of surveys and may send a representative if they wish. Any remedial works required as a result of HS2's works will be undertaken to the reasonable satisfaction of the relevant highway authority.
- Large vehicle controls, including penalty measures.

<p>Page 60 Para 14.3.1</p>		<p>Staffordshire expects that the monitoring plans by the Nominated Undertaker should include a survey of the condition of roads used as construction routes prior to their being trafficked by construction vehicles. These routes are to be monitored by the nominated undertaker throughout the construction period, and following completion to be restored to a state agreed with the local planning and highway authorities. Use of ANPR to monitor unregulated access by any construction-related vehicles (including workers' cars) to sensitive locations should be considered. The Council expect that the local planning and highway authorities will have input into the monitoring plans and that they will not proceed without the approval of these authorities.</p>
Waste and Minerals		
<p>The Code of Construction Practice makes no particular reference to sourcing the aggregate that would be expected to be needed for the construction project (for concrete manufacture, temporary roads, or track ballast etc.) The quantities can be expected to be substantial, and their supply will need to be planned for. We expect these details to be noted either within the Code of Construction Practice or the LEMP's, but it is important that it is addressed at a sufficiently strategic level to assess the availability of suitable material. Further detail and engagement is expected.</p>		
<p>Page 60 Para 14.3</p>	<p>There appears to be no detail for the management of non-compliance within the monitoring process.</p>	<p>There still appears to be no information or detail for the management of non-compliance within the monitoring process.</p>
<p>Page 61 Section 15</p>		<p>It is noted that the CoCP makes no particular reference to sourcing the aggregate that would be expected to be needed for the construction project (for concrete manufacture, temporary roads, or track ballast etc.) The quantities can be expected to be substantial, and their supply will need to be planned for.</p>

<p>Page 62 Para 15.2.5</p>	<p>Paragraph 15.2.5 of the draft Code of Construction Practice suggests that suitable projects or other opportunities for reuse of excavated materials may be identified. District Local Plan policies should be considered to identify opportunities for biodiversity enhancement including the creation of local ecological networks e.g. within the area of the Central Rivers Initiative.</p> <p>We expect HS2 Ltd in conjunction with the local authorities to explore opportunities to use aggregates from alternative sources including aggregate produced from waste recycling. The proposal should take into consideration local waste facilities that are producing recycled aggregate.</p> <p>Paragraph 15.2.5 of the draft Code of Construction Practice suggests that suitable projects or other opportunities for reuse of excavated materials may be identified. District Local Plan policies should be considered to identify opportunities for biodiversity enhancement including the creation of local ecological networks e.g. within the area of the Central Rivers Initiative.</p>	<p>The disposal of waste off site is not anticipated to have a significant impact in Staffordshire but in the event that there is a requirement for off-site disposal of inert excavated wastes, we support the design approach and would urge the nominated undertaker to liaise with the Waste Planning Authority at the earliest opportunity to identify appropriate disposal schemes.</p>
<p>Water Resources and Flood Risk</p>		
<p>We have no comments to make at this stage</p>		
<p>Annex 3: Local Environmental Management Pan Template</p>		
<p>Annex 3</p>		<p>It is suggested that the LEMP also makes reference to any site or area specific reinstatement works on completion of the construction operation.</p>

Annex 3		Is it assumed that the Waste and Mineral section within the LEMP will also include site specific requirements for the management of minerals as well as waste.
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HEALTH IMPACT ASSESSMENT

Table 6.1 provides comments on the Health Impact Assessment (HIA). It is unclear whether or not the HIA forms part of the Environmental Statement however, a view has been taken that due to the references within the HIA concerning information contained within the Environmental Statement comments would be provided and submitted as part of this consultation response.

Table 6.1 Health Impact Assessment		
Page and paragraph reference	SCC previous comment in response to the draft Environmental Statement (if appropriate)	Full Environmental Statement Comment
<p>Whilst the HIA appears to have taken stress and anxiety into consideration in terms of changes in travelling time congestion, loss of or moving homes, social isolation, community severance it does not seem to have taken this into consideration during the planning and development stages of the project as those affected communities anticipate the changes that HS2 may cause. We believe the stress and anxiety caused during the planning and development stage of the design needs to be assessed and appears to have been omitted from the HIA.</p>		
<p>Page 19 Section 5.3</p>	<p>The loss of housing results in a loss of a sense of community, therefore impacting on community resilience and social capital</p>	<p>We believe there will be a strong negative impact on the health of residents of Staffordshire due to forced relocation - particularly the hamlet at Knox's Grave Lane and Flats Lane. This is supported by the text contained within para 5.3.1 which reads: There is moderate to strong evidence on the links between housing and health, relating to the quality and security of housing, and also to the effects of involuntary relocation</p>
<p>Page 37 Para 5.7.29</p>		<p>Whittington Heath Golf Club is a well-used and valued facility and its proposed closure for over a year during construction and for additional time for reinstatement will have a significant impact on the clubs ability to continue as a useable facility. We believe this potential loss of employment and physical activity will have a medium to high impact on its current and future</p>

		members. In addition to the potential loss of physical activity we the HIA does not take into account the loss of social networks
Page 39 Para 5.7.37		We are concerned with the proposed temporary closure and/or diversion of public rights of way during construction. Such activity has the potential to impact on access to green open space and levels of Physical Activity. We encourage HS2 Ltd or its nominated undertaker to explore and promote the use of these amenity assets during construction.
Pages 41 & 42 Para's 5.8.10 & 5.8.11		There appears to be little acknowledgment of the potential social exclusion from the lack of access to local amenities.
Page 46 Para 5.11.4		We are concerned with the potential for increased levels of community isolation - in particular rural isolation which has the potential to impact on populations already at increased risk
Page 47 Para 5.11.5		There appears to be little acknowledgement of the community isolation effects for those impacted communities in Lichfield District. This is concerning given that in 5.8.11 the road works around Hints will affect journeys to shops and services in Lichfield, Shenstone and local villages.