



Response to HS2 Phase 2b Working Draft Environmental Statement

Please find below the response of the Canal & River Trust (the Trust).

We're the charity who look after and bring to life 2000 miles of canals & rivers. Our waterways contribute to the health and wellbeing of local communities and economies, creating attractive and connected places to live, work, volunteer and spend leisure time. These historic, natural and cultural assets form part of the strategic and local green-blue infrastructure network, linking urban and rural communities as well as habitats. Our waterways are on the doorstep of 8 million people and reach some of the most deprived communities within the UK. By caring for our waterways and promoting their use we believe we can improve the wellbeing of our nation.

The Trust's work is focussed on making life better by water. The key objective therefore for the Trust, in responding to the consultation, is to protect our assets and interests and to ensure that as the proposal develops the impacts of the scheme on our inland waterways network or affecting third party restoration projects are appropriately mitigated.

The Trust has a range of charitable objects:

- to preserve, protect, operate and manage Inland Waterways for public benefit:
 - for navigation;
 - for walking on towpaths; and
 - for recreation or other leisure-time pursuits of the public in the interest of their health and social welfare;
- to protect and conserve for public benefit sites, objects and buildings of archaeological, architectural, engineering or historic interest on, in the vicinity of, or otherwise associated with Inland Waterways;

- to further for the public benefit the conservation protection and improvement of the natural environment and landscape of Inland Waterways;
- to promote, facilitate, undertake and assist in, for public benefit, the restoration and improvement of Inland Waterways;
- to promote and facilitate for public benefit awareness, learning and education about Inland Waterways, their history, development, use, operation and cultural heritage by all appropriate means including the provision of museums;
- to promote sustainable development in the vicinity of any Inland Waterway for the benefit of the public, in particular by:
 - the improvement of the conditions of life in socially and economically disadvantaged communities in such vicinity; and
 - the promotion of sustainable means of achieving economic growth and regeneration and the prudent use of natural resources; and
- to further any purpose which is exclusively charitable under the law of England and Wales connected with Inland Waterways;

provided that in each case where the Trust undertakes work in relation to property which it does not own or hold in trust, any private benefit to the owner of the property is merely incidental.

Our response sets out in detail the areas of concern for the Trust and where we require further information to assist with our comments. However, we would like to highlight the following key issues which are of critical importance:

Critical Interfaces.

Erewash Canal.

The design of the crossing of the canal north of Sandiacre, is a significant concern. The towpath here is very well used and carries the National Cycle Network (NCN) route 67. The scale of the engineering infrastructure required to deliver the skew crossing of the canal and adjacent railway will be over bearing and inappropriate to the character of the canal. This crossing is one of the most concerning proposed HS2 crossings on the current national waterway network. The required portal crossing of the canal is almost impossible to appropriately resolve. The Trust require discussions with HS2 about a realignment of the canal as the optimum response to the proposed HS2 route, enabling a less skewed, simpler crossing to be formed.

There is insufficient detail available to assess the impact of M1 re-alignment on the canal.

Chesterfield Canal (Staveley and Norwood).

The scheme prejudices the completion of the well-advanced restoration of the Chesterfield Canal. The Trust wish to see the restoration of the Chesterfield Canal secured. The design of the HS2 scheme should be amended to appropriately accommodate the restoration of the canal.

Norwood Tunnel (Chesterfield Canal).

The Trust own the Norwood Tunnel. The tunnel is nationally significant in the context of canal heritage. To enable us to consider the impact on our asset, the Trust require further information from HS2 to understand the proposals in this area.

Aire & Calder Navigation.

The Trust object to HS2's proposed temporary and permanent use of the access track to the south of the Aire & Calder Navigation at Woodlesford. This area is well used by our customers and is essential for operational access for the Trust. At its eastern end, the track carries the NCN route 67/Trans Pennine trail. This objection includes the proposed acquisition of land up to the edge of Fishponds Lock, which would prevent operation of the lock. The proposed HS2 buildings in the Woodlesford area should be relocated to the south of the railway. The Trust also object to the retaining walls at Stourton being located in the navigation.

Shropshire Union Canal (Middlewich Branch).

The encroachment into the canal and severing of the canal towpath by the embankments of Shropshire Union Canal Underbridge crossings is not acceptable to the Trust. The Trust require a greater understanding of the form and design detail for the twin crossings, including the treatment of the land between the structures. The design of the crossing should reflect the over-arching principles for HS2 waterway crossings as agreed with HS2 Limited on HS2 Phase 1. The Trust require HS2 to reconsider the design and location of the proposed woodland habitat creation adjacent to the Shropshire Union (Middlewich Branch) Canal

Trent & Mersey Canal

For many reasons, the River Dane Viaduct crossing of the canal is of significant concern to the Trust. The Trust require HS2 to undertake a detailed appraisal of the area to consider all the canal related issues.

The Trent & Mersey Canal Underbridge proposal effectively severs the canal. This is not acceptable to the Trust. This is a special location on the canal network and a viaduct should replace this structure to preserve the open character of the landscape.

Critical Issues

Noise impact on the canal corridor and its users.

Notwithstanding HS2's general approach to noise in respect of moorings, public rights of way and open spaces as set out in the Scope and Methodology Report for Phase 2b and also in the noise chapter of the Community Area Reports, the principle of providing a degree of noise mitigation for all canal crossings was established in HS2 Phase 1. The Trust therefore wish to discuss, with HS2, how noise mitigation for canal corridor users will be provided in Phase 2b given the different scenarios that it presents.

The Trust hopes that the following comments are helpful and looks forward to further dialogue with HS2 Ltd to ensure that the developing proposal addresses the impacts on and opportunities for the waterway network and for third party canal restoration projects.

Please direct any queries to John Harris, HS2 Project Lead, Canal & River Trust, Aqua House, 20 Lionel Street, Birmingham. B3 1AQ. Telephone: 07710 175244, email: john.harris@canalrivertrust.org.uk

What comments do you have on the information presented in the working draft Environmental Statement? and Do you have any suggestion about additional information or assessments that should be included in the Environmental Statement?

Please find the Trust's comments to these two questions below including, without prejudice, potential suggested mitigation/opportunities:

General Comments.

The Trust has agreed with HS2 Ltd the parameters of and process by which, the mitigation of impact on our waterways will be achieved for Phase 1 of the HS2 project via our side agreement signed in July 2016. We consider that accommodating these requirements will be the starting point for further discussion on Phase 2b. Note should be made that: 1. the navigational dimensions for waterways principally available for the carriage of freight will need to be taken into account on Phase 2b and 2. the Trust has mechanised infrastructure and water control equipment within the Phase 2b area. The Trust will require HS2 to ensure that this infrastructure and equipment (including associated power and communications infrastructure) remains operational throughout the construction and operational phases.

The Map Books prepared for this consultation show the land potentially required during construction. HS2 should ensure that, as it prepares the hybrid bill, it allows for sufficient land take to ensure that all potential Undertakings and Assurances can be delivered.

The drainage arrangements for the proposed scheme are unclear in the map books. Clearer notation of the drainage arrangements is required. Whilst the Trust has endeavoured to identify the drainage routes that are shown to discharge to or beneath our waterways within each Community Area, in a number of cases this is unclear. Any proposals to discharge to or beneath the Trust's waterways should be discussed with the Trust. This is in order to protect the canal from flooding, structural damage, environmental degradation (which includes water quality) and to ensure navigational safety. Any existing inflow of water to the waterway which is affected by the scheme should also be discussed with the Trust.

The Community and Health chapters should recognise the diverse value of waterways. Waterways and their use are a cross cutting topic. As well as being key transport infrastructure, they fall within the definition of open space within the National Planning Policy Framework. They provide opportunities for recreational activities. The towpaths, where they do not carry a public right of way, generally benefit from permissive access. The waterways also support numerous wildlife habitats and species and the Trust has the third largest national estate of heritage assets. Notwithstanding HS2's general approach to noise in respect of moorings, public rights of way and open spaces as set out the Scope and Methodology Report for Phase 2b it is noted that a number of the assessments in the Landscape and visual sections of the Community Area Reports identify the tranquillity of the canals. It is important that the waterways are considered in all relevant sections.

The Health chapters state that "There is moderate evidence to show that access to green space contributes to good mental health. There is also moderate evidence that environmental factors such as access to high quality green space, safety and local amenity, can influence participation in physical activity. Physical activity is strongly linked to health outcomes". The chapters go on to say that "construction of the Proposed Scheme may impact on levels of access

to green space and physical activity”. The impact on the Trust’s waterways should therefore be considered, particularly given that in 2017/18, 147 million visits/uses were made to/of our waterways where sitting or standing “by water to relax” was cited as a reason. There were 208 million visits/uses where walking or rambling for leisure was cited, with 129m walking the dog, 89m cycling, 81m running or jogging, 22m fishing and 16m using a boat without an engine. 51% of visits were made by people who stated that “to relax in a peaceful environment” was a key motivation for their visit/use of the Trust’s waterways. 61% said a key motivation was to get some fresh air and 53% cited to get some physical exercise.

Furthermore, the impact on public rights of way is being considered in the Health Chapter. One of the Trust’s charitable objects is to preserve, protect, operate and manage Inland Waterways for public benefit: for navigation, for walking on the towpaths and for recreation or other leisure-time pursuits of the public in the interest of their health and social welfare. As stated previously the towpaths, where they do not carry a public right of way, generally benefit from permissive access. In some areas they also carry the National Cycle Network (NCN). Given the use of the waterways highlighted above, the impacts on waterway use should be considered consistently in the health chapter. Correspondingly there should be appropriate mitigation in both the construction phase and operational phase. They should also be considered in relation to neighbourhood quality in both the construction and operational phases.

Car parking and access for those using the waterways for fishing is important and should be safeguarded or improved. Introduction of HS2 structures within the waterway corridor is likely to increase the area of water where fishing will need to be restricted. Opportunities to underground existing overhead line crossings of the waterways may however allow some existing restricted areas to be used for fishing.

In relation to the Socio-economics chapter we also wish to highlight that as well as recreational users, use of the waterway corridors for boating supports a number of businesses, including those providing moorings (either on or off the mainline of the waterway), boat building and repair together with boat sales, holiday and day hire and those engaged in passenger carrying. The Sheffield & South Yorkshire Navigation, the Aire & Calder (Wakefield Branch) and the Aire & Calder Mainline are commercial waterways, i.e. waterways principally available for the carriage of commercial freight. The impact of canal closures on such commercial activity needs to be considered. Appropriate mitigation should be employed to address issues resulting from HS2 which could directly or indirectly affect all these uses and businesses.

To take account of the character of and the specific issues relating to the waterways, the Trust would like to work with HS2 as they develop the design of the scheme.

Specific comments on the Community Area Reports and associated Map Books.

Community Area Report LA01 Lea Marston to Tamworth and associated Map Book.

Chapter	Comment
2. Overview of the area and description of the Proposed Scheme	Volume 2: Community Area Mapbook LA01 Lea Marston to Tamworth Map Number CT-05-401 Grid A4 shows Trust land being temporarily required during construction. The Trust objects. The Trust would like to understand

	<p>why this land is required. The Trust also require access for operational and volunteer teams along Marston Lane. The Trust wish to discuss the interface between HS2 Phase 1 and HS2 Phase 2b in respect of Marston Lane and the provision of a permanent 24/7 access for vehicles and plant to the canal and our buildings during both the construction and operational phase.</p> <p>Paragraph 2.1.20 The canal is also used for fishing and mooring in this location.</p>
6 Community	<p>6.3 Environmental baseline, Kingsbury, Piccadilly and surrounds, 6.3.4 states “The Birmingham and Fazeley Canal, running west of Kingsbury Water Park, is used by pleasure craft for recreational activities”. This is not the only use of the canal environment, which is also used for a variety of recreational activities including walking, cycling and fishing. The Trust own and manage 23 leisure moorings (Volume 2: Community Area Mapbook LA01 Lea Marston to Tamworth Map Number CT-05-402 Grid D1). This part of the canal forms part of the Tame Valley Wetlands, which includes way marked trails along the canal, promoted public rights of way and actively encourages people to visit the area. Volunteer Lock Keepers operate in this area. The canal also forms part of the Warwickshire Boating ring.</p> <p>6.4 Effects arising during construction, Temporary effects. The Trust own and manage moorings in the area. Please discuss this with the Trust.</p> <p>6.5 Effects arising from operation, Assessment of impacts and effects. Please see our comments on Sound, noise and vibration.</p> <p>Please also see our general comments.</p>
8 Health	<p>Please see our general comments.</p>
9 Historic environment	<p>9.2 Scope, assumptions and limitations. We note in 9.2.8 reference to a canal wharf to the north of Bodymoor Heath. If this is to be affected archaeological recording is required along with the safeguarding of the listed Bodymoor Heath Road Bridge, during construction.</p> <p>9.3 Environmental baseline, Existing baseline. It is not clear if the designated and non-designated heritage assets associated with the Birmingham & Fazeley Canal have been considered in this section.</p>
12 Socio-economics	<p>The Trust’s Waterside Mooring business operate moorings within 250m from the edge of the proposed scheme. Please also see our general comments on businesses that the waterway corridor supports.</p>
13 Sound, noise and vibration	<p>Notwithstanding HS2’s general approach to noise in respect of moorings, public rights of way and open spaces as set out the Scope and Methodology Report for Phase 2b and also in the noise chapter, the principle of providing a</p>

	<p>degree of noise mitigation for all canal crossings was established in HS2 Phase 1. The Trust therefore wish to discuss, with HS2, how noise mitigation for canal corridor users will be provided in Phase 2b given the different scenarios that it presents, such as parallel running of the HS2 track with the waterway.</p> <p>The Trust own and manage 23 long-term leisure moorings which are shown to fall within the potential noise effect zone (Volume 2: Community Area Mapbook LA01 Lea Marston to Tamworth Map Number SV-01-350 Grid G3).</p>
14 Traffic and transport	<p>14.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects, Strategic and local highway network. The Trust own Bodymoor Heath Bridge, which is a Grade II listed structure (Volume 2: Community Area Mapbook LA01 Lea Marston to Tamworth Map Number CT-05-402 Grid C2). The structure is narrow with poor forward visibility. It is noted that it is not proposed to route construction traffic over this bridge. Use of the bridge by construction or diverted traffic as a result of the HS2 scheme, could lead to further deterioration in the structure. We require confirmation that HS2 construction/diverted traffic will be prohibited from using this bridge.</p> <p>14.5 Effects arising from operation, Assessment of impacts and effects, Highway network, Strategic and local highway network, Accidents and safety. The Trust own Bodymoor Heath Bridge, which is a Grade II listed structure (Volume 2: Community Area Mapbook LA01 Lea Marston to Tamworth Map Number CT-06-402 Grid C2). The structure is narrow with poor forward visibility. The Trust requires confirmation that the re-alignment of Bodymoor Heath Road to the east of the bridge will not lead to road traffic accidents on or on the approach to the bridge which could increase the risk of bridge strikes by vehicles. The Trust require a road safety assessment to be undertaken to determine whether additional traffic calming or management is required and should be implemented on or over the bridge to prevent the risk of bridge strikes.</p>
15 Water resources and flood risk	<p>15.3 Environmental baseline, Existing baseline - Water resources and WFD, Abstractions and permitted discharges (surface water). There may be abstractions from the canal in this area. Please liaise with the Trust.</p>

Community Area Report LA02 Birchmoor to Austrey and associated Map Book.

Chapter	Comment
2. Overview of the area and description of the Proposed Scheme	Volume 2: Community Area Mapbook LA02 Birchmoor to Austrey Map Number CT-05-408 indicates that approximately 260m of the Coventry Canal will be land potentially required during the construction phase. The Trust has the following objections to the proposed disruption: 1. The closure of the canal would have an unacceptable impact on our customer's ability to make use of the navigable waterway (which includes the

	<p>towpath); and 2. The proposed acquisition of the Trust’s land is not justified as the adequate and practical planning of construction operations could remove the need for acquisition of the waterway. The intentions in relation to closure of the canal are unclear to the Trust, given the information provided in Paragraph 2.3.58, 6.4.7 and 15.4.28. The Trust requires all works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with the passage of vessels using the Canal and pedestrian access to and along the Canal towpath. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers.</p> <p>Volume 2: Community Area Mapbook LA02 Birchmoor to Austrey Map Number CT-05-408 Grid C5. Given the location of the Coventry Canal, the West Coast Mainline, the River Anker and the M42 it is unclear how access is to be gained to the Polesworth Viaduct Satellite Compound. It is noted that Paragraph 15.4.28 refers to a “construction traffic route that would span the Coventry Canal during the construction of the Polesworth Viaduct”. Should a temporary bridge be proposed across the canal the Trust would require this to follow the overarching principles for HS2 canal crossings agreed on HS2 Phase 1. Mitigation the environmental impact would also be required.</p> <p>Volume 2: Community Area Mapbook LA02 Birchmoor to Austrey Map Number CT-05-407b Grid H8 indicates Trust land being temporarily required during the construction phase. Map Number CT-06-407b indicates post construction that the land is to be an area of grassland habitat creation. The Trust objects to the use of our Infrastructure Trust property. The Trust require HS2 to explain why this land is required.</p> <p>Paragraph 2.1.20. There is no mention of the canal being used for fishing. There are moorings in this area but these are not on Trust land.</p>
<p>6 Community</p>	<p>Whilst not on land belonging to the Trust it is noted that there is no reference to the boat moorings located within land potentially required for construction (Volume 2: Community Area Mapbook LA02 Birchmoor to Austrey Map Number CT-05-408 Grid B5).</p> <p>6.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects, Open space and recreational PRoW. Paragraph 6.4.7 notes the potential closure period for the canal to allow for the construction of the Polesworth Viaduct. The intentions in relation to closure of the canal are unclear to the Trust. The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with the passage of vessels using the Canal and pedestrian access to and along the Canal towpath. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restriction on the use of our network by our customers.</p> <p>Paragraph 15.4.28 refers to a “construction traffic route that would span the Coventry Canal during the construction of the Polesworth Viaduct”. It is unclear if this has been considered within Chapter 6.</p>

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	<p>6.5 Effects arising from operation, Assessment of impacts and effects. Please see our comments on Landscape and visual and Sound, noise and vibration. There are third party owned and managed moorings in the area.</p> <p>Please also see our general comments.</p>
<p>7 Ecology and biodiversity</p>	<p>7.4 Effects arising during construction, Assessment of impacts and effects, Other mitigation measures. The canal corridor could potentially to be a site for hedgerow planting/improvements, to mitigate for the overall loss of integrity to the hedgerow network in the area (both within and outside bill limits – with our consent as landowner). The canal could also be considered as a site for water vole habitat improvements (marginal fringe coir rolls) to mitigate the adverse effects on any population in Bramcote Brook (both within and outside bill limits). The Trust would be happy to discuss this with HS2, along with HS2 funding future maintenance.</p>
<p>8 Health</p>	<p>Please see our general comments.</p>
<p>9 Historic environment</p>	<p>9.3 Environmental baseline, Non-designated assets. There is a canal milepost approximately 250m from the M42 crossing of the Coventry Canal, within the land potentially required during construction. This needs to be considered.</p> <p>9.4 Effects arising during construction, Avoidance and mitigation measures. The Trust require HS2 to ensure that the canal milepost is appropriately protected during construction.</p> <p>9.4 Effects arising during construction, Permanent effects, Paragraph 9.4.11 suggests the total loss of the heritage value of the canal basin (MWA6522) north of Pooley Hall Colliery. Whilst the basin is not in the ownership of the Trust, an appropriate level of archaeological recording is required.</p>
<p>11 Landscape and visual</p>	<p>11.4 Temporary effects arising during construction, Assessment of temporary impacts and effects, Landscape assessment, Paragraph 11.4.7 Table 25: Summary description and assessment of effects on LCAs, River Anker Washlands. There is no mention of the impact on the canal within the River Anker Washlands Character Area. The canal should be recognised here.</p> <p>11.4 Temporary effects arising during construction, Assessment of temporary impacts and effects, Visual assessment, Paragraph 11.4.11 Table 26: Construction phase significant visual effects, View west from Coventry Canal towpath (VP 355-03-11) (Map Number LV-04-355). This notes the significant “major adverse” impact on the canal exacerbated by the loss of mature vegetation. Mature vegetation should be retained where feasible.</p> <p>11.5 Permanent effects arising from operation, Assessment of impacts and effects, Visual assessment, Paragraph 11.5.8, Table 28: Operation phase significant visual effects, View west from Coventry Canal towpath (VP 355-0-11) (Map Number LV-04-355). This notes a major adverse effect on users of the canal corridor, including</p>

	<p>increased visibility of the M42 resulting from the removal of mature vegetation. The loss of mature trees should be minimised.</p> <p>Volume 2: Community Area Mapbook LA02 Birchmoor to Austrey Map Number LV-03-355 and LV-04-355. There is no view to assess the canal crossing. The curvature of the canal line and local topography here prevents a clear appreciation of the proposed HS2 structure from currently identified viewpoints. Relocate significantly affected viewpoint 355-03-011 to Grid F4 to provide a viewpoint to assess the impact on the canal of the crossing.</p> <p>Volume 2: Community Area Mapbook LA02 Birchmoor to Austrey Map Number CT-05-408 and CT-06-408 (Grid B5 and B6). HS2 crosses the canal at a point where the canal begins to widen to facilitate access/egress to/from the former coal wharf, which is a historic canal feature. There is also an island between the former coal wharf and the mainline canal. Given the unusual nature of the canal corridor in this location a bespoke, appropriate and sensitive treatment of the HS2 crossing is required here which also responds to the presence of the coal wharf and island. The Trust require the crossing design to follow the overarching principles for HS2 canal crossings agreed on HS2 Phase 1.</p> <p>Volume 2: Community Area Mapbook LA02 Birchmoor to Austrey Map Number CT-05-408 and CT-06-408 (Grid B5 and B6). The bank seat/abutment on the non-towpath side of the canal will potentially create a significant structure. Care is required to design and construct this appropriately to minimise the harm to the canal corridor.</p> <p>Volume 2: Community Area Mapbook LA02 Birchmoor to Austrey Map Number CT-05-408 and CT-06-408 (Grid B5 and B6). The towpath boundary hedge directly under the HS2 Crossing will not be sustainable through lack of light and water. An appropriate boundary treatment will be required. An appropriate civic quality boundary treatment should be agreed with the Trust.</p> <p>Volume 2: Community Area Mapbook LA02 Birchmoor to Austrey Map Number CT-05-408 and CT-06-408. The towpath hedge is a key component in the canal landscape in this area. Outside of the crossing area the canal hedgerow should be retained and managed. Please also see our comments on the Ecology and biodiversity section.</p>
12 Socio-economics	<p>Although not owned or operated by the Trust there is a mooring location falling within land potentially required during construction. Please also see our general comments on the businesses that the waterway corridor supports.</p>
13 Sound, noise and vibration	<p>Notwithstanding HS2's general approach to noise in respect of moorings, public rights of way and open spaces as set out the Scope and Methodology Report for Phase 2b and also in the noise chapter, the principle of providing a degree of noise mitigation for all canal crossings was established in HS2 Phase 1. The Trust therefore wish to discuss, with HS2, how noise mitigation for canal corridor users will be provided in Phase 2b given the different scenarios that it presents, such as parallel running of the HS2 track with the waterway.</p>

	<p>We note that there are third party owned and managed moorings in the area. This matter should also be discussed with the owner and/or operator of those moorings.</p>
<p>14 Traffic and transport</p>	<p>14.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects, Strategic and local highway network. The Trust own the bridge on the B5000 Tamworth Road which crosses the Coventry Canal (Volume 2: Community Area Mapbook LA02 Birchmoor to Austrey Map Number CT-05-407b Grid E10). It is noted that it is not proposed to route construction traffic over this bridge. Use of the bridge by construction or diverted traffic could lead to further damage to the structure. We require confirmation that HS2 construction traffic or traffic diverted as a result of the HS2 works will be prohibited from using this bridge.</p> <p>14.3 Environmental Baseline, Waterways and canals, Paragraph 14.3.14. It is unclear why Alvecote Marina has been specifically mentioned in this section.</p> <p>14.4 Effects arising during construction, Assessment of impacts and effects, Temporary Effects, Waterways and canals. Paragraph 14.4.24 advises that the impact on the canal will be reported in the formal ES. The intentions in relation to closure of the canal are unclear to the Trust, given the information provided in Paragraph 2.3.58, 6.4.7 and 15.4.28. The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with the passage of vessels using the Canal and pedestrian access to and along the Canal towpath. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers.</p>
<p>15 Water resources and flood risk</p>	<p>15.3 Environmental baseline, Existing baseline - Water resources and WFD, Abstractions and permitted discharges (surface water). Private agreements permitting the discharge of surface water to the canal exist in this area. Any proposals should look to ensure that these discharges are not impacted. Any land acquired by HS2 that discharges surface water to the canal will require the consent of the Trust to permit the continued discharge. There may also be abstractions from the canal in this area. Please liaise with the Trust.</p> <p>15.3 Environmental baseline, Existing baseline - flood risk and land drainage, Artificial water bodies. Volume 2: Community Area Mapbook LA02 Birchmoor to Austrey Map Number CT-05-408 Grid C5. The canal is constructed on an embankment at this location. The embankment has some seepage/hydrophilic vegetation, a historical backscar and is known to have been affected by mining subsidence. It is unknown if the mining subsidence has ceased. There is a risk that construction or permanent works could affect the stability of the embankment. Engineering proposals must investigate and deal with potential subsidence issues. The Trust requires there to be no works that could affect the stability of the embankment or further load the embankment. The environmental impact of any mine treatment works must consider and appropriately mitigate the impact on the canal environment.</p>

	<p>15.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects - Flood risk and land drainage, Permanent effects - Flood risk and land drainage and 15.5 Effects arising from operation. Volume 2: Community Area Mapbook LA02 Birchmoor to Austrey Map Number CT-05-407b Grid H8. The Trust have a weir and sluice at this location. The ability of the Trust to discharge water from the canal via the weir and sluice must be maintained during and after construction.</p> <p>15.5 Effects arising from operation, Assessment of impacts and effects. Paragraph 2.2.11 refers to “a pumping station for highway drainage, to the east of the route of the Proposed Scheme, discharging to Coventry Canal with access from the east via the B5000 Tamworth Road (see Volume 2: Map CT-06-407b, D7)”. The Trust requires that its consent is obtained for any discharge to the canal, to protect the canal from flooding, structural damage, environmental degradation and to ensure navigational safety. It cannot be assumed that the canal has the capacity to accommodate such discharge.</p>
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Community Area Report LA03 Appleby Parva to Ashby de la Zouch and associated Map Book.

The area covered by this Community Area Report interacts with the Ashby Canal restoration scheme in the Measham area. Whilst the Ashby Canal does not belong to the Trust in this location, the Trust has a charitable object to promote, facilitate, undertake and assist in, for public benefit, the restoration and improvement of Inland Waterways. We are aware that the Ashby Canal Trust, the Ashby Canal Association and others are promoting an alternative alignment for HS2 in this Community area. This consultation asks for our comments on the Working Draft Environmental Statement. As such we are providing comments based on the scheme presented. The proposal presented appears to make a number of provisions to allow for the continued restoration of the canal, although Footpath Diversion P75/6 would appear to create an additional obstacle. The Canal & River Trust wish to see the restoration of the Ashby Canal secured. The adequacy of the provisions made and the need to avoid further obstacles being created should be discussed and agreed with the Ashby Canal Trust and Ashby Canal Association.

Community Area Report LA05 Ratcliffe-on-Soar to Long Eaton and associated Map Book.

This Community Area Report covers 3 general areas of interaction between the Trust’s network and the HS2 proposal, namely:

1. The Ratcliffe-on-Soar Viaduct crossing of the River Soar and the underground cable crossing of the River Soar;

2. The Long Eaton and Toton Viaduct crossing of the Cranfleet Cut; and
3. The construction of the station at Toton and associated works adjacent to the Erewash Canal.

Chapter	Comment
<p>2. Overview of the area and description of the Proposed Scheme</p>	<p><u>River Soar</u></p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-430 Grid C6 indicates that approximately 30m of the River Soar will be potentially required during the construction phase. The Trust own the western side of the navigation in this location. The Trust has the following objections to the proposed disruption: 1. The closure of the waterway would have an unacceptable impact on our customer's ability to make use of the navigable waterway (which includes the towpath); and 2. The proposed acquisition of the Trust's land is not justified as the adequate and practical planning of construction operations could remove the need for the acquisition of the waterway. As the navigation authority (whether or not the Trust owns the land), the Trust requires any works to be carried out in such a manner which causes as little interference to the passage of vessels using the waterway and pedestrian access to and along the waterway towpath as may be reasonably practicable. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restriction on the use of our network by our customers.</p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-430 Grid A8 indicates that approximately 15m of the River Soar will be potentially required during the construction phase. It is understood that this relates to a cable crossing. The Trust has the following objections to the proposed disruption: 1. The closure of the waterway would have an unacceptable impact on our customer's ability to make use of the navigable waterway (which include the towpath); and 2. The proposed acquisition of the Trust's land is not justified as the adequate and practical planning of construction operations could remove the need for the acquisition of the waterway. The Trust owns the River Soar in this location. The Trust do not wish to see any new structure over the river, or exposed ducting attached to the existing highway bridge, to accommodate this cable. It is noted that the HS2 base mapping in this area does not appear to be up to date. The A453 has been modified across the River Soar.</p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-430 Grid D10 – G5 (A453 access through to Redhill Farm & Marina). It is indicated that this land will be required during the construction phase. The Trust require access across this land during the construction phase, for planned preventive and reactive maintenance work to the weir, lock and footbridge in Grid G4, G3 and H3 and for emergencies.</p>

	<p><u>Cranfleet Cut</u></p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-431 Grid E7 indicates that approximately 60m of the Cranfleet Cut will be potentially required during the construction phase. The Trust has the following objections to the proposed disruption: 1. The closure of the waterway would have an unacceptable impact on our customer's ability to make use of the navigable waterway (which includes the towpath); 2. Closure of the waterway would unacceptably affect access to the Cranfleet flood gates in Grid D3. The Trust need access to these at all times. A small boat stored near Cranfleet lock has to be brought to the flood gates to allow access to the non-towpath side of the gates; 3. The proposed acquisition of the Trust's land is not justified as the adequate and practical planning of construction operations could remove the need for the acquisition of the waterway, and 4. This land potentially includes the location of long term leisure moorings owned by the Trust and managed by our Waterside Mooring business.</p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-431 Grid E6 indicates that land owned by the Trust will potentially be required during the construction phase. The Trust objects. The Trust require HS2 to explain their intentions regarding this land.</p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-0431 Grid E5. There is a Grade II listed bridge crossing the Cranfleet Cut in this location. It is indicated that this is land which will be potentially required during the construction phase. The bridge is owned by the Trust. The Trust objects to this land being taken for construction and its use for construction traffic, as this could cause damage to the listed structure. It is suggested that HS2 should also engage with the Trent Valley Sailing Club on this matter.</p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-0431 Grid E5, F6 and F7. There is a utility supply within the area shown as land potentially required during construction. This supply must be maintained during the construction and operational phases, if it supplies the Trust's land.</p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-0431 Grid E5. It is indicated that this is land which will be potentially required during the construction phase. The Trust require access to and across this land for planned preventive and reactive maintenance work to the River Trent weir boom in B4 & C4 during the construction phase. Access requirements include access via the Cranfleet Farm track.</p> <p><u>Erewash Canal</u></p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-433 Grid I2 and J2 and CT-05-434a Grid A2, B2, C2, C3, D3, D2 and E2. It is unclear whether the Erewash Canal towpath falls within the land potentially required during the construction phase. The Trust has the following objections to the potential disruption: 1. The closure of the towpath would have an unacceptable impact on our customer's ability to</p>
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	<p>make use of the towpath, which also carries the NCN route 67 in this location and 2. It is unclear, to the Trust, why this land may be required.</p> <p>Paragraph 2.2.28 sets out the key features for the section A6005 Nottingham Road to the B5010 Derby Road. This includes “two balancing ponds for highway drainage to the west of the route of the Proposed Scheme, with road access provided via the A52 Brian Clough Way (see Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-06-434a, D3 to D4)”. The balancing pond in D3 is proposed to be accessed over the Trust owned bridge in Grid C3. This bridge is outside the land potentially required during construction yet CT-06-434a shows the bridge being used as a HS2 access road. It is a grade II listed structure. The lock and lock cottage in the vicinity are also listed structures and all lie within a conservation area. The bridge has low parapets and only carries occasional vehicles accessing the farm land on the towpath side. The Trust object to the use of this structure to access the balancing pond. There is a risk of additional vehicular use causing damage to and deterioration of this historic asset.</p> <p>Paragraph 2.1.11 refers to the National Cycle Network which, in part, is hosted on the Erewash Canal Towpath.</p> <p><u>Overall</u></p> <p>Key Transport Infrastructure section. We consider that the River Soar, Cranfleet Cut and Erewash Canal should all feature in the key transport infrastructure for the area.</p> <p>Paragraph 2.1.20 – 2.1.22 implies rather than specifically mentions the boating activity on the waterways in this area. Fishing also occurs on sections of the River Soar, the Cranfleet Cut and the Erewash Canal. There are also moorings on the Cranfleet Cut and Erewash Canal.</p>
<p>6 Community</p>	<p>6.3 Environmental Baseline, Ratcliffe-on Soar, Thrumpton and surrounds. Paragraph 6.3.5 relates to activities on the River Soar. The extent of mooring at Redhill Marina should be clarified with the mooring operator. Redhill Marina is not the only provider of moorings in this area. Fishing occurs on sections of the River Soar. In respect of paragraph 6.3.7 - the River Trent is not designated as a commercial waterway in this area.</p> <p>6.3 Environmental Baseline, Long Eaton. Paragraphs 6.3.12 and 6.3.13. The Trust own and manage long term Leisure Moorings on the Cranfleet Cut. The Trust owns the freehold of the Nottingham Yacht Club moorings and clubhouse. Cranfleet Lock and Lock Garden are adopted by volunteers. There are also moorings on the Erewash Canal. Fishing occurs on sections of the Cranfleet Cut and Erewash Canal.</p> <p>6.3 Environmental Baseline, Sandiacre, Stapleford and surrounds. Paragraph 6.3.17 references opportunities for recreational angling and leisure craft on the Erewash Canal. The canal offers an opportunity for other water related activity as well as walking and cycling along the towpath. The canal is adopted by volunteers between Sandiacre Lock and Derby Road Bridge. There are moorings on the canal.</p>

	<p>6.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects. Consideration should be given to the impact on the Nottingham Yacht Club clubhouse (Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-431 Grid F9). There is no mention of the impact of construction on the moorings in this community area. On the Cranfleet Cut long term leisure moorings may be located within land potentially required for construction. There are also visitor moorings in the vicinity. The Trust require discussions with HS2 about this matter. Paragraphs 6.4.8 and 6.4.11 relate to the closure of the navigation. Please see our comments in the Overview section.</p> <p>6.4 Effects arising during construction, Assessment of impacts and effects, Permanent effects, Open space and PRow. There is no mention of the impact on moorings in this area. In addition to the Trust's own moorings there are third party owned and managed, or managed moorings in the area.</p> <p>6.5 Effects arising from operation, Assessment of impacts and effects. Please see our comments on Landscape and visual and Sound, noise and vibration. There are Trust owned and managed moorings in this area. There are third party owned and managed, or managed moorings in the area.</p> <p>Please also see our general comments.</p>
7 Ecology and biodiversity	7.4 Effects arising during construction, Other mitigation measures. The Erewash Canal should be considered as a site for mitigation measures including hedgerow management, broadleaved tree planting and bat roost habitats (both within and outside bill limits). The Trust would be happy to discuss this with HS2, along with HS2 funding future maintenance.
8 Health	Please see our general comments.
9 Historic environment	<p>9.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects. Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-0431 Grid E5. There is a listed bridge crossing the Cranfleet Cut in this location. The bridge is owned by the Trust. The impact of its use for construction traffic does not appear to have been considered. The Trust objects to this use as it could cause damage to the listed structure.</p> <p>Paragraph 2.2.28 sets out the key features for the section A6005 Nottingham Road to the B5010 Derby Road. This includes “two balancing ponds for highway drainage to the west of the route of the Proposed Scheme, with road access provided via the A52 Brian Clough Way (see Volume 2: Map CT-06-434a, Grid D3 to D4)”. The balancing pond in D3 is proposed to be accessed over the Trust owned bridge in Grid C3. This bridge is outside the land potentially required for construction. It is a grade II listed structure. The lock and lock cottage in the vicinity are also listed structures and all lie within a conservation area. The bridge has low parapets and only carries occasional vehicles accessing the farm land on the towpath side. The Trust object to the use of this</p>

	<p>structure to access the balancing pond. There is a real risk of additional vehicular use causing damage and deterioration to this historic asset. This impact on the historic environment does not appear to have been considered in 9.4 Effects arising during construction and 9.5 Effects arising from operation.</p> <p>9.4 Effects arising during construction and 9.5 Effects arising from operation. The scheme takes land falling within the Sandiacre Lock Conservation Area for woodland habitat creation, an access road and a balancing pond. At present the land is primarily grassland. The change to woodland etc will alter the setting of the conservation area and the listed canal related structures. The appropriateness of these elements of the proposal should be reviewed.</p>
<p>11 Landscape and visual</p>	<p><u>Ratcliffe-on-Soar</u></p> <p>11.3 Environmental baseline, Existing baseline, Landscape baseline. The River Soar navigation forms the boundary between numerous landscape character areas (the River Trent Recreational Area, River Trent Floodplain Historical Villages (east) at the crossing point and also the River Soar Industrial Floodplain and the River Soar Farmlands) which is unusual. There is a risk that the waterway corridor is not properly considered within either landscape character area. HS2 should ensure that the continuity of the waterway is recognised appropriately.</p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number LV-03-373 and LV-04-374. The photomontage at 373-03-003 is shown for the construction phase but not the operational phase. The photomontage is also required for the operational stage.</p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-430 and CT-06-430. This is a major crossing of the navigation requiring appropriate treatment. The design, orientation and siting of the piers will be a critical element of the crossing design against the waterway corridor. The piers adjacent to the waterway should be special piers to define the position of the waterway within the viaduct and within the landscape. It will be necessary to ensure that the design, orientation and siting of the piers and the overall viaduct reflects the overarching principles for HS2 canal crossings agreed on HS2 Phase 1.</p> <p><u>Cranfleet Cut</u></p> <p>11.4 Temporary effects arising during construction, Visual assessment and 11.5 Permanent effects arising from operation, Visual assessment. There does not appear to be any narrative on the visual impact at 374-03-006. This is a key view canal view which should include assessment of the Cranfleet Cut Moorings. We request that this assessment is undertaken and provided to the Trust.</p>

	<p>11.4 Temporary effects arising during construction, Visual assessment and 11.5 Permanent effects arising from operation, Visual assessment. There does not appear to be any narrative on the visual impact at 374-03-003. We request that this assessment is undertaken and provided to the Trust.</p> <p>11.5 Permanent effects arising from operation, Landscape assessment, Paragraph 11.5.4, Table 30: Operational phase significant landscape effects, River Trent Recreational Area. The assessment of the susceptibility to change notes the benefit of mature hedgerow and woodland habitat creation. There is no planting of any significance proposed and therefore the impact will not be mitigated by planting maturing at 15yrs.</p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number LV-03-374 and LV-04-374. The photomontage point adjacent to Trent Lock (374-03-003), is key for a number of receptors visiting the lock and associated Public Houses/café. The position of the existing Midlands Main Line viaduct however screens the proposed HS2 crossing. A better view point for the photomontage location, would be 374-03-006, to assess this major crossing.</p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-431 and CT-06-431. The Long Eaton and Toton Viaduct is a key viaduct structure and requires special consideration to ensure an appropriate relationship with the local landscape. The detailed design should reflect the overarching principles for HS2 canal crossings agreed on HS2 Phase 1.</p> <p><u>Erewash Canal</u></p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number LV-02-376 and 11.3 Environmental baseline, Existing baseline, Landscape baseline, Table 27: Summary of significantly affected LCAs. The Erewash Corridor LCA is identified within the map book as being significantly affected at every stage. The LCA is not however described in Table 27. The Trust would like to understand why the Erewash Corridor LCA does not appear in this table.</p> <p>11.4 Temporary effects arising during construction, Visual assessment and 11.5 Permanent effects arising from operation, Visual assessment. There does not appear to be any narrative on the visual impact at photomontage VP 376-03-010 and View point 376-03-014. We request that this assessment is undertaken and provided to the Trust.</p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number LV-03-376 and LV-04-376. Photo montage point VP 376-03-010 appears to be orientated north of the station. Please ensure the photomontage point VP 376-03-010 is orientated to capture the major infrastructure works around station.</p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-433 and CT-06-433. The towpath hedge is critical to containing the canal corridor and minimising views east towards the station</p>
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	<p>infrastructure. The Trust would like to discuss with HS2 how adequate works to the hedge line are secured. Please also see our comments on Ecology and biodiversity.</p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-433 and CT-06-433. The towpath hedge forms the boundary with the parallel cycleway, with occasional formal and informal pedestrian/cycle connections between the two. At these points, there is an increased risk of visual impact from the station and the associated infrastructure. The Trust request an assessment of formal and informal access points between the canal and cycleway, to identify appropriate works to maintain these points whilst reducing the potential adverse impacts created by a weakened towpath boundary.</p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-433 and CT-06-433 (Grid E4-J3). The wooded landscape corridor along the River Erewash is a critical landscape element providing important screening between the canal and the line of HS2. This should be maintained and supplemented with woodland planting. The proposed scheme (CT-06-433) show this corridor to receive a combination of wetland and grassland mitigation. There should be appropriate woodland creation proposals in this location to supplement the existing woodland habitat along the River Erewash Corridor. Please also see our comments in the Historic environment section.</p> <p>Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-433 and CT-06-433. The area to the east of Dockholme Lock (Grid I2) is relatively open, creating views out to the HS2 corridor. An appropriate landscape scheme to the east of Dockholme Lock is required to mitigate the visual impact of the HS2 Corridor on the canal and lockside environment.</p>
<p>12 Socio-economics</p>	<p>A mooring location operated by the Trust's Waterside Mooring business appears to fall within land potentially required during construction, with a viaduct shown overhead in the proposed scheme. There are boating businesses operating within 250m from the edge of the proposed scheme. Please also see our general comments on businesses that the waterway corridor supports.</p>
<p>13 Sound, noise and vibration</p>	<p>The Nottingham Yacht Club Clubhouse is not shown as a non-residential receptor (Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number Map SV-01-366 Grid C7). The Trust require discussions with HS2 (and interested parties) about this matter.</p> <p>Notwithstanding HS2's general approach to noise in respect of moorings, public rights of way and open spaces as set out the Scope and Methodology Report for Phase 2b and also in the noise chapter, the principle of providing a degree of noise mitigation for all canal crossings was established in HS2 Phase 1. The Trust therefore wish to discuss, with HS2, how noise mitigation for canal corridor users will be provided in Phase 2b given the different scenarios that it presents, such as parallel running of the HS2 track with the waterway.</p>

	<p>The Trust own and manage 20 long-term leisure moorings which are shown to fall within the potential noise effect zone (Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number Map SV-01-366 C5, C6 & C7). There are also visitor moorings in the area. The Trust require discussions with HS2 about this matter.</p> <p>We note that there are third party owned and managed or managed moorings in the area. This matter should also be discussed with the owner and/or operator of those moorings.</p>
<p>14 Traffic and transport</p>	<p>14.3 Environmental Baseline Existing Baseline Waterways and canal. Paragraph 14.3.16 states that “The Cranfleet Canal provides mooring for up to 58 boats in the vicinity of Nottingham Yacht Club”. There are 39 long term berths in this area.</p> <p>14.4 Effects arising during construction, Assessment of impacts and effects, Temporary Effects, Non-motorised users. Paragraph 14.4.22 refers to the Leicestershire Footpath 61 where it passes under the route of the Proposed Scheme to the west of Ratcliffe Lock and the footpath running along the Cranfleet Canal being temporarily diverted/realigned or closed. The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with pedestrian access to and along the waterway towpaths. Where it is not reasonably practical to avoid such interference, the Trust require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers.</p> <p>14.4 Effects arising during construction, Assessment of impacts and effects, Temporary Effects, Non-motorised Users and 14.5 Effects arising from operation, Non-motorised Users. In principle, the Trust would be happy to discuss with HS2 any improvements required to the canal towpath to mitigate the impact on non-motorised users during and post construction, especially in the Dockholme Lock to Long Eaton area.</p> <p>14.4 Effects arising during construction, Assessment of impacts and effects, Temporary Effects, Waterways and canals. Paragraph 14.4.25 advises that the assessment of the impact on the navigable waterways and towpaths will be reported in the formal ES. The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with the passage of vessels using the Canal and pedestrian access to and along the Canal towpath. Where it is not reasonably practical to avoid such interference, the Trust require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers. In addition, the Trust will require access at all times, by boat, from Cranfleet Lock to Cranfleet Flood Lock to operate the flood gates on the non-towpath side of the canal. Please see the Overview section.</p>
<p>15 Water resources and flood risk</p>	<p>15.3 Environmental baseline, Existing baseline - Water resources and WFD, Abstractions and permitted discharges (surface water). There may be abstractions from the navigations in this area. Please liaise with the Trust.</p>

	<p>15.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects. Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-431 Grid E7 indicates that approximately 60m of the Cranfleet Cut will be land potentially required during the construction phase. Closure of the waterway would affect the Trust's access to the Cranfleet flood gates in Grid D3. These need to be accessible at all times. A small boat stored near Cranfleet lock has to be brought to the flood gates to allow access to the non-towpath side of the gates.</p> <p>15.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects - Flood risk and land drainage. Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-430 Grid C6. A small culvert bridge within the towpath is located within Trust owned land to the west of the navigation. Construction works must not impede the flow of water through this culvert into the River Soar.</p> <p>15.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects - Flood risk and land drainage, Permanent effects - Flood risk and land drainage. Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-433 and CT-06-433 Grid E3. There is a Trust owned culvert in this location. To protect the integrity of the canal the Trust will require protection of this culvert and associated flows during construction. The woodland habitat creation needs to be designed to ensure that it does not affect the integrity of the canal and the culvert, its headwalls or the flow through the culvert or any associated brook course.</p> <p>15.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects - Flood risk and land drainage, Permanent effects - Flood risk and land drainage. Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-434a and CT-06-434a, Grid B2. There is a non-Trust owned culvert in this location. To protect the integrity of the canal the Trust will require assurance that this culvert and associated flows are appropriately protected during construction. The woodland habitat creation needs to be designed to ensure that it does not affect the integrity of the canal and the culvert, its headwalls or the flow through the culvert or any associated brook course.</p> <p>15.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects - Flood risk and land drainage, Permanent effects - Flood risk and land drainage. Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-433 and CT-06-433 Grid I2 and J2. The Trust has a sluice and overflow weir in these locations which discharge water onto land potentially to be taken for construction. The Trust require the ability to continue to discharge during and post construction.</p> <p>15.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects - Flood risk and land drainage, Permanent effects - Flood risk and land drainage. Volume 2: Community Area Mapbook LA05 Ratcliffe-on-Soar to Long Eaton Map Number CT-05-434a and CT-06-434a Grid D2. The Trust has an overflow weir in this location which discharges water onto land potentially to be taken for construction. The ability of the Trust to discharge water from the canal via the weir must be maintained during and after construction.</p>
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Community Area Report LA06 Stapleford to Nuthall and associated Map Book.

This Community Area Report covers 3 general areas of interaction between the Trust’s network and the HS2 proposal, namely:

1. The Stanton Gate Viaduct crossing of the Erewash Canal to the north of Sandiacre and parallel running of the HS2 line with the canal;
2. The Stanton Gate Viaduct crossing of the Erewash Canal between Moorbridge Lane and the M1; and
3. The M1 Erewash Canal Underbridge.

In addition, this community area report covers the interaction between HS2 and the disused Nottingham Canal, which is not in the Trust’s ownership. The line of the former Nottingham Canal is severed by the route of HS2 and the PR’s oW beside the former canal are to be closed. If provision were made for public rights of way on both sides of the canal there is the opportunity to avoid the impact on the channel and towpath of the Nottingham Canal. By incorporating a navigable crossing into the design which accommodates the public rights of way, the canal line could be safeguarded for any future restoration. Should this not occur appropriate archaeological recording is required.

Chapter	Comment
2. Overview of the area and description of the Proposed Scheme	<p>Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number CT-05-435b indicates that approximately 1400 m of the Erewash Canal will be land potentially required during the construction phase. The Trust has the following objections to the proposed disruption: 1. The closure of the waterway would have an unacceptable impact on our customer’s ability to make use of the navigable waterway (which includes the towpath). The towpath also carries the NCN route 67 in this location. It should be noted that in relation to our boating customers, this is a dead-end canal and there is no alternative access to the wider waterway network for those moored north of the construction area. Furthermore, the popularity of the towpath for walking and cycling is acknowledged in 14.3.13., 2. The proposed acquisition of the Trust’s land is not justified as the adequate and practical planning of construction operations could remove the need for the acquisition of the waterway, and 3. Although the listed canal bridge in Grid D6 is currently not suitable for vehicular traffic, the Trust would object to alterations to this structure to allow it to be used as a construction traffic route.</p> <p>Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number CT-05-435b and CT-06-435b (Grid G6 and G5). HS2 crosses an ungraded non-principal cutting in this location. The Trust require that the stability of the cutting is not affected by the HS2 works.</p> <p>Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number CT-06-435b (Grid H5) is unclear in respect of the proposal for the land which is currently the location of the M1 crossing of the Erewash Canal. The Trust require confirmation from HS2 that the current M1 crossing will be removed along with details of the land restoration scheme.</p>

	<p>Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number CT-05-435b Grid H5. There is an overhead utility crossing in this area which may be affected. Please liaise with the Trust.</p> <p>Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number CT-05-435b (Grid G6 and H6). There are two thick black lines marked on the Stanton Gate Viaduct in this location. This marking does not appear on the Legend. The Trust seeks clarification from HS2 on the meaning of this marking.</p> <p>Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number CT-05-435b (Grid G6, G5 and H5). The Trust require that any proposed woodland planting scheme should be designed such that the waterway wall will not be compromised by tree roots and the navigation affected by overhanging trees as they mature.</p> <p>Key Transport Infrastructure section. We consider that the Erewash Canal should feature in the key transport infrastructure for the area.</p> <p>Recreation, leisure and open space. We consider that the Erewash Canal should feature in this section. The use of the canal environment for walking, cycling, fishing, boating and other water related activity should all be recognised.</p>
<p>6 Community</p>	<p>6.3 Environmental Baseline, Sandiacre, Stapleford and surrounds. Paragraph 6.3.2 references opportunities for recreational angling and leisure craft on the Erewash Canal. The canal offers an opportunity for other water related activity as well as walking and cycling along the towpath. There are boat moorings on canal too.</p> <p>6.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects, Open Space and recreational PRow. Paragraph 6.4.7 and 6.4.8 relate to the effects on the canal towpath and navigation. The popularity of the towpath for walking and cycling is acknowledged in 14.3.13. 6.4.7 suggests that the towpath may be closed but the navigation open. The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with the passage of vessels using the Canal and pedestrian access to and along the Canal towpath. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restrictions on use of our network by our customers. There is no mention of the impact on moorings in the area. There are third party owned and managed moorings in the area.</p> <p>6.4 Effects arising during construction, Cumulative effects. There are three significant interfaces with the Erewash Canal in close proximity to one another. The cumulative effect of these should be considered.</p> <p>6.5 Effects arising from operation, Assessment of impacts and effects. Please see our comments on Landscape and visual and Sound, noise and vibration. There are third party owned and managed moorings in the area.</p>

	<p>6.5 Effects arising from operation, Cumulative effects. There are three significant interfaces with the Erewash Canal in close proximity to one another. The cumulative effect of these should be considered.</p> <p>Please also see our general comments.</p>
<p>7 Ecology and biodiversity</p>	<p>7.4 Effects arising during construction, Avoidance and mitigation measures, Paragraph 7.4.1 states that “Stanton Gate viaduct, which crosses over the River Erewash and the Erewash Canal would avoid direct effects to these watercourses and allow free passage for wildlife beneath them, including along the rivers and their banks”. The Trust consider that that the skewed crossing of the viaduct will create shading, that will affect the value of the wildlife site (which is for submerged aquatic plants) and the hedgerow. Please see our comments in Landscape and visual regarding a potential realignment of the canal in the area immediately north of Sandiacre. Such a realignment would create less shading of the canal.</p> <p>7.4 Effects arising during construction, Assessment of impacts and effects, Other mitigation measures. There is potential for the canal corridor to be a site of potential hedgerow planting/improvements to mitigate for the overall loss of integrity to the hedgerow network in the area (both within and outside bill limits – with our consent as landowner). The Trust would be happy to discuss this with HS2, along with HS2 funding future maintenance.</p>
<p>8 Health</p>	<p>Please see our general comments.</p>
<p>9 Historic environment</p>	<p>9.3 Environmental baseline, Existing baseline, Designated assets. Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number CT-10-368 Grid B6. Although shown on the mapping, it is unclear from the commentary if the Trust owned, Grade II listed structure, Red Brick Bridge located here and falling within the land potentially required during construction has been captured in the baseline and subsequent assessment.</p> <p>9.4 Effects arising during construction, Avoidance and mitigation measures. Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number CT-10-368 Grid B6. The Trust will require measures to protect the grade II listed structure, Red Brick Bridge, during construction.</p>
<p>11 Landscape and Visual</p>	<p>11.3 Environmental baseline, Existing baseline, Landscape baseline, Table 27: Summary of significantly affected LCAs, Erewash Corridor states that “The overall value of this LCA is medium derived from its relative tranquillity, scenic qualities and recreational value”. Although on a national basis this may be true, the local significance of this landscape to the canal corridor is higher.</p> <p>Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number LV-03-377b and LV-04-377b (Grid E3). There is a lack of a critical view point showing the canal crossing, both construction and operation phase, in</p>

	<p>this location. The Trust request that a visual assessment is undertaken, with a photomontage, of the proposed crossing of the canal, south of Pastures Lock.</p> <p>Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number LV-03-377b and LV-04-377b. The Erewash Canal corridor opens up around Sandiacre (between Grid E4 and Grid E8) creating a valuable landscape on the canal. There are key views currently to the west and south west towards Sandiacre and the Stoney Clouds Local Nature Reserve. The viaduct arcs across the open landscape to the west of the canal and will significantly impact upon an open landscape of preserved ridge and furrow meadows, and views out to Sandiacre and its church tower, a significant local landmark on the canal corridor. The design of the viaduct must present a slender profile (piers and beam etc) from the canal corridor, to minimise the impact on the open landscape. The open nature of this landscape should be retained and therefore woodland planting to the screen the viaduct from the canal will be inappropriate. However, selected planting of the existing hedge lines to the existing field patterns is appropriate.</p> <p>Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number LV-03-377b and LV-04-377b. The design of the crossing of the canal in Grid E4 is a significant concern as the scale of the engineering infrastructure required to deliver the skew crossing of the canal and adjacent railway will be over bearing and inappropriate to the character of the canal. This crossing is one of the most concerning proposed HS2 crossings on the current national waterway network. The required portal crossing of the canal is almost impossible to appropriately resolve. The Trust therefore require discussions with HS2 about a realignment of the canal as the optimum response to the proposed HS2 route, enabling a less skewed, simpler crossing to be formed.</p> <p>Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number LV-03-377b and LV-04-377b. The towpath hedge is a strong element of the canal corridor. This needs to be protected through the construction phase and planting and management through the operation phase. Please also see our comments on Ecology and biodiversity.</p> <p>Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number CT-05-435b and CT-06-435b (Grid E5). The proposed Stanton Gate Auto-transformer Station will be a further visual intrusion within the landscape. This needs to be relocated to a less sensitive location. If this is not possible then localised hedgerow and woodland planting around this would be appropriate.</p> <p>Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number CT-05-435b and CT-06-435b (Grid G6). The design of the Stanton Gate Viaduct crossing of the canal is a significant concern. The scale of the engineering infrastructure required to deliver the skew crossing of the canal and the existing road crossing will be over bearing and inappropriate to the character of the canal. The loss of existing vegetation will also increase the visual impact of the existing road infrastructure, and the proposed HS2 crossing on the canal corridor. Great care will be required to produce an appropriate design for this crossing which adequately addresses the significant skewed crossing passing high above the existing Stanton Gate highway, the interface with the highway and the</p>
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	<p>canal, and the canalside spaces created. Appropriate planting design will be needed to stitch the new crossing into canal corridor.</p> <p>Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number CT-05-435b and CT-06-435b (Grid H5). The realignment of the M1 Motorway over the canal corridor, will create new waterside space. The treatment of this space will impact upon the character of the canal. The arrangement of this area through the HS2 works is not clearly explained through drawing CT-06-435b. There is no viewpoint assessment of the crossing. The Trust require HS2 to explain their intentions in this area. An appropriate planting scheme and towpath boundary will need to be established.</p> <p>Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number CT-05-435b and CT-06-435b (Grid H5). The M1 Erewash Canal Underbridge will have an impact on the Canal. The degree of this impact is subject to the design. The new crossing is in close proximity to the Stanton Works Branch Railway. The cumulative impact of these two crossings has not been assessed. The new M1 Crossing is on a bend in the Erewash Canal, the treatment of the interface between the M1 crossing and canal will impact on long views along the canal, potentially impacting upon navigable sight lines. An appropriate design of the revised M1 crossing is required, following the overarching principles for HS2 canal crossings agreed on HS2 Phase 1, to form a crossing reflecting the character of the waterway corridor, and creating a positive canalside environment. Consideration should be given to reinstating the former canal alignment (pre-M1 construction) at the current M1 crossing, and undertaking appropriate alignment works to the proposed crossing to enable ease of navigation and pedestrian cycle routes along canal.</p>
12 Socio-economics	Please also see our general comments on businesses that the waterway corridor supports.
13 Sound, noise and vibration	<p>Notwithstanding HS2's general approach to noise in respect of moorings, public rights of way and open spaces as set out the Scope and Methodology Report for Phase 2b and also in the noise chapter, the principle of providing a degree of noise mitigation for all canal crossings was established in HS2 Phase 1. The Trust therefore wish to discuss, with HS2, how noise mitigation for canal corridor users will be provided in Phase 2b given the different scenarios that it presents, such as parallel running of the HS2 track with the waterway.</p> <p>We note that there are third party owned and managed or managed moorings in the area. This matter should also be discussed with the owner and/or operator of those moorings.</p>
14 Traffic and transport	14.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects, Non-motorised users. Paragraph 14.4.21 refers to temporary alternative routes for PRoW including those running along the Erewash Canal towpath. The popularity of the towpath for walking and cycling is acknowledged in 14.3.13. The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with pedestrian access to and along the Canal towpath. Where it is not reasonably

	<p>practical to avoid such interference, the Trust will seek agreement with HS2 over the nature and timing of any restrictions on use of our network by our customers.</p> <p>14.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects, Waterways and canals. Paragraph 14.4.24 advises that the proposed scheme could have an effect upon the Erewash Canal waterway and towpath and the assessment will be reported in the formal ES. The intensions regarding closure of the canal & towpath need clarifying given the position stated in paragraph 6.4.8. The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with the passage of vessels using the Canal and pedestrian access to and along the Canal towpath. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers. The Trust are particularly concerned by reference to “a short tunnel section” in this paragraph. The Trust require HS2 to clarify their intensions regarding this statement.</p> <p>14.5 Effects arising from operation, Assessment of impacts and effects, Waterways and Canals. This advises that it is not currently expected that the operation of the scheme would have a significant effect upon navigable waterways and canals in the area. The relocation of the M1 crossing of the Erewash Canal has the potential to affect navigation sightlines. The Trust require more information about this proposed crossing.</p>
<p>15 Water resources and flood risk</p>	<p>15.3 Environmental baseline, Existing baseline - Water resources and WFD, Abstractions and permitted discharges (surface water). Private agreements permitting the discharge of surface water to the canal exist in this area. Any proposals should look to ensure that these discharges are not impacted. Any land acquired by HS2 that discharges surface water to the canal will require the consent of the Trust to permit the continued discharge. There may be abstractions from the canal in this area. Please liaise with the Trust.</p> <p>15.3 Environmental baseline, Existing baseline - flood risk and land drainage, Artificial water bodies. The interactions with the Erewash canal will be in the inundation zone of Codnor Park and Moorgreen Reservoirs. These reservoirs do not appear to feature in this section.</p> <p>15.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects. Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number CT-05- 435b shows approximately 1400 m of the Erewash Canal falling within the land potentially required during construction. As the feed to the canal is from the Langley Mill area, a significant flow will have to be maintained at all times to keep the canal full downstream.</p> <p>15.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects - Flood risk and land drainage, Permanent effects - Flood risk and land drainage. Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number CT-05-435b Grid F6. The Trust has an overflow weir in this location on the towpath side which discharges water onto land potentially required during construction. The Trust require the ability to continue to discharge during and post construction.</p>

	<p>15.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects - Flood risk and land drainage, Permanent effects - Flood risk and land drainage. Volume 2: Community Area Mapbook LA06 Stapleford to Nuthall Map Number CT-06-435b Grid C6, D6 and E6. The drainage arrangements for the balancing pond and drainage ditch to the east of the track are unclear. The Trust seeks clarification of the drainage proposals in this area. The Trust requires that its consent is obtained for any discharge to the canal, to protect the canal from flooding, structural damage, environmental degradation and to ensure navigational safety. It cannot be assumed that the canal has the capacity to accommodate such discharge.</p>
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Community Area Report LA11 Staveley to Aston and associated Map Book.

This Community Area Report covers 2 areas of interaction between the Canal & River Trust’s network or landownership and the HS2 proposal, namely:

- 1) The Wales Embankment crossing the line of the Norwood Tunnel of the Chesterfield Canal
- 2) Land potentially required for construction including the Broad Bridge Dyke – feeder channel from Harthill Reservoir to the operational Chesterfield Canal.

In addition, this community area report interacts with the Chesterfield Canal restoration scheme in the Staveley and Norwood areas. The HS2 scheme, presented in the Working Draft Environmental Statement, does not make any provision for the ongoing restoration of the Chesterfield Canal. The proposal as presented would appear to prevent the continued restoration of the canal. As the Canal & River Trust wish to see the restoration of the Chesterfield Canal secured, this is not acceptable to the Canal & River Trust. We note that Hansard (11th October 2018) reports Secretary of State for Transport, Chris Grayling saying “It is a tragedy, in an era when canals are being reopened for leisure purposes, that when the M6 was built, so many parts of the Kendal canal were cut off and are no longer available. I do not wish, and I do not expect, to see HS2 do the same and culvert canals when the railway is being built”. The Canal & River Trust has a charitable object to promote, facilitate, undertake and assist in, for public benefit, the restoration and improvement of Inland Waterways, is a member of the Chesterfield Canal Partnership and is supportive of the Chesterfield Canal Trust in this matter. We urge HS2 to make provision for the continued restoration of the canal in both the Staveley and Norwood area.

Whilst the Canal & River Trust’s position is that the HS2 scheme should provide for the Chesterfield Canal restoration, the WDES scheme affects the Canal & River Trust owned Norwood Tunnel. In relation to this asset and the Broad Bridge Dyke we have provided comments below on the scheme presented in the WDES.

Chapter	Comment
<p>2. Overview of the area and description of the Proposed Scheme</p>	<p>Volume 2: Community Area LA 11 Staveley to Aston Mapbook CT-05-639-R1 Grid H8. The land potentially required during construction includes the Broad Bridge Dyke. This watercourse is the feed for the operational Chesterfield Canal and the reservoir spill from Harthill Reservoir. The Trust would like confirmation as to why this land is required, it appears to be a construction traffic route. Please also see our comments on Water resources and flood risk.</p> <p>Volume 2: Community Area LA 11 Staveley to Aston Mapbook CT-05-640. The land potentially required during construction and the permanent scheme lie over the line of the Chesterfield Canal Norwood Tunnel which is in the ownership of the Trust. The line of the tunnel does not appear to be shown on the maps (GR: 447869-382063 to 447441-381974). The Trust have concerns about the formation of the railway embankment over the tunnel and the resulting structural impact on the tunnel. The Trust require further information from HS2 about the proposals in this area to enable us to consider the impact on our asset, including drainage implications and the impact of any mine treatment works that may be proposed. The tunnel has been affected heavily by mining subsidence in the past. Coal was extracted in the area as late as 1984 and former shafts in the area are known to have been capped off by British Coal. An impact assessment needs to be made on the embankment construction and how it affects the tunnel. Consideration of the mining issues should also take place. The environmental impact of any mine treatment works must consider and appropriately mitigate the impact on the canal environment. Please also see our comments on the Historic environment.</p>
<p>7 Ecology and biodiversity</p>	<p>7.3 Environmental baseline, Existing baseline, Protected and notable species. Paragraph 7.3.21 Table 19: Species potentially relevant to the assessment within the Staveley to Aston area. We note reference to a bat roost in a partially blocked up canal tunnel. If the bats will be disturbed or an exclusion is required as part of the scheme, appropriate mitigation should be secured.</p>
<p>9. Historic environment</p>	<p>9.2 Scope, assumptions and limitations. Paragraph 9.2.8 states that “At this stage of the design development, heritage assets within the land required to construct the Proposed Scheme are assumed to require complete removal and the assessment has been undertaken on that basis. However, in relation to the following assets although the asset is partially or wholly within the land required for the Proposed Scheme and may be affected, any effect is unlikely to be significant”. It then proceeds to reference features of the Chesterfield Canal including Norwood Tunnel. The Trust require further information to understand the proposals in this area to enable us to consider the impact on our asset, including the tunnel portal. The Trust is concerned that the proposal to construct an embankment over the line of the tunnel would lead to the loss of historic fabric of the tunnel which is nationally significant in the context of canal heritage.</p> <p>If heritage fabric at the western end of the Norwood tunnel is to be lost full heritage recording is required (level 4 recommended). In addition, it should be noted that the existing Norwood tunnel to the east of Hard Lane is proposed to be used in the canal restoration scheme. The heritage significance of this small part, of the remaining</p>

	<p>section, of the tunnel could be enhanced by contributions from HS2 to bring forward its reopening to the public and use as part of the restoration scheme.</p> <p>Loss of other heritage features relating to the Chesterfield Canal should also be subject to full heritage recording.</p>
<p>15 Water resources and flood risk</p>	<p>15.3 Environmental baseline, Existing baseline - flood risk and land drainage. Volume 2: Community Area LA 11 Staveley to Aston Mapbook CT-05-639-R1 Grid H8. The land potentially required during construction includes the Broad Bridge Dyke. This watercourse is the feed for the operational Chesterfield Canal and reservoir spill from Harthill Reservoir. In a really big rainfall event the area may be flooded.</p> <p>15.4 Effects arising during construction and 15.5 Effects arising from operation. The Pebley and Harthill Reservoirs which feed the eastern, operational section, of the Chesterfield Canal lie to the east of the HS2 route. The impact on drainage flows to these reservoirs and the feeder channel from Harthill reservoir which has its own catchment in the Norwood tunnel area needs to be investigated. If the drainage flows are found to be affected the Trust will require that these are protected. The Trust will require discussions with HS2 about any new flows to these waterbodies.</p> <p>15.4 Effects arising during construction. Volume 2: Community Area LA 11 Staveley to Aston Mapbook CT-05-639-R1 Grid H8. The land potentially required during construction includes the Broad Bridge Dyke. This watercourse is the feed for the operational Chesterfield Canal and reservoir spill from Harthill Reservoir. A suitably sized pipe/culvert/bridge (similar to others on the feeder) will be needed to maintain the canal feed during construction. Any restoration scheme for this land needs to ensure that provision is made for the continued operation of this canal feeder channel and reservoir spill.</p>

Community Area Report LA13 Ravenfield to Clayton and associated Map Book.

This Community Area Report covers 2 general areas of interaction between the Trust’s network and the HS2 proposal, namely:

1. The River Don Viaduct crossing of the Sheffield and South Yorkshire Navigation at Mexborough; and
2. Work to the existing Dearne Valley Railway Line adjacent to the Dearne and Dove Canal at Swinton.

In addition, this community area report interacts with the aspiration of the Barnsley, Dearne and Dove Canals Trust to restore these navigations. It is proposed to use the River Dearne for navigation as an alternative to restoration in the Mexborough area. The Canal & River Trust has a charitable object to promote, facilitate, undertake and assist in, for public benefit, the restoration and improvement of Inland Waterways. As such we would not wish to see the

vertical alignment or piers of the River Dearne Viaduct affect the potential for the River Dearne to be used as a navigable channel in the future. Nor would we wish to see works to the Dearne Valley Line Existing Railway affect the navigational potential of the River Dearne in the Bolton-upon-Dearne area.

Chapter	Comment
<p>2. Overview of the area and description of the Proposed Scheme</p>	<p>Volume 2: Community Area Mapbook LA13 Ravenfield to Clayton Map Number CT-05-470 indicates that approximately 80m of the Sheffield and South Yorkshire Navigation will be land potentially required during the construction phase. The Trust has the following objections to the proposed disruption: 1. The closure of the waterway would have an unacceptable impact on our customer's ability to make use of the navigable waterway (which includes the towpath) and 2. The proposed acquisition of the Trust's land is not justified as the adequate and practical planning of construction operations could remove the need for the acquisition of the waterway. Temporary closures of the towpath are referred to in paragraph 2.3.51. Temporary closure of the waterway is referred to in Paragraph 14.4.24. The Trust requires all works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with the passage of vessels using the Canal and pedestrian access to and along the Canal towpath. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers.</p> <p>Volume 2: Community Area Mapbook LA13 Ravenfield to Clayton Map Number CT-05-470 (Grid F6) shows Doncaster Road and land immediately to the north canal falling within the land potentially required during the construction phase. The Trust own this land and objects. The Trust require discussions with HS2 about this matter.</p> <p>Volume 2: Community Area Mapbook LA13 Ravenfield to Clayton Map Number CT-05-470 (Grid E4 and E5) shows land on the non-towpath side of the canal falling within the land potentially required during construction and then used for landscape mitigation planting. A small part of this land, adjacent to the navigation, is in the ownership of the Trust. The Trust objects to use of our Infrastructure Trust property. The Trust require discussions with HS2 about this matter.</p> <p>Volume 2: Community Area Mapbook LA13 Ravenfield to Clayton Map Number CT-05-470-R1 (Grid F3 and F4). There is a floodplain storage proposal in this location. The Trust require further details of how the floodplain storage facility is to be constructed, as the canal is on a small embankment in this area. To protect the structural integrity of the canal the Trust require further information from HS2 regarding this matter.</p> <p>Volume 2: Community Area Mapbook LA13 Ravenfield to Clayton Map Number CT-05-470. HS2 should liaise with the Trust regarding the presence of buried services in this Community Area.</p>

	<p>Volume 2: Community Area Mapbook LA13 Ravenfield to Clayton Map Number CT-06-470 (Grid E4, E5, E6) show landscape mitigation planting (scrub/woodland) adjacent to the navigation. The Trust require that any proposed woodland planting scheme should be designed such that the waterway wall will not be compromised by tree roots and the navigation affected by overhanging trees as they mature.</p> <p>Volume 2: Community Area Mapbook LA13 Ravenfield to Clayton Map Number CT-05-476-L5. The Trust own a section of the Dearne and Dove canal to the north of Bridge Street. The Trust is keen to understand the impact on our landholdings of works on the Dearne Valley Line. There are also third party owned and managed moorings in the area. Any impact on these should be discussed with the mooring operator.</p> <p>2.1 Overview of the area. The Sheffield and South Yorkshire Navigation should be mentioned in this section.</p> <p>Recreation, leisure and open space. Paragraph 2.19. The navigation can be used by leisure craft and for other water related activities. There are boat moorings in the area. Fishing also takes place.</p>
<p>6. Community</p>	<p>6.3 Environmental baseline, Conisbrough and Mexborough. The Sheffield and South Yorkshire navigation should be mentioned in this section.</p> <p>6.4 Assessment of impacts and effects, Temporary effects. Open Space and recreational PRoW. The impact on the navigation and towpath should be considered here. Temporary closures of the towpath are referred to in paragraph 2.3.51. Temporary closure of the waterway is referred to in Paragraph 14.4.24. The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with the passage of vessels using the Canal and pedestrian access to and along the Canal towpath. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers.</p> <p>6.5 Effects arising from operation, Assessment of impacts and effects. Please see our comments on Landscape and visual and Sound, noise and vibration. There are third party owned and managed moorings in the area. The nature of these moorings and any impact should be discussed with the operator.</p> <p>Please also see our general comments.</p>
<p>7 Ecology and biodiversity</p>	<p>7.3 Environmental Baseline, Protected and notable species, Paragraph 7.3.15. Deer should be mentioned here.</p> <p>7.4 Effects arising during construction, Assessment of impacts and effects, Hedgerows, Paragraph 7.4.13 There is potential for the canal corridor to be a site for hedgerow gap filling/laying to mitigate for the overall loss of integrity to the hedgerow network in the area (both within and outside bill limits – with our consent as landowner). The trust would be happy to discuss this with Hs2, along with HS2 funding future maintenance.</p>

	<p>7.4 Effects arising during construction, Assessment of impacts and effects, Other mitigation measures. Deer ramps should be installed in the navigation to avoid drowning deaths.</p>
<p>8 Health</p>	<p>Please see our general comments.</p>
<p>11 Landscape and visual</p>	<p>11.3 Environmental baseline, Existing baseline, Landscape baseline, Paragraph 11.3.12. Table 26: Summary of significantly affected LCAs. The Navigation falls broadly within the “River Don Reclaimed Lowland LCA” with a small section being designated within “Mexborough Settlement LCA”. This does not reflect the landscape character of the canal corridor. The split in the landscape character apportionment is a result of the “Shimmer Estate” being connected to the Mexborough Settlement LCA. The Mexborough Settlement LCA makes no mention of the Sheffield and South Yorkshire Navigation, which suggests that the Navigation should not be within this LCA. The River Don Reclaimed Lowland LCA is not identified as a significantly affected LCA. The apportionment of LCAs should be reviewed to recognise the significance of the Sheffield and South Yorkshire Navigation.</p> <p>Volume 2: Community Area Mapbook LA13 Ravenfield to Clayton Map Number LV-03-410 and LV-04-410. It is not clear if the photomontage 410-02-007 will capture the relationship between the navigation and the River Don Viaduct.</p> <p>Volume 2: Community Area Mapbook LA13 Ravenfield to Clayton Map Number LV-03-410 and LV-04-410. There is no “significant” view point from the navigation/towpath. Create a new viewpoint in Grid E5.</p> <p>Volume 2: Community Area Mapbook LA13 Ravenfield to Clayton Map Number CT-05-470 and CT-06-470. The River Don Viaduct is a major structure crossing the Don Valley and Sheffield and South Yorkshire Navigation, creating a significant adverse upon the waterway corridor. The piers will be major structures close to users of the waterway. The piers adjacent to the waterway should be special piers to define the position of the waterway within the viaduct and within the landscape. It is necessary to ensure that the design, orientation and siting of the piers and the overall viaduct reflects the overarching principles for HS2 canal crossings agreed on HS2 Phase 1. An appropriate landscape structure planting scheme should be developed to supplement the existing woodland planting along the wider waterway corridor to frame the views of the viaduct and to stitch the civil engineering works into the landscape. Early planting should take place where possible to enable early mitigation.</p> <p>Volume 2: Community Area Mapbook LA13 Ravenfield to Clayton Map Number CT-05-470 and CT-06-470. The impact of the proposed HS2 construction of the River Don Viaduct will have a significant impact upon the Shimmer Estate Residential Development adjacent to the Sheffield and South Yorkshire Navigation, changing the character of the navigation. The future use of the residual land around the HS2 Viaduct, and the boundary treatment to the navigation corridor will create a significant impact upon the navigation. The plans in CT-06-470 suggest housing beneath the viaduct. The Trust require HS2 to explain their proposals for this area to ensure an appropriate</p>

	<p>treatment of this land following construction of the HS2 Viaduct and an appropriate civic quality boundary along the waterway.</p> <p>Volume 2: Community Area Mapbook LA13 Ravenfield to Clayton Map Number CT-05-470 and CT -06-470. One of the River Don Satellite compounds is proposed adjacent to the Sheffield and South Yorkshire navigation. This land is proposed for landscape mitigation planting in the proposed scheme. To assist with screening the compound from the navigation early planting of the mitigation planting should take place where the land is not in use as a satellite compound. Please also see our Overview comments on the location of the planting.</p>
<p>12 Socio-economics</p>	<p>There is a boating business operating within 250m from the edge of the proposed scheme. The navigation in this location is a commercial waterway. Please also see our general comments on businesses that the waterway corridor supports.</p>
<p>13 Sound, noise and vibration</p>	<p>Notwithstanding HS2's general approach to noise in respect of moorings, public rights of way and open spaces as set out the Scope and Methodology Report for Phase 2b and also in the noise chapter, the principle of providing a degree of noise mitigation for all canal crossings was established in HS2 Phase 1. The Trust therefore wish to discuss, with HS2, how noise mitigation for canal corridor users will be provided in Phase 2b given the different scenarios that it presents, such as parallel running of the HS2 track with the waterway.</p>
<p>14 Traffic and transport</p>	<p>14.4 Effects arising during construction, Avoidance and mitigation measures. The use of the navigations for the transport of freight could reduce road traffic journeys during construction. The Sheffield and South Yorkshire Navigation, in this area, is a commercial waterway.</p> <p>14.4 Effects arising during construction, Assessment of impacts and effects, Temporary Effects, Non-motorised users. Paragraph 14.4.24 refers to temporary diversion or short-terms closure of the Sheffield and South Yorkshire Navigation towpath. The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with pedestrian access to and along the Canal towpath. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers.</p> <p>14.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects, Waterways and canals. Paragraph 14.4.27 refers to temporary closure of the navigation. The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with the passage of vessels using the Canal and pedestrian access to and along the Canal towpath. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers. In addition, the impact on public road access to Trust operational access routes for planned preventive and reactive maintenance along with water control and emergency access need to be considered, Volume 2: Community Area Mapbook LA13 Ravenfield to Clayton Map Number CT-05-470 (Grid F6). The Trust require unrestricted access to Pastures Road to gain access to</p>

	Mexborough Low Lock along the north side of the Sheffield and South Yorkshire navigation. Suitable headroom needs to be provided to allow access for plant, emergency vehicle access and water control. Failure to provide appropriate access during construction and post construction could have significant effects.
15 Water resources and flood risk	<p>15.3 Environmental baseline, Existing baseline - Water resources and WFD, Abstractions and permitted discharges (surface water). There may be abstractions from the canal in this area. Please liaise with the Trust.</p> <p>15.4 Effects arising during construction, Assessment of impacts and effects, Flood risk and land drainage. Temporary effects - Flood risk and land drainage and Permanent effects - Flood risk and land drainage. Volume 2: Community Area Mapbook LA13 Ravenfield to Clayton Map Number CT-05-476-L5 (Grid C7). The Trust own and maintain a culvert beneath the canal. Upstream of the culvert the watercourse passes beneath the existing railway. The Trust wish to understand if any works proposed by HS2 will lead to an increase in the quantity of water passing through the Trust owned culvert. The Trust may require HS2 to take ownership of this culvert.</p>

Community Area Report LA15 Warmfield to Swillington and Woodlesford and associated Map Book.

This Community Area Report covers 3 general areas of interaction between the Trust’s network and the HS2 proposal, namely:

1. The River Calder Viaduct crossing of the Aire and Calder Navigation (Wakefield Branch) in the Altofts area;
2. The River Aire Viaduct crossing of the Aire and Calder Navigation in the Lemonroyd area; and
3. The interaction and parallel running of the HS2 line with the Aire and Calder Navigation in the Woodlesford area.

Chapter	Comment
2. Overview of the area and description of the Proposed Scheme	<p><u>Aire & Calder (Wakefield Branch)</u></p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-05-489 and CT-05-489-L1 indicates that approximately 925m of the Aire & Calder (Wakefield Branch) will be land potentially required during the construction phase. The Trust has the following objections to the proposed disruption: 1. The closure of the waterway would have an unacceptable impact on our customer's ability to make use of the navigable waterway (which includes the towpath), 2. the towpath provides access to Birkwood Lock for planned preventative and routine maintenance, along with emergency access, water control and access to the Trust's moorings, and 3. The proposed acquisition of the Trust's land is not justified as the adequate and practical planning of construction operations could remove the need for the acquisition of the waterway. We note the</p>

	<p>proposals in paragraph 2.3.86 that the “Aire and Calder Navigation (waterway and towpath) would remain open on its existing alignment with short term closures during the construction of the River Calder viaduct”. HS2 need to be aware of and discuss with all parties about how, 24/7, access arrangements will be provided in this general area (please see below).</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-05-489-L1 Grid D5 shows the Trust owned Birkwood Bridge falling within the land potentially required during the construction phase. The Trust objects to this. The bridge provides access for planned preventative and routine maintenance along with emergency access and water control. It also provides access to 3 Trust owned leisure moorings managed by our Waterside Mooring business. In addition, it is proposed to take an area of land immediately to the south of the bridge. This would prejudice the Trust’s alternative access arrangements to Birkwood Lock. HS2 need to be aware of and discuss with all parties about how, 24/7, access arrangements will be provided in this area (please see above). The Trust require discussions with HS2 about the impact on our moorings in this area.</p> <p><u>Aire & Calder Navigation (Main Line) Lemonroyd</u></p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-05-492 indicates that approximately 275m of the Aire & Calder (Main Line) will be land potentially required during the construction phase. The Trust has the following objections to the proposed disruption: 1. The closure of the waterway would have an unacceptable impact on our customer’s ability to make use of the navigable waterway (which includes the towpath). The northside of the navigation carries the NCN route 67/Trans Pennine trail in this location and 2. The proposed acquisition of the Trust’s land is not justified as the adequate and practical planning of construction operations could remove the need for the acquisition of the waterway. We note the proposals in paragraph 2.3.119 that the “Aire and Calder Navigation (waterway and towpath) and the Trans Pennine Trail (footpath) would be kept open on existing alignment with short term closures during the construction of the River Aire viaduct”. The Trust requires all works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with the passage of vessels using the Canal and pedestrian access to and along the Canal towpath. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers. The Trust require HS2 to explain why such a significant length of the navigation is being identified as being potentially required.</p> <p>Paragraph 2.3.165 refers to the permanent re-alignment of Fleet Lane. The Trust requires 24/7 access along Fleet Lane for emergency access, repair, maintenance and water control. We are therefore pleased to note that “the construction of the permanent realignment would be completed prior to the closure of the existing alignment” and “access to the east of Fleet Lane would be retained for all users”.</p>
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	<p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-05-492 Grid D9 shows a Trust owned bridge being on an HS2 construction route. The suitability of this bridge for this purpose needs to be assessed. The Trust will also have requirements regarding any use.</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-05-492 Grid F8 shows a small area of a car park at Fleet Lane as land potentially required during the construction phase. The Trust would like to understand HS2 intensions regarding this land to enable us to assess the impact on our rights in this area.</p> <p><u>Aire & Calder (Main Line) Woodlesford</u></p> <p>Paragraph 2.2.44 refers to “an upgrade of an existing access track from The Locks to Fishpond Lock House, north of the Leeds spur, parallel to the Aire and Calder Navigation, to provide access to the portal building and rescue area”. Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-05-622 & CT-05-623a indicates that the access track and surrounding land between Woodlesford Lock, Fishponds Lock and then westwards toward the Community Area boundary will be land potentially required during the construction phase. The Trust objects to this disruption to our Infrastructure Trust property and land as closure of the access would prevent access for maintenance, repair and emergencies related to the navigation and have an unacceptable impact on our customers. The Trust has significant assets in this area such as Woodlesford Lock, Fishponds Lock and a large waste weir on the north side of the navigation. The Trust own 16 long terms leisure moorings in this area which are managed by our Waterside Moorings business. These moorings are accessed via this track. The NCN route 67 and the Trans Pennine trail run along the access track at its eastern end before crossing Woodlesford Lock onto the north side of the navigation.</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-06-622 & CT-06-623a shows the access track between Woodlesford Lock, Fishponds Lock and then westwards toward the Community Area boundary, in the proposed scheme, as an HS2 access road. Paragraph 2.2.44 refers to “an upgrade of an existing access track from The Locks to Fishpond Lock House, north of the Leeds spur, parallel to the Aire and Calder Navigation, to provide access to the portal building and rescue area”. The Trust use this Infrastructure Trust property route to access our assets, for operational (including emergency) purposes. It is also used by our customers, including those accessing the Trust’s 16 long term leisure moorings and using the NCN route 67 and the Trans Pennine trail which run along the access track at its eastern end before crossing Woodlesford Lock onto the north side of the navigation. Ownership and use of this access during both the construction and operational phases by HS2 is not acceptable to the Trust as it would prevent access by the Trust to maintain the navigation and adversely affect our customers.</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-05-622 Grid I6. This map indicates that the land and lock lobby adjacent to Fishponds Lock will be land potentially required during the construction phase. The Trust objects to this disruption as this would have an unacceptable</p>
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	<p>impact on our customer's ability to make use of the navigable waterway and would affect our ability to operate, maintain and repair the lock.</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-06-622 Grid I6. This map indicates that the land and lock lobby adjacent to Fishponds Lock will be used for Landscape mitigation planting. The Trust objects to this use as this would have an unacceptable impact on our customer's ability to make use of the navigable waterway, would affect our ability to maintain and repair the lock and could have an adverse impact on the structural stability of the lock. It is unclear if the lockside buildings are to remain. The Trust objects to their loss as this would prevent us from operating the lock.</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-06-623a. At present the height clearance below the Bullough Lane Underbridge is unclear. The Trust, with the agreement of Leeds City Council and Network Rail have used Bullough Lane as a construction access for works to Fishponds Weir. Modifications to the land level below the current railway were required to facilitate access. The Trust will seek HS2's agreement to the principle of the Bullough Lane Underbridge being used as a construction access, by the Trust in the future, with an appropriate land level being provided to accommodate this.</p> <p>Throughout this area the Trust require that any proposed landscape mitigation planting scheme is designed in such a way that the waterway wall will not be compromised by tree roots and the navigation affected by overhanging trees as they mature.</p> <p><u>Overall</u></p> <p>Recreation, leisure and open space, Paragraph 2.1.24. The navigation is used for leisure craft and can be used for other water related activities. There are a number of boat moorings in this area. Fishing also takes place. Paragraph 2.1.26 The navigation is used for leisure craft and other water related activities. There are a number of boat moorings in the Woodlesford area. Fishing also takes place.</p>
<p>6. Community</p>	<p>6.3 Environmental baseline. Bottom Boat, Methley Lanes, Scholey Hill and surrounds. There is no recognition of the wider related activities on the navigation, mooring or fishing. Oulton, Woodlesford, Rothwell and surrounds. There is no recognition of the wider related activities on the navigation, mooring or fishing.</p> <p>6.4 Effects arising during construction, Avoidance and mitigation measures. There is no mention of mitigation measures in relation to the navigations.</p> <p>6.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects, Open space and PRow. Paragraph 6.4.12 does not recognise the moorings or the value of the open space to the south side of the navigation between Woodlesford Lock and the Community Area boundary to the west, which is well used by our customers.</p>

	<p>6.4 Effects arising during construction, Assessment of impacts and effects, Permanent Effects, Open space and PRow. Paragraphs 6.4.22 & 6.4.23. The impact on the moorings and open space to the south side of the navigation between Woodlesford Lock and the Community Area boundary to the west, which is well used by our customers, should be considered.</p> <p>6.5 Effects arising from operation, Avoidance and mitigation measures, Assessment of impacts and effects and other mitigation measures. The proposal for future public access along the HS2 access track between Woodlesford Lock and the Community Area boundary to the west and access to the Trust's moorings at Woodlesford Lock, is unclear. The Trust objects to HS2 acquiring and using this access (please see our comments in the Overview section and Landscape and visual section).</p> <p>6.5 Effects arising from operation, Assessment of impacts and effects. Please see our comments on Landscape and visual and Sound, noise and vibration. There are Trust owned and managed moorings in this area.</p> <p>Please also see our general comments.</p>
<p>7 Ecology and biodiversity</p>	<p>Introduction. Paragraph 7.1.2. The Trust has Phase 1 ecological survey reports available.</p> <p>7.4 Effects arising during construction, Woodlands. Whilst we note the range of measures in draft CoCP to keep working areas to the reasonable minimum to reduce habitat loss, it is suggested that waterside trees and woodland to the south side of the Aire & Calder Navigation at Woodlesford, could be retained.</p>
<p>8. Health</p>	<p>Please see our general comments.</p>
<p>9 Historic environment</p>	<p>9.3 Environmental baseline, Non-designated assets, Paragraph 9.3.7. It is unclear if Woodlesford and Fishponds Locks on the Aire & Calder Navigation have been included as non-designated heritage assets. The Trust considers that these locks should be deemed to be non-designated heritage assets.</p>
<p>11 Landscape and visual</p>	<p><u>Aire & Calder (Wakefield Branch)</u></p> <p>11.4 Temporary effects arising during construction, Assessment of temporary impacts and effects, Visual assessment, Paragraph 11.4.11, Table 30: Construction phase potentially significant visual effects, Views east and west from the Aire and Calder Navigation (Wakefield branch) towpath, Stanley Footpath 12 and Rothwell Footpath 39 in Altofts (VPs 424-03-019, 424-03-018, 424-03-020 (Map Number LV-03-424), 424-03-021, 425-03-007, 425-03-008 and 425-03-010 (Map Number LV-03-425)). With respect to VP 424-03-019 and 424-03-021 the views are from the PRow, but we note that this is a view of the waterway corridor. Reference to the waterway corridor and waterway users should be made in the assessment of impact.</p>

	<p>11.5 Permanent effects arising from operation, Assessment of impacts and effects, Visual assessment, Paragraph 11.5.7, Table 32: Operation phase significant visual effects, Views east and west from the Aire and Calder Navigation (Wakefield branch) towpath, Stanley Footpath 12 and Rothwell Footpath 39 in Altofts (VPs 424-03-019, 424-03-018, 424-03-020 (Map Number LV-03-424), 424-03-021, 425-03-007, 425-03-008 and 425-03-010 (Map Number LV-03-425)). With respect to VP 424-03-019 and 424-03-021 the views are from the PRoW, but we note that this is a view of the waterway corridor. Reference to the waterway corridor and waterway users should be made in the assessment of impact.</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number LV-03-424, LV-04-424, LV-03-425 and LV-04-425. The River Calder Viaduct is a major waterway crossing given its proposed height. This warrants a photomontage to assess the impact of the crossing. The Trust request that HS2 create an appropriate photomontage of the waterway crossing.</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-05-489 and CT-06-489. This major crossing of the Navigation will create a significant “major adverse effect” upon the waterway corridor. The piers will be major structures close to users of the canal corridor. The design, orientation and siting of the piers will be a critical element of the crossing design against the waterway corridor. The piers adjacent to the waterway should be special piers to define the position of the waterway within the viaduct and within the landscape. It is necessary to ensure that the design, orientation and siting of the piers and the overall viaduct, reflect the overarching principles for HS2 canal crossings agreed on HS2 Phase 1.</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-05-489 and CT-06-489. This major crossing of the Navigation will create a significant “major adverse effect” upon the waterway corridor. An appropriate landscape structure planting scheme should be developed to supplement the existing woodland planting along the wider waterway corridor, to frame the views of the viaduct and to stitch the civil engineering works into the landscape. Where possible early planting should take place to enable timely mitigation.</p> <p><u>Aire & Calder Navigation (Main Line) Lemonroyd</u></p> <p>11.4 Temporary effects arising during construction, Assessment of temporary impacts and effects, Visual assessment, Paragraph 11.4.11, Table 30: Construction phase potentially significant visual effects, Views east and west from the Trans Pennine Trail and non-definitive footpaths in Water Haigh Woodland Park and residences in Woodlesford (VPs 426-03-011, 426-02-012, 426-03-016 (Map Number LV-03-426), 426-03-020 and 427-03-004 (Map Number LV-03-427)) and Views west from non-definitive footpaths in Water Haigh Woodland Park and the Aire and Calder Navigation (main line) towpath and residences at Methley (VPs 426-03-015, 426-03-025 and 426-02-027 (Map Number LV-03-426)). These viewpoints include views of the waterway corridor. Reference to the waterway corridor and waterway users should be made in the assessment of impact.</p>
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	<p>11.5 Permanent effects arising from operation, Assessment of impacts and effects, Visual assessment, Paragraph 11.5.7, Table 32: Operation phase significant visual effects, Views east and west from the Trans Pennine Trail and non-definitive footpaths in Water Haigh Woodland Park and residences in Woodlesford (VPs 426-03-011, 426-02-012, 426-03-016 (Map Number LV-03-426), 426-03-020 and 427-03-004 (Map Number LV-03-427)) and Views west from non-definitive footpaths in Water Haigh Woodland Park and the Aire and Calder Navigation (main line) towpath and residences at Methley (VPs 426-03-015, 426-03-025 and 426-02-027 (Map Number LV-03-426)). These viewpoints include views of the waterway corridor. Reference to the waterway corridor and waterway users should be made in the assessment of impact.</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number LV-03-427 and LV-04-427. The photomontage 426-03-020 is picking up views from the houses but may not pick up the view from the waterway corridor. Consider slightly amending the photomontage position to the north to combine the view from the residential properties with the waterway corridor.</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-05-492 and CT-06-492. This major crossing of the Navigation will create a significant “major adverse effect” upon the waterway corridor. The piers will be major structures close to users of the canal corridor. The design, orientation and siting of the piers will be a critical element of the crossing design against the waterway corridor. The piers adjacent to the waterway should be special piers to define the position of the waterway within the viaduct and within the landscape. It is necessary to ensure that the design, orientation and siting of the piers and the overall viaduct reflect the overarching principles for HS2 canal crossings agreed on HS2 Phase 1.</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-05-492 and CT-06-492. This major crossing of the Navigation will create a significant “major adverse effect” upon the waterway corridor. An appropriate landscape structure planting scheme should be developed to supplement the existing woodland planting along the wider waterway corridor, to frame the views of the viaduct and to stitch the civil engineering works into the landscape. Where possible early planting should take place to enable timely mitigation.</p> <p><u>Aire & Calder (Main Line) Woodlesford</u></p> <p>11.4 Temporary effects arising during construction, Assessment of temporary impacts and effects, Visual assessment, Paragraph 11.4.11, Table 30: Construction phase potentially significant visual effects, Views south from the Trans Pennine Trail (VPs 427-03-022, 427-03-023 (Map Number LV-03-427) and 460-03-005 (Map Number LV-03-460a)). These viewpoints include views of the waterway corridor. Reference to the waterway corridor and waterway users should be made in the assessment of impact.</p>
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	<p>11.5 Permanent effects arising from operation, Assessment of impacts and effects, Visual assessment, Paragraph 11.5.7, Table 32: Operation phase significant visual effects, Views south from the Trans Pennine Trail (VPs 427-03-022, 427-03-023 (Map Number LV-03-427) and 460-03-005 (Map Number LV-03-460a)). These viewpoints include views of the waterway corridor. Reference to the waterway corridor and waterway users should be made in the assessment of impact.</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number LV-03-460a and LV-04-460a. The photomontage point 460-03-005 provides a view across the waterway. It is not clear if that view will take in the long views of the navigation. Ensure the photomontage covers views across and along the navigation.</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number LV-03-460a and LV-04-460a. There is no viewpoint to assess the closet point between the navigation and the proposed HS2 line. An additional viewpoint is required in Grid F2.</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-05-622 and CT-06-622 and CT-05-623a and CT-06-623a. The HS2 route runs parallel with the navigation in this area. The treatment to the HS2 boundary with the waterway will be critical in this area. A civic quality boundary treatment is required here to reflect the proximity to the Aire & Calder Navigation and Trans Pennine Trail recreational corridor.</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-05-622 and CT-06-622 Grid G6. The cluster of HS2 buildings (Pumping Station, Tunnel Portal Building and Autotransformer Station) will bring a significant adverse impact to the character of the waterway corridor. The Trust consider that there is the potential to relocate the buildings to the south of the existing rail track. Further design development could then be explored to investigate earth sheltering etc, to further absorb the buildings into the landscape. The Trust require discussions with HS2 about this matter. Please also see our comments in the Overview section regarding the access track to these buildings.</p>
<p>12 Socio-economics</p>	<p>Access to a mooring location at Woodlesford Lock, operated by the Trust's Waterside Mooring business, falls within land potentially required during construction, with a permanent HS2 access road shown in the proposed scheme. The navigations in this area are commercial waterways. Please also see our general comments on businesses that the waterway corridor supports.</p>
<p>13 Sound, noise and vibration</p>	<p>Notwithstanding HS2's general approach to noise in respect of moorings, public rights of way and open spaces as set out the Scope and Methodology Report for Phase 2b and also in the noise chapter, the principle of providing a degree of noise mitigation for all canal crossings was established in HS2 Phase 1. The Trust therefore wish to discuss, with HS2, how noise mitigation for canal corridor users will be provided in Phase 2b given the different scenarios that it presents, such as parallel running of the HS2 track with the waterway.</p>

	<p>The Trust own and manage 11 long-term leisure moorings which partly fall within the potential noise effect zone (Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number SV-01-399 Grid C7 and C8). Although not currently within the noise zone there are a further 10 long-term leisure moorings immediately to the north of this location.</p>
<p>14 Traffic and transport</p>	<p>Paragraph 14.3.16. Environmental baseline, Existing Baseline, Waterways and canals. The Canal & River Trust is the navigation authority. We also own some stretches of navigation.</p> <p>14.4 Effects arising during construction, Avoidance and mitigation measures. The use of the navigations for the transport of freight could reduce road traffic journeys during construction. The Aire & Calder Navigation and the Aire & Calder (Wakefield Branch) are both commercial waterways in the vicinity of the HS2 proposal.</p> <p>Paragraph 14.4.22. Assessment of impacts and effects, Temporary effects, Non-motorised users. This suggests that the towpath of the Aire & Calder Wakefield Branch and the towpath in the Lemonroyd area would be temporarily diverted or re-aligned. This does not appear to be consistent with paragraph 2.3.86 which states that that the “Aire and Calder Navigation (waterway and towpath) would remain open on its existing alignment with short term closures during the construction of the River Calder viaduct” and paragraph 2.3.1119 which states that the “Aire and Calder Navigation (waterway and towpath) and the Trans Pennine Trail (footpath) would be kept open on existing alignment with short term closures during the construction of the River Aire viaduct”. The Trust require confirmation of HS2’s intentions. The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with pedestrian access to and along the Canal towpath. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers. However, HS2 need to be aware of and discuss with all parties about how, 24/7, access arrangements will be provided in the vicinity of the River Calder Viaduct.</p> <p>Paragraph 14.4.25. Assessment of impacts and effects, Temporary effects, Waterways and canals. Paragraph 14.4.22 suggests that the towpath of the Aire & Calder Wakefield Branch and the towpath in the Lemonroyd area would be temporarily diverted or re-aligned. This does not appear to be consistent with paragraph 2.3.86 which states that that the “Aire and Calder Navigation (waterway and towpath) would remain open on its existing alignment with short term closures during the construction of the River Calder viaduct” and paragraph 2.3.1119 states that the “Aire and Calder Navigation (waterway and towpath) and the Trans Pennine Trail (footpath) would be kept open on existing alignment with short term closures during the construction of the River Aire viaduct”. The Trust require confirmation of HS2’s intentions. There is no mention of the Trust’s access track to the south side of the navigation at Woodlesford, which is essential for operational purposes. The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with the passage of vessels using the Canal and pedestrian access to and along the Canal towpath. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any</p>

	<p>restrictions on the use of our network by our customers. However, HS2 need to be aware of and discuss with all parties about how, 24/7, access arrangements will be provided in the vicinity of the River Calder Viaduct. Furthermore, the Trust object to HS2's use of the Trust's Infrastructure Trust Property (access track) to the south of the Aire & Calder Navigation at Woodlesford during the construction and operational phase of HS2. Please see our comments in the Overview section.</p> <p>Paragraph 14.4.25. Assessment of impacts and effects, Temporary effects, Waterways and canals. The impact on Canal & River Trust operational access routes for planned preventive and reactive maintenance along with water control and emergency access in this community area need to be considered. Failure to provide appropriate access could have significant effects.</p> <p>14.5 Effects arising from operation, Waterways and canals, Paragraph 14.5.11. This paragraph advises that it is not currently expected that the operation of the proposed scheme would have a significant effect on the operation of the waterways and canals in the area. The Trust draws attention to its objection to HS2's use of the Trust's Infrastructure Trust Property (access track) to the south of the Aire & Calder Navigation at Woodlesford and the proposed use of land adjacent to Fishpond's Lock for landscape mitigation planting. Ownership and use of the access by HS2 is not acceptable to the Trust as it would prevent access by the Trust to maintain the navigation and adversely affect our customers. The use of the land at Fishponds Lock would have an unacceptable impact on our customer's ability to make use of the navigable waterway, would affect our ability to maintain and repair the lock and could have an adverse impact on the structural stability of the lock. It is unclear if the lock side buildings are to remain. The Trust objects to their loss as this would prevent us from operating the lock.</p>
<p>15 Water resources and flood risk</p>	<p>15.3 Environmental baseline, Existing baseline - Water resources and WFD, Abstractions and permitted discharges (surface water). There may be abstractions from the canal in this area. Please liaise with the Trust.</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-05-489 Grid H8. Drainage from the River Calder embankment appears to discharge to a watercourse in both open channel and culvert which passes beneath the Trust's Infrastructure Trust Property and land and potentially through a culvert under the navigation adjacent to the M62. The Trust require further details of this proposal. If water is to pass through any culvert, HS2 should ensure that it has sufficient capacity for any additional flows and consider the acquisition of any Trust owned culvert(s).</p> <p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-05-622 and CT-06-622 Grid G6. The Trust require clarification about the purpose of the pumping station, is this for air or water? If this is for water the Trust require clarification about any discharge route. The current watercourse, near the pumping station, runs eastwards parallel with the navigation before turning north and passing under the navigation in a culvert (Grid B8). If water is to pass through this culvert HS2 should ensure that it has sufficient capacity for any additional flows and consider acquisition of this Trust owned culvert.</p>

	<p>Volume 2: Community Area Mapbook LA15 Warmfield to Swillington and Woodlesford Map Number CT-06-623a Grid C7. This shows a drainage crossing in the shared underbridge. The Trust requires clarification as to the route of any discharge. The Trust requires that its consent is obtained for any discharge to the waterway, to protect the waterway from flooding, structural damage, environmental degradation and to ensure navigational safety. It cannot be assumed that the waterway has the capacity to accommodate such discharge.</p>
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Community Area Report LA17 Stourton to Hunslet and associated Map Book.

Chapter	Comment
<p>2. Overview of the area and description of the Proposed Scheme</p>	<p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number CT-05-623b and CT-05-624 indicates that approximately 625m of the Aire & Calder Main Line will be land potentially required during the construction phase. The Trust has the following objections to the proposed disruption: 1. The closure of the waterway would have an unacceptable impact on our customer's ability to make use of the navigable waterway (which includes the towpath). The towpath carries the NCN route 67/Trans Pennine trail in this location, and 2. The proposed acquisition of the Trust's land is not justified as the adequate and practical planning of construction operations could remove the need for the acquisition of the waterway. Notwithstanding this, we have a specific issue on Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number CT-05-624 and CT-06-624 where it is indicated that a retaining wall is to be constructed on the Trust's Infrastructure Trust Property including the navigation. An HS2 access track is also proposed to run alongside the navigation with associated landscape mitigation planting. This extends onto Map Number CT-05-623b and CT-06-623b up to the M1. We object to the proposed disruption and permanent use of the navigation/land for the retaining wall and access track. The Trust has serious concerns about the implications for navigation, and the waterway environment, in respect of the HS2 Leeds Spur proposals. The Trust require significantly more detail about these proposals. This would include relative levels between the navigation and the various elements of the proposal. We also note that the Leeds Rolling Stock Depot and its connection to the HS2 Leeds Spur is subject to further design development. It is likely that a pier of the Leeds East Viaduct would need to be located on Trust Infrastructure Trust Property. To enable us to comment, the Trust require further detail of the proposals in this area and their impact on the Aire and Calder (Main Line) Navigation.</p> <p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number CT-05-623b and CT-06-623b Bullough Lane to the M1 crossing of the Aire & Calder Navigation. These maps indicate that land potentially required during the construction phase and landscape mitigation planting will be located on Trust Infrastructure Trust Property. The Trust objects. The Trust require discussion this with HS2 about this.</p>

	<p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number CT-05-623b Grid F7. The Rothwell Country Park Cutting Satellite compound is located partly on Trust Infrastructure Trust Property. The Trust objects. Setting the compound further south would allow retention of some waterside vegetation to provide an element of screening. The Trust require discussion this with HS2 about this.</p> <p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number CT-06-633b Grid F7 and G7. An HS2 access road is located on Trust owned land. The Trust objects. It is unclear why this track follows the route that it does, when a more direct track could be provided to the pumping station. The Trust require discussion with HS2 about this.</p> <p>Throughout this area the Trust require that any proposed landscape mitigation planting scheme is designed in such a way that the waterway wall will not be compromised by tree roots and the navigation affected by overhanging trees as they mature.</p> <p>There are overhead utility crossings in this area which may be affected. The Trust seeks undergrounding of utility crossings. Please liaise with the Trust.</p> <p>HS2 should liaise with the Trust regarding the presence of buried services in this Community Area.</p> <p>Paragraph 2.1.19 Recreation, Leisure and Open Space. The navigation is used for leisure craft and can be used for other water related activities. Fishing also takes place.</p>
<p>6. Community</p>	<p>6.3 Environmental baseline, Rothwell and surrounds - Paragraph 6.3.5 and 6.3.6 do not mention fishing on the Aire & Calder Navigation. Stourton – Paragraphs 6.3.7 and 6.3.8 do not mention that the Aire & Calder Navigation, which in part of the area, is separate from the River Aire. It also does not mention fishing on the navigation.</p> <p>6.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects. Paragraph 6.4.6 reports on the temporary severance of three promoted PRow which follow the Aire & Calder Navigation towpath. As part of wider discussions relating to the proposal and the impact of the scheme on the area, the Trust require discussions with HS2 on this matter. The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with the passage of vessels using the Waterway and pedestrian access to and along the Waterway towpath (which also carries the NCN route 67/Trans Pennine trail in this area). Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers.</p> <p>6.4 Effects arising during construction, Assessment of impacts and effects, Permanent effects. The Trust objects to the loss of waterspace/land in this area. The permanent implications for the navigation and its environment, of</p>

	<p>the works relating to the Aire & Calder Navigation Retaining Wall No.3 and the adjacent access road need to be assessed. The Trust require such information from HS2.</p> <p>6.5 Effects arising from operation, Assessment of impacts and effects. Please see our comments on Landscape and visual and Sound, noise and vibration.</p> <p>Please also see our general comments.</p>
<p>7. Ecology and biodiversity</p>	<p>7.4 Effects arising during construction, Woodlands. Whilst we note the range of measures in draft CoCP to keep working areas to the reasonable minimum to reduce habitat loss, it is suggested that waterside vegetation to the south side of Aire & Calder Navigation between Bullough Lane and the M1 is retained. Please also see our comments in the Overview and Landscape and visual sections regarding the siting of the Rothwell Country Park Cutting Satellite Compound and in relation to other land to the south side of the navigation.</p>
<p>8 Health</p>	<p>Please see our general comments.</p>
<p>11 Landscape and visual</p>	<p>11.3 Environmental baseline, Existing baseline, Landscape baseline, Paragraph 11.3.9, Table 23: Summary of significantly affected LCAs. The navigation is located within the South East Leeds Industrial Area LCA. The description of the South East Leeds Industrial LCA, notes the tranquillity of the waterway corridor and the value of the waterway as a sense of place. However, the wider LCA is identified as having a low-medium value due to the general low sense of scenic quality and tranquillity. It should be recognised that the waterway corridor within the LCA has a higher landscape value, and is therefore more susceptible to harm.</p> <p>11.4 Temporary effects arising during construction, Assessment of temporary impacts and effects, Landscape assessment, Paragraph 11.4.8, Table 24: Summary description and assessment of effects on LCAs. This suggests that the construction will have a moderate adverse impact on the LCA. The character, tranquillity and recreational value of the waterway corridor is more sensitive and the scale of works and change on the waterway corridor is major adverse. The significance of the impact on the waterway corridor needs to be recognised.</p> <p>11.4 Temporary effects arising during construction, Assessment of temporary impacts and effects, Visual assessment, Paragraph 11.4.12, Table 25: Construction phase significant visual effects. Views west and south-east from the Trans Pennine Trail, St. Bernard's Way, Paulinus Way, National Cycle Network Route 67 and the Leeds Core Cycle Network 8 Rothwell to Leeds City centre (VP 461-03-002, (Map LV-03-461b and LV-03-461-R1b) and VP 462-03-007 (Map LV-03-462)). This recognises that the impact on recreational routes will be major adverse. Early landscape interventions to mitigate the visual impact on a key recreational corridor, where tranquillity is highly valued, should be provided.</p> <p>11.5 Permanent effects arising from operation, Visual assessment, Paragraph 11.5.7, Table 27: Operational phase significant visual effects, View west from the Trans Pennine Trail, including St. Bernard's Way, Paulinus Way and</p>

	<p>NCN National Route 67 and the Leeds Core Cycle Network 8 Rothwell to Leeds city centre. VP View south-east from the Trans Pennine Trail and adjoining routes) (VP 461-03-002 (Map LV-04-461b and LV-04-461-R1b), VP462-03-007 (Map LV-04-462)). This notes that the impact on views, within identified views, along the waterway corridor as being major adverse in year 1, reducing to moderate adverse in year15, although noting that the viaduct and associated infrastructure will remain highly visible components. The design of the Leeds East viaduct will be critical as it will remain a highly visible element in the special landscape of the waterway corridor.</p> <p>11.5 Permanent effects arising from operation, Visual assessment, Paragraph 11.5.7, Table 27: Operational phase significant visual effects, View west from the Trans Pennine Trail, including St. Bernard's Way, Paulinus Way and NCN National Route 67 and the Leeds Core Cycle Network 8 Rothwell to Leeds city centre. VP View south-east from the Trans Pennine Trail and adjoining routes) (VP 461-03-002 (Map LV-04-461b and LV-04-461-R1b), VP462-03-007 (Map LV-04-462)). This notes that by year 15 the vegetation will have matured to screen the embankments etc. It is hard to see how the retaining wall will be screened by vegetation given the scale of this element and its location sheer out of the waterway. The use of appropriate sustainable screening systems should be investigated. The elevation to the retaining walls should be of high quality and respond the sensitivity of the local landscape. This is required so that if the screening should fail, the wall itself is not harmful to the landscape. Ideally, the retaining wall should make a positive contribution to the landscape of the waterway corridor.</p> <p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number LV-03-461b and LV-04-461b and LV-03-462 and LV-04-462. There are two points identified as "significantly affected viewpoints". VP 461-03-002 looks west along the towpath (Trans Pennine Trail) providing an angled view of the crossing to the Leeds East Rolling Stock Depot. VP 462-003-007 views east across the River Aire, but doesn't cover the navigation crossing. The view across the River Aire is heavily filtered by scrub vegetation and it is debatable as a significantly affected view. Please re-orientate view point VP 462-003-007 to look directly at the crossing of the navigation and Trans Pennine trail. This will be the view experienced by walkers and boaters along the waterway corridor.</p> <p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number LV-03-462 and LV-04-462. The significance of the Leeds East Viaduct crossing warrants a photomontage. An additional photomontage of the crossing from Grid G9 along the navigation is required. This would also pick up the retaining walls which will have a major impact on the waterway corridor.</p> <p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number CT-05-623b Grid F7, G6, G7. The Rothwell Country Park Cutting Satellite compound is located adjacent to the navigation and will have a visual impact on the waterway corridor. Setting the compound further south would allow retention of some waterside vegetation to provide an element of screening.</p> <p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number CT-06-623b Grid G6. The position of the HS2 pumping station, and associated access track will potentially have a visual impact on the waterway</p>
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	<p>corridor. Realign the access track and turning head to minimise the impact on the waterway, consider relocation of the pumping station to reduce the impact on the waterway corridor, retain existing vegetation where possible and ensure the design of the mitigation planting provides adequate and robust screening.</p> <p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number CT-06-623b Grid H6 and I6. The siting and design of the HS2 Leeds Spur plus associated access track and turning head and retaining walls, will have a significant impact on the non-towpath side of the navigation. The proposed woodland mitigation strip between HS2 and the navigation is very narrow and very close to the navigation (H6 and I6). HS2 need to ensure that appropriate landscape treatment is delivered between HS2 and the navigation, to provide visual screening.</p> <p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number CT-05-624 and CT-06-624 Grid B5 and C5. The alignment of the proposed Leeds Spur line, prevents an access road being formed around the south west elbow of the navigation. The scheme as drawn encroaches into the waterway. The design should be revised to remove the loss of any waterspace.</p> <p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number CT-05-624 and CT-06-624 Grid C5. The major retaining walls on the south west elbow of the navigation will be highly visible as they will terminate views along the navigation, and will bring significant change to the landscape of the waterway corridor. The use of appropriate sustainable screening systems should be investigated. The elevational treatment to the retaining walls should also be of high quality and respond the sensitivity of the local landscape. This is required so that if the screening should fail the visual impact of the wall itself is not harmful to the landscape. Ideally, the retaining wall should make a positive contribution to the landscape.</p> <p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number CT-05-624 and CT-06-624 Grid C6. The alignment of the Leeds East Viaduct over the navigation at the wide part of the waterway, on the SW elbow of the navigation, maximises the scale of the crossing and the magnitude of the impact of the crossing. HS2 should investigate realigning the Leeds East Viaduct connection into the RSD to the narrow point of the navigation at the northern edge of Grid C6. This would reduce the scale of crossing and the magnitude of the impacts.</p> <p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number CT-05-624 and CT-06-624 Grid C6. The alignment of the Leeds East Viaduct over the navigation at the wide part of the waterway, on the SW elbow of the navigation, maximises the scale of the crossing and the magnitude of the impact of the crossing. The design, orientation and siting of the piers will be a critical element of the crossing design against the waterway corridor. The piers adjacent to the waterway should be special piers to define the position of the waterway within the viaduct and within the landscape. It is necessary to ensure that the design, orientation and siting of the piers and the overall viaduct reflect the overarching principles for HS2 canal crossings agreed on HS2 Phase 1. An appropriate landscape structure planting scheme should be developed to supplement the existing woodland</p>
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	<p>planting along the wider waterway corridor, to frame the views of the viaduct and to stitch the civil engineering works into the landscape. Early planting should take place where possible to enable early mitigation.</p> <p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number CT-05-624. Grid C6, C7, and C7. The waterway boundary wall to the existing industrial land should be kept during construction to provide an element of screening from the waterway to the Aire & Calder Navigation Embankment Compound.</p>
12 Socio-economics	<p>The navigation in this area is a commercial waterway. Please see our general comments on businesses that the waterway corridor supports.</p>
13 Sound, noise and vibration	<p>Notwithstanding HS2's general approach to noise in respect of moorings, public rights of way and open spaces as set out the Scope and Methodology Report for Phase 2b and also in the noise chapter, the principle of providing a degree of noise mitigation for all canal crossings was established in HS2 Phase 1. The Trust therefore wish to discuss, with HS2, how noise mitigation for canal corridor users will be provided in Phase 2b given the different scenarios that it presents, such as parallel running of the HS2 track with the waterway. This includes the presence and operation of the RSD.</p>
14 Traffic and transport	<p>14.3 Environmental baseline, Existing baseline, Waterways and canals. Paragraph 14.3.17. The River Aire is not the navigation where it is crossed by the proposed scheme.</p> <p>14.4 Effects arising during construction, Avoidance and mitigation measures. The use of the navigation for the transport of freight could reduce road traffic journeys during construction. The Aire & Calder Navigation is a commercial waterway in this location.</p> <p>14.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects, Non-motorised users. Paragraph 14.4.22 advises that the Aire & Calder Navigation towpath would be temporarily diverted or realigned. As part of wider discussions relating to the proposal and the impact of the scheme on this area, the Trust require discussions with HS2 on this matter. The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with the pedestrian access to and along the Waterway towpath. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers.</p> <p>14.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects, Waterways and Canals. Paragraph 14.4.25 refers to potential short-term closures of the navigation associated with construction of the Leeds East Viaduct and the Aire and Calder Navigation retaining wall No. 3. The paragraph also states that "Short-term closures could also be required due to works to the existing crossing of the canal to the south of the M1 to accommodate construction vehicles". The Trust objects to the location of the retaining wall on our land/navigation. In relation to other works the Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with the passage of vessels using the Waterway and</p>

	<p>pedestrian access to and along the Waterway towpath. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers.</p> <p>14.4 Effects arising during construction, Assessment of impacts and effects, Permanent effects, Waterways and canals. The Trust objects to the loss of waterspace/land in this area resulting from the retaining wall and access track proposal. The permanent implications for the navigation and its environment, of the works relating to the Aire & Calder Navigation Retaining Wall No.3 and the adjacent access road need to be assessed. The Trust require such information from HS2.</p> <p>14.5 Effects arising from operation. Waterways and canals. The Trust require HS2 to consider, and provide information about, the implications for navigational safety of vehicles travelling along the access road adjacent to the Aire & Calder Navigation Retaining Wall No.3. This relates to the headlights of vehicles using the track dazzling the operators of craft on the navigation and also vehicles using the track potentially entering the navigation.</p> <p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number CT-05-624-R1 Grid G4. It is noted that Haigh Park is proposed as a construction traffic route. The Trust wish to be assured that use of this road as a construction route will be compatible with the proposal for the Inland Port Terminal at Stourton.</p>
<p>15 Water resources and flood risk</p>	<p>15.3 Environmental baseline, Existing baseline - Water resources and WFD, Abstractions and permitted discharges (surface water). Private agreements permitting the discharge of surface water to the waterway exist in this area. Any proposals should look to ensure that these discharges are not impacted. Any land acquired by HS2, that discharges surface water to the waterway, will require the consent of the Trust to permit the continued discharge. There may also be abstractions from the navigation in this area. Please liaise with the Trust.</p> <p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number CT-06-623b Grid G6 shows a pumping station. The Trust requires that its consent is obtained for any discharge to the navigation, to protect the navigation from flooding, structural damage, environmental degradation and to ensure navigational safety. It cannot be assumed that the navigation has the capacity to accommodate such discharge.</p> <p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number CT-06-624 Grid C6 shows a balancing pond. Proposals for discharge from this pond are not clear. The Trust requires that its consent is obtained for any discharge to the navigation, to protect the navigation from flooding, structural damage, environmental degradation and to ensure navigational safety. It cannot be assumed that the navigation has the capacity to accommodate such discharge.</p> <p>Volume 2: Community Area Mapbook LA17 Stourton to Hunslet Map Number CT-06-624 Grid C6 shows a ditch discharging to the navigation. The Trust requires that its consent is obtained for any discharge to the navigation,</p>

	to protect the navigation from flooding, structural damage, environmental degradation and to ensure navigational safety. It cannot be assumed that the navigation has the capacity to accommodate such discharge.
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Community Area Report LA18 Leeds Station and associated Map Book.

Chapter	Comment
2. Overview of the area and description of the Proposed Scheme	<p>Volume 2: Community Area Mapbook LA18 Leeds Station Map Number CT-05-627 indicates that approximately 260m of the River Aire (separated into two different sections) will potentially be required during the construction phase. The River Aire is a navigable waterway in part of this area. The Trust is the owner, the owner and navigation authority or the navigation authority only for the relevant sections of the identified waterspace. As such the Trust has the following objections to the proposed disruption: 1. The closure of the waterway would have an unacceptable impact on our customer's ability to make use of the navigable waterway, and 2. The proposed acquisition of the Trust's land (where we are owner) is not justified as the adequate and practical planning of construction operations could remove the need for the acquisition of the waterway/waterspace. As the navigation authority (whether or not the Trust owns the land), the Trust requires any works to be carried out in a manner which causes as little interference with the passage of vessels using the Waterway as may be reasonably practicable. Where it is not reasonably practical to avoid such interference, the Trust require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers.</p> <p>Volume 2: Community Area Mapbook LA18 Leeds Station Map Number CT-05-626b (Grid H10 and I10) indicates a provisional lorry holding area for the HS2 Leeds Station. The Trust objects to this location adjacent to Leeds Dock. Such a use would hamper efforts to promote the Leeds Dock area as a place to work, live, experience and enjoy. There are residential properties in this area. Furthermore, in Clarence Dock there are 6 residential moorings and 20 long term leisure moorings. These are Trust owned moorings managed by our Waterside Moorings business.</p> <p>Volume 2: Community Area Mapbook LA18 Leeds Station Map Number CT-05-627 (Grid D5 and E5) shows land potentially required for construction, on Trust owned land around the car park of New Centaur House. Volume 2: Community Area Mapbook LA18 Leeds Station Map Number CT-06-627 (Grid D5 and E5) shows public realm in this location. Paragraph 2.2.23 also refers to public realm improvements. The Trust require confirmation that access and use of car park will not be affected and that the land required is periphery banking to the river and roadway.</p>

	<p>The Trust own commercial property at Granary Wharf and New Centaur House adjacent to Lock No 1 (Leeds and Liverpool Canal). The Trust require further details of the station structure to understand if it will impact on the rights for light of these buildings.</p> <p>This section does not mention the potential for closure of the navigation during construction. The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with the passage of vessels using the Waterway. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers.</p> <p>Recreation Leisure and Open Space. Paragraph 2.1.19. This should also recognise the Leeds & Liverpool Canal.</p>
6 Community	<p>6.3 Environmental Baseline. This needs to recognise the use of the waterways and associated open space in the area.</p> <p>6.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects, Open Space and PRow. This needs to consider the impact on the navigation.</p> <p>6.4 Effects arising during construction, Assessment of impacts and effects, Permanent effects, Open Space and PRow. The station platforms cross the open space which is the River Aire, which is a navigable waterway in this location. The quality of the space formed beneath the station platforms and the desirability of this space for navigation, other waterborne activities and waterside users, needs to be considered.</p> <p>Please also see our general comments.</p>
7. Ecology and biodiversity	<p>7.3 Environmental baseline, Existing baseline, Protected and notable species. Otter use the slipway near Lock 1 on the Leeds & Liverpool Canal. The Trust would also comment that there are unconfirmed sightings of Kingfisher.</p>
8. Health	<p>Please see our general comments.</p>
9 Historic environment	<p>There is currently insufficient information to understand the impact on the waterway related heritage in this area.</p>
11 Landscape and visual	<p>11.4 Temporary effects arising during construction, Landscape assessment Paragraph 11.4.8, Table 19: Summary description and assessment of effect for LCAs, Canal Wharf Conservation Area and Visual assessment, Paragraph 11.4.12, Table 20: Construction phase significant visual effects, Canal Wharf Conservation Area: View east from the canal bridge for users of the NCN Route 66 and for occupiers of residential apartments in Candle House and users of the Leeds and Liverpool Canal and canal towpath and guests of the DoubleTree Hilton hotel</p>

	<p>(VP466-03-011 and VP466-03-016 (Map Number LV-03-466)). It is taken that this relates to the viewpoint labelled as VP466-05-016 on the Map. The visual connection from the Leeds & Liverpool Canal down and along the Aire & Calder navigation will be adversely affected. The assessments need to consider the importance of the visual connection between the two waterways.</p> <p>11.5 Permanent effects arising from operation, Landscape assessment, Paragraph 11.5.4, Table 21: Operational phase significant landscape effects, Canal Wharf Conservation Area and Visual assessment and Visual Assessment, Paragraph 11.5.7, Table 22: Operation phase significant visual effects, Canal Wharf Conservation Area: View east from the canal bridge for users of the NCN Route 66 and for occupiers of residential apartments in Candle House and users of the Leeds and Liverpool Canal and canal towpath and guests of the DoubleTree Hilton hotel (VP466-03-011 and VP466-03-016 (Map Number LV-03-466)). It is taken that this relates to the viewpoint labelled as VP466-05-016 on the Map. The visual connection from the Leeds & Liverpool Canal down and along the Aire & Calder navigation will be adversely affected. The assessments need to consider the importance of the visual connection between the two waterways.</p> <p>Volume 2: Community Area Mapbook LA18 Leeds Station Map Number CT-05-627 and CT-06-627. Whilst we have commented on the information provided in the WDES there is currently inadequate detail to assess the relationship between the proposed station and the historic waterway network. Detailed design interface discussions are required between the HS2 team and the Trust, to ensure appropriate design development. This should seek to optimise the potential of the canal and river corridor to the place making around the station and the regeneration of this part of the City.</p>
12 Socio-economics	<p>There is a boating business operating within 250m from the edge of the proposed scheme. The navigation is a commercial waterway in this area. Please also see our general comments on businesses that the waterway corridor supports.</p>
13 Sound, noise and vibration	<p>Notwithstanding HS2's general approach to noise in respect of moorings, public rights of way and open spaces as set out the Scope and Methodology Report for Phase 2b and also in the noise chapter, the principle of providing a degree of noise mitigation for all canal crossings was established in HS2 Phase 1. The Trust therefore wish to discuss, with HS2, how noise mitigation for canal corridor users will be provided in Phase 2b given the different scenarios that it presents, such as parallel running of the HS2 track with the waterway.</p>
14 Traffic and transport	<p>14.3 Environmental baseline, Existing baseline, Waterways and canals. Paragraph 14.3.20 The River Aire runs beneath the existing station but is not a navigation beneath the station.</p> <p>14.4 Effects arising during construction, Avoidance and mitigation measures. The use of the navigation for the transport of freight could reduce road traffic journeys during construction. The Aire & Calder Navigation is a commercial waterway in this location.</p>

15 Water resources and flood risk	15.3 Environmental baseline, Existing baseline, Abstractions and permitted discharges (surface water). Volume 2: Community Area Mapbook LA18 Leeds Station Map Number CT-05-627 (Grid E4). There is a back-pumping scheme in the Leeds & Liverpool canal close to River Lock. The Scheme pumps water from the river to the canal at times of low water level. This must not be compromised. There may be abstractions from the navigation (in the Trust's ownership) in this area. Please liaise with the Trust.
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Community Area Report MA01 Hough to Walley's Green and associated Map Book.

A small area of land adjacent to the Shropshire Union Canal (Middlewich Branch), which is shown as land potentially required during construction and for woodland habitat creation in the proposed scheme, falls within this community area at Volume 2: Community Area Mapbook MA01 Hough to Walley's Green Map Number CT-05-308a and CT-06-308a (Grid F1). Please refer to the Trust's comments in the Overview of the area and description of the Proposed Scheme, Ecology and biodiversity and Landscape and visual sections of Community Area MA02 for our views about the woodland habitat creation which is shown in close proximity to the canal and associated structures.

Community Area Report MA02 Wimboldsley to Lostock Gralam and associated Map Book.

This Community Area Report covers 5 general areas of interaction between the Trust's network and the HS2 proposal, namely:

1. The Rolling Stock Depot and the Shropshire Union Canal Underbridge crossings of the Shropshire Union Canal (Middlewich Branch);
2. The parallel running of the River Dane Viaduct;
3. The River Dane Viaduct crossing of the Trent & Mersey Canal;
4. The Puddinglake Brook Viaduct crossing of the Trent & Mersey Canal; and
5. The Trent and Mersey Canal Underbridge crossing of the Trent & Mersey Canal.

Chapter	Comment
2. Overview of the area and description of the Proposed Scheme	<p><u>Shropshire Union (Middlewich Branch)</u></p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-310 indicates that approximately 200m of the Shropshire Union Canal (Middlewich Branch) will be potentially required during the construction phase. The Trust has the following objections to the proposed disruption: 1. The closure of the canal</p>

	<p>would have an unacceptable impact on our customer's ability to make use of the navigable waterway (which includes the towpath). The towpath carries the NCN route 5 in this location; and 2. The proposed acquisition of the Trust's land is not justified as the adequate and practical planning of construction operations could remove the need for acquisition of the waterway.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-310 and CT-06-310 (Grid D5 and E6) show embankments severing the canal towpath and encroaching into the canal. This is not acceptable to the Trust as it would prevent our customers using the towpath, which also carried the NCN route 5 in this location and could impact upon navigation. The embankments need to be constructed so they do not interfere with the operation of the canal or impose loadings on the Trust owned land.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-310 (Grid E7 and E8), indicates that the canal towpath will be potentially required during the construction phase. The Trust has the following objections to the proposed disruption: 1. The closure of the canal towpath would have an unacceptable impact on our customer's ability to make use of the navigable waterway (which includes the towpath). The towpath also carries the NCN route 5 in this location; and 2. The proposed acquisition of the Trust's land is not justified as the adequate and practical planning of construction operations could remove the need for acquisition of the waterway.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-309 – L1 (Grid I8) shows a Trust owned bridge being land potentially required during the construction phase. The Trust objects to this. The Trust require HS2 to explain their intentions regarding use of this bridge.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-310 (Grid B2) indicates that land potentially required during the construction phase extends into the canal. Whilst this appears to be a drafting error, the Trust has the following objections to the proposed disruption: 1. The restriction of the canal would have an unacceptable impact on our customer's ability to make use of the navigable waterway, and 2. The proposed acquisition of the Trust's land is not justified as the adequate and practical planning of construction operations could remove the need for acquisition of the waterway.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-310 (Grid D4) indicates that land potentially required during the construction phase extends into the canal. Whilst this appears to be a drafting error, the Trust has the following objections to the proposed disruption: 1. The restriction of the canal would have an unacceptable impact on our customer's ability to make use of the navigable waterway, and 2. The proposed acquisition of the Trust's land is not justified as the adequate and practical planning of construction operations could remove the need for acquisition of the waterway.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-308b and CT-06-308b (Grid F1, G1, G2, H2, I2, J2) CT-05-309-L1 and CT-06-309-L1 (Grid A9, A8, B8, B7, B6, C6, D6, E6, F6,</p>
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	<p>F7, G7, H7) shows Woodland habitat creation adjacent to the canal. The Trust require HS2 to clarify that this land is only required in association with mitigation planting and not construction works. The Trust is concerned by this woodland habitat creation. There are a number of Trust owned culverts in this area: Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-308b and CT-06-308b Grid F1, G1, J2; and Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-309-L1 and CT-06-309-L1 Grid D6, G7, H7. The woodland habitat creation needs to be designed to ensure that it does not affect the integrity of the canal and the culverts, their headwalls or the flow through the culvert or any associated brook course. Given this and the Trust's comments in the Ecology and biodiversity and Landscape and visual sections, the Trust considers that the location/design of the woodland habitat creation should be reconsidered, taking into account all the issues raised by the Trust. Furthermore, woodland habitat creation creates a non-towpath side maintenance liability for the Trust in relation to tree management, for which the Trust would seek a maintenance payment from HS2. This comment equally applies to the land falling within Community Area MA01 Hough to Walley's Green.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-308b and CT-06-308b (Grid H2, I2 and J2). Ecological mitigation ponds are shown alongside the canal. The Trust require that these mitigation ponds be designed and constructed so they do not compromise the integrity of the canal wall/edge. The Trust wish to understand the drainage arrangements for these ponds. The Trust requires that its consent is obtained for any discharge to the canal, to protect the canal from flooding, structural damage, environmental degradation and to ensure navigational safety. It cannot be assumed that the canal has the capacity to accommodate such discharge. A canal breach recently occurred in this section of canal.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-310 and CT-06-310 Grid D5. There is a Trust owned culvert in this area (GR: 368418 – 365481). The construction works need to be planned and the Shropshire Union Canal Underbridges need to be designed to ensure that they do not affect the integrity of the canal and the culvert, its headwall or the flow through the culvert. Alternatively, appropriate alternative provision should be made for this drainage. The Trust require further information from HS2 on this matter. Please also see our comments on Water resources and flood risk.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-310 and CT-06-310 Grid E7. There is a Trust owned culvert in this area. The wetland habitat creation needs to be designed to ensure that it does not affect the integrity of the canal, the culvert, its headwalls or the flow through the culvert.</p> <p><u>Trent & Mersey Canal - River Dane Viaduct area</u></p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-311 (Grid I10). This shows a Trust owned bridge as being land which is potentially required during the construction phase. The Trust objects to this. The Trust require HS2 to explain their intentions regarding the use of this bridge.</p>
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	<p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-311-R1 (Grid H3, H2 and I2) indicates that land potentially required during the construction phase will run parallel with the canal. The Trust require HS2 to explain their intentions regarding the nature of the works in this area and the use of the land. This is to enable the Trust to assess the impact upon the structural integrity of the canal and the acceptability of this to the Trust.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-312 indicates that approximately 600m of the Trent & Mersey Canal will be land potentially required during the construction phase. This also includes a Trust owned bridge. The Trust has the following objections to the proposed disruption: 1. The closure of the canal would have an unacceptable impact on our customer's ability to make use of the navigable waterway (which includes the towpath); and 2. The proposed acquisition of the Trust's land is not justified as the adequate and practical planning of construction/mitigation operations could remove the need for acquisition of the waterway. The Trust require HS2's to explain their intentions in this area in respect of the Trust's land, and consider that a detailed appraisal of this area is required particularly regarding: 1) Map Number CT-06-312 (Grid C5, D5, E3 and E4) which shows the canal being used for wetland habitat creation and the towpath and embankments used for woodland habitat creation. Is the requirement to potentially take the land the only reason for such a large section of the canal being identified for land take; 2) The extent and nature of the woodland creation. The canal is on an embankment within this area. Embankment stability assessments may be required in relation to any potential breach risk of the canal, 3) The extent and nature of the wetland habitat creation; 4) the use of the bridge; 5) future access to the bridge as Map Number CT-06-312 (Grid D5) does not show any access being provided; and 6) our comments in the Ecology and biodiversity and Landscape and visual sections.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-312 (Grid C5). A pier to the River Dane Viaduct is shown to be within the canal embankment. The Trust is concerned that this could have a de-stabilising effect upon the canal leading to failure. The viaduct piers need to be positioned/constructed so as not to compromise the canal embankment.</p> <p><u>Trent & Mersey Canal - Puddinglake Brook Viaduct area.</u></p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-313 (Grid B6) indicates approximately 225m of the Trent & Mersey Canal will be land potentially required during the construction phase. The Trust has the following objections to the proposed disruption: 1. The closure of the canal would have an unacceptable impact on our customer's ability to make use of the navigable waterway (which includes the towpath); and 2. The proposed acquisition of the Trust's land is not justified as the adequate and practical planning of construction operations could remove the need for acquisition of the waterway. The Trust would like to understand why such a large stretch of the canal is identified as land potentially required for construction around the Puddinglake Brook Viaduct.</p>
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	<p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-06-313 (Grid B5, B6 and B7) show an unidentifiable feature. The Trust require HS2 to explain what this feature is. We can then make our comments and determine if mitigation is required.</p> <p><u>Trent & Mersey Canal Trent and Mersey Canal Underbridge area</u></p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-313 (Grid D5) indicates approximately 175m of the Trent & Mersey Canal will be land potentially required for construction. Furthermore, Map Number CT-05-313 and CT-06-313 indicate that the embankments of the Trent and Mersey Canal Underbridge would effectively permanently close the Trent and Mersey canal and towpath as they are located across the towpath and in the navigation. This is not acceptable to the Trust as it would prevent our customers making use of the navigable waterway (which includes the towpath).</p> <p>Throughout this area, should it be required, the environmental impact of any mine treatment works must consider and appropriately mitigate the impact on the canal environment.</p> <p>Paragraph 2.1.10. This refers to the towpath on both the Shropshire Union and Trent & Mersey Canals being off road cycle routes. Both towpaths are used for off-road cycling. The Shropshire Union towpath, in part, forms the NCN route 5.</p> <p>Recreation, leisure and open space. It should be recognised that the canals are used for leisure craft and other water related activities. There are moorings for boats. There is also fishing on the Trent & Mersey Canal.</p>
<p>6. Community</p>	<p>6.3 Environmental Baseline, Wimboldsley and surrounds: This section does not recognise that the canal can be used for leisure craft and other water related activities. Middlewich, Winsford and surrounds: Does not recognise the presence of boat moorings, and other water related activities. The Shropshire Union Canal (Middlewich Branch) has been adopted by a community group. The Shropshire Union Middlewich Branch Adoption Group have adopted 5 miles of canal and undertake weekly and monthly volunteer tasks along the branch including hedge laying, planned preventative maintenance on our locks and structures, installation and maintenance of canal furniture and reactive works. This indicates how much the canal is valued by the local community. The Trust owned visitor moorings at Bramble Cut on the Trent & Mersey Canal have been adopted by the Broken Cross boat club. This is a popular location for casual mooring. There is also fishing on the Trent & Mersey Canal.</p> <p>6.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects, Open Space and PRow. Paragraph 6.4.6 and 6.4.7 refer to the potential disruption to users of the canal environment. The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with the passage of vessels using the Canal and pedestrian access to and along the Canal towpath. Where it is not reasonably practical to avoid such interference, the Trust require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers. There is no mention of the</p>

	<p>impact on moorings in this area. The impact on third party operated long term moorings should be discussed with the mooring operator. The Trust has popular visitor moorings on the Shropshire Union Canal (Middlewich Branch). The Trust will seek the equivalent reinstatement for the visitor moorings and may wish to discuss other visitor moorings in the area.</p> <p>6.4 Effects arising during construction, Assessment of impacts and effects, Permanent effects, Open space and PRow. There is no mention of the impact on moorings in this area. The impact on third party operated long term moorings should be discussed with the operator.</p> <p>6.4 Effects arising during construction, Cumulative effects. There are three significant interfaces with the Trent & Mersey Canal in close proximity to one another. The cumulative effect of these should be considered.</p> <p>6.5 Effects arising from operation, Assessment of impacts and effects. Please see our comments in the Sound, noise and vibration section.</p> <p>6.5 Effects arising from operation, Cumulative effects. There are three significant interfaces with the Trent & Mersey Canal in close proximity to one another. The cumulative effect of these should be considered.</p> <p>Please also see our general comments.</p>
<p>7. Ecology and biodiversity</p>	<p>7.3 Environmental baseline, Existing baseline, Habitats, Hedgerows, Paragraph 7.3.12. Hedgerow significance should include the fact they contain ground flora features indicative of ancient woodland.</p> <p>7.4 Effects arising during construction, Assessment of impacts and effects, Habitats, Hedgerows. There will be hedgerow loss under the canal crossings. There is potential for the canal corridor to be a site of hedgerow gap filling/laying to mitigate for the overall loss of integrity to the hedgerow network in the area (both within and outside bill limits – with our consent as landowner). The Trust would be happy to discuss this with HS2, along with HS2 funding for future maintenance. Please also see our comments on Landscape and visual matters.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-308b and CT-06-308b (Grid F1, G1, G2, H2, I2, J2) CT-05-309-L1 and CT-06-309-L1 (Grid A9, A8, B8, B7, B6, C6, D6, E6, F6, F7, G7, H7) shows Woodland habitat creation adjacent to the canal. The shading associated with this could reduce the marginal reed fringe habitat of the canal (recognised in 7.4 Effects arising during construction, Assessment of impacts and effects, Designated Sites Paragraph 7.4.9 and Summary of likely residual significant effects, Table 13: Residual significant effects on ecological resources/features during construction). It could also affect known Water Vole populations which are not recognised in 7.4 Effects arising during construction, Assessment of impacts and effects, Species, Water Vole paragraph 7.4.24. Due to the location of the woodland</p>

	<p>habitat creation next to the canal edge the Trust does not agree with 7.5 Effects arising during operation, Summary of likely residual significant effects, Table 14: Residual significant effects on ecological resources/features during operation. We consider that the impact on the marginal fringe vegetation and water voles should be recognised here. Given our concerns and the Trust's comments in the Overview and Landscape and visual sections, the Trust considers that the location/design of the woodland habitat creation should be reconsidered. This review should consider all the issues raised by the Trust about this planting. The location and detailed design of the woodland habitat creation needs to take into account the effect on the ecology of the canal. It should also take advantage of the opportunities that the canal presents to provide connected habitats.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-06-312 (Grid C5 – E3) shows a significant area of wetland habitat creation in the canal. To enable the Trust to comment on the appropriateness of this, we require HS2 to explain this proposal and its wider context. This should include the impact of the HS2 proposal on the existing woodland and the proposed woodland habitat creation.</p>
8 Health	Please see our general comments.
9 Historic environment	<p>9.4 Effects arising during construction. Avoidance and mitigation measures. Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-313 (Grid B5). There is a Grade II listed milestone located at the rear of the towpath. The Trust is concerned that this could be damaged or lost as works to construct HS2 progress. The Trust require HS2 to provide appropriate protection for this listed structure.</p> <p>9.4 Effects arising during construction, Assessment of impacts and effects, Permanent effects, Paragraph 9.4.14. We note the inclusion of the Shropshire Union (Middlewich Branch) Canal Hughes Bridge in this section and the view that the proposal would constitute a medium adverse impact and result in a moderate adverse significant effect. Please see our comments on Landscape and visual.</p>
11 Landscape and visual	<p><u>Shropshire Union (Middlewich Branch).</u></p> <p>Our ability to consider the impact of the Rolling Stock Depot is impeded by the lack of detailed information available, particularly in relation to the location of the buildings and their heights.</p> <p>11.3 Environmental baseline, Existing baseline, Landscape baseline Table 22: Summary of significantly affected LCAs, Winsford and Middlewich Fringe Farmland East Lowland Plain. This states that field boundaries have mostly “well managed boundary hedges and mature hedgerow trees”. The Trust does not consider this to be the case in the field to the south of the canal, which typically has simple wire fencing, and remnant hedgerow trees (see Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-310 and CT-06-310 Grid D6, E6, D7, E7, D8 and E8).</p>

	<p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number LV-03-308 and LV-04-308. VP 307-03-010 (Photomontage location). The curvature of the canal line here prevents a clear appreciation of the proposed HS2 structure from the proposed viewpoint. We request that this is made a “significantly affected viewpoint” and VP308-03-001 is amended to be the Photomontage location.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-310 and CT-06-310. The Shropshire Union Canal underbridges are a pair of crossings in close proximity to one another. The Trust require HS2 to work with us to deliver an appropriate detailed design. This should, not exclusively, include the relationship of the abutments of both crossings to the canal and the views out into the space on the non-towpath side between the crossings. Embankments severing the towpath or entering the waterspace will not be acceptable. A detailed design solution is required to address this unique crossing situation. This should reflect the overarching principles for HS2 canal crossings agreed on HS2 Phase 1.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-310 and CT-06-310. The Shropshire Union Canal underbridges are a pair of crossings in close proximity to one another. The existing towpath hedge line is raised from the towpath and restricts views to the north. The retention and maintenance of the hedge line, outside of the crossings, is critical to providing a degree of protection to the towpath side and the canal character, amid the significant adverse impact of the paired HS2 Crossing. Please also see comments on Ecology and biodiversity.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-310 and CT-06-310 (Grid D6, D7, E7, D8, E8, D9 and E9). The proposed woodland habitat creation planting would significantly change the landscape character however this is not assessed within the Community Area Report. It is noted that this is not landscape mitigation planting. The Trust recognise that there is a balance to be struck between any harm to the landscape of creating woodland and the benefits of screening and absorbing the HS2 works into the landscape. In this location, it is suggested that Landscape mitigation planting is required adjacent to the HS2 Infrastructure in Grid D6. From a landscape perspective, in order to preserve the open landscape character, the fields adjacent to the canal to the east of Grid D6 should not be given over to woodland habitat creation.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-310 and CT-06-310 (Grid D5 – to both the north and south of the canal). The Trust recognise that there is a balance to be struck between any harm to the landscape of creating woodland and the benefits of screening and absorbing the HS2 works into the landscape. In this location, it is suggested that Landscape mitigation planting is required adjacent to the HS2 Infrastructure. To the north of the canal the proposed Landscape mitigation planting should be extended. To the south it is suggested that from a landscape perspective the balancing pond should be moved south and Landscape mitigation planting proposed, whilst avoiding impact on the structural integrity and ecology of the canal.</p>
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	<p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-310 and CT-06-310 (Grid D6 southwards, Grid E6 northwards). The restoration, treatment and land use of the strip of land between the two HS2 tracks adjacent to canal will be critical. Currently it is unclear how HS2 propose to treat this space and canal edge (including HS2 security arrangements). Clarity on the landscape treatment is required and the Trust require discussions with HS2 on this.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-308b and CT-06-308b (Grid F1, G1, G2, H2, I2, J2) CT-05-309-L1 and CT-06-309-L1 (Grid A9, A8, B8, B7, B6, C6, D6, E6, F6, F7, G7, H7) shows Woodland habitat creation adjacent to the canal. The location of the woodland habitat creation is of concern to the Trust. It requires a more fragmented approach if it is to reflect the landscape character of the area. Given our concerns and the Trust's comments in the Overview and Ecology and biodiversity sections, the Trust considers that the location/design of the woodland habitat creation should be reconsidered. This should take account of all the issues raised by the Trust. The location of the woodland habitat creation should consider supplementing the existing woodland framework, providing a link to the canal and the new habitat proposed adjacent to the West Coast Main Line.</p> <p><u>Trent & Mersey Canal – River Dane Viaduct area.</u></p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number LV-03-309 and LV-04-309. Viewpoint 309-03-05. The canal crossing is not visible from the viewpoint indicated (Grid E5) due to the bends in canal, the topography and woodland. It is therefore not a significantly affected view. This viewpoint should be relocated to the top right-hand corner of Grid E6.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number LV-03-309 and LV-04-309. The impact of the removal of vegetation for the River Dane Viaduct would substantially change the character of the canal corridor. Considerable attention should be given to ensuring the retention of significant vegetation, to retain the landscape character, filter views and to frame the immediate HS2 crossing of the canal.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number LV-03-309 and LV-04-309. Views of the River Dane Viaduct as it crosses the canal will have a significant impact on the canal corridor. It will be important to identify and retain key trees (mature and establishing) that frame the narrow view along the canal corridor and that will frame the crossing point. Please see our comments in the Overview section requesting a detailed appraisal of this area.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number LV-03-309 and LV-04-309 Grid F8. Views out to the Dane Valley from the canal and in the future to the River Dane Viaduct are currently filtered by the towpath hedgerow. Please see our comments on Ecology and biodiversity regarding hedgerow management. A key framed view point of the viaduct from the canal corridor should be formed to present a fine view of the future viaduct</p>
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	<p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-312 and CT-06-312 show areas of land adjacent to the canal at the River Dane Viaduct crossing being land potentially taken during construction and for woodland habitat creation in the proposed scheme. Please see our comments in the Overview section requesting a detailed appraisal of this area. The Trust require HS2 to explain the extent to which the construction works threaten the wooded canal corridor which is critical to the local canal character.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-312 and CT-06-312 (Grid C5). Where the River Dane Viaduct crosses the Trent & Mersey Canal the detailed siting and design of the piers and the crossing itself need to be developed to ensure that it is an appropriate response to the canal environment. The crossing shall be in general accordance with the Trust's overarching principles for HS2 canal crossings agreed on HS2 Phase 1, reflecting that this is a special crossing.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-312 and CT-06-312 (Grid C5). There will be loss of vegetation around the River Dane Viaduct crossing of the canal, especially to the embankment on the non-towpath side. A detailed landscape solution is required to promote woodland groundcover recovery below the line of viaduct and promote woodland restoration along the rail line.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-312 and CT-06-312 (Grid C5). When developing the design of the River Dane Viaduct, consideration should be given to the acute views of the structure when viewed from the canal crossing point southwards.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-312 and CT-06-312 (Grid D5). A sensitive elegant design is required to minimise the visual impact on the canal of the embankment/bank seat on the non-towpath side of the canal. This should reflect the character and materiality of the local landscape.</p> <p><u>Trent & Mersey Canal - Puddinglake Brook Viaduct area.</u></p> <p>11.4 Temporary effects arising during construction, Visual assessment, Table 24: Construction phase potentially significant visual effects, notes in relation to VP 310-03-002 and 310-03-003 that “Users of the canal corridor would have mainly channelled views, limited by towpath boundary hedges and vegetation”. It is therefore critically important to retain and supplement the landscape structure, the wooded fringe and hedgerows, retaining the existing landscape character. Minimise tree and hedgerow loss through construction, and restore and supplement existing vegetation as appropriate.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number LV-03-310 and LV-04-310. Location 310-03-002 does not pick up the significance of the impact on the canal. Amend the viewpoint location to the east to pick up the crossing of the canal.</p>
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	<p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-313 and CT-06-313. The site of the Puddinglake Brook Viaduct Satellite Compound appears to be unrestored within the proposed scheme. An appropriate landscape mitigation scheme is required.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-313 and CT-06-313. The existing non-towpath side canal vegetation will provide some screening of the Satellite Compound. It should be retained, managed and supplemented, as required, to ensure a robust buffer is maintained.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-313 and CT-06-313 (Grid B6). The towpath hedgerow is critical to the local landscape character and the screening of HS2 to the north from canal and should be retained on either side of the crossing. The extent of the land potentially required for construction extends beyond the area of landscape mitigation planting (scrub/woodland) proposed. The landscape mitigation planting (scrub/woodland) should be extended to reflect the land potentially required for construction to the north west of the towpath.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-313 and CT-06-313 (Grid B6). The viaduct abutment design and siting to the north of the towpath will be critical. An appropriate site sensitive design to the viaduct abutment to the rear of the towpath is required.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-313 and CT-06-313 (Grid A5). A relatively small area of land is required for construction to the south of canal which is welcomed. An appropriate restoration scheme is required post construction.</p> <p><u>Trent & Mersey Canal Trent and Mersey Canal Underbridge area.</u></p> <p>11.3 Environmental baseline, Existing baseline, Landscape baseline, Table 22: Summary of significantly affected LCAs advises that “This contour canal adds a strong sense of place and continuity to the landscape historically takes a sinuous route”. The openness of the landscape around Whatcroft Flash is adversely impacted by the proposed embankment, adversely affecting the character of the canal corridor and the line of navigation. In accordance with the Trust's HS2 Bridge Design Principles a viaduct should replace the proposed embankment to open up views of the landscape, extending from south of the Sandbach to Northwich Rail Line to the crest of the shallow valley adjacent to Higgins Lane Farm. A bespoke crossing design is required to respond to the special landscape setting. Care will need to be taken to develop an appropriate pier and span over the canal and flash.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-313 and CT-06-313. The Trust is concerned by the visual impact of the Trent & Mersey Canal Underbridge Satellite Compound from the adjacent canal corridor. To screen the compound, it should be set back adequately from the canal edge to retain the robust existing vegetation fringe to the canal. The wooded canal fringe between the compound site</p>
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	<p>and Oakwood Marina (Grid E4) should be retained and supplemented. This area should not be used for wetland habitat creation. The Trust's request for a viaduct crossing in this location would potentially release land for wetland habitat creation around the viaduct.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-06-313 (Grid D6, D5, E5 and E4). The wooded fringe to the canal should be retained and not replaced with wetland habitat creation.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-06-313. The landscape character created by subsidence is typical of the local canal character on the non-towpath side (e.g. Grid D7). Local topography should be retained with appropriate restoration treatment.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-06-313. This is an open landscape, the proposal for a wooded belt along both sides of the HS2 line north of canal (from Grid D5, E5, F5 and G5) creates an unnecessary and unwelcome division and separation in the local landscape. The wooded belts to the rail line should be removed and restored to an appropriate grassland character.</p>
<p>12 Socio-economics</p>	<p>There are boating businesses operating within land potentially required during construction and for the proposed scheme and within 250m from the edge of the proposed scheme. The operational noise contour map suggests other boating business beyond 250m will fall within an area of potential noise effect. This matter should be discussed with the owner and/or operator of all these moorings. Please also see our general comments on businesses that the waterway corridor supports.</p>
<p>13 Sound, noise and vibration</p>	<p>Notwithstanding HS2's general approach to noise in respect of moorings, public rights of way and open spaces as set out the Scope and Methodology Report for Phase 2b and also in the noise chapter, the principle of providing a degree of noise mitigation for all canal crossings was established in HS2 Phase 1. The Trust therefore wish to discuss, with HS2, how noise mitigation for canal corridor users will be provided in Phase 2b given the different scenarios that it presents, such as parallel running of the HS2 track with the waterway. This includes the presence and operation of the RSD.</p> <p>We note that there are third party owned and managed moorings in the area. This matter should also be discussed with the owner and/or operator of those moorings.</p>
<p>14 Traffic and transport</p>	<p>14.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects, Accidents and safety. Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-310 (Grid B3). A Trust owned public road bridge is shown as carrying a proposed HS2 construction traffic route. This bridge is on the diversion route for high side vehicles avoiding Stanthorne Aqueduct and is already very busy with HGV's. The road is narrow and there are steep approaches to the bridge with no clear visibility of vehicles approaching in the other direction. In addition to this, some longer vehicles ground when crossing the bridge which</p>

	<p>can cause damage to the barrel of the arch. The Trust require discussions with HS2 over the use of this bridge as its capacity needs further assessment. The Trust will require measures, to control the increased traffic over the bridge, to be installed to prevent damage to bridge parapets or other damage. This may include traffic lights and a re-profiling of the approach slopes to reduce the risk of vehicles grounding. The Trust may require cameras to be installed on the bridge to record any vehicular impacts.</p> <p>14.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects, Accidents and safety. Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-05-310 (Grid B10). This shows a construction traffic route heading north east along Nantwich Road (towards Middlewich) from Clive Green Lane. On the edge of Middlewich, the road passes under the canal, the canal being carried by the Trust owned Stanthorne Aqueduct which is a Grade II listed structure. This aqueduct has a height restriction and suffers from regular vehicle strikes from HGV's, including HGV's getting stuck under the structure. The Trust require HS2 to limit construction traffic or diverted traffic to vehicles with a low vehicle height to reduce the likelihood of vehicle strikes. The Trust may require cameras to be installed here to record any vehicular impacts.</p> <p>14.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects, Non-Motorised Users. Paragraph 14.4.22 refers to Stanthorne Footpath 3, south of Yew Tree Farm being temporarily closed. The towpath carries the footpath and the NCN route 5 in this location. The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with pedestrian access to and along the Canal towpath. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers.</p> <p>14.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects, Waterways and canals. Paragraph 14.4.25 advises that "it is currently expected that the construction of the Proposed Scheme could have impacts upon users of the Shropshire Union Canal (Middlewich Branch) and the Trent and Mersey Canal and their towpaths in the Wimboldsley to Lostock Gralam area. The assessment of these will be reported in the formal ES". The Trust requires any works to be carried out in such a manner as to cause as little interference as may be reasonably practicable with the passage of vessels using the Canal and pedestrian access to and along the Canal towpath. Where it is not reasonably practical to avoid such interference, the Trust will require agreement with HS2 over the nature and timing of any restrictions on the use of our network by our customers.</p>
<p>15 Water resources and flood risk</p>	<p>15.3 Environmental baseline, Existing baseline - Water resources and WFD, Abstractions and permitted discharges (surface water). There may be abstractions from the canal in this area. Please liaise with the Trust.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-06-312 (Grid D5), shows a balancing pond with discharge to the Shropshire Union Canal (Middlewich Branch). The Trust requires that its consent is obtained for any discharge to the canal, to protect the canal from flooding, structural damage,</p>

	<p>environmental degradation and to ensure navigational safety. It cannot be assumed that the canal has the capacity to accommodate such discharge. A canal breach recently occurred on this section of canal.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-06-312 (Grid D5, D6 and E6), shows surface water discharge to the Shropshire Union Canal (Middlewich Branch) on both the towpath and non-towpath side. The Trust requires that its consent is obtained for any discharge to the canal, to protect the canal from flooding, structural damage, environmental degradation and to ensure navigational safety. It cannot be assumed that the canal has the capacity to accommodate such discharge. A canal breach recently occurred on this section of canal. We note that there is a Trust owned culvert in Grid D5. If water is to pass through this culvert, HS2 should ensure that it has sufficient capacity for any additional flows and consider the acquisition of the Trust owned culvert.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-06-312 (Grid B3), shows a balancing pond and surface water discharge to the Shropshire Union Canal (Middlewich Branch). The Trust requires that its consent is obtained for any discharge to the canal, to protect the canal from flooding, structural damage, environmental degradation and to ensure navigational safety. It cannot be assumed that the canal has the capacity to accommodate such discharge. A canal breach recently occurred on this section of canal.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-06-312 (Grid D6), shows a balancing pond with discharge to the Trent & Mersey Canal. The Trust requires that its consent is obtained for any discharge to the canal, to protect the canal from flooding, structural damage, environmental degradation and to ensure navigational safety. It cannot be assumed that the canal has the capacity to accommodate such discharge.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-06-312 (Grid F5), shows a balancing pond with discharge to a brook which appears to discharge into the Trent & Mersey Canal. The impact of downstream flooding needs to be considered and discussed with the Trust. It cannot be assumed that the canal has the capacity to accommodate such discharge.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-06-313 (Grid B6), appears to show drainage at the toe of the railway embankment discharging to the Trent & Mersey Canal. The Trust requires that its consent is obtained for any discharge to the canal, to protect the canal from flooding, structural damage, environmental degradation and to ensure navigational safety. It cannot be assumed that the canal has the capacity to accommodate such discharge.</p> <p>Volume 2: Community Area Mapbook MA02 Wimboldsley to Lostock Gralam Map Number CT-06-313 (Grid E5), shows a balancing pond with discharge to the Trent & Mersey Canal. The Trust requires that its consent is obtained for any discharge to the canal, to protect the canal from flooding, structural damage, environmental</p>
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	degradation and to ensure navigational safety. It cannot be assumed that the canal has the capacity to accommodate such discharge.
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Community Area Report MA05 Risley to Bamfurlong and associated Map Book.

Chapter	Comment
2. Overview of the area and description of the Proposed Scheme	<p>Volume 2: Community Area Mapbook Risley to Bamfurlong Map Number CT-05-334 indicates that approximately 25m of the Leeds & Liverpool Canal Leigh Branch will be land potentially required during the construction phase. The Trust has the following objections to the proposed disruption: 1. The closure of the canal would have an unacceptable impact on our customer's ability to make use of the navigable waterway (which includes the towpath); and 2. The proposed acquisition of the Trust's land is not justified as the adequate and practical planning of construction operations could remove the need for acquisition of the waterway. It appears that the canal itself may not be required as the works are to the railway oversailing the canal. The Trust seeks confirmation, from HS2, regarding this matter.</p> <p>Recreation, Leisure and Open space. Paragraph 2.1.22 should recognise that the navigation can be used for leisure craft and other water related activities. The canal is also used for fishing.</p>
6 Community	<p>6.3 Environmental baseline, Lowton, Golborne and surrounds and Bamfurlong and surrounds. This should recognise the that the navigation can be used for leisure craft and other water related activities. There is walking and cycling on the towpath and there is also fishing.</p> <p>Please also see our general comments.</p>
8. Health	Please see our general comments.
9 Historic Environment	9.4 Effects arising during construction, Assessment of impacts and effects, Permanent effects. Paragraph 9.4.8 refers to remains of the Edge Green Colliery railway and sidings. It states that "the Proposed Scheme would require the removal of a substantial portion of the remains affecting its legibility as a siding that connected the colliery with a basin at the Leeds and Liverpool Canal". Appropriate heritage recording should occur.
11 Landscape and visual	Volume 2: Community Area Mapbook Risley to Bamfurlong Map Number LV-02-327. The Canal appears to be within "Hey Brook and Aspull Common Undulating Enclosed Farmland and Flashes LCA" although this is not clearly labelled on LV-02-327. The canal forms the northern edge of the LCA, which suggests the canal is not

	<p>considered central to the landscape character, and may be undervalued. Ensure that the special character of the canal corridor is correctly assessed through the LVIA process.</p> <p>Volume 2: Community Area Mapbook Risley to Bamfurlong Map Number LV-03-328 and LV-04-328. We note that viewpoint 327-03-005 is located on the towpath on maps LV-03-327 and LV-04-327. The HS2 line however runs parallel with the canal over a few km's although this is mostly at some distance. There is no significantly affected view identified from the canal corridor on maps LV-03-328 and LV-04-328, although there are other viewpoints identified nearby. Given the recreational use of the canal corridor, it would be appropriate to assess the impact of the proposed HS2 works on the canal corridor and canal corridor users. An additional significantly affected viewpoint is required in Grid F7.</p> <p>Volume 2: Community Area Mapbook Risley to Bamfurlong Map Number CT-05-333 and CT-06-333. The proposed alignment of the HS2 route (and its associated infrastructure), to the south of the Leeds & Liverpool Canal will be visible on higher ground. The existing woodland is fragmented and does not provide adequate screening. An appropriate landscape scheme should be prepared to reflect the local field pattern etc, and provide an enhanced and sustainable landscape buffer between the HS2 line and Leeds & Liverpool Canal recreational corridor. This should also take account of the ecological value of the area.</p> <p>Volume 2: Community Area Mapbook Risley to Bamfurlong Map Number CT-05-333 and CT-06-333. The "Pennington Satellite Compound" will have a significant visual impact upon the Leeds and Liverpool Canal. Early implementation of appropriate planting, which respects the ecological value of the area, is required to create a buffer between the canal and the compound.</p>
12 Socio-Economics	Please also see our general comments on businesses that the waterway corridor supports.
13 Sound, noise and vibration	Notwithstanding HS2's general approach to noise in respect of moorings, public rights of way and open spaces as set out the Scope and Methodology Report for Phase 2b and also in the noise chapter, the principle of providing a degree of noise mitigation for all canal crossings was established in HS2 Phase 1. The Trust therefore wish to discuss, with HS2, how noise mitigation for canal corridor users will be provided in Phase 2b given the different scenarios that it presents, such as parallel running of the HS2 track with the waterway.
14 Traffic and transport	14.3 Environmental baseline, Existing baseline, Waterways and canals. Paragraph 14.3.15 states that "It is not currently expected that the Proposed Scheme would have a significant effect upon navigable waterways or canals in the Risley to Bamfurlong area. Consequently, this topic is not considered further in this assessment". The Trust require confirmation of the works proposed in Volume 2: Community Area Mapbook Risley to Bamfurlong Map Number CT-05-334 (Grid D5) in relation to this statement.

15 Water resources and flood risk	<p>15.3 Environmental baseline, Existing baseline - Water resources and WFD, Abstractions and permitted discharges (surface water). There may be abstractions from the canal in this area. Please liaise with the Trust.</p> <p>Volume 2: Community Area Mapbook Risley to Bamfurlong Map Number CT-05-334 (Grid D5). There is a culvert at the railway crossing GR: 359876 402141. The ownership and responsibility for this culvert needs to be determined.</p>
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Community Area Report LA08 Manchester Piccadilly Station and associated Map Book.

Chapter	Comment
2. Overview of the area and description of the Proposed Scheme	<p>There is inconsistency between Volume 2: Community Area Mapbook MA08 Manchester Piccadilly Station Map Number CT-05-365b (Grid I6) and LV-03-342 (Grid F3) in terms of the location of a construction compound. The Trust seeks confirmation of the proposal in this area. Our comments are currently made on the basis that the information on Map Number CT-05-365b is correct. The proximity of the Ashton Canal and Ducie Basin to the compound shown on LV-03-342 (Grid F3) would lead to additional comments being made by the Trust, here and in other sections.</p>
6 Community	<p>Please see our general comments.</p>
8 Health	<p>Please see our general comments.</p>
9 Historic Environment	<p>9.4 Effects arising during construction, Assessment of impacts and effects, Permanent effects. Paragraph 9.4.16 refers to the archaeological remains of the Rochdale Canal Arm, Bank Top Coal Wharf and the site of a canal warehouse all being impacted by the construction of Manchester Piccadilly High Speed station main compound. Appropriate heritage recording should occur for all features.</p>
11 Landscape and visual	<p>Volume 2: Community Area Mapbook MA08 Manchester Piccadilly Station Map LV-02-327 and 11.3 Environmental baseline, Existing baseline, Landscape baseline, Paragraph 11.3.8, Table 16: Summary of Significantly Affected LCAs. The Canal is located at the southern edge of the City Centre East Historic Commercial Grain LCA, just beyond the northern boundary of the Piccadilly Station and Surrounds LCA. The City Centre East Historic Commercial Grain LCA is not identified as being significantly affected. This indicates the absence of connection to the canal from the station wide regeneration works.</p>

	<p>Volume 2: Community Area Mapbook MA08 Manchester Piccadilly Station Map LV-02-327 and 11.3 Environmental baseline, Existing baseline, Landscape baseline, Paragraph 11.3.8, Table 16: Summary of Significantly Affected LCAs. The Piccadilly Station and Surrounds LCA includes a small section of the Ashton Canal (Ducie Basin). Although it is noted that the Cheshire Ring Canal Walk passes through this section, the route is not actually available under Ducie Street and a detour is required. The Basin is still part of the Cheshire Ring navigable network. The Ducie Basin will be significantly impacted by the proposed station.</p> <p>Volume 2: Community Area Mapbook MA08 Manchester Piccadilly Station Map LV-03-342 and LV-04-342. Ensure that the photomontage 342-02-13 is from the Basin, considering the context for waterway users.</p> <p>Volume 2: Community Area Mapbook MA08 Manchester Piccadilly Station Map Number CT-05-365b and CT-06-365b. The station scheme has a limited connection to the wider City. As drawn the station scheme retains Gateway House in Grid I5. The space between the station and Ducie Street will be critical to knitting the station successfully into the City. The flow of pedestrians between the station and the city does not appear to be addressed, nor does the plan reflect the 2013 HS2 Manchester Piccadilly SRF (Bennetts Associates). Please also see our comments in the “Do you have any other comments?” section below.</p>
12 Socio-Economics	Please also see our general comments on businesses that the waterway corridor supports.
14 Traffic and transport	14.4 Effects arising during construction, Assessment of impacts and effects, Temporary effects, Accidents and Safety. Volume 2: Community Area Mapbook MA08 Manchester Piccadilly Station Map Number CT-05-365b (Grid H7). A construction route is proposed under Store Street Aqueduct. This is a Grade II* structure with a 4.6m height restriction. Due to this height restriction, this route is not suitable for high sided vehicles. The Trust require restrictions on the vehicles that can use Store Street as an access or diversion route, and a review to determine if extra warning signage and impact protection beams should be provided or are appropriate given the heritage status of the structure.
15 Water resources and flooding	15.3 Environmental baseline, Existing baseline - Water resources and WFD, Abstractions and permitted discharges (surface water). There may be abstractions from the canal in this area. Please liaise with the Trust.

Community Area report MML01: Danesmoor to Brierley Bridge

Consideration should be given to the impact of any works on the Chesterfield Canal.

Community Area report MML02: Unstone Green to Sheffield Station

The Sheffield and Tinsley Canal terminates at Victoria Quays to the north of the Sheffield Station. A railway lines also crosses the canal. The Trust is keen to understand more about the extent of the work required around Sheffield Station and the impact, if any, on our assets.

Volume 3: Route-wide effects.

Chapter	Comment
6 Ecology and biodiversity	<p>6.4 Habitats. Paragraph 6.4.3. Subject to assessment, the canal network could be considered as a suitable receptor site for ancient woodland soil. Land alongside the canal, within the ownership of the Trust, could provide a link to or are adjacent to ancient woodland fragments.</p> <p>6.4 Habitats. Paragraph 6.4.5. There is potential for the canal corridor to be a site of hedgerow gap filling/laying to mitigate for the overall loss of integrity to the hedgerow network in the area (both within and outside bill limits – with our consent as landowner). The trust would be happy to discuss this with HS2, along with HS2 funding for future maintenance.</p> <p>6.4 Habitats. Paragraph 6.4.6. This paragraph advises that “The design of the Proposed Scheme includes viaducts across the main watercourses, which would reduce effects both by reducing habitat loss during construction and by maintaining links across the scheme for relevant species”. The impact of skewed crossings (or tunnels) across the waterways, creating shading, should be considered here.</p> <p>6.5 Species. Paragraph 6.5.1. The impact of large viaduct crossings of the canal network could affect the ability of water voles to increase their range.</p> <p>General comment: The creation of a new linear feature could result in the increased ease of spread of invasive non-native species, such as Japanese Knotweed, which is very prevalent along the existing rail network. If un-managed this could result in a route wide negative impact upon biodiversity, including the biodiversity of the canal network.</p>
7 Health	<p>7.4 Avoidance and mitigation measures. Paragraph 7.4.4. The Trust, as a landowner, wish to be included in relevant discussions.</p> <p>7.5 Assessment of effects during construction. Transport effects. Traveller stress. Paragraph 7.5.8. Journeys made along the canal network by non-motorised and motorised users should be considered too. In 2017/18 128 million visits/uses were made to/of our waterways where “used to get somewhere else” was cited as a reason.</p>

	<p>Due to the nature of the waterway network diversion routes for navigation are often lengthy or impossible. Closure of the canal network could also lead to holidaymakers having a less positive experience.</p> <p>7.5 Assessment of effects during construction. Transport effects. Road safety. With investment, the canal network could provide a viable alternative route for walkers and cyclists wishing to avoid road routes impacted by HS2 related HGV movements.</p>
<p>8 Historic environment</p>	<p>8.3 Assessment of effects during construction. Paragraph 8.3.2. It should be noted that certain canal-based conservation areas are impacted in multiple locations by HS2 works and structures.</p> <p>8.3 Assessment of effects during construction. Paragraph 8.3.3. The impact on waterways where they are non-designated heritage assets should be considered here.</p>
<p>11 Major accidents and disasters</p>	<p>11.4 Environmental baseline. Baseline features that contribute a potential source of hazard. Paragraph 11.4.3. The canal network and associated infrastructure should be considered as a potential source of hazard both during the construction and operation of HS2. Several of the HS2 canal interfaces are in close proximity to canal embankments that could potentially fail (including HS2 induced failure) and cause major flooding of the railway structures and earth structures, construction sites, resulting in loss of life and damage to property. Similarly, a failure of a canal culvert could result in similar impacts during both the construction and operational phase.</p> <p>HS2 should consider undertaking flood risk modelling in the vicinity of the canal network to assess the potential impact of a catastrophic failure of a canal embankment, culvert, reservoir or other feature resulting in the significant/immediate loss of water from the canal, on the safety of the railway.</p>
<p>14 Traffic and transport</p>	<p>14.5 Assessment of the effects of construction. Paragraph 14.5.2. The use of navigations, which are principally available for the carriage of commercial freight, such as the Aire and Calder Navigation and the Sheffield and South Yorkshire Navigation, should be considered by HS2 for the movement of bulky plant (for example tunnel boring machines) and mass import/export of soils and aggregates. This could have a positive impact on reducing road vehicle movements. We welcome the inclusion of reference to water transport for the movement of materials and waste in bulk in the Code of Construction Practice, 14.2 Measures to reduce potential transport impacts during Construction, Paragraph 14.2.3.</p>
<p>15 Waste and material resources</p>	<p>15.1 Introduction. General. Paragraph 15.1.4. Excavated materials not required or that is not suitable for the construction of the proposed scheme could be directed to support potential canal diversion, repair and restoration activities.</p> <p>15.1 Introduction. General. Paragraph 15.1.17. Canal diversion, repair and restoration projects should be listed here.</p>

Volume 4: Off-Route effects

Section	Area	Comment
3. Off-route railway stations	Preston Station	The Trust would like to understand that extent of works and the tracks affected to determine if there is a potential impact upon our network.
	York Station	The Canal & River Trust is the navigation authority for the River Ouse in this location. Any works should ensure that they do not impact on navigational safety.
4. Off-route depots	York Area	The Canal & River Trust is the navigation authority for the River Ouse in this location. Please engage with us as part of your assessment process.
5. Modifications to the conventional railway network	Western leg: Lily Lane to South Preston	May have interactions with Leeds & Liverpool Canal and a feeder channel for that waterway.
	Eastern Leg: Sheffield loop – North of Sheffield to Clayton Junction	May have interactions with the Sheffield & South Yorkshire navigation and the aspirations of the Barnsley, Dearne & Dove Canals Trust for the restoration of (included the amended route of) the Barnsley, Dearne & Dove Canals.
	Eastern Leg: York Station to Skelton Bridge Junction	The Canal & River Trust is the navigation authority for the River Ouse in this location. Any works should ensure that they do not impact upon navigational safety.
	Eastern Leg: Northallerton to Newcastle	The location or locations of these works are not yet known. It is not known if they would have an impact upon the navigable section of the River Tees where the Canal & River Trust is the navigation authority. Any works should ensure that they do not impact upon navigational safety.

Supporting documents

Draft Code of Construction Practice.

Chapter	Comment
3 Policy and environmental management principles	Paragraph 3.3.1 – The Canal & River Trust (the Trust) is a Statutory Body and we would like to see the Trust identified throughout the CoCP as such a body.

Canal & River Trust Response to HS2 Phase 2b Working Draft Environmental Statement 2018

4 Implementation	Paragraph 4.4.1 – please add “..and cultural heritage..” after “..the environmental..”. The Trust would like to see Advance Environmental Mitigation added to the minimum list of method statement activities.
5 General requirements	<p>Paragraph 5.1.4 – the Trust require that bespoke arrangements are agreed for the advance notice of works affecting the Trust.</p> <p>Paragraph 5.2.11 – Emergency works will be notified to the relevant local authority as soon as practicably possible. The Trust’s commitments to its customers should make it necessary for the Trust to be notified of such an event within the area of a waterway owned and managed by the Trust, and as such we seek to be included in this text.</p> <p>Paragraph 5.6.2 – The Trust would expect to be consulted on the design of any hoarding on or adjacent to its property.</p> <p>Paragraphs 5.12.2 & 5.12.3 – We would like The Canal & River Trust to be specifically mentioned here along with the Environment Agency due to the proximity of our canals to the proposed worksites.</p>
8 Cultural heritage/historic environment	Paragraph 8.1.3 – The Trust has the third largest estate of heritage assets, and so it would be expected that the Trust should be allowed the opportunity to input on the GWI process.
9 Ecology	Paragraph 9.2.4 – Prior to and during construction, consultation will be made with Natural England, EA, local Wildlife Trusts and relevant planning authorities. The Trust requests that it should be invited to these consultations.
14 Traffic and transport	<p>Paragraph 14.2.3 – Alternatives to road transport to include rail and water transport. We welcome the recognition of water transport.</p> <p>Paragraph 14.3.1 – we would like to talk to HS2 and its construction contractors about the opportunities for using the Trust’s network of towpaths as part of a sustainable workforce travel plan.</p>

Do you have any other comments?

Regeneration Opportunities around HS2

Manchester Piccadilly

Positive towpath use through Manchester is adversely affected by the disconnected towpath route at the junction of the Rochdale Canal and Ashton Canal, and further adversely impacted by the paucity of the gateway to the canal from Dale Street (Volume 2: Community Area Mapbook MA08 Manchester Piccadilly Station Map Number CT-05-365b and CT-06-365b Grid I7 and J6 respectively). The canal is in a tunnel in Grid J6. Through transformational city making around the HS2 Piccadilly Station the opportunity exists to uncover the Rochdale Canal. This would enhance the City placemaking around the Station by strengthening the connection to the heritage of the Manchester, unlock the health and wellbeing potential of the canal to the Station Plaza, improve the wider towpath use in the City, and begin to reclaim the Rochdale Canal from antisocial use. Whilst we recognise that this is not within the remit of the HS2 scheme per se, we consider that it is critical that this is part of the wider discussions about the regeneration opportunities that bringing HS2 to Manchester can deliver.

Sheffield

The Sheffield and Tinsley Canal terminates at Victoria Quays to the north of the Sheffield Station. Whilst we recognise that this is not within the remit of the HS2 scheme per se, we consider that wider discussions about the regeneration opportunities associated with HS2 should include consideration of Victoria Quays and the canal.