BANWELL BYPASS

Environmental Statement

HIF Banwell Bypass and Highways Improvements Project

Environmental Statement Chapter 17 - Conclusion

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17.1 Introduction

17.1.1 This Environmental Statement (ES) has reported on the Environmental Impact Assessment (EIA) undertaken for the Scheme and has been carried out in accordance with current legislation, guidance and policy.

17.1.2 The ES has highlighted adverse and beneficial effects associated with the Scheme under a number of environmental topic headings and also described how any adverse impacts could be avoided, mitigated or compensated.

17.1.3 Significant environmental effects due to the Scheme are summarised below and provided in detail at the end (Section 12) of each environmental topic chapter (ES Volume 1 - Chapters 5 to 14).

17.1.4 The cumulative 'in-combination' effects of the following topics with one another have been considered, where relevant, on specific locations: air quality, noise and vibration, visual, biodiversity and flooding impacts. In addition, the cumulative effects of the Scheme together with other nearby developments have been considered. ES Volume 1 – Chapter 15 – Cumulative Effects, discusses these findings in more detail.

17.1.5 Any assumptions or limitations with the assessment process have been identified within the individual environmental topic chapters (ES Volume 1 – Chapters 5 to 14).

17.2 Significant Effects

17.2.1 The following table summarises the findings of the Assessment of Significant Effects presented in the relevant environmental topic chapters (ES Volume 1 - Chapters 5 to 14) and the Cumulative Effects presented in ES Volume 1 - Chapter 15 Cumulative Effects.

17.2.2 Table 17-1 Summary of assessment of likely significant environmental effects

Factor	Assessment of likely significant effects	
	Construction Phase	Operation Phase
Air Quality	No predicted adverse significant effects with mitigation measures in place.	No predicted adverse significant effects along the Scheme or within the surrounding villages. There would be significant moderate beneficial effects to human receptors in Banwell Village due to the Scheme.
Cultural Heritage	The Cultural Heritage assessment concluded that there was a limited number of archaeological features clearly identified on or close to the Scheme that could be affected by the construction of the Scheme. The area along the edge of the floodplain has the most potential for buried archaeology. There is also the potential to encounter unrecorded features within the area of the former Banwell Deer Park. A series of detailed trial trenches will be carried out and any finds would be investigated and recorded prior to construction.	There are no predicted significant adverse effects with mitigation measures in place. As a result of the reduction in vehicular traffic through Banwell and the provision of placemaking there would be an improvement to the heritage setting in Banwell village, to include the Conservation Area and the setting of Listed Buildings
Landscape	The construction of the Scheme would result in adverse effects on both the landscape and visual amenity through the introduction of engineered forms into a rural landscape context and the associated changes in landform. The impact on views within the study area would be	Woodland, hedgerows and species rich grassland would be planted across the Scheme to integrate the Scheme into the local landscape and provide screening for local residents. Traditional orchard varieties of fruit trees and black poplar propagated from existing trees would form part of the planting mixes. The impacts of the Scheme would reduce over time

Factor	Assessment of likely significant effects	
	Construction Phase	Operation Phase
	variable, influenced by a range of factors including topography, vegetation cover and distance from the works. 32 properties would have a moderate adverse effect and 50 would have a substantial adverse effect during construction.	as the planting establishes. There would be 3 properties close to the Scheme that would have a substantial adverse effect after 15 years when the planting would have established. There would be residual effects on representative views, in close proximity to elevated Banwell River Bridge structure and those where the affected view is of a previously unspoilt rural scene. There is no residual adverse impact on the Mendip Hills AONB
Biodiversity	Potential impacts on habitats and protected species in particular the North Somerset and Mendip Bat Special Area of Conservation (SAC), dormouse, badger and reptiles. Construction works would be carried out in accordance with the CEMP. Protected species licences are likely to be required for bats, dormice, great crested newts and badgers. The works would be overseen by an ECoW. There are no predicted adverse significant effects with mitigation measures in place.	A range of mitigation measures would be implemented to reduce the impact of the Scheme on the biodiversity. These include minimising street lighting; constructing oversized culverts and pipes to provide connectivity across the Scheme, especially for bats, otters and badgers; replacement wildlife pond; planting of hedgerows, woodland and species rich grassland; mammal fencing for badgers, otters and deer; provision of bats, birds and dormice boxes and hibernacula for reptiles and amphibians. Retained hedgerows and grassland would be managed for biodiversity. With mitigation measures in place, there are no predicted significant effects on ecological designated sites, habitats and protected species. With long term management for biodiversity there would be an increase in the overall value of biodiversity in association with the Scheme, known as Biodiversity Net Gain, of over 40%.
Geology and Soils	The assessment concluded that in terms of land contamination there would be potential adverse impacts on human health as well on the water environment resulting from works within the historical landfill. However there would be no predicted significant effects	The assessment concluded that the operation of the Scheme would not result in any additional adverse effects for geology or soil resources to those identified at construction. In terms of land contamination, the assessments concluded that there may be potential impacts on the water environment in the area of the historical landfill, however

Factor	Assessment of likely significant effects	
	Construction Phase	Operation Phase
	with mitigation measures in place. There would also be some adverse impact on the geological features, however these would not result in significant effects. The Scheme construction would result in a significant loss of agricultural land, which cannot be mitigated for due to the location and nature of the Scheme.	these would not result in be significant adverse effects.
Material Assets and Waste	There would be a need to import material for the construction of the embankments. Material excavated from site would, where possible, be reused within the Scheme. There would be limited need to dispose of materials off site. With mitigation measures in place there are no predicted significant adverse effects during construction.	Not included in the scope of this EIA. Refer to ES Volume 3 - Appendix 1.B - WSP EIA Combined Scoping and Screening Report.
Noise and Vibration	Based on the anticipated worst-case situation for construction noise, the likely effects have been assessed for 125 properties adjacent to the main Scheme works, during the daytime only. There are likely to be major adverse impacts at 44 properties and moderate adverse impacts at 81 properties which would be temporary during construction within the locality. No adverse noise effects are predicted at non-residential receptors from the main Scheme works. Within Banwell and the neighbouring villages, likely significant effects have been predicted at 39 residential and non-residential properties during the daytime only. There are likely to be major adverse impacts at 38 properties and moderate adverse at one. These	A 3m high 300m long noise fence would be installed to reduce the effect of noise on properties in the vicinity of the Southern Link. 16 dwellings (including 12 properties relating to future development) are predicted to experience likely significant adverse effects above the Significant Observed Adverse Effect Level (SOAEL). 134 residential receptors together with Banwell Methodist Church are predicted to experience likely beneficial effects above SOAEL where there is at least a 1dB(A) impact. 32 residential receptors predicted to experience likely significant adverse effects between the Lowest Observed Adverse Effect Level (LOAEL) and SOAEL. Most of these face the Scheme. -199 residential receptors mainly in Banwell village are predicted to experience likely significant

Factor	Assessment of likely significant effects	
	Construction Phase	Operation Phase
	impacts would be temporary during construction within each locality. Construction vibration generated by road surfacing and short duration piling at locations close to the Scheme would result in moderate adverse impacts for human nuisance. These impacts are estimated to be experienced for less than 10 days and are assessed as not significant.	beneficial effects between LOAEL and SOAEL. Banwell Primary School and Banwell village hall are predicted to experience likely significant beneficial effects between LOAEL and SOAEL.
Population and Human Health	The majority of negative effects result from changes in access and potential disruption to travel routes during construction. There would be significant adverse effects on the following: - properties north of Banwell Bypass; - properties along Knightcott road at the western tie-in of the Scheme; - temporarily occupied caravan; - Banwell Football Club; - Stonebridge Farm Caravan Park which would become unviable; - Court Farm Country Park; - 5 commercial agricultural holdings; and - 1 footpath (AX3/06/10) dissected by the Scheme. Negative health outcomes are identified in relation to a number of health determinants. This includes: - access and accessibility to housing; - access to community facilities (e.g. health, social care, sporting, education facilities);	The operation phase would result in beneficial effects. Most beneficial effects would derive from the reduced traffic flows through Banwell Village and the improvements to active travel routes running through the village and in neighbouring villages of Sandford, Winscombe and Churchill. Improvements including wider pavements, new crossing points and traffic calming measures would result in safer travel routes and access to key community assets. These include Banwell Buddies Preschool, Banwell Primary School and Banwell Village Pharmacy. Some individual receptors such as Court Farm Country Park would experience significant beneficial effects due to the improvements in access. The new shared-use paths would improve active travel routes for WCH. Additional mitigation works throughout Sandford, Winscombe and Churchill including improved crossing points, footpath creation and improvements, and new 20mph speed limits would improve accessibility and safety for WCH. Positive health outcomes are identified in relation to a number of health determinants. This includes: - Access and accessibility to housing

Factor	Assessment of likely significant effects	
	Construction Phase	**Operation Phase**
	- access to open space and nature; - neighbourhood amenity (air quality and noise); - accessibility and active travel; - traffic volumes; - crime reduction and community safety; - access to work and training; and - Social cohesion / inclusive design.	- Access to community facilities (e.g. health, social care, sporting, education facilities) - Access to open space and nature - Neighbourhood amenity (air quality and noise) - Social cohesion/inclusive design Negative health outcomes are identified in relation to community safety (due to increased volumes of traffic)
Road Drainage and the Water Environment	The assessment concluded that following best practice construction methods, no significant short term effects in relation to flooding, surface or ground water pollution or the hydromorphology of surface water would occur. In addition there would be no impacts on the groundwater Source Protection Zone which lies in the area of the Southern Link.	Mitigation measures include culverts and flood compensation areas. With these in place there would be no significant adverse effects on coastal, fluvial and reservoir flooding. However, there are likely to be changes to the flood levels in some areas of farmland, some will experience a decrease in flood levels of up to 25 mm, while other areas would experience an increase in flood levels of up to 20 mm. The assessment concluded that there would be no predicted significant effects with mitigation measures in place.
Climate	The Greenhouse Gas GHG emissions caused by the Scheme have been assessed against the ability of the UK Government to meet its legislated carbon budgets and the effect is considered to be not significant. NSC have local and regional aspirations for transport to be carbon neutral by 2030 and it has been concluded that the Scheme is unlikely to have a material impact these. During the Design and Construction Phase the Scheme will continue to minimise the Carbon impact in accordance with the Carbon Management Plan.	Greenhouse Gas (GHG): No predicted adverse significant effects with mitigation measures in place. NSC have local and regional aspirations for transport to be carbon neutral by 2030 and it has been concluded that the Scheme is unlikely to have a material impact these. During the Design and Construction Phase the Scheme will continue to minimise the Carbon impact in accordance with the Carbon Management Plan. Climate Change resilience: There a number of remaining medium climate change risks to the Scheme that will need to be carried through to Detailed Design and managed accordingly. This

Factor	Assessment of likely significant effects	
	Construction Phase	Operation Phase
		includes high rainfall managed through the drainage and earthworks design and consideration of slope stability in rock cuttings from increased heat waves as well as freeze / thaw action.
Cumulative impacts	In-Combination effects: There is the potential for major adverse significant in-combination effects on properties located close to the Scheme. These include: - properties along Knightcott road in proximity to the western tie-in to A371; Stonebridge Farm and caravan park; Court Farm; properties on A371 Castle Hill; and properties along Dark Lane. One Public Right of Way (PRoW) (AX 3/6/10 Cook's Lane to Moor road) would also have significant in combination effects. There is the potential for moderate adverse effects on the following receptors: - properties on Wolvershill road (south); properties along Cook's Lane; Riverside (north); Banwell Football Club and playing fields; Towerbrook Farm and properties along A368 East St. Cumulative impacts with other developments: There is the potential for slight adverse and not significant effects on Population and Human Heath and Materials Assets and Waste if construction is concurrent with the Scheme. Given the anticipated timing of construction or the location of the other planning applications considered there are no predicted adverse cumulative effects during construction.	No predicted adverse significant in-combination effects on receptors with mitigation measures in place. There would be beneficial effects for Air Quality, Landscape and Visual Effects, Noise and Vibration and Population and Human Health in Banwell Village resulting in a significant moderate beneficial effect. There is potential for other beneficial effects for these assessment topics, these are generally slight beneficial and not significant. Any small scale developments between Banwell and the Scheme or large scale developments to the north of the Scheme are considered likely to have significant cumulative effects upon the historic landscape of the area, Landscape and Visual Effects and Biodiversity. Given the size and location of developments and with mitigation in place these are considered slight adverse and not significant. There are likely population and human health impacts in combination with the developments on land to the West of M5 and east of Trenchard Road, Locking and William Daws Close, in terms of the potential for additional pressure on local facilities and resources in Banwell. The HIF developments (a-c) are likely to have cumulative impacts with the Scheme especially on Cultural Heritage, Landscape and Visual Effects, Biodiversity, Geology and Soils, Material Assets and Waste, and Noise during operation. The Scheme would form part of the baseline for

Factor	Assessment of likely significant effects	
	Construction Phase	Operation Phase
		the assessments and careful consideration of the operation effects will need to be considered by the developers. It is an anticipated that these developments would require an EIA which would consider the Scheme as part of the assessment. It is essential that the developments are designed to retain the mitigation implemented for the Scheme

17.3 Mitigation and enhancements

17.3.1 A number of embedded and essential measures to mitigate predicted environmental impacts in both the construction and operational phases of the Scheme have been outlined in each environmental topic chapter and are described within Section 8 of each of those chapters. The mitigation measures have been developed in close consultation with the Statutory Environmental Bodies, land owners and other key stakeholders. Where relevant, mitigation measures have been incorporated into the design of the Scheme and are shown on the Environmental Management Plans (refer to Planning Documents - Environmental Masterplans).

17.3.2 Additional enhancement measures are also presented in each topic chapter where appropriate. Potential enhancement measures include the following:

a) Resistance survey could be undertaken across the Scheduled villa site; this could lead to a re-assessment of the excavation and publication with the results of the fieldwork.

b) Re-assess and publish the results of the work in the 1960s on the Banwell villa in conjunction with results of any work undertaken for the Scheme.

c) A test-pitting exercise within the settlement, in conjunction with the school curriculum and local museum could engender public engagement/ support.

d) Carry out a programme of historic building recording in the village. This could engender public engagement/support and

be carried out in conjunction with local archaeology and history societies.

e) The preparation of an interpretation strategy to include cultural heritage, landscape and biodiversity for roll out across the Scheme.

f) Extension of proposed management for improved biodiversity to include conservation grazing to create species rich grassland, higher hedges and increased hibernacula.

g) Appropriate signage to nearby local and strategic cycling/walking networks.

h) Promotion of alternative methods of travelling to work via the shared use path along the Scheme.

17.3.3 It is important that all of the environmental mitigation which form the basis for the final assessment of effects within each of the environmental topic chapters are taken forward and properly implemented. This will be monitored through the Construction Environmental Management Plan (CEMP), an outline CEMP is included in ES Volume 3 – Appendix 16.A and the Register of Environmental Commitments and Actions (REAC) (refer to ES Volume 3 – Appendix 16.B REAC).

17.4 How the Scheme Objectives are Met

17.4.1 The following table presents how the Scheme Objectives presented in ES Volume 1 - Chapter 2 – Scheme Description are met.

Table 17-2 How the Scheme Objectives are Met

Scheme Objective	Compliance with Scheme Objective
Improve the local road network to address existing congestion issues in Banwell	Traffic modelling results demonstrate that the Banwell Bypass will significantly reduce traffic congestion on the A371 through Banwell Village. In the opening year (2024), there would be a total reduction of vehicles driving through Banwell with a ~70% reduction.
Improve and enhance Banwell's public spaces by reducing traffic severance and improving the public realm	The Scheme would see placemaking improvements and enhancements to the centre of Banwell village, with the introduction of traffic calming measures and pavement widening that would reduce the dominance of the road. The impact of the proposed Banwell Bypass would be a reduction in traffic volumes through Banwell village as a result of traffic using the Banwell Bypass route. This will make Banwell a safer, more attractive place for the residents and visitors. The reduction in through traffic together with traffic calming and placemaking would reduce traffic noise and improve air quality which would also enhance the public spaces for people.
Provide the opportunity to increase active and sustainable travel between local villages and Weston-super-Mare	The design includes a separated, traffic-free shared use route running alongside the Banwell Bypass. The route would start to the west of Banwell, linking with the new route being provided on the A371 as part of the Safer Roads Scheme. Regular crossings of the Banwell Bypass are also proposed to maintain existing walking, cycling and horse-riding routes, whilst also creating new ones. Dedicated routes for walkers, cyclists and horse-riders are also proposed on roads which do not allow through traffic, such as Castle Hill. Eastermead Lane and Moor Road. Within Banwell, a range of improvements are proposed, including improved walking and cycling facilities, created by widening the existing pavement where possible, as well as increased cycle parking. A walking/cycling route from the Banwell Bypass through to Sandford to the north of the A368, which will create a continuous, traffic-free route between Weston-super-Mare, Sandford and onwards via the Strawberry Line (National Cycle Route 26). There are proposed new or improved pedestrian crossings in Sandford and Winscombe. Improvements to the existing public footpath between the A368 and Churchill Green for walkers. To the east of Churchill Academy, there are improvements to the surfacing of existing PRoW footpaths towards Langford to make them suitable for cyclists.

Scheme Objective	Compliance with Scheme Objective
Deliver infrastructure that enables housing development (subject to Local Plan)	Banwell Bypass is funded by Homes England's Housing Infrastructure Fund (HIF) to support the delivery of 7,557 new homes. 4,482 of these homes will be located at existing housing development sites in the Weston Villages of Haywood Village and Locking Parklands. The location of the remaining homes will be subject to the new Local Plan process. However, it is currently suggested that these will be delivered through the creation of a new strategic growth area made up of 2,800 to the north of Banwell and the remainder through smaller sites in the area. Whilst Local Plan and subsequent future housing still needs to go through a process to become adopted policy, the Banwell Bypass is vital to support its delivery as it improves access to any homes, employment and education in the area. Any additional increases to traffic as a result of future housing has been considered in the Scheme traffic modelling and subsequent development of the Scheme.
Ensure the development respects the local area and minimises visual impact upon the surrounding countryside and Mendip Hills Area of Outstanding Natural Beauty (AONB)	To minimise any visual impact on the surrounding countryside, the Scheme's current landscape design considers views both to and from the countryside and AONB. Fields severed by the Scheme create opportunities to retain the existing layout of fields in the area with space for habitat creation, landscape integration and further screening, such as hedgerows, to obscure the Scheme from view. Consideration has been given to walking, cycling and horse-riding routes and other mitigation features, such as the attenuation basins, and how these can be properly integrated with the landscape. There is no residual significant effect on the AONB.
Innovative and efficient in reducing and offsetting carbon from the design and construction of the infrastructure	Road transport and construction are both responsible for generating a significant amount of carbon emissions. However, the following elements have been considered to reduce carbon emissions in both construction and the eventual operation of Banwell Bypass. Considering the 'Whole Life Carbon' impact of the Scheme from the beginning of design. The carbon impacts are considered before and during construction, in maintenance and use of Banwell Bypass in future. By doing this, carbon reduction measures can be built into the Scheme design. These include: Banwell Bypass as a single carriageway as opposed to dual carriageway – this reduces the amount of material required to construct the Scheme and creates less construction carbon emissions. Use of recycled materials in construction of the Scheme, as well as locally sourced materials to avoid transporting them long distances. The use of swales, where feasible, for highway drainage reduces the amount of drainage material needed in the design and therefore creates fewer construction carbon emissions. Optimising Scheme's alignment to reduce the amount of carbon heavy earthworks needed to build both the Banwell Bypass and Southern Link.

Scheme Objective	Compliance with Scheme Objective
	Minimising additional street lighting, therefore reducing the amount of energy needed to light the road, as well as reducing material needed to construct the Scheme. Reducing carbon once Banwell Bypass is in use by the following: 40mph speed limit with slower moving vehicles in free-flowing traffic, which generates fewer carbon emissions than vehicles travelling at high speeds. Using junctions (for example, a roundabout or signalised T-Junction) to ensure vehicles can be as free flowing as possible, to reduce the carbon impact of vehicles stopping and starting. Improvements to routes through Banwell and nearby villages to make walking, cycling and horse riding a safer and more attractive low carbon alternative for residents travelling between local villages and Weston-super-Mare.
Ensure the development provides the opportunity to increase Biodiversity Net Gain by at least 10%	The Scheme has exceeded this objective, it would provide 40% Biodiversity Net Gain (BNG). Measures include: Creating habitats for biodiversity by reinstating and enhancing the ditch and rhyne system, management of invasive and non-native weeds, reinstating dried ponds and enhancing habitats with seasonally wet/ damp species-rich grassland – all of which have the potential to enhance the number of invertebrates, protected species and pollinator habitats. Using traditional techniques to manage wetland areas, such as seasonal and controlled flooding and the management of vegetation (e.g. pollarding, coppicing, reed or osier beds if appropriate). Replanting riverbanks with native trees and creating species rich grassland habitats within the verges and along the Scheme embankment. Planting more local native species and further enhancements such as new hedgerows for woodland species, birds, dormice and bat boxes. Types of plant would be chosen to provide food sources for protected species and soil conditions for wetland species. Water and flood management areas designed to emphasise the natural landscape.
Proactively engage with stakeholders in a way that is both clear and transparent	Non-statutory consultation has been undertaken in the form of: Banwell Bypass and Highway Improvements non-statutory consultation (5 July 2021 to 16 August 2021). Banwell Bypass and Highway Improvements non-statutory consultation (10 March 2022 to 22 April April). Consultation with Environmental Consultees such as the Environment Agency, Natural England, Lead Local Flood Authority, Internal Drainage Board, Bristol Water, regular Environmental Liaison Group (ELG) consultations with statutory and non-statutory consultees. Engagement with Parish Council's, resident working groups, statutory working groups and Banwell FC. Engagement has helped understand the breadth of local issues, opportunities and concerns.

17.5 Planning Policy

17.5.1 The topic chapters (ES Volume 1 - Chapters 5-15) outline the relevant legislation and planning policy associated with that the specific chapter. The topic chapters have considered all relevant legislation associated with the topic and all legislation is adhered to.

17.5.2 Table 17-3 below outlines the compliance with the National Planning Policy Framework (Ministry of Housing, Communities & Local Government), 2021[17.1].

17.5.3 Table 17-4 below outlines the compliance with the local planning policy relating to individual topic chapters.

17.5.4 For further details refer to the Planning Statement (Planning Documents – Planning Statement)

Table 17-3 National Planning Policy Framework, 2021 Assessment

Planning Policy	Compliance with policy	Compliance Y/N
Section 1 – Introduction	North Somerset Local Planning documents, as outlined in section 6 of this Statement, are a material consideration in the determination of this planning application.	Y
Section 2 – Achieving sustainable development To include the following themes: An economic objective A social objective An environmental objective	Sustainable development is an inherent element of the scheme, the preliminary design of which has been developed to deliver, wherever possible, the best balance between maximising benefits and minimising environmental impacts. The objectives of the Scheme reflect the National Planning Policy Framework's (NPPF) three overarching objectives for sustainable development; as it seeks to: support economic growth through improved infrastructure; support the health and wellbeing of the population through improved the safety within village communities and an improved ProW network, active travel and reduced rat running; and contribute to protecting and enhancing the natural and historic environment through mitigation and enhancement measures incorporated into the design.	Y
Section 6 – Building a strong, competitive economy	The Scheme is forecast to provide economic benefits. In accordance with the Department for Transport (DfT) Value for Money Framework, the initial Benefit Cost Ratio (BCR) represents 'High' value for money. The Economic Case is outlined in the Planning Statement. (Planning Document – Planning Statement)	Y
Section 8 – Promoting healthy and safe communities	Access to open space and opportunities for active travel would be improved as a result of the Scheme. This would bring health benefits to those people who make use of the new and improved assets created, improving the current experience of users of the proposed active travel measures along the A368, with improved footway/ cycleway access from Churchill and Langford to Churchill Academy. Also, the users of the proposed improvements to existing footways, shared pedestrian, and cycleway through Banwell, Churchill, Sandford and Winscombe. Safety and quality of life for communities in close proximity to the Scheme would also be improved, as the Scheme would discourage rat running on local roads such as Wolvershill Road south of the Banwell Bypass and address existing issues associated with high levels of congestion through residential areas. Appropriate options for replacement playing fields associated with Banwell Football Club have been identified and assessed, with a preferred option being identified that meets the tests outlined. Refer to the Planning Documents: Planning Statement and Open Space Assessment.	Y
Section 9 – Promoting sustainable transport	ES Volume 1- Chapter 3 – Alternatives Considered and the Design and Access Statement submitted with this planning application identifies how NSC has considered sustainable transport alternatives to	Y

Planning Policy	Compliance with policy	Compliance Y/N
	the Scheme early in the design development process. The proposals for the ProW and active travel network would enhance overall connectivity and encourage active travel across the network. Refer also to Planning Documents – Traffic Assessment. Whilst it was ultimately concluded that a road Scheme was required to deliver the objectives and requirements of the Scheme, NSC has continued to seek opportunities within the design to promote walking, cycling and horse riding through improved access and facilities. ES Volume Chapter 3 summarises the proposals for the PRoW and active travel network in the Scheme and demonstrates how this would enhance overall connectivity and encourage active travel across the network.	
Section 12 – Achieving well-designed places	The significant reduction of traffic through the centre of Banwell provides the opportunity for placemaking improvements. These are detailed in ES Volume 1 – Chapter 2 – Scheme Description and Chapter 7 - Landscape. This would improve the sense of place in Banwell village which would make Banwell a better place to work and live. The Design and Access Statement outlines the Scheme as 'carbon-led' which means carbon consideration being at the forefront of all decision making. The Scheme objectives have been created to help deliver a safe and resilient free-flowing road while ensuring there are no negative carbon impacts; conserving the environment, improving quality of life for local communities and contributing to the health of the economy and local businesses. The Design and Access Statement outlines how the carbon-led approach has been integrated into the Scheme's design and how this meets the requirements for good design as reflected in the NPPF.	Y
Section 14 – Meeting the challenge of climate change, flooding and coastal change	A Flood Risk Assessment (FRA) and drainage strategy have been undertaken for the Scheme, provided in ES Volume 3 Appendix 13.B. The development provides sustainable benefits to the historic benefits to the wider community as set out in Section 6 of the FRA, therefore adhering to the requirements of the Exceptions test as set out in the NPPF. These benefits include less congestion in the village of Banwell. This in turn provides local and wider benefits to the social and economic environment. With the proposed embedded mitigation of culverts and Flood Compensation Areas (FCA), the Scheme would not have any significant effects on costal, fluvial and reservoir flooding. With embedded mitigation comprising the drainage design and measures set out in the CEMP (Volume 3, Appendix 16.A) there would be a slight adverse but not significant effect on surface water,	Y

Planning Policy	Compliance with policy	Compliance Y/N
	groundwater and hydromorphology of surface waters. Also no significant effects upon the water environment due to the Scheme have been identified. As set out in ES Volume 1 – Chapter 14 – Climate, the Scheme has been designed taking into account climate change such that any risks to the proposed infrastructure due to a changing climate have been identified and mitigated for with some residual risks that will be addressed at the detailed design stage. Climate assessments including greenhouse gas (GHG) emissions assessment and climate change resilience (CCR) assessment have been undertaken and it is concluded that the Scheme would not have a material impact on the ability of Government to meet its carbon reduction targets. The assessment reported in ES Volume 1 – Chapter 13 – Road Drainage and the Water Environment concludes that there are no significant effects of flood risk resulting from the Scheme.	
Section 15 – Conserving and enhancing the natural environment	The Southern Link part of the Scheme would be located within the Mendip Hills AONB only, notwithstanding potential indirect effects from the wider Banwell Bypass and associated development. ES Volume 1 – Chapter 7 – Landscape addresses the impact on the Mendip Hills AONB. With mitigation during operation there would be a Slight adverse and therefore not significant impact on the AONB. There would be a loss of hybrid black poplar trees which would be replaced by the use of stock propagated from the existing trees. Once established this impact would not be significant. The Scheme is in close proximity to the North Somerset and Mendip Bats SAC. Works adjacent to designated sites would be mitigated for by general construction measures and a preferred method of works as outlined in the CEMP (ES Volume 3 – Appendix 16.A – Outline CEMP). There are no predicted significant effects on the SAC. The Habitats Regulations Assessment (HRA) has not identified any significant effect with mitigation in place. The area of woodland to be created would equal more than twice the area to be lost during the site clearance phase. Therefore, mitigation would be above a 'like for like' compensation. Refer to the Environmental Masterplans (Planning Document – Environmental Masterplans Drawings) The landscape and ecological mitigation strategy would achieve a net gain for biodiversity of over 40%. This would include retention of features such as hedges, replacing and replanting hedges, woodland and woodland edge planting and enhancements through increasing floristic diversity within the Scheme. The landscaping proposals have been designed to benefit both visual amenity and biodiversity.	Y

Planning Policy	Compliance with policy	Compliance Y/N
	Detailed mitigation measures would be specified in the CEMP to control impacts on species and habitats. Monitoring of the effectiveness of the mitigation measures would be carried out and methods for monitoring would be detailed within the LEMP (ES Volume 3 – Appendix 16.C – Pre-Construction Landscape and Ecological Management Plan). Embedded mitigation include oversized culverts to create connectivity for species such as bats, otter, badger and dormouse' attenuation basins; flood compensation areas which would designed to create mosaic of wetland habitats and a replacement pond designed for wildlife. Overall, the Scheme has sought to maximise biodiversity delivery through its design, taking advantage of all opportunities to enhance biodiversity value within the land to be acquired for the Scheme.	
Section 16 – Conserving and enhancing the historic environment	The assessment undertaken in ES Volume 1 – Chapter 6 – Cultural Heritage indicates that the Scheme would have an overall beneficial effect on the setting of much of the Banwell Conservation Area and many of the Listed Buildings within the historic core of the settlement of Banwell due to the reduced traffic through the village. The Southern Link would have a greater aural and visual impact on the Conservation Area although after mitigation this would be slight and therefore not significant. There would be a net gain in terms of the impact of the Scheme on the built heritage of Banwell. There is the potential for buried archaeology which would be recorded prior to construction.	Y

Table 17-4 Local Policy Assessment

Air quality (ES Volume 1 – Chapter 5		
Policy document	Policy reference	Assessment
North Somerset Council Core Strategy (2017)	Policy CS3 – Environmental impacts and flood risk assessment	The Banwell Bypass EIA Combined Screen and Scoping Report (see ES Volume 3 Appendix 1.B) determined that a detailed level of assessment is required for the EIA as there is potential for significant impacts to air quality at sensitive human and ecological receptors. The detailed assessment includes construction and operational phase impacts. ES Volume 1 – Chapter 5 – Air Quality provides an assessment of the Scheme in accordance with DMRB LA105 Air Quality and the Defra Local Air Quality Management Technical Guidance (LAQM TG.16). It describes existing air quality levels and provides forecasts of air quality at time of the scheme opening in scenarios with and without the scheme.
North Somerset Emerging Local Plan (2023 – 2038)	Policy SP2 – Climate change	

		The Scheme has been designed to avoid and prevent adverse environmental effects on air quality through the process of design development and consideration of good design principles. This has sought to move traffic away from local sensitive receptors. Embedded mitigation measures are reported as part of the Scheme description in ES Volume 1 – Chapter 2 – Scheme Description. Best practice construction mitigation measures to reduce effects from construction dust are incorporated into the Construction Environmental Management Plan (see ES Volume 3 – Appendix 16A). Relevant commitments include the following: • Develop and implement a stakeholder communications plan; • Develop and implement a Dust Management Plan (DMP); • Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken; • Undertake daily on site and off site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results; • Ensure appropriate operating of vehicle and machinery and the implementation of a Travel Plan; • Using suitable dust suppression techniques, ensure adequate water supply on site, enclosed chutes, conveyors and covered skips. Minimise drop heights and ensure equipment is readily available on site for spillages; • Avoid bonfires and burning of waste materials; • Ensure effective water suppression is used during demolition operations, avoid explosive blasting and appropriate removal of biological debris; • Re-vegetate earthworks and exposed areas/ soil stockpiles to stabilise surfaces as soon as possible as practicable; and • Appropriate construction methods to avoid scabbling, effective storage of sand and other aggregates; and • Appropriate use of Trackout methods. As identified in section 5.6 of ES Volume 1 – Chapter 5 – Air Quality, there are no Air Quality Management Areas (AQMAs) designated for an exceedance of UK AQOs and LV thresholds in the study area. ES Volume 1 – Chapter 5 – Air Quality concludes that the Scheme during construction there would be a neutral and not significant effect on human health and designated habitats. During operation, there would be a neutral and not significant effect on human health. The Scheme improves air quality through Banwell Village and does not result in any exceedances of the relevant air quality objectives at sensitive receptor locations.

		During the operational phase there would not be a significant effect on designated habitats. On the basis of the above and the assessment contained in ES Volume 1 – Chapter 5 – Air Quality, the Scheme is considered to accord with the requirements of identified local planning policy pertinent to air quality.
Cultural Heritage (ES Volume 1 Chapter 6)		
Policy document	Policy reference	Assessment
North Somerset Council Core Strategy (2017)	Policy CS5 – Landscape and the Historic Environment	ES Volume 1 – Chapter 6 – Cultural Heritage provides an assessment of the Scheme in accordance with DMRB LA104. ES Volume 1 – Chapter 6 – Cultural Heritage sets out that identification of these heritage assets has been through the North Somerset Historic Environment Register (HER), Historic England databases, non-intrusive archaeological investigations, walkover surveys, aerial photography and archaeological evaluation through a programme of trial trenching. ES Volume 1 – Chapter 6 – Cultural Heritage identifies that the Scheme has the potential to create both beneficial and adverse impacts upon cultural heritage resources. It is considered that the proposed development would have an overall beneficial effect on the setting of much of the Banwell Conservation Area and many of the Listed Buildings within the historic core of the settlement of Banwell. The Scheme has the potential for adverse impacts including: • the Southern Link element of the proposed development would have a greater aural and visual intrusion into the higher parts of the Banwell village e.g. High Street; • where the visual link between the settlement and the level would be impacted; and • net gains in terms of the impact of the proposed Scheme on the built heritage of Banwell at a cost to the buried archaeological remains, although this can be largely be mitigated, and to the wider views and landscape setting of the village which would to an extent be separated from its historic, largely undisturbed, rural setting. The Scheme has been designed, as far as possible, to avoid or prevent impacts on heritage resources through the process of design development and consideration of good design principles. Mitigation during construction of the Scheme includes evaluation trenching, watching brief or targeted excavation, palaeo-environmental sampling and analysis, ongoing water monitoring, screening, resistance surveys, test-pitting exercise, placemaking improvements in Banwell, more details Conservation Area, reassessment of Listings and programme of historic building recording. The assessment concludes only a limited number of archaeological features have been clearly identified on or close to the Scheme.
North Somerset Council Development Management Policies: Sites and Polices Plan Part 1 (2016)	Policy DM4 – Listed Buildings	
	Policy DM6 – Archaeology	
	Policy DM7 – Non-designated Heritage Assets	
North Somerset Emerging Local Plan (2023-2038)	Policy DP35 – Landscape	
	Policy DP38 – Built Heritage	
	Policy DP39 – Archaeology and non-designated heritage assets	

		The geophysical survey has indicated that some areas along the route have archaeological potential and the wetland-dryland interface would appear to be one of the most significant archaeological features. In summary, the Scheme would not result in the total or partial loss of any designated or non-designated heritage asset. Taking into account the substantial public benefits of the Scheme and the evidenced case for the Scheme, as set out in ES Volume 1 – Chapter 4 – Planning Framework of this Statement, it is considered that the Scheme is compliant with local planning policy requirements pertinent to cultural heritage, as it would not result in substantial harm to the significance of heritage assets or their setting such that it would outweigh the public benefits of the Scheme.
Landscape (ES Volume 1 Chapter 7)		
Policy document	Policy reference	Assessment
North Somerset Council Core Strategy (2017)	Policy CS3 – Environmental impacts and Flood Risk Management Policy CS4 – Nature Conservation Policy CS5 – Landscape and the Historic Environment Policy CS9 – Green Infrastructure Policy CS10 – Transportation and Movement Policy CS12 – Achieving High Quality Design and Place Making Policy CS32 – Service villages	ES Volume 1 – Chapter 7 – Landscape assesses the potential effects from the construction and operation of the Scheme, following the methodology set out in DMRB LA107, DMRB LA104 and follows guidance from the Landscape Institute and Natural England. The Landscape and Visual Impact Assessment (LVIA) undertaken has taken account of landscape character assessments and relevant local policies. It includes an assessment of the Scheme's effects on landscape character related to local and regional distinctiveness and the extent to which the proposals would alter the character and quality of landscape as a resource. The scheme passes through a short descrete section of the Mendip Hills AONB and the landscape through which it passes provides the setting to the special characteristics of the Mendip Hills AONB (including dark skies, tranquillity, sense of remoteness, naturalness of the area, Somerset Levels and Moors, and views toward the Mendip Hills); and views and visual amenity, including on recreational and community. In recognition of the Scheme's attractive location, characterised by its rural nature, distinctive landscape framework and partial location within the Mendip Hills AONB, the Scheme has been developed to minimise impact to the landscape including mitigation and enhancement measures. During construction, mitigation measures include careful siting, rendering and screening of construction compounds, sensitive design and placing of site signage, best practice site management, limiting crane use, maintaining access, minimise light spill, re-vegetate exposed earthworks, protection of soil structures and protection of trees in accordance with an arboricultural method statement, early planting wherever possible. During operation, measures are proposed such as restoration of land returned to land owners, retained habitats to include rectinlinear fields and field boundaries, translocation of hedgerows, propagation of black poplars, planting of trees, hedgerows and species rich grassland, a landscape and ecological management plan, planting species mix with the inclusion of heritage apple and pear varieties in plant mixes, sustainability

North Somerset Council Development Management Policies: Sites and Polices Plan Part 1 (2016)	Policy DM9 – Trees and Woodlands	of the roadside landscape, well integrated slope profiles such as the River Banwell Bridge, flood compensation areas to maximise biodiversity and landscape benefits, lighting design and natural finishes to noise screening. The impact on views within the study area would be quite variable, influenced by a range of factors. However, there would be residual effects on a number of representative views, particularly those that would be in close proximity to elevated bridge structure and those where the affected view is of a previously unspoilt rural scene. Whilst the proposed Southern Link lies within the Mendip Hills AONB, it is a descrete section and has been designed to minimise any wider impacts on landscape or visual setting, the need for the Scheme in the public interest is set out in Planning Document - Planning Statement Chapter 4. In summary, there is a strong need for the Scheme with the benefits outweighing the costs. The need for the Southern Link part of the Scheme within the AONB has been strongly justified in order to address the identified problems and achieve the objectives for the Scheme, and there is no scope for meeting the need for it in some other way. The proposed mitigation measures would enhance the integration of the Scheme into the landscape through manipulation of the landform and the provision of extensive planting. However significant changes in the landscape and its appearance would be unavoidable and therefore in many cases the mitigation would achieve a reduction in adverse effects rather than their removal. Overall, it is considered that the Scheme is compliant with local planning policy requirements pertinent to the landscape.
	Policy DM10 – Landscape	
	Policy DM11 – Mendip Hills AONB	
	Policy DM19 – Green Infrastructure	
	Policy DM20 – Major Transport Schemes	
Joint Local Transport Plan 4 (2020-2036)	Plan supports the Banwell Bypass	
North Somerset Emerging Local Plan (2023-2038)	Policy DP35 – Landscape	
NSC Supplementary Planning Guidance	Landscape Character Assessment	
Biodiversity (ES Volume 1 - Chapter 8)		
Policy document	Policy reference	Assessment
North Somerset Council Core Strategy (2017)	Policy CS1 – Addressing climate change and carbon reduction	ES Volume 1 - Chapter 8 - Biodiversity assesses the potential impacts from the construction and operation of the Scheme, in accordance with DMRB LA 108 Biodiversity, DMRB LA 104 Environmental Assessment and Monitoring. A Habitats Regulations Assessment (HRA) Statement (see ES Volume 3 – Appendix 8.C) has been carried out accordance Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended)
	Policy CS4 – Nature Conservation	

	Policy CS7 – Planning for waste	and DMRB LA 115 Habitats Regulations assessment to help inform ES Volume 1 - Chapter 8 - Biodiversity and the application. Section 8.9 of the ES Volume 1 - Chapter 8 - Biodiversity identifies how mitigation for biodiversity has been embedded in the Scheme design to avoid or reduce the impacts of habitat loss, habitat fragmentation, habitat degradation and species disturbance and mortality and thus avoid or reduce significant adverse environmental effects. The landscape design shown in Environmental Masterplan Drawings (See Planning Documents – Environmental Masterplans) shows the proposed and replaced priority habitats. During construction, best practice working methods would be implemented to avoid or reduce impacts through pollution and dust or through habitat loss, severance, disturbance and species mortality. During operation, measures would include oversized culverts, mammal and other specific fencing, attenuation basins, swales and rhynes to provide biodiverse habitats, carefully placed and reduction in overall street lighting and inclusion of Environmental Management Plans. ES Volume 1 - Chapter 8 - Biodiversity identifies a number of adverse effects during construction, including severance to commuting lines or foraging areas for Bats (the qualifying feature of the SAC), impacts from dust and other forms of airborne pollutants, loss of habitat including habitat adjacent to the AONB, loss of agricultural lays habitat during site clearance, loss of hedgerows, partial closure of a badger sett, disturbance from artificial light and noise levels. These would be mitigated for through the granting and compliance with dormouse, bat and badger protected species licences, relevant method statements and mitigation strategies. With all proposed mitigation measures in place there are no predicted significant effects during operation. The Habitats Regulations Assessment (HRA) (ES Volume 3 Appendix 8C) identifies the mitigation required to address any potential impacts on the North Somerset and Mendip Bat SAC. ES Volume 1 - Chapter 8 - Biodiversity includes how the Scheme would provide enhancement to biodiversity (with over 20% BNG) which would deliver benefits over and above those required to mitigate the effects of the Scheme. These include landscaping proposals, enhancement of large trees creating an avenue on Towerhead Road (A368) and compensation for the improved grassland habitat loss. The replacement habitats for those lost to the Scheme would be larger in extent and more species-rich than those which they are replacing. Five attenuation basins are being used to create a mosaic of wetland habitats which is in keeping with the nature of the area and 10no culverts and a mammal pipe are being installed to facilitate bat, dormouse, otter, and other protected species' use of the wider habitats surrounding the new road. These would be further enhanced by sensitive planting and through the acquisition of areas wider than the road footprint. Overall, the Scheme has sought to maximise biodiversity delivery through its design, taking advantage of all opportunities to enhance biodiversity value within the land to be acquired for the Scheme. The Scheme is therefore considered to comply with local planning policy for conserving and enhancing the natural environment.
	Policy CS9 – Green Infrastructure	
North Somerset Council Development Management Policies: Sites and Polices Plan Part 1 (2016)	Policy DM8 – Nature Conservation	
	Policy DM9 – Trees and Woodlands	
North Somerset Emerging Local Plan (2023-2038)	Policy DP32 – Nature conservation	
	Policy DP33 – Biodiversity Net Gain	
NSC Supplementary Planning Guidance	Biodiversity and Trees Supplementary Planning Document	
	North Somerset and Mendip Bats SAC guidance Supplementary Planning Document	

Geology and soils (ES Volume 1 - Chapter 9)		
Policy document	Policy reference	Assessment
North Somerset Council Core Strategy (2017)	Policy CS1 - Addressing climate change and carbon reduction	ES Volume 1 - Chapter 9 - Geology and Soils assesses the potential effects of the construction and operation of the scheme on geology and soils impacts, following methodology set out in DMRB 104 and DMRB LA109. The effects on agricultural land holdings are described in ES Volume 1 - Chapter 12 - Population and Human Health. The Scheme has been designed, to avoid and prevent adverse effects on the geology and soils environment through the process of design development and consideration of good design principles. Mitigation measures are proposed during construction to reduce, remediate or compensate likely significant adverse environmental effects. Preparation of a soil management plan, restoration of agricultural land, measures to ensure that contamination is addressed during construction, further investigations and specific risk assessments in the vicinity of historical landfill and construction activities to be undertaken in line with current best practice and guidance in accordance with the CEMP. The permanent loss of soil resources leads to significant effects, which cannot be mitigated due to the location and nature of the Scheme. During operation of the Scheme, the mitigation measures band drains would no longer be required as well as completion of FWRAs, to prevent the pollution of controlled waters during the Scheme. ES Volume 1 - Chapter 9 - Geology Soils concludes that the completed assessments indicate that on application of mitigation measures the Scheme is unlikely to result in significant effects on geology or land contamination. The Scheme is therefore considered to comply with local planning policy pertinent to geology and soils.
	Policy S3 - Environmental impacts and flood risk assessment	
	Policy CS12 - Achieving high quality design and placemaking	
North Somerset Emerging Local Plan (2023-2038)	Policy SP2 – Climate Change	
Supplementary Planning Guidance	Biodiversity and Trees Supplementary Planning Document	

Material assets and waste (ES Volume 1 - Chapter 10)		
Policy document	Policy reference	Assessment
North Somerset Council Core Strategy (2017)	Policy CS7 - Planning for waste	ES Volume 1 - Chapter 10 - Material Assets and Waste assesses the potential effects on the environment from the use of material assets and the generation, disposal and recovery of waste resulting from the scheme, following the methodology set out in DMRB LA110. The existing baseline conditions have been identified as the receptors which have the potential to be impacted by the Scheme. This includes the source of materials required for construction of the Scheme, and waste management facilities which may be used for the treatment or disposal of waste.
	Policy CS8 - Minerals planning	
North Somerset Emerging Local	Policy SP2 – Climate Change	

Plan (2023-2038)	Policy SP12 – Minerals	ES Volume 1 - Chapter 10 – Materials Assets and Waste, sets out that mitigation measures have been embedded in the design of the scheme to minimise the waste produced. This includes (as set out in ES Volume 1 - Chapter 2 - Scheme Description) minimising imported fill, maximising reuse of site won materials (e.g. topsoil), waste management measures (documented in ES Volume 3 - Appendix 16.A - Outline CEMP) and locating construction compounds to prevent pollution, reduce waste and to encourage ease of use, taking into account environmental considerations including the potential for leakage and contamination. Further mitigation includes management of material resources would be governed by the production of a Material Management Plan (MMP), in accordance with best practice requirements and the controls for material management and storage. A Site Waste Management Plan (SWMP) has been prepared in accordance with best practice guidance (Waste and Resource Action Programme (WRAP)). The material assets and waste assessment (ES Volume 1 - Chapter 10 – Material Assets and Waste) concludes that there would be no significant effects from construction of the Scheme. The operation phase effects were scoped out during the EIA scoping stage. The Scheme is therefore considered to comply with local planning policy pertinent to material assets and waste.
Noise and Vibration (ES Volume 1 - Chapter 11)		
Policy document	Policy reference	Assessment
North Somerset Core Strategy (2017)	Policy CS3 – Environmental impacts and Flood Risk Management	ES Volume 1 - Chapter 11 - Noise and Vibration provides an assessment during construction and operation, following the methodology of DMRB LA 111. A description is given of the baseline noise environment in Section 11.6 of ES Volume 1 - Chapter 11 – Noise and Vibration, where it is identified that noise or vibration sensitive locations have been identified through surveys whilst baseline noise conditions are determined through a Calculation of Road Traffic Noise (CRTN) noise prediction model. In order to mitigate construction effects of noise and vibration, a commitment is made to the Best Practicable Means (BPM) assumed as embedded mitigation to control construction noise in the form of low noise emission plant and processes. Mitigation during the construction phase would be controlled via the Construction Environmental Management Plan (CEMP) (see ES Volume 3 – Appendix 16.1) and Section 61 applications. The Scheme has been designed taking into account low noise emissions could be minimised through layout and the use of measures such as landscaping and noise barriers as set out in section 11.8 of ES Volume 1 - Chapter 11 – Noise and Vibration. The assessment concludes the principal activities considered with the potential to cause noise effects are site clearance (trees/ shrubs and vegetation), earthworks (cuts/ fills), structures and road construction (surfacing and V-ditches) works. Based on the likely worst-case assessment presented for construction noise, adverse noise effects have been assessed at 11 representative receptor locations during the daytime only. Of these, there are predicted to be major impacts at 44 noise sensitive receptors and moderate impacts at 81 noise sensitive receptors which are
North Somerset Council Development Management Policies: Sites and Polices Plan Part 1 (2016)	Policy DM10 – Landscape	

North Somerset Emerging Local Plan (2023-2038)	Policy SP3 – Spatial Strategy	assessed as temporary likely significant adverse effects. These are direct effects above the SOAEL threshold, as described in government policy. No predicted significant vibration effects with mitigation measures in place due to short duration near to specific receptors. It is likely that construction vibration levels generated by road surfacing activities and short-duration impact piling at receptor locations close to the scheme would result in moderate adverse impacts above the SOAEL for human annoyance. However, the duration of these impacts is estimated to be less than ten days, hence these effects are assessed as not significant based on the LA 111 assessment criteria (paragraph 11.4.51 of ES Volume 1 - Chapter 11 – Noise and Vibration). The building damage thresholds are not predicted be exceeded at any receptors. There are 16 dwellings predicted to experience likely significant adverse effects above the SOAEL. For 12 properties on Summer Lane this would be as a result of traffic increases in the future year scenario on Summer Lane. Five of these properties would be subject to major impacts and seven properties would be subject to moderate impacts. There would be a negligible effect at these properties in the opening year but as a result of the future HIF development, traffic flows are predicted to increase substantially on Summer Lane in the future. Three properties subject to effects above the SOAEL are located on Castle Hill where there would be minor impacts in the opening year. The same impact would apply to one property located on Wolvershill Road close to the Scheme. There are 134 residential receptors together with Banwell Methodist Church which are assessed as being subject to likely beneficial effects above SOAEL where there is at least a 1dB(A) impact as a result of the Scheme. These receptors are mostly situated on East Street, Castle Hill, West Street and Knightcott Road due to reductions in traffic through the centre of Banwell, together with a small number of properties closest to Wolvershill Road. There are 32 residential receptors which would be subject to likely significant adverse effects between the LOAEL and SOAEL. The majority of these are facing Scheme roads, including the eastern edge of Summer Lane Park Homes, properties to the north-east of Wolvershill Road and on Cooks Lane, properties on Moor Road, properties to the north of the Scheme on Riverside and Eastermead Lane. There are 199 residential receptors, including 18 dwellings to be occupied within a committed development on Wolvershill Road, which would be subject to likely significant beneficial effects between the LOAEL and SOAEL. The majority of these are located around East Street, Castle Hill, West Street, Knightcott Road and Wolvershill Road but extend further out where existing noise levels are at a lower level. Banwell Methodist church is predicted to experience a likely significant beneficial effect and is currently exceeding the SOAEL as a result of the Scheme. A further three non-residential receptors: Sunshine Smiles Childcare, Banwell Primary School and Banwell village hall would be subject to likely significant beneficial effects between LOAEL and SOAEL.

		There is one Noise Important Area, (NIA) within the study area, situated on the M5. Properties within this NIA would be subject to negligible impacts as a result of the Scheme. Overall, compliance with policy objectives has been achieved by means of mitigation measures. This includes scheme alignment and noise screening. The mitigation would minimise noise impacts at residential communities and sensitive non-residential receptors. Where significant adverse effects would remain, all appropriate measures have been applied as far as it is practicable and sustainable to do so to avoid, mitigate and reduce these effects.
Population and Human Health (ES Volume 1 - Chapter 12)		
Policy document	Policy reference	Assessment
North Somerset Core Strategy (2017)	Policy CS15 – Mixed and balanced communities	ES Volume 1 - Chapter 12 - Population and Human Health provides an assessment of the effects during construction and operation, in accordance with DMRB LA112 and LA104. It considers the effects on various aspects of land use and accessibility and human health. In relation to land use and accessibility, the assessment considers private property and housing, community land and assets, development land and businesses, agricultural land holdings and Walking Cycling and Horse riding (WCH). In relation to human health, it considers health profiles of affected communities, health determinants and likely health outcomes. Section 12.8 of ES Volume 1 - Chapter 12 – Population and Human Health provides proposed mitigation and enhancement measures related to land-use and accessibility, human health, avoidance and prevention, reduction and remediation during both construction and operation of the Scheme. Access to open space and opportunities for active travel would be improved as a result of the Scheme. This would bring health benefits to those people who make use of the new and improved assets created, improving the current experience of users of the proposed active travel measures along the A368, with improved footway cycleway access from Churchill and Langford to Churchill Academy. Also, the users of the proposed improvements to existing footways, shared pedestrian, and cycleway. Safety and quality of life for communities in close proximity to the Scheme would also be improved, as the Scheme would discourage rat running on local roads and address existing issues associated with high levels of congestion through residential areas. Within the neighbourhood amenity assessment, the long term noise health outcome is considered neutral. In accordance with NSC policy DM68 and associated open space guidance an Open Space Assessment has been undertaken as part of the design development work, which has involved engagement with Banwell
	Policy CS27 – Sport, recreation and community facilities	
	Policy CS26 – Ensuring safe and healthy communities	
North Somerset Council Development Management Policies: Sites and Polices Plan Part 1 (2016)	Policy DM24 - Safety, traffic and provision of infrastructure, etc. associated with development	
	Policy DM25 – Public rights of way, pedestrians and cycle access	

	Policy DM26 – Travel plans	Football Club. Appropriate options for replacement playing fields have been identified and assessed, with a preferred option being identified that meets the above tests. The replacement land is located directly east of Banwell Football Club, and: is at least equivalent in area than the land being acquired by the Scheme; is at least as accessible to pedestrians, cyclists, and motor vehicles; is at least equivalent in terms of usefulness, attractiveness, and quality to the facility it replaces; and the replacement would be available for use before use of the existing facility is lost. The Scheme is therefore considered to comply with planning policy for promoting healthy and safe communities and policies CS27 and DM68 pertinent to open space including playing fields.
	Policy DM28 – Parking standards	
	Policy DM29 – Car parks	
	Policy DM52 – Equestrian development	
	Policy DM68 – Protection of sporting, cultural and community facilities	
	Policy DM68 – Protection of sporting, cultural and community facilities	
Sites and Policies Plan Part 2: Site Allocations Plan (2018)	Policy SA5 – Local green space	
	Policy SA6 – Undesignated green space	
	Policy SA8 – Community use allocation	

Road drainage and the water environment (ES Volume 1 - Chapter 13)		
Policy document	Policy reference	Assessment
North Somerset Core Strategy (2017)	Policy CS3 – Environmental impacts and flood risk management	ES Volume 1 - Chapter 13 - Road Drainage and the Water Environment assesses the impact of the scheme, including the effects on flood risk and water quality and resources, in accordance with DMRB LA113. A Flood Risk Assessment (FRA) has been undertaken for the Scheme and is provided in ES Volume 3 - Appendix 13.B - Flood Risk Assessment. *Flood Risk* The FRA outlines the fluvial, surface water, groundwater and artificial drainage flood risk in consideration of the Scheme. The FRA identifies that the Scheme is located in Flood Zones 1 and 3. The western section of the Scheme, from the junction with the existing A371 to the east of Wolvershill Road, is located within Flood Zone 1. To the east of Wolvershill Road the Scheme passes through an area of Flood Zone 3 largely associated with tidal flood risk. At the eastern extent of the route where it ties into the existing A368 Towerhead Road and along the southern link, the land is identified as being in Flood Zone 1. Coastal defences (embankments and walls) are provided to the north of the Scheme which mitigate the tidal flood risk. The assessment has quantified the impacts of the development, informed by hydraulic modelling of the Scheme. The modelling has shown benefits as well as detriment in two areas, namely at the caravan site at Stonebridge Farm. Without mitigation there would also be detriment in and around the Old Yeo Rhyne. The provision of compensatory storage and culverts is proposed as mitigation to make up for the loss in floodplain storage caused by the presence of the Scheme. This would provide other biodiversity and amenity benefits by the provision of a combined storage/ wetland feature. Viable locations for the storage locations have been identified that would provide all of the required storage on a volume for volume basis. However, the final form of the storage/ wetland feature and the total volume provided would be confirmed during the detailed design stage of the scheme and agreed with the EA. Surface water run-off from the increased paved area would be managed and attenuated according to the surface water drainage strategy, which is available as a separate document submitted as a part of the planning process. Whilst the sequential test is not required given that the route alignment is protected for planning purposes within the NSC Local Plan, should the sequential test have been required, the process of a route Options Assessment, as described within this section, is considered to satisfy the requirements of the sequential test. Overall, the Scheme would continue to be protected from coastal defences meaning no change in coastal flood risk would occur. The Scheme would also not result in any changes to the extent of area at risk from
North Somerset Council Development Management Policies: Sites and Polices Plan Part 1 (2016)	Policy DM1 – Flooding and drainage	
North Somerset Emerging Local Plan (2023-2038)	Policy DP1 – High quality design	
	Policy DP5 – Climate change adaptation and resilience	
	Policy DP9 – Flood risk	
	Policy DP10 – Sustainable drainage	
	Policy DP31 – Green infrastructure	

		reservoir flooding. Due to the provision of FCAs and culverts in appropriate places, the effect of fluvial flood risk on receptors has been assessed to be slight beneficial to slight adverse. Some areas of farmland have been modelled to experience a decrease in flood levels of up to 25 mm, while other areas of farmland would experience an increase in flood levels of up to 20 mm. *Water environment* Following the implementation of the Outline CEMP (Volume 3 - Appendix 16.A - Outline CEMP), the significant of effects upon surface waters and groundwater is slight adverse and not significant. The drainage design includes measures to capture and treat pollutants in highway runoff, along with lining of drainage elements in connectivity with groundwater, which results in a significance of effect upon surface water and groundwater quality of slight adverse and not significant. Design mitigation is also proposed to reduce the impact of new culverts or outfalls on the hydromorphology of surface waters. This results in a significance of effect of slight adverse and not significant. The installation of band drains, along with other options for ground improvement, have been assessed to consider potential impacts upon groundwater levels and flows. Design mitigation is proposed to undertake a Foundation Works Risk Assessment (FWRA) to identify and mitigate the risks associated with the selected piling methodology options. This results in a significance of effect of slight adverse and not significant. The assessment has not identified any significant effects upon the water environment as a result of the Scheme. The Scheme is therefore considered to comply with planning policy for road drainage and the water environment.
Climate (ES Volume 1 - Chapter 14)		
Policy document	Policy reference	Assessment
North Somerset Core Strategy (2017)	Policy CS1 – Living Environmental Limits Policy CS2 – Delivering sustainable construction and design Policy CS3 – Environmental impacts and flood risk	ES Volume 1 - Chapter 14 - Climate reports on the potential effects of the scheme in accordance with the DMRB LA 114. It includes an assessment of greenhouse gas (GHG) emissions, vulnerability of the scheme to climate change (CCR assessment) and an in-combination climate impacts (ICCI) assessment. ES Volume 1 - Chapter 14 - Climate has considered the potential environmental effects associated with the use of material assets and waste, following the methodology in DMRB LA 114. As set out in ES Volume 1 - Chapter 14 - Climate, an emissions quantification exercise has been undertaken to calculate the GHG emissions anticipated to be generated or avoided by the scheme during the following four life cycle stages of the scheme's construction and operation. GHG emissions associated with the scheme have been compared to the national UK carbon budgets. The UK Government has carbon budgets up to 2030. The construction period for the scheme falls wholly within the fourth carbon budget. Operation of the scheme would commence in 2024 and is assessed against the fourth, fifth and sixth carbon budgets, up to 2037.

	Policy CS9 – Green Infrastructure	Operational and maintenance emissions between 2033 and 2037 (the period for the sixth carbon budget) are provided in Table 14-18 of ES Volume 1 - Chapter 14 - Climate. The construction and operation phases of the Scheme which fall within legislated carbon budget periods are expected to have an insignificant impact on the ability of the UK Government to meet its carbon budgets. Construction of the Scheme is estimated to contribute approximately 0.0027% of the fourth carbon budget. Operation of the Scheme is estimated to contribute approximately 0.0036% of the fourth carbon budget, 0.0041% of the fifth carbon budget and 0.0073% of the sixth carbon budget. It is considered that this magnitude of emissions from the Scheme in isolation would not have a material impact on the ability of the UK Government to meet its carbon budgets, and therefore is not anticipated to give rise to a significant effect on climate. The Scheme has been designed to minimise adverse environmental effects on climate through the process of design development and consideration of good design principles. Mitigation measures designed into the Scheme to reduce carbon emissions include the carriageway design being reduced from a dual and 4 lane single carriageway to a 2 lane single carriageway, lane widths reduced from 3.65m to 3.4m, removal of the hard strip 0.5m either side of north and southbound lanes, foot/ cycleway alignment moved reducing earthworks and the need for lighting, steel road restraint system reduced from 3460m to 1310m, effective use of space when designing junctions, Riverside Road junction removed, Wolvershill Road junction downgraded from 5 lanes to 3 lanes and speed limit reduced from 50 to 40mph. It is considered that the GHG emissions caused by this Scheme would not cause a significant effect to the UK Government's ability to adhere to the Carbon Budgets when considered as an individual scheme and its cumulative impacts with the ARN. The Scheme does inhibit the ability for North Somerset Council to achieve the West of England's Combined Authority's target of net zero for transport by 2030 however the extent of this is considered to be insignificant. Climate Risk Assessment: there are medium climate change risks to the Scheme, resulting in a significant effect. This would be reviewed through detailed design.
Cumulative effects (ES Volume 1 - Chapter 15)		
Policy document	Policy reference	Assessment
North Somerset Core Strategy (2017)	Policy CS13 – Scale of new housing	ES Volume 1 - Chapter 15 - Cumulative Effects provides an assessment of the Scheme in relation to effects that arise as a result of impacts from more than one project, or element of a single project, combining to have an effect on a receptor, or group of receptors, that may be larger than if the effect were considered separately. This is carried out in consideration of DMRB LA 104. It provides the following assessments:
	Policy CS14 – Distribution of new housing	

	Policy CS15 – Mixed and balanced communities	Combined effects assessment: comprising an assessment of the combined impact of a number of different impacts from the Scheme upon a single resource/ receptor, which are individually assessed, and findings reported within each environmental factor Chapter of this ES; and Cumulative effects assessment: comprising an assessment of cumulative impacts of a number of different projects within the vicinity, in combination with the environmental impact of the Scheme on a single resource/ receptor. The in-combination assessment identified the potential for major adverse effects on 6 receptors and moderate adverse effects on 6 receptors during construction. These are all close to the Scheme. During operation with mitigation in place there are no significant adverse effects and there is the potential for beneficial effects for Landscape and Visual Effects, Noise and Vibration and Population and Human Health but they are generally slight beneficial and not significant. Whilst there is the potential for cumulative effects with proposed developments, with mitigation in place for both Scheme and the proposed developments, the potential for cumulative effects are generally slight adverse or neutral and not significant. The potential is slight adverse with respect to Material Assets and Waste based on the depletion of natural resources. Any small scale developments between the Banwell and the Scheme or large scale developments to the north of the Scheme are considered likely to have significant cumulative impact upon the historic landscape, biodiversity of the area and the landscape and visual effects but given the size and location of developments and with mitigation in place these are considered slight adverse at the small residential developments close to the Scheme. With respect to Population and Human Health there is the potential for a slight adverse effect during operation on the small residential developments close to the Scheme and also construction if they are concurrent with the Scheme construction. When considering the cumulative effects of all development with the Scheme there will unlikely be a cumulative effect during Construction as the larger developments are currently underway and the smaller are unlikely to cause a significant effect. During operation, Air Quality, Noise and Vibration and the Road Drainage and the Water Environment topic chapters have considered the change in traffic due to the developments so any impacts have been considered as part of the Scheme. Due to the size and proximity of the HIF (a-c) development to the Scheme, its development could cause cumulative effects during construction if they are built concurrently, which is unlikely given the status of the emerging Local Plan and the programme for the Scheme with road opening in 2024. As there is limited information available at this stage operational cumulative effects cannot be assessed, however there is potential for significant effects if the cumulative effects are not fully mitigated. At the time planning applications are submitted it is anticipated that the Scheme will form part of the baseline for the environmental assessments. In addition, the mitigation implemented as part of the Scheme should be retained and managed in accordance with the Landscape and Ecology Management Plan (LEMP) and Maintenance Environmental Management Plan (MEMP) to ensure no reduction in mitigation or double movement of protected species. Therefore, careful
	Policy CS16 – Affordable housing	
Sites and Policies Plan Part 2: Site Allocations Plan (2018)	Policy SA1 – Housing allocations	
	Policy SA4 – Employment allocations	
	Policy SA8 – Community use allocation	

		consideration of the operational effects will need to be considered by the appropriate developer during the design phases of the HIF development.

17.6 References

(17.1) National Planning Policy Framework (Ministry of Housing, Communities & Local Government), 2021