national highways

Environmental Appendix

A66 Northern Trans-Pennine project

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CONTENTS

1 Environmental Appendix

1.1 Introduction

1.1.1 The tables in this appendix set out where National Highways considers there is the potential for a proposed change to give rise to a new or different likely significant effect compared to those reported in the Environmental Statement submitted as part of the Development Consent Order (DCO) application. The purpose of the information presented in this appendix is to give consultees an understanding of the risks of new or different likely significant effects arising from these changes.

1.1.2 It should be noted that the risks reported within the tables in this appendix are based on the potential worst case scenario assumptions, which may differ by topic and by change, but which consider, for example, that the fullest extents of Limits of Deviation are used (or that the extent of Limits of Deviation used are those closest to receptors), or that all vegetation within new land or within the design footprint is lost. Unless stated otherwise, assumptions set out within the Environmental Statement (ES) (Examination Library reference APP-043 to APP-057) submitted as part of the DCO application have been applied in order to inform the assessment.

1.1.3 The assessment has also taken into consideration, where relevant, commitments proposed within the Environmental Management Plan (EMP) (Examination Library reference APP-019) and the Project Design Deliverables (PDP) (Examination Library reference APP-302)[1] to identify where potential effects may be managed through these documents in order to reduce the risk of new or different likely significant effects arising from a proposed change. This is expressly set out in the tables below, where relevant, and in such instances, both the unmitigated risk and the potential for mitigation via the PDP or EMP are noted, unless it is beyond doubt that mitigation via the PDP or EMP would be effective (in which case only the mitigated risk is reported). This is explained in either case.

1.1.4 For those proposed changes and topics where the commitments contained in the EMP and PDP do not have the potential to reduce the risk of a new or different likely significant effect, neither the PDP or EMP is referenced in the tables below. In such cases, we are continuing to consider and develop mitigation measures and, where possible, potential mitigation measures are noted within the tables. However, where mitigation measures are not yet developed or secured, this is noted and the 'worst case' (i.e. unmitigated) risk is reported in this appendix.

1.1.5 However, to note, notwithstanding the above, where we consider there is the potential for a proposed change to give rise to a Habitats Regulation Assessment-related likely significant effect, such an effect is also reported on an unmitigated basis with potential mitigation noted – this is specified where appropriate.

1.1.6 It should be noted that the assessments undertaken and reported in this appendix focus only on the aspects of a proposed change where the parameters or limits within which the Project can be constructed or operated (and secured by the DCO) would change. They therefore do not, for example, consider where other components of the Project could accommodate a proposed change within the parameters already secured in the DCO (e.g. in the case of ponds, their locations are not fixed and are subject to detailed design whether or not a proposed change comes forward – as

[1] Please note that revised versions of these documents were submitted at Deadline 3 of the Examination. Updated Examination Library references for these revised versions were not available at the time this document was produced.

such, this inherent flexibility is already assessed in the ES).Each of the changes in this consultation would have to be accepted by the Examining Authority before being included in our DCO. Where necessary or appropriate, we will provide further details of any proposed mitigation measures as they become available, to allow people to comment on those details as part of the examination of the DCO application.

1.1.7 Any commitments to further mitigation will be secured through the DCO, with the appropriate mechanism for securing it being confirmed when the mitigation measure is introduced into the DCO examination.

1.2 Cumulative Effects Between Changes

1.2.1 While these changes are considered in isolation in terms of the proposed changes to the DCO application, the environmental assessment set out in this appendix reports, where applicable, where there is a risk of cumulative effects between specific changes or where a single receptor is at risk across multiple topics .

1.2.2 In the topic of biodiversity, individual changes have the potential for non-significant changes to impacts on habitat and protected species which, in isolation are not anticipated to give rise to any new or different adverse significant effects, however, should all of the changes be accepted, there is a risk of new likely significant effects at a Project level to habitats and protected species. Further work is ongoing to develop mitigation. As part of National Highways' own commitment to reduce all impacts, there may be instances where mitigation is developed in response to non-significant effects at scheme or receptor level which is anticipated to reduce the risk of this Project-wide risk and risk of in-combination effects to the same receptor. For the purposes of this Appendix, it has been assumed that all changes will be pursued in their current form and, further, accepted by the Examining Authority into the DCO Examination. However, should any of the changes not be pursued and/or accepted by the Examining Authority, the risk of this significant effect may change.

1.3 Next Steps

1.3.1 An ES addendum will be developed and included alongside the design changes application. That addendum will reflect the assessment set out in this appendix, alongside any further development of the proposed change as a result of consultation and any identified mitigation solutions.

2 Glossary

Term	Definition
Accommodation overpass/underpass /structure	A bridge under or over the A66 that serves an affected area of land or property, not considered a public highway.
Accommodation/access road or track	A new or altered access road or track serving an affected area of land or property, not considered a public highway
Agricultural Land Classification (ALC)	A relative measure of agricultural land quality in England and Wales. In practice, the ALC grades are defined by reference to the land's physical characteristics. The most productive and flexible land falls into Grades 1 & 2 and Subgrade, 3a and collectively comprises about one-third of the agricultural land in England and Wales. About half the land is of moderate quality in Subgrade 3b or poor quality in Grade 4. The remainder is very poor-quality land in Grade 5, which mostly occurs in the uplands.
Air quality exceedance	An instance of pollutant concentrations exceeding an air quality standard.
Air quality objectives (AQO)	Policy targets generally expressed as a maximum ambient pollutant concentration to be achieved. The objectives are set out in the UK Government's Air Quality Strategy (Department for Environment Food & Rural Affairs, 2007) for the key air pollutants.
Application	This refers to an application for a Development Consent Order. An application consists of a series of documents and plans which are submitted to the Planning Inspectorate and published on its website.
Aquifer	An underground rock formation containing water, often used as a water source.
Area of Outstanding Natural Beauty (AONB)	An area designated under Section 82(1) of the Countryside and Rights of Way Act 2000 for the purpose of conserving and enhancing its natural beauty.
Assessment	A process by which information about effects of a proposed plan, project or intervention is collected, assessed and used to inform decision-making.
Best and most versatile (BMV) land	Land defined as grade 1, 2 or 3a of the Agricultural Land Classification. This land is considered the most flexible, productive and efficient and is most capable of delivering crops for food and non-food uses.
Biodiversity	Biological diversity: The variety of life forms in a given area, includes all species of plants and animals, their genetic variation and the complex ecosystems of which they are part.
Cumulative effects	The combined residual effects of a project in its entirety (all schemes), and the combined effects with other projects.
Design Manual for Roads and Bridges (DMRB)	A set of documents that provide a comprehensive manual system which accommodates all current standards, advice notes and other published documents relating to the design, assessment and operation of trunk roads.

Design speed	The design speed is a tool used to determine geometric features of a new road design based on the anticipated vehicle speeds on the road.
Detailed Design	The process of taking on and developing the preliminary design.
Development Consent Order (DCO)	The means of obtaining permission for developments categorised as nationally significant infrastructure projects.
Do-Something (DS)	The road project under consideration in the Opening Year /Design Year (in the case of this scheme, 15 years after assumed opening).
Environmental Management Plan	Provides the framework for recording environmental risks, commitments and other environmental constraints and clearly identifies the structures and processes that will be used to manage and control these aspects. The EMP also seeks to ensure compliance with relevant environmental legislation, government policy objectives and scheme specific environmental objectives. It also provides the mechanism for monitoring, reviewing and auditing environmental performance and compliance.
Earthworks	The process of excavating or increasing level of soil.
Effect	Term used to express the consequence of an impact (expressed as the 'significance of effect'), which is determined by correlating the magnitude of the impact to the importance, or sensitivity, of the receptor or resource in accordance with defined significance criteria. For example, land clearing during construction results in habitat loss (impact), the effect of which is the significance of the habitat loss on the ecological resource.
Embankment	Artificially raised ground, commonly made of earth material, such as stone.
Environmental assessment	A method and a process by which information about environmental effects is collected, assessed and used to inform decision-making
Environmental Statement (ES)	A statutory report produced by the applicant including: 1) a description of the project 2) a description of the likely significant effects of the project on the environment 3) a description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment 4) a description of the reasonable alternatives 5) a non-technical summary 6) any additional information relevant to the characteristics of a project.
Floodplain	A floodplain or flood plain is an area of land adjacent to a stream or river which stretches from the banks of its channel to the base of the enclosing valley walls and which experiences flooding during periods of high discharge.
Greenhouse Gas (GHG)	A gas that contributes towards global warming by trapping heat given off from the earth's surface. Under the United Nations' Kyoto Protocol, the 6 GHG gases are carbon dioxide, methane, nitrous oxide, perfluorocarbons, hyrdofluorocarbons and sulphur hexafluoride.
Heritage Resources	Heritage Resources are those resources, both human and natural, created by activities from the past that remain to inform present and future societies of that past

Historic Environment	All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.
Impact	Change that is caused by an action (for example land clearing (action) during construction which results in habitat loss (impact)).
Landscape character area (LCA)	Distinct, recognisable and consistent patterns of elements and activity that make one landscape different from another. Note these can be a combination of landscape, biodiversity, geodiversity and economic activity that follow natural, rather than administrative boundaries.
Light Detection and Ranging (LIDAR)	A remote sensing method that uses light in the form of a pulsed laser to measure ranges (variable distances) to the Earth.
Mineral sites	Operational sites or sites identified within strategic planning documents for the extraction of minerals
Mitigation	Measures including any process, activity, or design to avoid, reduce, remedy or compensate for negative environmental impacts or effects of a development.
Mitigation measures	Methods employed to avoid, reduce, remedy or compensate for significant adverse impacts of development proposals.
Monitoring	A continuing assessment of the performance of the Project, including mitigation measures. This determines if effects occur as predicted or if operations remain within acceptable limits, and if mitigation measures are as effective as predicted.
National Networks National Policy Statement 2014 (NPSNN)	A national policy document issued by the government which sets out the need for and the government's policies for the development of nationally significant infrastructure projects on road and rail networks in England. It is the basis for the examination of a Development Consent Order application by the Examining Authority and decisions by the Secretary of State. It was designated as national policy by the Government in January 2015.
Noise Barrier	A solid construction that reduces unwanted sound. It may take many forms including: engineering cutting; retaining wall; noise fence barrier; landscape earthworks; a 'low-level' barrier on a viaduct; a parapet barrier on a viaduct; or any combination of these measures. Also called an attenuation barrier.
Noise Important Areas (NIA)	These areas provide a framework for the local management of the Important Areas.
Opening Year	In the case of the A66 project, assumed to be 2029.
Operational	The functioning of a project on completion of construction.
Phase 1 Habitat Survey	Recognised standard methodology for collating information on the habitat structure of a particular site.
Project	This Project comprises of eight individual schemes. Scheme names are (west to east): • M6 Junction 40 to Kemplay Bank • Penrith to Temple Sowerby • Temple Sowerby to Appleby •Appleby to Brough • Bowes Bypass • Cross Lanes to Rokeby

	• Stephen Bank to Carkin Moor • A1(M) Junction 53 Scotch Corner
Public Rights of Way (PRoW)	A way over which the public have a right to pass and repass. The route may be used on foot, on (or leading) a horse, on a pedal cycle or with a motor vehicle, depending on its status. Although the land may be owned by a private individual, the public may still gain access across that land along a specific route
Receptor	A defined individual environmental feature usually associated with population, fauna and flora that has potential to be affected by a project
Scheduled Monument	Historic building or site included in the Schedule of Monuments kept by the Secretary of State for Culture, Media and Sport under the regime set out in the Ancient Monuments and Archaeological Areas Act 1979.
Scheme	This Project comprises of eight individual schemes. Scheme names are (west to east): • M6 Junction 40 to Kemplay Bank • Penrith to Temple Sowerby • Temple Sowerby to Appleby • Appleby to Brough • Bowes Bypass • Cross Lanes to Rokeby • Stephen Bank to Carkin Moor • A1(M) Junction 53 Scotch Corner
Setting	DMRB LA 106 defines setting as the surroundings in which a cultural heritage resource is experienced.
Significance (of effect)	A measure of the importance or gravity of the environmental effect, defined by significance criteria specific to the environmental topic.
Special Area of Conservation (SAC)	A site designated under the Habitats Directive as internationally important sites for threatened habitats and species. Following the UK's exit from the European Union, SACs now form part of the UK's National Site Network.
Visual Receptor	People who may have a view of a proposed development during construction or operation.
Walkers, cyclists and horse riders (WCH)	Walkers, cyclists and horse riders using the network.
Water Framework Directive (WFD)	The Water Framework Directive (2000/60/EC) (WFD) is a wide-ranging piece of European environmental legislation for the protection of water resources that is being transposed into UK Law
Zone of Theoretical Visibility (ZTV)	The zone from which the project is theoretically visible over 'bare earth.'
Zone of Visual Influence (ZVI)	The area within which a project may be visible and may influence the quality of views. The 'zone of visual influence' approximately covers all land from which the project is visible. It is limited by topographic features such as hill and valleys and by visual barriers such as woodland and buildings.

3 Proposed DCO Change Environmental Assessment

3.1 DC-01 – Change in speed limit west of M6 junction 40

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction emissions. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the construction dust mitigation measures outlined in the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** An NO_2 concentration of 12.3µg/m^3 was predicted at the closest human receptor (HSR 5 as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)) in the operational Do Something scenario, which is well below the annual mean air quality objective. A reduction in speed limit from 70 to 30 mph in this location has the potential to create a minor worsening of effects as a result of car engines running less efficiently at 30mph than at 70mph. However, current concentrations are considered too low at HSR 5 for this proposed DCO change to have a risk of affecting the significance of the results, given the risk is so low at the closest receptor, it is not anticipated that any receptor is at risk. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the M6 junction 40 to Kemplay Bank scheme.	A change in speed limit is not anticipated to affect any biodiversity receptors as it not anticipated to alter the construction area as assessed with the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		There are no ecologically sensitive receptors nor any water receptors in the proximity of the design change that would be affected by operational changes to air quality or drainage. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction or operation.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled by the measures within the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	There are residual significant effects in construction and operation reported in the ES for the M6 Junction 40 to Kemplay Bank scheme, however none of the affected receptors are in proximity of this proposed change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change is within the Order Limits used for the assessment within the ES therefore it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains. There may be a reduction of effect as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.
Geology and Soils	There are moderate impacts anticipated on Agricultural Land Classification (ALC) Grade 2 and Grade 3a soils (Best and Most Versatile (BMV) land) during construction, with between 1- 20ha of BMV land permanently lost in this scheme. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	The geology and soils assessment within the ES assessed the impacts to land within the Order Limits, taking a worst-case scenario of impacts. The proposed change does not change the Order Limits or require additional land .Therefore it is considered that the potential effects of the proposed change is captured within the ES assessment. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are no significant effects on Landscape Character Areas in construction and operation. There are significant effects identified in the construction phase and the first year of operation at a viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 1.3A view from Public Right of Way 321008 looking north west. These are expected to reduce to non-significance by year 15.	The proposed change it is not considered to be of the scale that would result in a in significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is not anticipated to affect the road alignment, in the context of the mainline A66. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	No construction or operation significant effects have been identified for the M6 Junction 40 to Kemplay Bank scheme.	The ES assessment considered the Order Limits for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale or nature that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale or nature to affect the

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m from the proposed design change, there are approximately 20 residential and non-residential properties. These were reported as temporary adverse likely significant effects in the ES. These receptors are located in the west of the M6 Junction 40. The operational phase study area of 600m for this location is limited to the area on the west of the M6 Junction 40 as the traffic on the M6 is the dominant noise source at the receptors located in the western side of the motorway. One residential receptor was reported as an adverse likely significant effect in the ES. This receptor is located at Skirsgill Lodge and within NIA ID 10284. Mitigation has been proposed in the form of a noise barrier, 2-4m in height and 35m in length (Ref. 52). With this mitigation in place for this receptor in a NIA (Noise Important Area), the identified significant effects would likely be removed. Provision of the mitigation is subject to consultation with the relevant stakeholders including the resident(s) at question. Should the barrier not be installed, then this receptor would be eligible for noise insulation under Noise Insulation Regulations (NIR) 1975.	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** In operation, the design change is anticipated to result in a reduction in speed on a section of the eastbound only. There may be a reduction in traffic noise levels, however it is not anticipated to be enough to reduce the level of significance of the identified adverse significant effect at Skirsgill Lodge. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Population and Human Health	There are nine and 28 residual likely significant effects during construction and operation, respectively, as reported in the ES for the M6 Junction 40 to Kemplay Bank scheme, however none of the affected receptors are in proximity of this proposed change.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change will not alter the level of access to land or businesses during operation and does not reduce the level of PRoW provision that currently exists. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects during operation.** There is no change to the air quality, population or noise and vibration assessment results, **therefore this proposed change is not anticipated to result in any different human health effects during construction or operation.**
Road Drainage and Water Environment	There are residual significant effects in construction and operation reported in the ES for the M6 Junction 40 to Kemplay Bank scheme, however none of the affected receptors are in proximity of this proposed change.	There are no watercourses likely to be impacted by the proposed change and it is not anticipated to change any floodplain. There are no changes to drainage and there no significant new cuttings. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES during construction or operation.**

3.2 DC-02 – Realignment of walking and cycling route at Skirsgill

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	There are no sensitive human or ecological receptors within 200m of the proposed change which may be affected by changes in air quality. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction or operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the M6 Junction 40 to Kemplay Bank scheme.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species due to the realignment of the route. However, the proposed change is considered to result in a reduction in construction works as a result of realigning the walking and cycling through an area that has already been developed and there is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to potential reduction in vegetation clearance required. Notwithstanding, the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** There may be minor changes to habitat impacts which in isolation are not considered significant as the potential new locations are situated within an area of limited value habitat. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects than as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, **there is a risk of cumulative effects on habitats and any associated protected species at a Project level** as a result of potential non-significant effect on habitats across all changes.
Climate	Green House Gas emissions – Following assessment as set out in DMRB LA 114 and	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore,**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	**it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled by the measures within the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	There are residual significant effects in construction and operation reported in the ES for the M6 Junction 40 to Kemplay Bank scheme, however none of the affected receptors are in proximity of this proposed change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change to the Order Limits is not anticipated to lead to any change to the assessment of the impact to buried archaeological remains as they are within areas previously developed therefore risk of encountering buried archaeology is low. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation**.
Geology and Soils	There are moderate impacts anticipated on Agricultural Land Classification (ALC) Grade 2 and Grade 3a soils (Best and Most Versatile (BMV) land) during construction, with between 1- 20ha of BMV land permanently lost in this scheme. This results in likely significant adverse effects.	The proposed change does require a change the Order Limits however the land required for the proposed change is already developed and not ALC grade land, therefore there is no additional risk of contaminated land that could not be controlled by the first iteration EMP [**APP-019**]. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	There are no likely significant effects predicted as a result of the operational phase of the Project.	There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are no significant effects on Landscape Character Areas in construction and operation. There are significant effects identified in the construction phase and the first year of operation at a viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 1.2 Wetheriggs Country Park, Penrith, looking south. These are expected to reduce to non-significance by year 15.	The proposed change it is not considered to be of the scale that would result in a in significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed realignment of footway away from M6 southbound on-slip to run through the Cumbria County Council depot at Skirsgill, connecting to the existing footpath southeast of the depot is anticipated to create a reduction of adverse effect for the users of the footway as this part of their journey will be away from the A66 alignment, though it is not anticipated to be of a scale to result in a new or different likely significant effect. It is considered that this proposed change will be barely perceptible to other landscape or visual receptors. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	No construction or operation significant effects have been identified for the M6 Junction 40 to Kemplay Bank scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The proposed change is located close to Mineral Consultation Area (MCA) for Sand and Gravel. However, there was no significant effect identified as impact minimal due to proximity of MCA to Penrith, limited scheme footprint beyond existing carriageway and does not diminish from wider resource. The change in Order Limits is not anticipated to be of a change to result in new or different likely significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase, study area of 300m from the proposed design change,	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	approximately 40 receptors were reported as temporary significant adverse effects including two non-residential receptors in the ES. These receptors are located on Clifford Road and Thirlmere Park to the north from the design change. No likely significant effects were reported in the ES for operational noise and vibration across the M6 Junction 40 to Kemplay Bank scheme.	effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** There is no aspect of this proposed change that would introduce new or different effects on noise and vibration during operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Population and Human Health	There are nine and 28 residual likely significant effects during construction and operation, respectively, as reported in the ES for the M6 Junction 40 to Kemplay Bank scheme, however none of the affected receptors are in proximity of this proposed change.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction** The proposed PRoW realignment is not anticipated to result in a likely significant effect as the length of the diversion is not considered materially different compared to the length assessed within the ES. The proposed change to the PRoW route will not constrain the access to Skirsgill depot, and the additional requirement for land is not anticipated to affect the operation of the surrounding businesses. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.** There is no change to the air quality, population or noise and vibration assessment results , **therefore this proposed change is not anticipated to result in any different human health effects during construction or operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Road Drainage and Water Environment	There are residual significant effects in construction and operation reported in the ES for the M6 Junction 40 to Kemplay Bank scheme, however none of the affected receptors are in proximity of this proposed change.	There are no watercourses likely to be impacted by the proposed change, it is not anticipated to change any floodplain, there are no changes to drainage and there are no significant new cuttings. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction or operation.**

3.3 DC-03 – Reorientation of Kemplay Bank junction

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	During construction NO_2 concentrations were predicted to increase by 1.5µg/m^3 over the annual mean objective (to 41.5µg/m^3) at the closest human receptor (HSR 22 as shown on ES Figure 5.1 Air Quality Study Area and Constraints (APP-065)). With the new design changes, the new alignment may move away from receptor HSR 22 which may therefore slightly improve the concentrations at this receptor. The proposed change may result in differing construction methods and programme, however it is anticipated that any change in construction phase effects can be controlled by the requirements of the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** During operation, an NO_2 concentration of 30.5µg/m^3 was predicted at the closest human receptor (HSR 22 as shown on ES Figure 5.1 Air Quality Study Area and Constraints (APP-065)) in the operational Do Something scenario, which is well below the annual mean air quality objective. A movement of the alignment by 90 degrees and 30m closer to the closest sensitive human receptors in the north of the junction (including the hospital) is not likely to result in NO_2 concentrations exceeding the air quality objective as the modelled NO_2 concentrations are so low. Given the risk is so low at the closest receptor, it is not anticipated that any receptor is at risk. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the M6 Junction 40 to Kemplay Bank scheme.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species due to the realignment of the road. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works.

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction. In operation, there may be a change in the drainage design required. A revised drainage design may result in changes in the impact to Thacka Beck which poses the risk of altered water quality in this watercourse. This watercourse is a tributary of the River Eamont which is a part of the River Eden Special Area of Conservation. This gives rise to **a risk of a new adverse significant effect**, including the potential for non-compliance with the Habitats Regulations Assessment, which may be reduced or removed as a revised drainage design continues to progress, and will be confirmed as the design progresses.
Climate	Green House Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled by the measures within the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	There is a likely significant effect (temporary construction) to one receptor specifically from the design of the Kemplay Bank roundabout. This is a moderate adverse effect on Toll Bar Cottage, resulting from the immediate proximity of construction activities. There are also non-significant adverse permanent	The realignment of the junction is not anticipated to change the significance of the effects on Toll Bar Cottage during construction or operation due to the building's proximity to the works, which were already assessed as experiencing a significant adverse effect. Any change to construction phase is anticipated to be adequately addressed by the mitigation measures outlined in the first iteration EMP (APP-019) and Annex B3 Detailed Heritage Mitigation Strategy (APP-023). **Therefore, it is not anticipated that this**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	construction and operational effects on Toll Bar Cottage.	**proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** In operation, the potential change in levels allowed for within the new Limit of Deviation may result in minor different effects to heritage assets within the within the Zone of Visual Influence, however it is not anticipated they would be of a scale to result in a new or different significant effect given the developed setting of the receptors and the final design still resulting in a roundabout and dualled through route on the mainline A66. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	There are moderate impacts anticipated on Agricultural Land Classification (ALC) Grade 2 and Grade 3a soils (Best and Most Versatile (BMV) land) during construction, with between 1- 20ha of BMV land permanently lost in this scheme. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	The proposed change has the potential to alter the earthworks required for construction which may then encroach further into ALC Grade 2 soil. However, this encroachment is not anticipated to be of a scale to result in new or different significant effects. There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are no residual significant effects on Landscape Character Areas. There are significant effects identified in the construction phase and the first year of operation at a number of viewpoint as shown on ES Figure 10.4 Zone of Theoretical	In construction, it is anticipated that the proposed change will likely require removal of mature vegetation to the eastern periphery of the recreational ground to the north west of Kemplay Bank Roundabout in addition to what was considered in the ES assessment. It is anticipated that this may result in a new significant effect for recreational users of Wetheriggs Country Park as a result of reduced the layering visual screening included within our DCO design. This is additional loss of mature vegetation provides visual screening to some users of the local area, and also contributes to the local landscape

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 2.2 view from Wetheriggs Country Park, Clifford Road, and, Penrith Co-ordinates: NY 51947 29165 looking east, and viewpoint 2.5 view from Penrith Hospital Footpath, looking south east. These are anticipated to reduce to non-significance by year 15.	character, which may result in **a new likely significant adverse effect to Landscape Character Area of Intermediate Farmland construction which may last into operation**. The proposals for the slip road to be at grade with Footpath 358008 and the footway aside the A66 west bound carriageway may give negative visual effects for users of this Public Right of Way. **This gives rise to a risk of new likely significant adverse effects to visual receptors noted in the previous column in construction which may last into operation.** This proposed change will be subject to further design including the identification of solutions with which to reduce this risk, such as landscape planting and sensitive design.
Materials and Waste	No construction or operation significant effects have been identified for the M6 Junction 40 to Kemplay Bank scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m from the proposed design change, approximately 70 residential and non-residential properties were reported as temporary significant adverse effects in the ES. These receptors are located on Clifford Road, Pategill Park, Carleton Hall Road, Carleton Hall Walk, The Green, Bridge Lane, at Toll Bar Cottage and Birbeck Medical Practice. The majority of these are located to	For this assessment of the Limit of Deviation change, it is considered that the alignment of the slip roads and roundabout are horizontally expanded to the north and slip roads and the horizontal alignment of the A66 mainline are not substantially different to the DCO design. The proposed change may result in differing construction methods and programme, however it is anticipated that any change in construction phase effects can be controlled by the requirements of the first iteration EMP (**APP-019**). With the design change, the adverse likely significant effect of vibration on Birbeck Medical practice would remain and no new adverse likely significant effects are identified. However, it should be noted that at this stage the details of indoor spaces

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	the north-west and north-east of the roundabout. Potential temporary significant vibration effects on human receptors were reported in the ES if any vibration sensitive receptors are located within a distance of 100m during start-up and run-down of vibratory roller/compactor, 70m during steady state of vibratory compactors and 50m during vibratory piling phases. Building layout of Birbeck Medical Practice is located adjacent to the edge of the slip roads heading north and east from the roundabout. As per the Table 12.24 of ES Chapter 12 Noise and Vibration, an adverse likely significant effect was identified at Birbeck Medical Practice. Within the operational phase study area of 600m from the proposed design change, one residential property and three non-residential properties were reported as likely significant beneficial effects in the ES. These receptors are located at Toll Bar Cottage and on The Green to the south and east from the roundabout.	where vibration sensitive equipment maybe in operate (i.e. surgery or laser device) are unknown. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** In operation, the alignment of slip roads and roundabout will be located closer to Birbeck Medical Practice and there is a potential increase in the height of the A66 mainline, which is anticipated to be the dominant noise source in the operational phase. Raising this vertical alignment and moving the roundabout further north to the extents of the Limits of Deviation may increase the noise levels to surrounding receptors (including Birbeck Medical Practice) to the extent that it gives rise to **a risk of a new likely significant adverse effect in operation.** This proposed change will be subject to further development which include development of mitigation in order to reduce this risk.
Population and Human Health	There are nine and 28 residual likely significant effects during construction and operation, respectively, as reported in the ES for the M6 Junction 40 to Kemplay Bank scheme. Within the area of the design change there is one likely significant effect reported which is	There may be further minor encroachment into the Ullswater Community College Playing Field as a result of this proposed change during construction. However as there is already an adverse likely significant effect reported for this receptor, this potential minor further encroachment is not considered to be of a scale to result in a different likely significant effect at this receptor during construction.

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	located at Ullswater Community College Playing Field which is of high sensitivity due to land take.	The proposed change to the design is anticipated to require additional permanent land owned by Penrith Hospital and Health Centre which may limit their future development, which gives rise to **a risk of new likely significant adverse effects in construction that will last into operation**.
Road Drainage and Water Environment	There are no residual significant effects to receptors surrounding the proposed change following suitable mitigation outlined in the ES Appendix 14.2 Flood Risk Assessment and Outline Drainage Strategy (APP-221) and ES Appendix 14.4 Hydromorphology Assessment (APP-223).	The proposed change may require a change to the construction phase, potentially resulting differing construction methods, area and/or programme, however it is anticipated that any change in construction phase effects can be controlled by the requirements of the first iteration EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change is anticipated to require a revised drainage design, which may require an outfall to Thacka Beck. This has **the risk of a new likely significant adverse effect on water quality** in a tributary of the River Eden Special Area of Conservation (see Biodiversity above in this table). It is possible that mitigation through design of drainage could be achieved to ensure the Highways England Water Risk Assessment Tool (HEWRAT) gives a passable score, this means ensuring that there will be appropriate levels of water quality in the discharge from the highways drainage system. This will be confirmed as the design progresses.

3.4 DC-04 - Separation of, and greater flexibility for, shared public rights of way and private access track provision from Penrith to Temple Sowerby

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	The proposed change may result in differing construction methods and programme, however it is anticipated that any change in construction phase effects can be controlled by the requirements of the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** During operation, an NO_2 concentration of 6.3µg/m3 was predicted at the closest human receptor (HSR 46 as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)) in the operational Do Something scenario, which is well below the annual mean air quality objective. The NO_2 concentration at this location is so low that it is not considered likely that there is a risk of change in significance of the results, therefore it is not anticipated to have an effect on any receptor further from the design change than this. Given the risk is so low at the closest receptor, it is not anticipated that any receptor is at risk. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the Penrith to Temple Sowerby scheme.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species due to the realignment of the public rights of way and private access track provision. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects than compared to those reported in the ES in construction.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		In operation, the proposed change may result in changes to the crossing of watercourses, including the Lightwater, which is hydrologically linked to the River Eden Special Area of Conservation (SAC), and where the crossing in the DCO design has been proposed as a culvert to be of a suitable design for bat crossing which requires specific clearance heights over the water level. This creates potential **risk of new significant adverse effects on the ecological receptors of the Lightwater and subsequently the River Eden SAC and to a protected species such as bats**, including the potential for non-compliance with the Habitats Regulations Assessment. This proposed change will be subject to further design including the identification of potential solutions to reduce this risk, such as alternative mitigation solutions and sensitive watercourse crossing design. There may be minor changes to habitat impacts which alone are not considered significant however, as noted in section 1.2 of this document, **there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effect habitats on across all changes**.
Climate	Green House Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled by the measures within the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	There are residual significant effects in construction and operation reported in the ES for the Penrith to Temple Sowerby scheme, however none of these residual effects are	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. With no change to the Order Limits is not anticipated that there would be any change to the assessment of the impact to buried

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	related to the Public Right of Way or Private Means of Access.	archaeological remains as they are within areas previously developed therefore risk of encountering buried archaeology is low. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** Given the proximity of the Public Right of Way route to the main road alignment, which is the dominant feature affecting the setting of heritage resources, it is not anticipated the change in operation would be of the scale to result in any different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**
Geology and Soils	There are major impacts are anticipated on Agricultural Land Classification (ALC) Grade 2 with over 20 ha of land permanently lost in this scheme and moderate impacts to Grade 3a soils with between 1- 20ha of land permanently lost during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of this scheme.	The geology and soils assessment within the ES assessed the impacts to land within the Order Limits, taking a worst-case scenario of impacts. The proposed change does not change the Order Limits or require additional land .Therefore it is considered that the potential effects of the proposed change is captured within the ES assessment. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are no significant effects on Landscape Character Areas. There are no significant effects identified at any viewpoints as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105).	The proposed change it is not considered to be of the scale that would result in a in significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** In the context of the new mainline A66, the amended PRoW route is not anticipated to be of a scale or nature to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		any new or different likely significant effects as compared to those reported in the ES in operation.
Materials and Waste	No construction or operation significant effects have been identified for the Penrith to Temple Sowerby scheme.	The ES assessment considered the Order Limits for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale or nature that is anticipated to result in any change to the waste infrastructure required. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction study area of 300m from the proposed change there are no sensitive receptors. No significant effect was reported in the ES. Within the operational study area of 600m from the design change, four residential receptors were reported as adverse likely significant effects in the ES. These are located at Whinfell Park, approximately 350m to the west from the proposed design change.	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** There is no aspect of this proposed change that would introduce new or different effects on noise and vibration during operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Population and Human Health	There are nine and one residual significant effects in construction and operation, respectively, reported in the ES for the Penrith to Temple Sowerby scheme.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed PRoW realignment is not anticipated to result in a likely significant effect as the length of the diversion is not considered materially

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		different compared to the length assessed within the ES. The proposed change to the PRoW route will not constrain the access to land or businesses. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.** There is no change to the air quality, population or noise and vibration assessments, therefore this proposed change is not anticipated to result in any different human health effects.
Road Drainage and Water Environment	There are no residual significant effects to receptors surrounding the proposed change following suitable mitigation outlined in the ES Appendix 14.2 Flood Risk Assessment and Outline Drainage Strategy (APP-221) and ES Appendix 14.4 Hydromorphology Assessment (APP-223).	The proposed change may require a change to the construction phase, potentially resulting differing construction methods, area and/or programme, however it is anticipated that any change in construction phase effects can be controlled by the requirements of the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is anticipated to require revised crossings of the Lightwater, and other watercourses which gives rise to **the risk of new likely significant adverse effects** to water quality and Water Framework Directive compliance in the Lightwater. This proposed change will be subject to further design including sensitive design of any new or different watercourse crossings, which is anticipated could reduce this risk, although this is not yet confirmed.

3.5 DC-05 - Removal of junction for Sewage Treatment Works (and private residence) from A66, and provision of an alternative access from B6262

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	There are no sensitive human sensitive receptors within 200m of the proposed change which may be affected by changes in air quality during construction. The proposed change may result in differing construction methods and programme, however it is anticipated that any change in construction phase effects can be controlled by the requirements of the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** The proposed change is anticipated to lead to a reduction in works which may result in a reduction of in pollutant concentrations at surrounding sensitive ecological receptors. However, there was no likely significant effect reported in this location and with the proposed change it is not anticipated that the scale of the change is sufficient to result in any significant benefit. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the Penrith to Temple Sowerby scheme.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species due to the realignment of the public rights of way and private access track provision. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects than compared to those reported in the ES in construction.** In operation, the proposed change may result in changes to the crossing of watercourses, including the Lightwater, which is hydrologically linked to the

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		River Eden Special Area of Conservation (SAC), and where the crossing in the DCO design has been proposed as to be of a suitable design for bat crossing which requires specific clearance heights over the water level. This creates potential **risk of new likely significant adverse effects to the ecological receptors of the Lightwater and subsequently the River Eden SAC and to a protected species such as bats** including the potential for non-compliance with the Habitats Regulations Assessment. This proposed change will be subject to further design including the identification of solutions with which to reduce this risk, such as alternative mitigation solutions and sensitive watercourse crossing design. There may be minor changes to habitat impacts which in isolation are not considered significant however, as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Green House Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled by the measures within the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	The ES concludes significant adverse effects on cultural heritage resulting from construction within the Brougham Roman fort (Brocavum) and civil settlement and Brougham Castle scheduled monument and	The proposed change is in the vicinity of the named scheduled monuments. The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. With no change to the Order Limits is not anticipated that there would be any change to the assessment of the impact to buried

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	from proximity of construction to the Countess Pillar (also a scheduled monument). There is a beneficial significant operational effect to the Countess Pillar as a result of the improved connection and visibility in the landscape design.	archaeological remains as they are within areas previously assessed. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** It is not anticipated that the scale of the change would alter setting of heritage resources within the Zone of Visual Influence. It is not anticipated the change in operation would be of the scale to result in any different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	There are major impacts anticipated on Agricultural Land Classification (ALC) Grade 2 with over 20ha of land permanently lost in this scheme and moderate impacts to Grade 3 soils with between 1- 20ha of land permanently sealed. The significance of the effect on BMV is moderate or large (Grade 3) and very large (Grade 2) and is considered significant. There are no likely significant effects predicted as a result of the operational phase of the Project.	The proposed design is anticipated to provide an opportunity to reduce the footprint of the works on ALC Grade 2 and 3a soils. However it is not guaranteed. Therefore it is considered that the potential effects of the proposed change is captured within the ES assessment. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**.
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are no significant effects on Landscape Character Areas. There are no significant effects identified at any viewpoints as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105).	While the proposed change includes a reduction of works, it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is not anticipated to have any substantial change to effects on landscape or visual receptors. It is noted that there is a small amendment to the alignment of the access track however in the context of the

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		new mainline A66, the amendment to the route is not anticipated to be of a scale to result in different significant effect. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Penrith to Temple Sowerby scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m from the design change, two residential properties, Lightwater Cottages, were assumed to be demolished, therefore no assessment was carried out at these two receptors. Three sensitive receptors were reported as temporary likely significant adverse effects in the ES. These are two residential properties, Barn Owl Cottage and Foxgloves, and one non-residential property, Lords House (also known as Llama Karma Kafe) are located immediately south to the scheme. Within the operational phase study area of 600m from the design change, one non-residential receptor was assessed as an adverse likely significant effect. This receptor is located at Lords House (also known as Llama Karma Kafe) which has been acquired by National Highways. This property is	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** The proposed design change does not affect the A66 mainline alignment, which is the dominant source of noise in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.** There is a **risk of different in-combination significant effects with change DC-07.** Two residential properties, Lightwater Cottages, to be retained would be assessed as adverse likely significant construction and operational effects. These two properties would also be eligible for Noise Insulation under NIR regulation 1975.

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	temporarily repurposed as National Highways' office. Because of that, this receptor was reported as not significant in the ES. Two residential properties, Lightwater Cottages, were assumed to be demolished. Therefore, these properties are not assessed in the ES. Overall, no likely significant adverse effect was reported in the ES.	
Population and Human Health	There are nine and one residual significant effects in construction and operation, respectively, reported in the ES for the Penrith to Temple Sowerby scheme.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction .** The proposed PRoW realignment is not anticipated to result in a likely significant effect as the length of the diversion is not considered materially different compared to the length assessed within the ES. The proposed change to the PRoW route will not constrain the access to land or businesses. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.** There is no change to the air quality, population or noise and vibration assessment results , **therefore this proposed change is not anticipated to result in any different human health effects during construction or operation.**
Road Drainage and Water Environment	There are no residual significant effects to receptors surrounding the proposed change following suitable mitigation outlined in the	The proposed change may require a change to the construction phase, potentially resulting differing construction methods, area and/or programme, however it is anticipated that any change in construction phase effects can be

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	ES Appendix 14.2 Flood Risk Assessment and Outline Drainage Strategy (APP-221) and ES Appendix 14.4 Hydromorphology Assessment (APP-223).	controlled by the requirements of the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is anticipated to require revised crossings of the Lightwater, and other watercourses which gives rise to **the risk of new significant adverse effects** to water quality and Water Framework Directive compliance in the Lightwater. This proposed change will be subject to further design including sensitive design of any new or different watercourse crossings, which could to reduce this risk, although this is not yet confirmed.

3.6 DC-06 - Increase in vertical Limits of Deviation local to Shell Pipeline

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	There are no sensitive human sensitive receptors within 200m of the proposed change which may be affected by changes in air quality. The proposed change may result in differing construction methods and programme, however it is anticipated that any change in construction phase effects can be controlled by the requirements of the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** There was no likely significant effect reported in this location and the proposed change is not anticipated that the scale of the change is sufficient to result in any significant benefit. **Therefore it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the Penrith to Temple Sowerby scheme.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species due to potential changes to the road should the extent of the Limit of Deviation be utilised. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** In operation, the proposed change may result in changes to the crossing of watercourses, including the Lightwater, which is hydrologically linked to the River Eden Special Area of Conservation (SAC), and where the crossing in the DCO design has been proposed as a culvert required for bat crossing point. A 1m raise in the Limit of Deviation is assumed to result in a potential

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		extension of earthworks by up to 3m. This creates potential **risk of new significant effects to the ecological receptors of the Lightwater and subsequently the River Eden SAC** including the potential for non-compliance with the Habitats Regulations Assessment. This proposed change will be subject to further design including the identification of solutions with which to reduce this risk, such as alternative mitigation solutions and sensitive watercourse crossing design. There may be minor changes to habitat impacts which in isolation are not considered significant however, as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes
Climate	Green House Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled by the measures within the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	There are residual significant effects in construction and operation reported in the ES for the Penrith to Temple Sowerby scheme however none of the affected receptors are directly affected by this proposed change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. With no change to the Order Limits is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains as they are within areas previously developed therefore risk of encountering buried archaeology is low. **Therefore, it is not anticipated that this proposed change would result in any new or**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		different likely significant effects as compared to those reported in the ES in construction. The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different significant likely effects as compared to those reported in the ES in operation.**
Geology and Soils	There are major impacts are anticipated on Agricultural Land Classification (ALC) Grade 2 with over 20 ha of land permanently lost in this scheme and moderate impacts to Grade 3a soils with between 1- 20ha of land permanently lost during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of this Project.	The proposed change may increase the extent of permanent land take of ALC Grade 2 soils in construction due to potential change in earthworks, during construction. However, the impact of loss of ALC Grade 2 is already assessed as significant and the additional loss is not anticipated to result in a change in significance as reported within the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** During operation the pipeline is a potential contamination source, therefore mitigation measures will be in place to prevent any impact or damage to the pipeline in operation of the Project. There is no other aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are no significant effects on Landscape Character Areas in construction and operation. There are no significant effects identified in the construction phase and operation at the viewpoints shown on ES Figure 10.4 Zone of	.While the proposed change includes a reduction of works. it is not considered to be of the scale that would result in a reduction of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change may lead to an increase in height over this area of the road by an extra 1m vertically from the DCO design, which is anticipated to be noticeable locally. ,However, it is anticipated that this will be absorbed into

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105).	the overall change to the environment for both landscape and visual receptors. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Penrith to Temple Sowerby scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale or nature that is anticipated to result in any change to the waste infrastructure required. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m from the design change, two residential properties, Lightwater Cottages, were assumed to be demolished, no assessment was carried out at these two receptors. Three sensitive receptors were reported as temporary adverse likely significant effects in the ES. These are two residential properties, Barn Owl Cottage and Foxgloves, and one non-residential property, Lords House (also known as Llama Karma Kafe) are located immediately south to the scheme. Within the operational phase study area of 600m, one non-residential receptor was assessed as an adverse likely significant effect. This receptor is located at Lords House (also known as Llama Karma Kafe) which has been acquired by National Highways. This property is temporarily repurposed as National Highways' office.	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** Noise sensitive receptors at Llama Karma Kafe have been acquired by National Highways, and along the proposed A66 mainline in this area, there are no other noise sensitive receptors within the study area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.** There is a **risk of different in-combination significant effects with change DC-07.** Two residential properties, Lightwater Cottages, to be retained which would be assessed as adverse likely significant construction and operational effects. These two properties would also be eligible for Noise Insulation under NIR Regulations 1975.

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Because of that, this receptor was reported as not significant in the ES. Two residential properties, Lightwater Cottages, were assumed to be demolished. Therefore, these properties are not assessed in the ES. Overall, no likely significant adverse effect was reported in the ES.	
Population and Human Health	There are nine and one residual significant effects in construction and operation, respectively, reported in the ES for the Penrith to Temple Sowerby scheme. Llama Karma Café and Lightwater cottages are the only receptors which will be subject to acquisition or demolition.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change does not propose any change in Order Limits, land take, access or Public Rights of Way assessed within the ES operation. Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.** There is no change to the air quality, population or noise and vibration assessment results , **therefore this proposed change is not anticipated to result in any different human health effects during construction or operation.**
Road Drainage and Water Environment	There are no residual significant effects to receptors surrounding the proposed change following suitable mitigation outlined in the ES Appendix 14.2 Flood Risk Assessment and Outline Drainage Strategy (APP-221)	The proposed change may require a change to the construction phase, potentially resulting differing construction methods, area and/or programme, however it is anticipated that any change in construction phase effects can be controlled by the requirements of the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	and ES Appendix 14.4 Hydromorphology Assessment (APP-223).	**any new or different significant effects as compared to those reported in the ES in construction.** The proposed change is anticipated to require revised crossings of the Lightwater, and other watercourses which gives rise to **the risk of new significant adverse effects** to water quality and Water Framework Directive compliance in the Lightwater. This proposed change will be subject to further design including sensitive design of any new or different watercourse crossings, which could reduce this risk, although this is not yet confirmed.

3.7 DC-07 - Retention of Lightwater Cottages

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	The proposed change may result in differing construction methods and programme, however it is anticipated that any change in construction phase effects can be controlled by the requirements of the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** The proposed change is anticipated to allow opportunity for a reduction in works which may result in a reduction of in pollutant concentrations at surrounding sensitive receptors. However, there is no likely significant effect reported for the Project and it is not anticipated that the scale of the change is sufficient to result in any significant benefit. The retention of Lightwater Cottages introduces a new sensitive human receptor compared to what was assessed within the ES, however given predicted NO_2 levels in the area, t**herefore it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the Penrith to Temple Sowerby scheme.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species however, the proposed change is considered to result in a reduction in construction demolition and new hardstanding required in construction. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** There is a barn owl crossing point proposed at this location. Retention of the properties of Lightwater Cottages may make this crossing point unviable,

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		leading **to a risk of a new likely significant adverse effect on barn owl**. This proposed change will be subject to further development to determine where this mitigation can be retained or relocated to a suitable place in order to reduce this risk. There may be minor changes to habitat impacts which in isolation are not considered significant however, as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled by the measures within the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	No significant effects in construction or operation are reported in the ES for the Penrith to Temple Sowerby scheme however none of the affected receptors are directly affected by this proposed change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. With no change to the Order Limits is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains as they are within areas previously assessed. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The left-in/left-out junction to be removed and the demolition of the Lightwater cottages were not, in isolation, responsible for any significant effects on

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		cultural heritage receptors. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	There are major impacts are anticipated on Agricultural Land Classification (ALC) Grade 2 with over 20 ha of land permanently lost in this scheme and moderate impacts to Grade 3a soils with between 1- 20ha of land permanently lost during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of this Project.	The Lightwater Cottages are a former tannery pre-1960s and their demolition gave rise to a risk of encountering contaminated land site in the construction phase. While removing the demolition reduces this risk during construction, it is not considered to be of a scale or nature that is anticipated to result in any different significant effects. This does not change the Order Limits or require additional land, and while there is a reduction in works, the land is already developed. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are no significant effects on Landscape Character Areas in construction and operation. There are no significant effects identified in the construction phase and operation at the	While the proposed change includes a reduction of works. it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	viewpoints shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105).	The retention of Lightwater Cottages and their associated boundary treatments, including mature vegetation will result in a minor reduction to adverse effects compared with the DCO design for both landscape and visual receptors, however it will not be of the scale that would result in a change in significance. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Penrith to Temple Sowerby scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The proposed retention of the Lightwater Cottages is anticipated to reduce the volume of demolition waste, however it is not considered to be of a scale or nature that is anticipated to result in any change to the waste infrastructure required. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m, the two residential properties located immediately south of the proposed A66 mainline were assumed to be demolished and no assessment was carried out in the ES. No temporary adverse no likely significant effects were reported in the ES Within the operational phase study area of 600m, two residential properties, Lightwater Cottages, located immediately south of the proposed A66 mainline were assumed to be demolished and no assessment was carried out and reported in the ES. No adverse likely significant effect was reported in the ES.	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** In operation, there is a **risk of new adverse likely significant effects would be introduced at two residential properties, Lightwater Cottages** due to their proximity to the mainline A66. These properties would potentially be eligible for noise insulation under the Noise Insulation Regulations 1975. It is anticipated that the area where Lightwater Cottages are located could be identified as Noise Important Area in the next round of the strategic noise

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		mapping exercise under the terms of the Environmental Noise (England) Regulations 2006.
Population and Human Health	There are nine and one residual significant effects in construction and operation, respectively, reported in the ES for the Penrith to Temple Sowerby scheme. This includes the demolition of the residences at the Lightwater Cottages.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction .** The proposed change includes the retention of Lightwater Cottages which has the potential **to remove a permanent adverse likely significant effect during construction as reported in the ES**. It is anticipated that access to these cottages and Haversheaf Hall will be provided further east with no loss of provision.
Road Drainage and Water Environment	There are residual significant effects in construction and operation reported in the ES for the Penrith to Temple Sowerby scheme, however none of the affected receptors are in proximity of this proposed change.	There are no watercourses likely to be impacted by the proposed change, it is not anticipated to change any floodplain, there are no changes to drainage and there no significant new cuttings. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction or operation.**

3.8 DC-08 – Inversion of the mainline alignment at the junction at Center Parcs

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	In construction phase, an NO_2 concentration of 10.6µg/m^3 was predicted at the closest human receptor (HSR 29 as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)) which is well below the annual mean air quality objective. The proposed change may result in differing construction methods and programme, however it is anticipated that any change in construction phase effects can be controlled by the requirements of the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** In operation, an NO_2 concentration of 8.1µg/m^3 was predicted at the closest human receptor (HSR 29 as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)) in the operational Do Something scenario, which is well below the annual mean air quality objective. While there is a vertical change in the design to the mainline A66 which is the dominant source of emissions, the Air Quality assessment does not use the comparative height of the road within its model, therefore it is anticipated that inversion of the junction will not result in a change in significance reported in at HSR29. **Therefore it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the Penrith to Temple Sowerby scheme.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species due to the inversion of the junction. However, the proposed change is considered to result in a reduction in construction works as a result of inversion allowing the opportunity to remove the temporary road diversion to the south of the A66 and there is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to potential reduction in vegetation clearance required for the temporary works. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works.

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects than compared to those reported in the ES in construction. There are bat and red squirrel crossing points proposed in the locality of the proposed change which may be found to be less effective or unviable as a result of the proposed inversion, leading **to a risk of a new likely significant adverse effect on red squirrel and bat**. This proposed change will be subject to further development to determine where this mitigation can be retained or relocated to a suitable place in order to reduce this risk of new significant effect occurring. There may be minor changes to habitat impacts which in isolation are not considered significant however, as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Green House Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled by the measures within the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	There are residual significant effects in construction and operation reported in the ES for the Penrith to Temple Sowerby scheme, however none of these residual effects are specifically related to the junction at Center Parcs.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. With no change to the Order Limits is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains as they are within areas previously assessed. **Therefore, it is not anticipated that**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	The impact on the non-designated Whinfell farm buildings was considered. The embankment and underpass were considered to be a negligible adverse impact (neutral effect) at construction and operation.	**this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The appearance of the proposed overbridge would be different to the DCO design assessed in the ES, however, it does not substantially stand out against the context of the dualling works themselves with respect to heritage resources and so it would not increase the impact to the setting of the Whinfell farm buildings. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	There are major impacts are anticipated on Agricultural Land Classification (ALC) Grade 2 with over 20 ha of land permanently lost in this scheme and moderate impacts to Grade 3a soils with between 1- 20ha of land permanently lost during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of this Project.	The proposed design change would remove the need for a temporary road to be built offline during the construction phase and the removal of a large embankment that impacts ALC Grade 2 soils. There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**.
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are no residual significant effects on Landscape Character Areas. There are significant effects identified in the construction phase and operation at a number of viewpoints as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105):	The proposed change is considered a substantial change from the DCO design in both the construction phase and the form of the structure in operation which gives rise to a **risk of new significant effects in both construction and operation to both landscape character areas and visual receptors**. For landscape character area receptors, there is potential reduction in effect compared to the DCO design as there will be less change to the existing landscape, however, the introduction of a new overbridge will likely draw the eye more than the DCO design with slackened slopes. It is anticipated that the change has the potential introduce new significant effects to landscape character areas of Sandstone Ridge and Broad Valleys This built structure will likely replace the pine

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Viewpoint 3.4 View from the junction of Public Right of Way (PRoW) 311013 bridleway and 31109 footpath looking south east; Viewpoint 3.5 Views from minor road south of High Moss Woodland looking south west; and Viewpoint 3.6 View from PRoW (footpath) 311004 near Center Parcs, Whinfell Forest looking north. These are expected to reduce to non-significant by year 15 of operation.	tree as the landmark feature of the entrance to Center Parcs. Retaining the main A66 alignment on similar levels as existing with the addition of an over bridge to the junction will require careful and considered landscape integration for replacement of landmark pine tree and any changed pond locations. This is anticipated to result in a new significant effect for Sandstone Ridge and Broad Valleys and Viewpoint 3.6 that may last into year 15. The proposed change will be subject to further design in order to identify solutions to integrate the proposed change into the landscape to reduce this risk.
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Penrith to Temple Sowerby scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the study area for 300m from the proposed design change, one residential receptor (1 Lane Ends) was reported as a likely significant adverse effect in the ES. This receptor is located to the east of the junction. Other receptors located in this area were not reported as significant adverse effects as the baseline noise levels at those properties are greater. The construction noise assessment criteria are based on the	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	existing noise environment, the other receptors have higher assessment criteria i.e. Category 'B' or 'C' (ref: BS5228, Annex E). Within the study area in the operational phase of 600m from the proposed design change, one residential receptor and one non-residential receptor were assessed and reported as likely significant beneficial effects in the ES. These receptors are located at School House and Brougham Institute to the east of the junction and directly facing the scheme.	The proposed design change does not affect the horizontal alignment of the mainline A66 and will result in a lowered in the vertical alignment, of the A66 mainline, which is the dominant noise source in the area. This lowering and the proposed overbridge may provide marginal noise attenuation at 1 Lane Ends however it is not considered be of the scale to be significant. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.**
Population and Human Health	There are nine and one residual significant effects in construction and operation, respectively, reported in the ES for the Penrith to Temple Sowerby scheme, however none of the affected receptors are in proximity of this proposed change.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction** The proposed change does not propose any change in Order Limits, access or Public Rights of Way assessed within the ES operation. The proposed change may present the opportunity to reduce the extent of land required to accommodate the temporary road to the south of the junction of Center Parcs, however it is not considered that this reduction in isolation is of a scale to result in a change in significance. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.** There is no change to the air quality, population or noise and vibration assessment results , **therefore this proposed change is not anticipated to result in any different human health effects during construction or operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Road Drainage and Water Environment	There are no residual significant effects to receptors surrounding the proposed change following suitable mitigation outlined in the ES Appendix 14.2 Flood Risk Assessment and Outline Drainage Strategy S (APP-221) and ES Appendix 14.4 Hydromorphology Assessment (APP-223).).	The proposed change may require a change to the construction phase, potentially resulting differing construction methods, area and/or programme, however it is anticipated that any change in construction phase effects can be controlled by the requirements of the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** The proposed change may require a revised drainage design which gives **rise to risk a new significant adverse effects to the surrounding watercourses**. It is likely that mitigation through design of drainage could be achieved to ensure the Highways England Water Risk Assessment Tool (HEWRAT) gives a passable score, this means that there will be appropriate levels of water quality in the discharge from the highways drainage system.

3.9 DC-09 – Flexibility to reuse the existing A66 carriageway

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	There are no sensitive human or ecological receptors within 200m of the proposed change which may be affected by changes in air quality. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction or operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the Penrith to Temple Sowerby scheme.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species due to the vertical realignment of the route affecting the associated earthworks. However, the proposed change is considered to result in a reduction in construction works as a result of the opportunity to reuse existing carriageway and there is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to a reduction in the construction of new hardstanding and associated infrastructure. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** There are proposed terrestrial badger and barn owl crossing points along this scheme, and the structure of the crossing of the Lightwater is proposed to incorporate infrastructure that would support passage as mitigation for bat. Given this is a Limit of Deviation change, the mitigation proposed is anticipated to be retained in the proposed change, however there is a risk that the intention to reuse the existing carriageway may include the reuse of existing watercourse crossings. The DCO design crossings include new culverts to be of a suitable design for bat crossing which requires specific clearance heights over the water level which may not be feasible should the existing level of the road be retained in this location, giving rise **to a risk of significant effect on bat**. This design change will be

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		subject to further design in order to identify alternative solutions for the retention or relocation of this mitigation to reduce this risk.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled by the measures within the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	The ES concludes significant adverse effects on cultural heritage resulting from construction within the Brougham Roman fort (Brocavum) and civil settlement and Brougham Castle scheduled monument and from proximity of construction to the Countess Pillar (also a scheduled monument). There is a beneficial significant operational effect to the Countess Pillar as a result of the improved connection and visibility in the landscape design.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. With no change to the Order Limits is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains as they are within areas previously assessed. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** It is not anticipated that the proposed change would be of the scale to alter setting of heritage resources within the Zone of Visual Influence. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	There are major impacts are anticipated on Agricultural Land Classification (ALC) Grade 2 with over 20 ha of land permanently lost in this scheme and moderate impacts to Grade 3a soils with between 1- 20ha of land permanently lost during construction. This results in likely significant adverse effects.	The proposed design is anticipated to provide opportunity to reduce the construction footprint of the works within land that is ALC Grade 2 and 3a soils. **The proposed design change could therefore give rise to a slight reduction in effect, however it is not considered to be of the scale to result in a different significant effect as reported in the ES for construction**.

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	There are no likely significant effects predicted as a result of the operational phase of this Project.	There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are no significant effects on Landscape Character Areas in construction and operation related to the locality of this design change. There are no significant effects identified in the construction phase and operation at any viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105) related to the locality of this design change.	While the proposed change includes a reduction of works. it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change allows for the opportunity for reduction in works should the existing carriageway be retained, however, in the context of the wider A66 dualling, this proposed change is unlikely to be of the scale to result in a change in significance of the results. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in operation.**
Materials and Wate	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Penrith to Temple Sowerby scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale or nature that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale or nature to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m, two residential properties, Lightwater Cottages, were assumed to be demolished, no assessment was carried out at these two receptors. Seven sensitive receptors were reported as temporary adverse likely significant effects in	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	the ES. These are six residential properties at Barn Owl Cottage, Foxgloves and four residential receptors at Whinfell Park, and one non-residential property, Lords House (also known as Llama Karma Kafe) which has been acquired by National Highways. are located immediately south to the scheme. Within the operational phase study area of 600m from the design change, four residential receptors were reported as adverse likely significant effects in the ES. These are located at Whinfell Park, approximately 350m to the west from the proposed design change. There is one non-residential receptor at Lords House (also known as Llama Karma Kafe) which has been acquired by National Highways. This property is temporarily repurposed as National highways' office. Because of that, this receptor was reported as not significant in the ES. In addition to that, two residential properties, Lightwater Cottages, were assumed to be demolished. Therefore these properties were not assessed in the ES.	**new or different significant effects to those reported in the ES in construction.** The proposed design change provides the opportunity to alter the vertical alignment of the A66 mainline, however, it is anticipated the change would be minor within the context of the dual carriageway. Noise sensitive receptors located within the study area of the design change have all reported as adverse likely significant effects and the proposed change is unlikely to be of a scale or nature to result in any new or different significant effects. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Population and Human Health	There are nine and one residual significant effects in construction and operation, respectively, reported in the ES for the Penrith to Temple Sowerby scheme. This includes likely significant effects at both Llama Karma Café and Lightwater cottages due to the acquisition of the Café and the demolition of the residences at Lightwater Cottages.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change does not propose any change in Order Limits, land take, access or Public Rights of Way assessed within the ES in construction or operation. It is anticipated that the access to St Ninian's Church can be retained within the change. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.** There is no change to the air quality, population or noise and vibration assessment results , **therefore this proposed change is not anticipated to result in any different human health effects during construction or operation.**
Road Drainage and Water Environment	There are no residual significant effects to receptors surrounding the proposed change following suitable mitigation outlined in the ES Appendix 14.2 Flood Risk Assessment and Outline Drainage Strategy (APP-221) and ES Appendix 14.4 Hydromorphology Assessment (APP-223).	The proposed change may require a change to the construction phase, potentially resulting differing construction methods, area and/or programme, however it is anticipated that any change in construction phase effects can be controlled by the requirements of the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is anticipated to require revised crossings of the Lightwater, and other watercourses which gives rise to **the risk of new significant adverse effects** to water quality and Water Framework Directive compliance in the Lightwater. This proposed change will be subject to further design including sensitive design of any new or different watercourse crossings, which is anticipated to reduce this risk.

3.10 DC-10 – Removal of Priest Lane underpass

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	The proposed change will result in a reduction of construction work, however in the construction an NO_2 concentration of 7.1µg/m^3 was predicted at the closest human receptor (HSR 33 as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)) in the construction Do Something scenario, which is well below the annual mean air quality objective. The proposed change may result in differing construction methods and programme, however it is anticipated that any change in construction phase effects can be controlled by the requirements of the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** In operation, an NO_2 concentration of 7.1µg/m^3 was predicted at the closest human receptor (HSR 33 as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065) in the operational Do Something scenario, which is well below the annual mean air quality objective. The proposed change is not anticipated to have an effect on the mainline A66 which is the dominant source of emissions, and **therefore it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**
Biodiversity	There is a residual significant effect on barn owl during operation of the Temple Sowerby to Appleby scheme as a result of high risk of mortality and/or injury of individuals due to collisions with road traffic. This is residual as the necessary mitigation is anticipated to require a deviation from the standard of the road design and therefore is not guaranteed.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species however, the proposed change is considered to result in a reduction in construction works as a result of not building a new structure and there is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to construction activity. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		The proposed change would result in the removal of an underpass which is proposed to include a bat crossing point in order to mitigate the severance a bat commuting route. By removing this crossing point, **there is a risk of a new significant adverse effect in operation.** Should this mitigation be found to be feasibly retained within the design change, or relocated to a suitable place, then it possible that this risk can be reduce. There may be minor changes to habitat impacts which in isolation are not considered significant however, as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Green House Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Cultural Heritage	There are residual significant effects in construction and operation reported in the ES for the Temple Sowerby to Appleby scheme, however none of these residual effects are specifically related to the Priest Lane underpass.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change is within the Order Limits used for the assessment within the ES therefore it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains. There may a reduction of works as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		result in any new or different likely significant effects as compared to those reported in the ES in construction. The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	A major and moderate magnitude of impact is anticipated as a result of the construction phase of the Project. Major impacts are anticipated on Agricultural Land Classification (ALC) Grade 2 and Grade 3a soils with over 20ha of BMV land permanently lost in this scheme. Between 1-20ha of Grade 3b soils will be permanently sealed. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	The geology and soils assessment within the ES assessed the impacts to land within the Order Limits, taking a worst-case scenario of impacts. The proposed change does not change the Order Limits or require additional land which therefore it is considered that the potential effects of the proposed change is captured within the ES assessment for both construction and operation. There is no aspect of this proposed change that would introduce new or different effects on geology and soils. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are significant effects identified on landscape character areas of Broad Valleys which are anticipated to continue into year 15. There are significant effects identified in the construction phase and the first year of operation at a number of viewpoints as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105):	The proposed removal of the underpass may result in a minor reduction to the construction work required as compared to what was assessed in the ES, however it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** In operation, the dominant effect on the landscape and visual receptors is the new alignment of the mainline A66. The proposed change is not considered to be of the scale to result in new or different significant effects when considered in the context of the mainline A66. **Therefore, it is not anticipated that this proposed change**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Viewpoint 4.2 View from Priest Lane, Kirkby Thore looking east: Viewpoint 4.5 View from PRoW (footpath) 336017 and 336011 at Kirkby Thore looking north; and Viewpoint 4.3 view from Low Moor Park, A66 looking north north east, and viewpoint 4.27A PRoW (bridleway) 336018 South of Hale Grange, looking south. These are expected to reduce to non-significance by year 15.	**would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Penrith to Temple Sowerby scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m from the proposed design change, no noise sensitive receptor is identified. No temporary likely significant effects were reported in the ES. Within the study area of 600m from the proposed design change, one residential receptor was reported as an adverse likely significant effect in the ES. This receptor is	As there is no sensitive receptor located within the study area from the design change, **the proposed design change is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction.** The dominant noise source affecting the noise sensitive receptors in this area would be from the traffic on the A66 mainline and the removal of the underpass is not anticipated to result in a substantial change in this alignment. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	located at Halefield Farm to the north of the proposed design change. Approximately 40 residential receptors and one non-residential receptor were reported as beneficial likely significant effects in the ES. These receptors are located on Low Moor Row, Fell View, Horse and Farrier Courtyard, Eden View Cottages and Farm, Whistle Barn, Cross End, Priest Lane and Dunfell View to the south, south east and south west from the proposed design change.	
Population and Human Health	There are no residual significant effects to receptors that could be affected surrounding the proposed change. There is a non-significant adverse effect reported for Public Right of Way 336007 (bridleway) reported in the ES following mitigation including diversion.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change will remove a Public Right of Way (PROW) connection from the DCO design. While PROW route is likely to be used for leisure purposes and users may committed to a longer distance, this route also provides some connection to Kirkby Thore Primary School even though it is likely that there would be infrequent use, the potential permanent increase in distance compared to the current PROW 336007 is **anticipated to give rise to a risk of a new significant adverse operational effect when compared to those reported in the ES.** There is no change to the air quality, population or noise and vibration assessment results , **therefore this proposed change is not anticipated to result in any different human health effects during construction or operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Road Drainage and Water Environment	There are no residual significant effects to receptors surrounding the proposed change following suitable mitigation outlined in the ES Appendix 14.2 Flood Risk Assessment and Outline Drainage Strategy (APP-221) and ES Appendix 14.4 Hydromorphology Assessment (APP-223).	The proposed change may require a change to the construction phase, potentially resulting differing construction methods, area and/or programme, however it is anticipated that any change in construction phase effects can be controlled by the requirements of the first iteration EMP (APP-019). The proposed removal of the underpass may allow for a minor decrease in cuttings required which may have a reduction of effect on groundwater, however it is not anticipated to be of the scale to result in a change in significance. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**

3.11 DC-11 – Earlier tie-in of Cross Street to the existing road

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	There are no sensitive human or ecological receptors within 200m of the proposed change which may be affected by changes in air quality. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Biodiversity	There is a residual significant effect on barn owl during operation of the Temple Sowerby to Appleby scheme as a result of high risk of mortality and/or injury of individuals due to collisions with road traffic. This is residual as the necessary mitigation is anticipated to require a deviation from the standard of the road design and therefore is not guaranteed.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species however, the proposed change is considered to result in a reduction in construction works as a result of reducing the level of new highway to be constructed and there is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to construction activity. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. . **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** There is barn owl and bat mitigation proposed along this route and over the Cross Lanes bridge affected by the proposed change, is anticipated to be feasibly retained within this change. There may be minor changes to habitat impacts which in isolation are not considered significant. Therefore, there is no change in significance of the results as reported in the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes**.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Temple Sowerby to Appleby scheme in the locality of the design change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change is within the Order Limits used for the assessment within the ES therefore it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains. There may a reduction of effect as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	A major and moderate magnitude of impact is anticipated as a result of the construction phase of the Project. Major impacts are anticipated on Agricultural Land Classification (ALC) Grade 2 and Grade 3a	The geology and soils assessment within the ES assessed the impacts to land within the Order Limits, taking a worst-case scenario of impacts. The proposed change does not change the Order Limits or require additional land which therefore it is considered that the potential effects of the proposed change is captured within the ES assessment for both construction and operation. There is

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	soils with over 20ha of BMV land permanently lost in this scheme. Between 1-20ha of Grade 3b soils will be permanently sealed. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	no aspect of this proposed change that would introduce new or different effects on geology and soils. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are significant effects identified for landscape character areas of Broad Valleys and Intermediate Farmland which are expected to continue into year 15. There are significant effects identified in the construction phase and the first year of operation at a number of viewpoints as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 4.2 View from Priest Lane, Kirkby Thore looking east; view from Low Moor Park, A66 looking north north east; Viewpoint 4.5 view from Public Right of Way (PRoW) (footpath) 336017 and 336011 at Kirkby Thore looking North; and Viewpoint 4.27A view from PRoW (bridleway) 336018 South of Hale Grange, looking south. These are expected to reduce to non-significance by year 15.	The proposed Limit of Deviation changes allow the opportunity for a minor reduction in the construction work required as compared to what was assessed in the ES, however it is not considered to be of the scale that would result in a reduction of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** In operation, proposed realignment of the tie in at Cross Street and reduction of speed limit will not be discernible in the wider landscape scale. The proposed change is not considered to be of the scale to result in new or different significant effects when considered in the context of the mainline A66. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Penrith to Temple Sowerby scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m from the proposed design change, approximately 15 residential properties and 2 non-residential properties were reported as temporary adverse likely significant effects in the ES. These receptors are located on Dunfell View, Cross End and Priest Lane to the south of the proposed A66 mainline. Within the operational phase study area of 600m from the proposed design change, two residential receptors were reported as adverse likely significant effects in the ES. These receptors are located at Halefield Farm and Halefield Bungalow to the north of the design change and the proposed A66 mainline. Approximately 45 residential receptors and two non-residential receptors were reported as beneficial likely significant effects in the ES. These receptors are located on Priest Lane, Dunfell View, Cross End, Piper Lane	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** The dominant noise source affecting the noise sensitive receptors in this area would be from the traffic on the A66 mainline and the removal of the underpass is not anticipated to result in a substantial change in this alignment. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	and Centurion Park to the south of the design change and the proposed A66 mainline.	
Population and Human Health	There are 21 and 16 residual significant effects in construction and operation, respectively, reported in the ES for Temple Sowerby to Appleby scheme, however none of these are specifically associated with the Cross Lanes tie-in.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** In operation, the proposed change is not anticipated to alter the level of access the road provides for users. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.** There is no change to the air quality, population or noise and vibration assessment results , **therefore this proposed change is not anticipated to result in any different human health effects during construction or operation**.
Road Drainage and Water Environment	There are no residual significant effects in construction and operation reported in the ES for the Temple Sowerby to Appleby scheme following the implementation of mitigation.	The proposed change may require a change to the construction phase, potentially resulting differing construction methods, area and/or programme, however it is anticipated that any change in construction phase effects can be controlled by the requirements of the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change may result in change to drainage design. **There is a risk of a new significant effect in operation as a result of this change in design to surrounding watercourses,** however, mitigation through design of drainage could be achieved to ensure the Highways England Water Risk Assessment Tool (HEWRAT) gives a passable score, this means that there will be appropriate levels of water quality in the discharge from the highways drainage system. However, this is yet to be confirmed.

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change

3.12 DC-12 – Green Lane bridge realignment

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	The proposed change will result in a reduction of construction work, however in the construction an NO_2 concentration of 6.7µg/m^3 was predicted at the closest human receptor (HSR 37 as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)) in the construction Do Something scenario, which is well below the annual mean air quality objective. It is not currently anticipated that any change in construction will be of the scale to result in any new or different significant effects in construction emissions at this receptor and therefore no further receptor is considered at risk. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the construction dust mitigation measures outlined in the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** The proposed is unlikely to affect operational emissions given the nature of the proposed change only affecting a private means of access. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**
Biodiversity	There is a residual significant effect on barn owl during operation of the Temple Sowerby to Appleby scheme as a result of high risk of mortality and/or injury of individuals due to collisions with road traffic. This is residual as the necessary mitigation is anticipated to require a deviation from the standard of the road design and therefore is not guaranteed.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species however, the proposed change is considered to result in a reduction in construction works as a result of reducing the level of new highway to be constructed and there is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to construction activity. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		There structure affected by the proposed change does not support any mitigation that would act as a crossing point for protected species, however there may be minor changes to habitat impacts which in isolation are not considered significant. Therefore, there is no change in significance of the results as reported in the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes**.**
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Temple Sowerby to Appleby scheme in the locality of the design change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change is within the Order Limits used for the assessment within the ES therefore it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains. There may a reduction of effect as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	A major and moderate magnitude of impact is anticipated as a result of the construction phase of the Project. Major impacts are anticipated on Agricultural Land Classification (ALC) Grade 2 and Grade 3a soils with over 20ha of BMV land permanently lost in this scheme. Between 1-20ha of Grade 3b soils will be permanently sealed. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	The geology and soils assessment within the ES assessed the impacts to land within the Order Limits, taking a worst-case scenario of impacts. The proposed change does not change the Order Limits or require additional land which therefore it is considered that the potential effects of the proposed change is captured within the ES assessment for both construction and operation. There is no aspect of this proposed change that would introduce new or different effects on geology and soils. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are significant effects identified for landscape character areas of Broad Valleys and Intermediate Farmland which are expected to continue into year 15. There are significant effects identified in the construction phase and the first year of operation at a number of viewpoints as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105):	The proposed change allows the opportunity for a minor reduction to the construction work required as compared to what was assessed in the ES, however it is not considered to be of the scale that would result in a reduction of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** In operation, the proposed realignment of the overbridge will not be discernible in the wider landscape scale. The proposed change is not considered to be of the scale to result in new or different significant effects when considered in the context of the mainline A66. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Viewpoint 4.6 View from PRoW (footpaths) 336013 and 336014 at British Gypsum works looking south west; and Viewpoint 4.7A view from open space near Sanderson Croft looking north east. These are expected to reduce to non-significance by year 15.	
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Penrith to Temple Sowerby scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m from the proposed design change, approximately 40 residential receptors were reported as temporary adverse likely significant effects in the ES. These receptors are located on Sandersons Croft and Cross End to the south of the A66 mainline. Within the operational study area of 600m from the proposed design change, approximately 55 residential receptors that were reported as adverse likely significant effects in the ES. These receptors are located on Sandersons Croft and Cross End to the south of the proposed design change.	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** The dominant noise source affecting the noise sensitive receptors in this area would be from the traffic on the A66 mainline and the removal of the underpass is not anticipated to result in a substantial change in this alignment or the traffic flows in the local area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Approximately 125 residential receptors and six non-residential receptors were reported as beneficial likely significant effects in the ES. These receptors are located on Dunfell View, Cross End, Centurion Park, Piper Lane, Chapel Lane, Main Street, Millerstone Rise, Townhead Garth, Sandersons Croft, Fell Lane, Priest Lane and Sleastonhow Lane to the further south of the proposed design change.	
Population and Human Health	There are residual significant effects in construction and operation reported in the ES for the Temple Sowerby to Appleby scheme, however none of these are specifically associated with Green Lane Bridge.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change is anticipated to alter Public Rights of Way routes around the scheme with an increase in diversion of around circa 600m. However, the route is likely to be used recreationally so the additional journey length would not be significant. The retention of the Private Means of Access means that there is no difference in access. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect in operation.** There is no change to the air quality, population or noise and vibration assessment results , **therefore this proposed change is not anticipated to result in any different human health effects during construction or operation.**
Road Drainage and Water Environment	There are no residual significant effects in construction and operation reported in the ES for the Temple Sowerby to Appleby	The proposed change may require a change to the construction phase, potentially resulting differing construction methods, area and/or programme, however it is anticipated that any change in construction phase effects can be controlled by the requirements of the first iteration EMP (APP-019). **Therefore, it is not**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	scheme following the implementation of mitigation.	**anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**

3.13 DC-13 – Realignment of Main Street

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	There are no sensitive human or ecological receptors within 200m of the proposed change which may be affected by changes in air quality. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Biodiversity	There is a residual significant effect on barn owl during operation of the Temple Sowerby to Appleby scheme as a result of high risk of mortality and/or injury of individuals due to collisions with road traffic. This is residual as the necessary mitigation is anticipated to require a deviation from the standard of the road design and therefore is not guaranteed.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species however, the proposed change is considered to result in a reduction in construction works as a result of reducing the extent of new highway to be constructed and there is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to construction activity. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** There is barn owl mitigation proposed along this route and over this bridge, that is anticipated to be feasibly retained within this proposed change. There may be minor changes to habitat impacts which in isolation are not considered significant. Therefore, there is no change in significance of the results as reported in the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Temple Sowerby to Appleby scheme in the locality of the design change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change is within the Order Limits used for the assessment within the ES therefore it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains. There may be a reduction of effect as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	A major and moderate magnitude of impact is anticipated as a result of the construction phase of the Project. Major impacts are anticipated on Agricultural Land Classification (ALC) Grade 2 and Grade 3a soils with over 20ha of BMV land permanently lost in this scheme. Between 1-20ha of Grade 3b soils will be permanently sealed. This results in likely significant adverse effects.	The proposed design change may allow for a reduction in the construction footprint and therefore has the potential to allow for a non-significant reduction of effects on ALC Grade 3a and 2 soils as a consequence. However it is unlikely to be sufficient to be considered substantial enough to affect the significance of effects reported in the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	There are no likely significant effects predicted as a result of the operational phase of the Project.	**this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are significant effects identified for landscape character areas of Broad Valleys and Intermediate Farmland which are expected to continue into year 15. There are significant effects identified in the construction phase and the first year of operation at a number of viewpoints as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 4.7A View from open space near Sanderson Croft looking north east; and Viewpoint 4.6 View from PRoW (footpaths) 336013 and 336014 at Co-ordinates: NY 64577 26377 British Gypsum works looking south west. These are expected to reduce to non-significance by year 15.	The proposed Limit of Deviation changes allows the opportunity for a minor reduction to the construction work required as compared to what was assessed in the ES, however it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** In operation, proposed realignment of the tie in at Main Street and reduction of speed limit will not be discernible in the wider landscape scale. The proposed change is not considered to be of the scale to result in new or different significant effects when considered in the context of the mainline A66. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Temple Sowerby to Appleby scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		significant effects when compared to those reported in the ES for construction or operation.
Noise and Vibration	Within the construction phase study area of 300m from the design change, approximately 20 residential receptors were reported as adverse likely significant effects in the ES. These receptors are located on Sandersons Croft to the west of the proposed design change. Approximately 5 residential properties were reported as beneficial likely significant effects in the ES. These receptors are located on Cross End, Sleastonhow Lane and Fell Lane to the west of the proposed design in Kirby Thore. Potential temporary likely significant vibration effects on human receptors were reported in the ES if any vibration sensitive receptors are located within a distance of 100m during start-up and run-down of vibratory roller/compactor, 70m during steady state of vibratory compactors and 50m during vibratory piling phases. No vibration sensitive receptor is identified within the distance specified. Within the operational study area of 600m from the design change, approximately 60 residential receptors were reported as adverse likely significant effects in the ES. These receptors are located on Sandersons	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** The dominant noise source affecting the noise sensitive receptors in this area would be from the traffic on the A66 mainline and the Main Street realignment is not of a scale that would substantially change the operational noise and vibration effects assessed within the ES of the underpass is not anticipated to result in a substantial change in this alignment. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Croft to the west of the proposed design change. Approximately 55 residential receptors were reported as beneficial likely significant effects in the ES. These receptors are located on Millerstone Rise, Cross End, Townhead Garth, Sandersons Croft, Fell Lane, Main Street and Sleastonhow Lane to the west of the proposed design change in Kirby Thore.	
Population and Human Health	There are 21 and 16 residual significant effects in construction and operation, respectively, reported in the ES for Temple Sowerby to Appleby scheme, including land surrounding this design change.	The proposed change may allow for a reduction in land required for the realignment of Main Street, however it is not considered likely to affect the significance of the effect. Otherwise, The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** In operation, the proposed change is not anticipated to alter the level of access the road provides for users. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect in operation.** There is no change to the air quality, population or noise and vibration assessment results , **therefore this proposed change is not anticipated to result in any different human health effects during construction or operation.**
Road Drainage and Water Environment	There are no residual significant effects in construction and operation reported in the ES for the Temple Sowerby to Appleby scheme following the implementation of mitigation.	There are no watercourses likely to be impacted by the proposed change, it is outside any floodplain, there are no changes to drainage and there no significant new cuttings. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**

3.14 DC-14 – Realignment of Sleastonhow Lane

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	There are no sensitive human or ecological receptors within 200m of the proposed change which may be affected by changes in air quality. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Biodiversity	There is a residual significant effect on barn owl during operation of the Temple Sowerby to Appleby scheme as a result of high risk of mortality and/or injury of individuals due to collisions with road traffic. This is residual as the necessary mitigation is anticipated to require a deviation from the standard of the road design and therefore is not guaranteed.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species however, the proposed change is considered to result in a reduction in construction works as a result of reducing the extent of new highway to be constructed and there is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to construction activity. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction**. There is barn owl mitigation proposed along this route and over the Sleastonhow Lane bridge, that is anticipated to be feasibly retained within this proposed change. There may be minor changes to habitat impacts which in isolation are not considered significant. Therefore, there is no change in significance of the results as reported in the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	**not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Temple Sowerby to Appleby scheme in the locality of the design change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change is within the Order Limits used for the assessment within the ES therefore it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains. There may a reduction of effect as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	A major and moderate magnitude of impact is anticipated as a result of the construction phase of the Project. Major impacts are anticipated on Agricultural Land Classification (ALC) Grade 2 and Grade 3a soils with over 20ha of BMV land permanently lost in this scheme. Between 1-20ha of Grade 3b soils will be permanently	The proposed design change may allow for a reduction in construction footprint and therefore has the potential to allow for a non-significant reduction of effects on ALC Grade 3a soils as a consequence. However it is unlikely to be sufficient to be considered substantial enough to affect the significance of effects reported in the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	sealed. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	**this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are significant effects identified for landscape character areas of Broad Valleys and Intermediate Farmland which are expected to continue into year 15. There are significant effects identified in the construction phase and the first year of operation at a viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105).: Viewpoint 4.8 View from PRoW (footpath) 336005, Main Street Co-ordinates: NY 63890 25576 Kirkby Thore looking south east. These are expected to reduce to non-significance by year 15.	The proposed Limit of Deviation changes allows the opportunity for a minor reduction to the construction work required as compared to what was assessed in the ES, however it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** In operation, proposed realignment of the tie in at Main Street and reduction of speed limit will not be discernible in the wider landscape scale. The proposed change is not considered to be of the scale to result in new or different significant effects when considered in the context of the mainline A66. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Temple Sowerby to Appleby scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Noise and Vibration	Within the construction phase study area of 300m from the proposed design change, no temporary significant adverse effects were reported in the ES. Potential temporary significant vibration effects on human receptors were reported in the ES if any vibration sensitive receptors are located within a distance of 100m during start-up and run-down of vibratory roller/compactor, 70m during steady state of vibratory compactors and 50m during vibratory piling phases. No vibration sensitive receptor is identified within the distance specified. Within the operation phase study area of 600m from the centre of the design change, two residential receptors were reported as likely significant adverse effects in the ES. These receptors are located at Hare Cottage and Sleastonhow to the south east from the design change and to the east of the A66 mainline. Three residential receptors were reported as likely significant beneficial effects in the ES. These receptors are located at The Old Piggery, Kirkby Thore Hall and Field Head to the north west from the design change and to the west from the A66 mainline.	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** There is no aspect of this proposed change that would introduce new or different effects on noise and vibration during operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Population and Human Health	There are 21 and 16 residual significant effects in construction and operation, respectively, reported in the ES for Temple	The proposed change may allow for a reduction in land required for the realignment of Sleastonhow Lane, however it is not considered likely to affect the significance of the effect. The proposed change is not anticipated to result in any

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Sowerby to Appleby scheme, including land surrounding this design change.	material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** In operation, the proposed change is not anticipated to alter the level of access the road provides for users. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect in operation.** There is no change to the air quality, population or noise and vibration assessment results , **therefore this proposed change is not anticipated to result in any different human health effects during construction or operation.**
Road Drainage and Water Environment	There are no residual significant effects in construction and operation reported in the ES for the Temple Sowerby to Appleby scheme following the implementation of mitigation.	There are no watercourses likely to be impacted by the proposed change, it is not anticipated to change any floodplain, there are no changes to drainage and there no significant new cuttings. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**

3.15 DC-15 – Realignment of Crackenthorpe underpass

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	There are no sensitive human or ecological receptors within 200m of the proposed change which may be affected by changes in air quality. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Biodiversity	There is a residual significant effect on barn owl during operation of the Temple Sowerby to Appleby scheme as a result of high risk of mortality and/or injury of individuals due to collisions with road traffic. This is residual as the necessary mitigation is anticipated to require a deviation from the standard of the road design and therefore is not guaranteed.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species however, the proposed change is considered to result in a reduction in construction works as a result of reducing the extent of new highway to be constructed and there is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to construction activity. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** The structure affected by the proposed change does not support any mitigation that would act as a crossing point for protected species, however there may be minor changes to habitat impacts which in isolation are not considered significant. Therefore, there is no change in significance of the results as reported in the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	**not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Temple Sowerby to Appleby scheme in the locality of the design change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change is within the Order Limits used for the assessment within the ES therefore it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains. There may be a reduction of effect as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	A major and moderate magnitude of impact is anticipated as a result of the construction phase of the Project. Major impacts are anticipated on Agricultural Land Classification (ALC) Grade 2 and Grade 3a soils with over 20ha of BMV land permanently lost in this scheme during construction. Between 1-20ha of Grade 3b soils will be permanently sealed during	The proposed design change may allow for a reduction in construction footprint and therefore has the potential to allow for a non-significant reduction of effects on ALC Grade 3a soils as a consequence. However it is unlikely to be sufficient to be considered substantial enough to affect the significance of effects reported in the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	**this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are significant effects identified for landscape character areas of Broad Valleys and Intermediate Farmland in construction and year 1 of operation which are expected to continue into year 15. There are significant effects identified in the construction phase and the first year of operation at a viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 4.13 View from PRoW (bridleway) 317012 north-east of Co-ordinates: NY 66455 22549 Crackenthorpe looking East. These are expected to remain significant in Year 15.	The proposed Limit of Deviation changes allows the opportunity for a minor reduction to the construction work required as compared to what was assessed in the ES, however it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposal to reduce the skew in the underpass will likely have a minor effect on viewpoint 4.13 with more mature vegetation required to be removed than the DCO application, however this will only be discernible on the local level and is not large enough to influence landscape receptors. The proposed change is not considered to be of the scale to result in new or different significant effects when considered in the context of the mainline A66. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Temple Sowerby to Appleby scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		significant effects when compared to those reported in the ES for construction or operation.
Noise and Vibration	Within the construction phase study area of 300m from the proposed design change, no noise sensitive receptor is identified. No temporary adverse likely significant effects were reported in the Environment Statement. Within the operational phase study area of 600m from the proposed design change, no noise sensitive receptor is identified. No likely significant effects were reported in the Environment Statement.	As there is no sensitive receptor located within the study area the design change. Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction. As there is no sensitive receptor located within 600m from the design change, the proposed design change would not result in new adverse likely significant effects. Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.
Population and Human Health	There are 21 and 16 residual significant effects in construction and operation, respectively, reported in the ES for Temple Sowerby to Appleby scheme, however none of these are in the locality of the design change.	The proposed change may allow for a reduction in land required for the realignment of Crackenthorpe Underpass, however it is not considered likely to affect the significance of the effect. The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** In operation, the proposed change is not anticipated to alter the level of access the road provides for users. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect in operation.** There is no change to the air quality, population or noise and vibration assessment results , **therefore this proposed change is not anticipated to result in any different human health effects during construction or operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Road Drainage and Water Environment	There are no residual significant effects in construction and operation reported in the ES for the Temple Sowerby to Appleby scheme following the implementation of mitigation.	There are no watercourses likely to be impacted by the proposed change, it is not anticipated to change any floodplain, there are no changes to drainage and there no significant new cuttings. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**

3.16 DC-16 – Removal of Roger Head Farm overbridge

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	The proposed change will result in a reduction of construction work, however in the construction an NO_2 concentration of 7.6µg/m^3 was predicted at the closest human receptor (HSR 42 as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)) in the construction Do Something scenario, which is well below the annual mean air quality objective. It is not currently anticipated that any change in construction will be of the scale to result in any new or different significant effects in construction emissions at this receptor and therefore no further receptor is considered at risk. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the construction dust mitigation measures outlined in the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** An NO_2 concentration of 6.4µg/m^3 was predicted at the closest human receptor (HSR 42 as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)) in the operational Do Something scenario, which is well below the annual mean air quality objective. The proposed change is not anticipated to have an effect on the mainline A66 which is the dominant source of emissions, and **therefore it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Biodiversity	There is a residual significant effect on barn owl during operation of the Temple Sowerby to Appleby scheme as a result of high risk of mortality and/or injury of individuals due to collisions with road traffic. This is residual as the necessary mitigation is anticipated to require a deviation from the standard of the road design and therefore is not guaranteed.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species however, the proposed change is considered to result in a reduction in construction works as a result of removal of a new structure and there is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to construction activity. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change would result in the removal of an underpass which is proposed to include a bat crossing point in order to mitigate the severance a bat commuting route. By removing this crossing point, **there is a risk of a new likely significant effect in operation**. Should this mitigation be found to be feasibly retained within the design change, or relocated to a suitable place, then it possible that this risk can be reduce. As noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Temple Sowerby to Appleby scheme in the locality of the design change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change is within the Order Limits used for the assessment within the ES therefore it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains. There may be a reduction of effect as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation**.
Geology and Soils	A major and moderate magnitude of impact is anticipated as a result of the construction phase of the Project. Major impacts are anticipated on Agricultural Land Classification (ALC) Grade 2 and Grade 3a soils with over 20ha of BMV land permanently lost in this scheme during construction. Between 1-20ha of Grade 3b soils will be permanently sealed during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	The proposed design change may allow for a reduction footprint and therefore has the potential to allow for a non-significant reduction of effects on ALC Grade 3b soils as a consequence, however, the inclusion of a Public Right of Way it is anticipated may further impact Agricultural Land Classification Grade 3b. It is unlikely that either of these effects are of the scale to result in a new or different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are significant effects identified for landscape character areas of Broad Valleys and Intermediate Farmland in construction and year 1 of operation which are expected to continue into year 15. There are significant effects identified in the construction phase and the first year of operation at a viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 4.13 View from Public Right of Way (PRoW) (bridleway) and viewpoint 4.14 View from PRoW (footpath) 317004 nr. Roman Road. 317012 north east of Co-ordinates: NY 66455 22549 Crackenthorpe looking East. These are expected to continue into year 15.	The proposed removal of Rogerhead Farm Bridge allows the opportunity for a minor reduction to the construction work required as compared to what was assessed in the ES, however it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** In operation, proposed removal of Rogerhead Farm Bridge may result in minor reduction of impacts on visual receptors, however it will not be discernible in the wider landscape. The proposed change is not considered to be of the scale to result in new or different significant effects when considered in the context of the mainline A66. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Temple Sowerby to Appleby scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area**. Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m from the proposed design change, no noise sensitive receptor is identified, No	As there is no sensitive receptor located within the study area of the design change. **Therefore, it is not anticipated that this proposed change would**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	temporary likely significant effects were reported in the ES. Within the operational study area of 600m from the proposed design change, three residential properties were reported as adverse likely significant effects in the ES. Two of which are at Old Byre and Roger Head located to the west of the proposed design change. The remaining one residential property, Castrigg House, is located to the north-east from the proposed design change. These receptors are approximately in a distance of 330m. One residential property was reported as a beneficial likely significant effect in the ES. This receptor, Oak Dene, is located to the west of the proposed A66 and approximately 100m to the east of the existing A66.	**result in any new or different significant effects as compared to those reported in the ES during construction.** The dominant noise source affecting the noise sensitive receptors in this area would be from the traffic on the A66 mainline and the removal of the overbridge is not anticipated to result in a substantial change in this alignment. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**
Population and Human Health	There are 21 and 16 residual significant effects in construction and operation, respectively, reported in the ES for Temple Sowerby to Appleby scheme, however none of these are in the locality of the design change.	The proposed change may allow for a reduction in land required by removing the Rogerhead Farm Bridge, however it is not considered likely to affect the significance of the effect reported during construction. The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change will remove a Public Rights of Way crossing of the A66 is likely to require an increase in diversion length to link to the underpass to the

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		west. The route is likely to be used recreationally so the additional journey length would not be significant. Additionally, it is not anticipated to alter the level of access the road provides for users. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect in operation.**
Road Drainage and Water Environment	There are no residual significant effects in construction and operation reported in the ES for the Temple Sowerby to Appleby scheme following the implementation of mitigation.	There are no watercourses likely to be impacted by the proposed change, it is not anticipated to change any floodplain, there are no changes to drainage and there no significant new cuttings. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**

3.17 DC-17 – Café Sixty Six – Revised land plan

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	No significant effects for construction or operation reported in the ES for the Appleby to Brough scheme.	There is no change to the construction or operation of the scheme as the change is limited to the removal of area from the Order Limits that is not anticipated to change in the DCO design. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction or operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the Appleby to Brough scheme.	There is no change to the construction or operation of the scheme as the change is limited to the removal of area from the Order Limits that is not ecologically sensitive nor required for mitigation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.**
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Appleby to Brough scheme in the locality of the design change.	There is no change to the construction or operation of the scheme as the change is limited to the removal of area from the Order Limits that is not a cultural heritage receptor. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction or operation.**
Geology and Soils	Major impacts are anticipated on Agricultural Land Classification (ALC) Grade 3a with over 20ha of land permanently lost in this scheme during construction. Major	There is no change to the construction or operation of the scheme as the change is limited to the removal of area from the Order Limits that is not a geology and soils receptor. **Therefore, it is not anticipated that this proposed change**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	impacts are anticipated to Grade 3b soils with approximately 50ha of land permanently sealed during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	**would result in any new or different significant effects as compared to those reported in the ES for construction.**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are significant effects identified for landscape character areas of Broad Valleys and Foothills in construction and year 1 of operation which are expected to reduce to non-significant by year 15. There are significant effects identified in the construction phase and the first year of operation at one viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 6.1 view from Public Right of Way (footpath) 372028 north of Café Sixty Six. This is expected to reduce to non-significance by year 15.	There is no change to the construction or operation of the scheme as the change is limited to the removal of area from the Order Limits that is not anticipated to change in the DCO design. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction or operation.**
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Appleby Brough scheme.	The change is limited to the removal of an area from the Order Limits. This area did not affect the Materials and Waste assessment undertaken in the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m, one non-residential receptor, Café	There is no change to the construction or operation of the scheme as the change is limited to the removal of area from the Order Limits that is not anticipated to change in the DCO design. **Therefore, it is not anticipated that this proposed**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Sixty Six, was reported as an adverse likely significant effect in the ES. Within the operational phase study area of 600m, one non-residential receptor, Café Sixty Six, was reported as an adverse likely significant effect in the ES.	**change would result in any new or different significant effects as compared to those reported in the ES in construction or operation.**
Population and Human Health	There are 12 and 13 residual significant effects in construction and operation, respectively, reported in the ES for the Appleby to Brough scheme, however none of the receptors are in the locality of the design change.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** There is no change to the construction or operation of the scheme as the change is limited to the removal of area from the Order Limits that is not anticipated to change in the DCO design. The level of access provided to the Café Sixty Six is retained there should be no significant changes to the assessment. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.** There is no change to the air quality, population or noise and vibration assessment results , **therefore this proposed change is not anticipated to result in any different human health effects during construction or operation.**
Road Drainage and Water Environment	There is one residual significant effect following suitable mitigation outlined in ES for the Appleby to Brough scheme following the implementation of mitigation.	There is no change to the construction or operation of the scheme as the change is limited to the removal of area from the Order Limits that is not anticipated to change in the DCO design. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**

3.18 DC-18 – Revision to access for New Hall Farm and Far Bank End

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	There are no sensitive human or ecological receptors within 200m of the proposed change which may be affected by changes in air quality. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the Appleby to Brough scheme.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species however, the proposed change is considered to result in a reduction in construction works as a result of removal of a new structure and there is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to construction activity. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** There is barn owl mitigation proposed in this area which is anticipated to be feasibly retained within this proposed change. There may be minor changes to habitat impacts which in isolation are not considered significant. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Appleby to Brough scheme in the locality of the design change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change is within the Order Limits used for the assessment within the ES therefore it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains. There may a reduction of effect as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	Major impacts are anticipated on ALC Grade 3a with over 20ha of land permanently lost in this scheme. Major impacts are anticipated to Grade 3b soils with approximately 50ha of land permanently sealed during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	The proposed design change may allow for a reduction footprint and therefore has the potential to allow for a non-significant reduction of effects on ALC Grade 3a soils as a consequence. However it is unlikely to be sufficient to be considered substantial enough to affect the significance of effects reported in the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are significant effects identified for landscape character areas of Broad Valleys and Intermediate Farmland in construction and year 1 of operation. The effects are expected to reduce to non-significant by year 15. There are significant effects identified in the construction phase and the first year of operation at one viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 6.1 view from Public Right of Way (footpath) 372028 north of Café Sixty Six. This is expected to reduce to non-significance by year 15.	The proposed realignment of the New Hall Farm and Far Bank End Access allows the opportunity for a minor reduction to the construction work required as compared to what was assessed in the ES, however it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** In operation, the proposed change may result in minor reduction of impacts on visual receptors, however it will not be discernible in the wider landscape. The proposed change is not considered to be of the scale to result in new or different significant effects when considered in the context of the mainline A66. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Appleby to Brough scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m from the design change, no temporary adverse likely significant effect was reported in the ES.	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Within the operational phase study area of 600m, one non-residential receptor, Café Sixty Six, was reported as an adverse likely significant effect in the ES.	**new or different significant effects to those reported in the ES in construction.** There is no aspect of this proposed change that would introduce new or different effects on noise and vibration during operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Population and Human Health	There are 12 and 13 residual significant effects in construction and operation, respectively, reported in the ES for the Appleby to Brough scheme, however none of the receptors are in the locality of the design change.	The proposed change may allow for a reduction in land required by retaining the existing underpass however it is not considered to be of a scale whereby it is likely to affect the significance of the effect reported for construction in the ES. The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change will not alter the level of access to land or businesses during operation and does not reduce the level of PRoW provision that currently exists. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects during operation.** There is no change to the air quality, population or noise and vibration assessment results , **therefore this proposed change is not anticipated to result in any different human health effects during construction or operation.**
Road Drainage and Water Environment	There is one residual significant effect following suitable mitigation outlined in ES for the Appleby to Brough scheme following the implementation of mitigation.	There are no watercourses likely to be impacted by the proposed change, it is not anticipated to change any floodplain, there are no changes to drainage and there no significant new cuttings. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**

3.19 DC-19 – Realignment of cycleway local to Cringle and Moor Beck

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	The proposed change will result in a reduction of construction work, however in the construction an NO_2 concentration of 10.4µg/m^3 was predicted at the closest human receptor (HSR 46 as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)) in the construction Do Something scenario, which is well below the annual mean air quality objective (40µg/m^3). It is not currently anticipated that any change in construction will be of the scale to result in any new or different significant effects in construction emissions at this receptor and therefore no further receptor is considered at risk. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the construction dust mitigation measures outlined in the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** An NO_2 concentration of 6.3µg/m^3 was predicted at the closest human receptor (HSR 46 as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)) in the operational Do Something scenario, which is well below the annual mean air quality objective. The proposed change is not anticipated to have an effect on the mainline A66 which is the dominant source of emissions, and **therefore it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the Appleby to Brough scheme.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species however, the proposed change is considered to result in a reduction in construction works as a result of a new cycle track and associated infrastructure and there is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to construction activity. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		likely significant effects as compared to those reported in the ES in construction. The proposed change will result in the proposed cycleway moving to detrunked A66, this removes the need to build new watercourse crossings. This may lead to a reduction in adverse effect however it is unlikely to be considered significant. There may be minor changes to habitat impacts which in isolation are not considered significant. Therefore, there is no change in significance of the results as reported in the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Appleby to Brough scheme in the locality of the design change.	The proposed change requires a change to the Order Limits used for the assessment within the ES. However, the new area of Order Limits is within the alignment of the existing A66 which has already been developed, therefore it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains. There may be a reduction of effect as the proposed change presents the opportunity to reduce the extent of works within undeveloped land, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	Major impacts are anticipated on Agricultural Land Classification (ALC) Grade 3a with over 20ha of land permanently lost in this scheme during construction. Major impacts are anticipated to Grade 3b soils with approximately 50ha of land permanently sealed during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	The proposed design change may allow for a reduction of construction footprint within ALC Grade 3b and 3a soils and therefore has the potential to allow for a non-significant reduction of effects. However, it is unlikely to be sufficient to be considered substantial enough to affect the significance of effects reported in the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are significant effects in the construction phase and year one for landscape character areas Broad Valleys and Foothills in construction and year 1 of operation. The effects are expected to reduce to non-significant by year 15 of operation. There are significant effects identified in the construction phase at one viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105):	The proposed realignment of the proposed cycleway allows the opportunity for a minor reduction to the construction work required as compared to what was assessed in the ES, however it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** In operation, the proposed change may result in minor reduction of impacts on visual receptors as a result of a reduction of newbuilt infrastructure, however it will not be discernible in the wider landscape. The proposed change is not considered to be of the scale to result in new or different significant effects when considered in the context of the mainline A66. **Therefore, it is not anticipated that this**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Viewpoint 6.5 View from Minor road leading to Moor House Farm Co-ordinates: NY 74333 16789 looking South East shows significant effects in the construction phase. This is expected to reduce to non-significance by year 1 of operation.	**proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Appleby to Brough scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is a change in the Order Limits used in the assessment within the ES however, the new area of Order Limits is within the existing A66 and has already been developed. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m from the design change, two residential receptors were reported as adverse likely significant effects in the ES. These receptors are located immediately south of the existing A66. Within the operational study area of 600m, three residential receptors were reported as beneficial likely significant effects in the ES. These receptors are located at Wheatsheaf Farm, Wheatsheaf Cottage and Street House adjacent to the existing A66. One of which, Street House, located immediately north to the existing A66 is within NIA 10128.	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** There is no aspect of this proposed change that would introduce new or different effects on noise and vibration during operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Population and Human Health	There are 12 and 13 residual significant effects in construction and operation, respectively, reported in the ES for the Appleby to Brough scheme. Several new footpaths and cycleways will be introduced during operation. These are shown in the Walking, Cycling and Horse Riding Proposals (APP-010). The magnitude of impact is assessed to be minor beneficial as it will improve safety and access to a network of Public Rights of Ways. Overall, the scheme is likely to have a permanent slight beneficial effect on Walkers, Cyclists and Horse riders, which is not significant.	The proposed change may allow for a reduction in land required by relocating the cycleway onto the existing A66 however it is not considered that any change in land take would affect the significance of the effect reported in the ES. The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change will relocate the new cycleway but will not alter the level of provision. There is a change in Order Limits required, however the additional land is the existing A66 carriageway and its acquisition is unlikely to have an effect on surrounding business. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect in operation.**
Road Drainage and Water Environment	There is one residual significant effect following suitable mitigation in the ES for the Appleby to Brough scheme following the implementation of mitigation.	There it is not anticipated to change any floodplain, there are no changes to drainage and there no significant new cuttings. The proposed change removes new watercourse crossings from the DCO design, which is considered a reduction in adverse effect, however it is unlikely to be of a scale to result in a change in significance. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**

3.20 DC-20 – Update to Limits of Deviation on eastbound connection to local road (immediately west of Hayber Lane)

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	There are no sensitive human or ecological receptors within 200m of the proposed change which may be affected by changes in air quality. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Biodiversity	No significant effects for construction or operation reported in the ES for the Appleby to Brough scheme.	The proposed change to Limit of Deviation is to match the mainline A66 in the vertical Limit of Deviation which may result in differing construction areas as compared to what was assessed in the ES. The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species however, the proposed change is considered to result in a reduction in construction works should the road reduced in height compared to the DCO Design as earthworks would be reduced. There is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to construction activity. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is not anticipated to result in any changes in operation. There may be minor changes to habitat impacts which in isolation are not considered significant. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, **there is a risk of cumulative effects** on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Climate	Greenhhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES. The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Appleby to Brough scheme in the locality of the design change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change is within the Order Limits used for the assessment within the ES therefore it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains. There may be a reduction of effect as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	Major impacts are anticipated on Agricultural Land Classification (ALC) Grade 3a with over 20ha of land permanently lost in this scheme during construction. Major impacts are anticipated to Grade 3b soils with approximately 50ha of land permanently	The proposed design change may allow for a reduction in construction footprint should the height of the embankment be reduced and therefore has the potential to allow for a non-significant reduction of effects on ALC Grade 3a soils as a consequence. However it is unlikely to be sufficient to be considered substantial enough to affect the significance of effects reported in the ES. **Therefore, it is not**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	sealed during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	**anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are significant effects identified for landscape character areas of Broad Valleys and Intermediate Farmland in construction and year 1 of operation. The effects are expected to reduce to non-significant by year 15. There are significant effects identified in the construction phase and the first year of operation at one viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 6.5 view from Minor road leading to Moor House Farm Co-ordinates: NY 74333 16789 looking south east. This is expected to reduce to non-significance by year 15.	The proposed Limit of Deviation Change allows for the opportunity for a minor reduction to the construction work required as compared to what was assessed in the ES, however it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** In operation, the proposed change may result in minor reduction of impacts on visual receptors should the road be lowered alongside the mainline A66, however it will not be discernible in the wider landscape. The proposed change is not considered to be of the scale to result in new or different significant effects when considered in the context of the mainline A66. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Appleby to Brough scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale or nature that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale or nature to affect the assessed materials required for

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m from the design change, two residential receptors were reported as adverse likely significant effects in the ES. These receptors are at Walk Mill Barn and located immediately south of the existing A66 and north of the sideroad. Potential temporary significant vibration effects on human receptors were reported in the ES if any vibration sensitive receptors are located within a distance of 100m during start-up and run-down of vibratory roller/compactor, 70m during steady state of vibratory compactors and 50m during vibratory piling phases. No vibration sensitive receptor is identified within the study area. Within the operational phase study area of 600m from the design change, three residential receptors were reported as beneficial likely significant effects in the ES. These receptors are located at Wheatsheaf Farm, Wheatsheaf Cottage and Street House adjacent to the existing A66. One of which, Street House, located immediately north to the existing A66 is within NIA 10128.	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** There is no aspect of this proposed change that would introduce new or different effects on noise and vibration during operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Population and Human Health	There are 12 and 13 residual significant effects in construction and operation, respectively, reported in the ES for the Appleby to Brough scheme, however none of the receptors are in the locality of the design change.	The proposed change may allow for a reduction in land required should the side road be lowered within the Limit of Deviation however it is not considered likely to be a scale to affect the significance of the effect. The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change will not alter the level of access to land or businesses and does not reduce the level of PRoW provision that currently exists. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect during operation.**
Road Drainage and Water Environment	There is one residual significant effect following suitable mitigation in the ES for the Appleby to Brough scheme following the implementation of mitigation. The proposed change is linked to the DCO design viaducts which have been designed to allow movement of the channel, not constrain geomorphological and hydromorphological processes and to not increase flood risk downstream. This area is considered sensitive in terms of flood risk and the River Eden Special Area of Conservation.	The proposed change related to the side road connecting to the mainline A66 only, therefore is not anticipated to impact on the viaducts or the watercourses of Moor Beck and Cringle Beck which they cross. The design of the side road doesn't impact on the ability of the viaducts to meet all established mitigation criteria within the DCO application. There are no watercourses likely to be impacted by the proposed change, it is not anticipated to change any floodplain, there are no changes to drainage and there no significant new cuttings. The proposed change removes watercourse crossings from the DCO design, which is considered a reduction in adverse effect change, however it is unlikely to be of a scale or nature to result in a change in significance. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation**

3.21 DC-21 – Amendments to Order Limits within Ministry of Defence Land

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the Appleby to Brough scheme.	The proposed change is anticipated to result in a reduction of construction work, however in the construction an NO_2 concentration of 10.4µg/m^3 was predicted at the closest human receptor (HSR 46 as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)) in the construction Do Something scenario, which is well below the annual mean air quality objective (40µg/m^3). It is not currently anticipated that any change in construction will be of the scale to result in any new or different significant effects in construction emissions at this receptor and therefore no further receptor is considered at risk. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the construction dust mitigation measures outlined in the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** An NO_2 concentration of 6.3µg/m^3 was predicted at the closest human receptor (HSR 46 as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)) in the operational Do Something scenario, which is well below the annual mean air quality objective. The proposed change is not anticipated to have an effect on the mainline A66 which is the dominant source of emissions, and **therefore it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the Appleby to Brough scheme.	The proposed change may result in differing construction areas as compared to what was assessed in the ES, including a new area of Order Limits in order to accommodate mitigation that is not compatible with the operation of the Ministry of Defence facility. This additional area is within the existing A66 boundary and was surveyed as part of the Phase 1 surveys undertaken for the Project. The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species. Notwithstanding the commentary above it is considered that the existing controls within the first iteration

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** There may be a non-significant adverse effects in operation compared to the ES assessment as the revised mitigation is anticipated to be less suitable for supporting the protected species, including Red Squirrel, in this area. Additionally, there may be minor changes to habitat impacts which in isolation are not considered significant. Therefore, there is no change in significance of the results as reported in the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	There is one significant adverse effect in the locality of this design. This is a permanent moderate adverse, as a result of the removal of buried remains of the non-designated Sandford ring cairn.	The proposed change requires a change to the Order Limits used for the assessment within the ES. There is potential for a new minor impact and as a result two new effects, which are not significant, resulting from the inclusion of two non-designated earthworks identified from lidar and aerial photographs within the Order Limits. These are not considered to be of the scale to result in a change in significance due to the nature of the assets. **Therefore, it is not anticipated that**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction. The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.**
Geology and Soils	Major impacts are anticipated on ALC Grade 3a with over 20ha of land permanently lost in this scheme during construction. Major impacts are anticipated to Grade 3b soils with approximately 50ha of land permanently sealed during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	This design change is anticipated to result in reduced land take within ALC 3a and 4 areas and increased land take in ALC 4 areas. This reduction in ALC 3a is anticipated to result in a reduction which means that the total area now falls below 20ha of land and therefore may result in a minor improvement of the potential significant adverse effect though this remains significant. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are significant effects in the construction phase and year 1 for landscape character areas Broad Valleys and Foothills. The effects are expected to reduce to non-significant by year 15. There are significant effects identified in the construction phase at a number of viewpoints as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105):	The proposed change allows the opportunity for a minor reduction to the construction work required as compared to what was assessed in the ES, however it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.** The proposed change requires amendments to ecological mitigation planting which had been sensitively designed to avoid landscape effects in the sensitive area in the vicinity of the Northern Pennines Area of Outstanding Natural Beauty. In operation, the of removal of DCO design planting aside the existing A66, along with the introduction of linear planting to the east is anticipated to affect the landscape character in the local area. The introduction of two blocks of woodland planting on

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Viewpoints 6.4 view from B6259 south of the Eden Valley Railway bridge looking north; Viewpoint 6.5 view from minor road leading to Moor House Farm looking south east, view from Public Right of Way 372008 south of Langford Farm, looking north east; and Viewpoint 6.7 view from PRoW (footpath) 372021 north of Warcop Training Centre looking north east. These are expected to reduce to non-significance by year 15.	the lower slopes of the Northern Pennines AONB is not consistent with the immediate local landscape character are of Foothills. There is a **risk of a new significant effect lasting into year 15 on this Local Character Area**. The proposed changes to planting will be subject to further design including consideration such as an open woodland habitat with glades and rides and kept within clearly defined retained field boundaries, which is anticipated to lessen the effect on the landscape character. Woodlands should be designed with larger species in the core of the area and irregularly edges lower species to the periphery. Visual receptors will experience a visual journey differently to the DCO design with the amended planting locations with open views where there had previously not been any and restricted views where there had been the ability to appreciate them. There is **a risk of a new significant effect to viewpoint 6.6 view from PRoW (bridleway) 372008 south of Langford Farm, looking north-east**. It is anticipated that with careful design of the two woodland blocks on the lower Pennine slopes will aid visual integration with the scheme and not restrict key views of the Northern Pennines.
Materials and Waste	No construction or operation significant effects have been identified for the Appleby to Brough scheme.	There is a change in the Order Limits used in the assessment within the ES. The proposed change requires a change in Order Limits. There is a potential Mineral Consultation Area (MCA) for sand and gravel along entire scheme length, particularly to the south of existing carriageway. The amendment of the Order Limits, when considered in context of wider resource the scheme, would not diminish access to this potential MCA, additionally as the new area of Order Limits is within the Ministry of Defence operational land it is unlikely the site would be used for mineral extraction. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m, three residential properties in Sandford, nine residential receptors in Warcop, and four residential receptors in Broom Rigg were reported as adverse likely significant effects in the Environment Statement.	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Within the operational phase study area of 600m, 14 residential receptors were reported in Warcop, and three residential receptors in Broom Rigg were reported as likely significant adverse effects in the ES.	There is no aspect of this proposed change that would introduce new or different effects on noise and vibration during operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Population and Human Health	The Appleby to Brough scheme requires a land take from the Ministry of Defence (MoD). This includes the permanent acquisition of land which contains a playing field and a helipad, which could be utilised by emergency services and which has a high sensitivity. The loss represents a major adverse impact, which would be significant, however the embedded mitigation within the scheme design means that both the playing field and helipad will be relocated to the south of the scheme, off Castlehill Road. The replacement facilities will be fully operational before the closure of the existing provisions due to the potential use as an emergency services helipad. As such the residual impact will be no change which will be a neutral effect.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change will not alter the level of access to land or businesses and does not reduce the level of PRoW provision that currently exists. There is a change in Order Limits required, however this has been done in order to avoid impacts on the operational MoD facility. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect during operation.**
Road Drainage and Water Environment	There is one residual significant effect following suitable mitigation in the ES for the Appleby to Brough scheme following the implementation of mitigation.	There are no watercourses likely to be impacted by the proposed change, it is not anticipated to change any floodplain, there are no changes to drainage and there no significant new cuttings. The proposed change removes watercourse crossings from the DCO design, which is considered a reduction in adverse effect change, however it is unlikely to be of a scale or nature to result in a change in significance. **Therefore, it is not anticipated that this proposed change would result in**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		different likely significant effects as compared to those reported in the ES in construction or operation

3.22 DC-22 – Realignment of Warcop Westbound Junction

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	No significant effects for construction or operation reported in the ES for the Appleby to Brough scheme.	It is not anticipated that any change in construction will be of the scale to result in any new or different significant effects in construction emissions at this receptor and therefore no further receptor is considered at risk. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the construction dust mitigation measures outlined in the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** The ecological site Crooks Beck Alluvial Forest (part of the River Eden Special Area of Conservation) is located within 200m of this this design change. Sites such as this are not considered to be sensitive to nitrogen in-line with DMRB LA105 and the assessment reported in the ES identified that this ecological site is not predicted to increase nitrogen deposition greater than 1% of the lower critical load. The proposed change is not anticipated to affect the operational traffic volume. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the Appleby to Brough scheme.	The proposed change to Limit of Deviation may result in differing construction areas as compared to what was assessed in the ES. The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species however, the proposed change is considered to result in a reduction in construction works should the junction be made smaller. There is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to a smaller area of new highway to be constructed. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction. In operation, there the potential for the removal of two new crossings, within the slip road of the Warcop junction. This may result in an area of the floodplain of Crooks Beck being cut off and the pond proposed within the loop of the junction needing to be relocated. There is little space to relocate the pond outside of surrounding flood plain. This gives rise to, **a risk of a new significant adverse effect as a result of any changes to geomorphology, hydromorphology, water quality, and flood connectivity** that might arise in the removal of the crossings as the Crooks Beck is hydrologically linked to the River Eden Special Area of Conservation, which means the area is highly sensitive. There is the potential for non-compliance with the Habitats Regulations Assessment. Should the proposed change show that removal of the crossings in the DCO design does not adversely affect the geomorphology, hydromorphology, water quality, and flood connectivity allow is potential for non-significant reduction in adverse effects as compared to the ES if it is possible to avoid the requirement for two new crossings of the Crooks Beck.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Appleby to Brough scheme in the locality of the design change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change is within the Order Limits used for the assessment within the ES therefore it is not anticipated that there would be any change to the

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		assessment of the impact to buried archaeological remains. There may be a reduction of effect as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	Major impacts are anticipated on Agricultural Land Classification (ALC) Grade 3a with over 20ha of land permanently lost in this scheme during construction. Major impacts are anticipated to Grade 3b soils with approximately 50ha of land permanently sealed during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	The proposed design change may allow for a reduction in construction footprint should the height of the embankment be reduced and therefore has the potential to allow for a non-significant reduction of effects on ALC Grade 3a and 3b soils as a consequence. However it is unlikely to be sufficient to be considered substantial enough to affect the significance of effects reported in the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are significant effects in the construction phase and year one for landscape character area Broad Valleys and Foothills. The effects are expected to reduce to non-significant by year 15.	The proposed change allows the opportunity for a minor reduction to the construction work required as compared to what was assessed in the ES, however it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	There are significant effects identified in the construction phase and the first year of operation at one viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 6.7 view at Public Rights of Way (footpath) 372021 north of Warcop Training Centre looking north east; and Viewpoint 6.8 View from adjacent to Warcop Railway Station entrance Co-ordinates: NY 75396 15638looking north. These are expected to reduce to non-significance by year 15.	In operation, the proposed Limit of Deviation change may result in insufficient room for landscape integration such as slackening of embankments or mitigation planting of the southern elevation. This may result in **a risk of a new significant effect to viewpoint 6.7 view at Public Rights of Way (footpath) 372021 north of Warcop Training Centre looking north east lasting into year 15.** It is possible that detailed design solutions can be developed to integrate the junction into the surrounding landscape, thereby reducing this risk.
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Appleby to Brough scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m from the design change, seven residential receptors were reported as adverse likely significant effects in the ES. These receptors are located in Warcop to the south-west of the A66 and the proposed design change. Within the operational phase study area of 600m from the design change, seven	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	residential receptors were reported as adverse likely significant effects in the ES. These receptors are located in Warcop to the south-west of the A66 and the proposed design change.	There is no aspect of this proposed change that would introduce new or different effects on noise and vibration during operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Population and Human Health	There are 12 and 13 residual significant effects in construction and operation, respectively, reported in the ES for the Appleby to Brough scheme, however none of the receptors are in the locality of the design change.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change will not alter the level of access to land or businesses and does not reduce the level of PRoW provision that currently exists. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect in operation.**
Road Drainage and Water Environment	There is one significant effect in construction or operation reported in the ES for the Appleby to Brough scheme in the locality of the design change. The DCO design crossings were designed to allow movement of the channel, not constrain geomorphological and hydromorphological processes and to not increase flood risk downstream. The drainage pond is in a location that is not required for flood compensation storage.	There is the potential for the removal of two new crossings, within the slip road of the Warcop junction which may result in reduction of adverse effects compared to the ES. However, their removal may result in an area of the floodplain of Crooks Beck being cut off and the pond proposed within the loop of the junction needing to be relocated. There is little space to relocate the pond outside of surrounding flood plain. This gives rise to, **a risk of a new significant adverse effect as a result of any changes to flood risk** that might arise in the removal of the crossings as the Crooks Beck is hydrologically linked to the River Eden Special Area of Conservation, which means the area is highly sensitive. Flood risk is a known sensitive issue in the local area and drainage design would need to be developed to reduce this risk – this is yet to be confirmed. This will be developed in engagement with local stakeholders and relevant Statutory Environmental Bodies. Additionally, it should be noted that any changes to geomorphology, hydromorphology, water quality, and flood connectivity as a result of the above gives rise to a **risk of a new significant effect on watercourses which are**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		hydrologically linked to the River Eden Special Area of Conservation. See Biodiversity for additional detail.

3.23 DC-23 – Realignment of De-trunked A66 to be Closer to New Dual Carriageway at Warcop

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	There are no sensitive human or ecological receptors within 200m of the proposed change which may be affected by changes in air quality. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the Appleby to Brough scheme.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species however, the proposed change is considered to result in a reduction in construction works should the road reduced in height compared to the DCO Design as earthworks would be reduced. There is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to construction activity. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change may affect a crossing of Eastfield Sike which is hydrologically linked to River Eden Special Area of Conservation (SAC). This may alter the flood and geomorphological regime. The potential changes to flood and geomorphological regime, and reduction of crossing infrastructure for otter which are a SAC linked species, **there is a risk of a new significant effect on the River Eden SAC,** including the potential for non-compliance with the Habitats Regulations Assessment**.** Should the proposed change be developed to avoid effects on flood and geomorphological regime, it is possible this risk can be reduced. The DCO design includes a replacement and widening of existing culvert in order to allow for otter passage. If crossing point is shorter that will be a potential reduction of effects, but if the current culvert is retained it is not passable for otter therefore an opportunity for improvement for otter is lost. There may be non-

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		significant benefit in terms of reducing the amount of tree removal required compared to the DCO design.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Appleby to Brough scheme in the locality of the design change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change is within the Order Limits used for the assessment within the ES therefore it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains. There may be a reduction of effect as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	Major impacts are anticipated on ALC Grade 3a with over 20ha of land permanently lost in this scheme during construction. Major impacts are anticipated to Grade 3b soils with	The proposed design change may allow for a reduction in construction footprint should the height of the embankment be reduced and therefore has the potential to allow for a non-significant reduction of effects on ALC Grade 3a and 3b soils as a consequence. However it is unlikely to be sufficient to be considered substantial enough to affect the significance of effects reported in the ES. **Therefore, it is not**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	approximately 50ha of land permanently sealed during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	**anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are significant effects in the construction phase and year one for landscape character area Broad Valleys and Foothills. The effects are expected to reduce to non-significant by year 15. There are significant effects identified in the construction phase and the first year of operation at one viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 6.7 view at Public Rights of Way (footpath) 372021 north of Warcop Training Centre looking north east; and Viewpoint 6.8 view from adjacent to Warcop Railway Station entrance Co-ordinates: NY 75396 15638 looking north. These are expected to reduce to non-significant by year 15.	The proposed change allows the opportunity for a minor reduction to the construction work required as compared to what was assessed in the ES, however it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** In operation, the proposed change may result in minor reduction of impacts on visual receptors should the de-trunked A66 be brought closer to the new mainline A66 however it will not be discernible in the wider landscape. The proposed change is not considered to be of the scale to result in new or different significant effects when considered in the context of the mainline A66. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Appleby to Brough scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m from the design change, three residential receptors were reported as adverse likely significant effects in the ES. These receptors are located in Warcop to the south west of the A66 and the proposed design change. Within the operational phase study area of 600m from the design change, seven residential receptors were reported as adverse likely significant effects in the ES. These receptors are located in Warcop to the south-west of the A66 and the proposed design change.	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** There is no aspect of this proposed change that would introduce new or different effects on noise and vibration during operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Population and Human Health	There are 12 and 13 residual significant effects in construction and operation, respectively, reported in the ES for the Appleby to Brough scheme, however none of the receptors are in the locality of the design change.	It is not anticipated to result in any substantial worsening of the assumptions of construction method, programme and construction site boundary that were used within the ES assessment that could not be controlled by the requirements of the EMP. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect in construction.** The proposed change will not alter the level of access to land or businesses and does not reduce the level of PRoW provision that currently exists. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect during operation.**
Road Drainage and Water Environment	There is one residual significant effect following suitable mitigation in the ES for the Appleby to Brough scheme following the implementation of mitigation.	The proposed change includes an alteration to the crossing of Eastfield Sike compared to the DCO design and is anticipated to affect works within a sensitive area for flooding. Flood compensation was developed taking the DCO design crossing into account and may therefore be less effective with this crossing

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		changed. This gives rise to the **risk of a new significant adverse effect to flood risk**. Eastfield Sike is hydrologically linked to the River Eden Special Area of Conservation, therefore the potential impacts on flood risk and Eastfield Sike crossing gives rise to a **risk of new significant effect to the River Eden SAC.** The DCO design crossing is considered an improvement when compared to the current conditions which is not anticipated to be realised in this proposed change. Flood risk is a known sensitive issue in the local area and drainage design would need to be developed to reduce flood risk and resultant effects on the River Eden SAC, although this yet to be confirmed. This will be developed in engagement with local stakeholders and relevant Statutory Environmental Bodies.

3.24 DC-24 – Reuse of Existing A66 (North of Flitholme)

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	There are no sensitive human or ecological receptors within 200m of the proposed change which may be affected by changes in air quality. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the Appleby to Brough scheme.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species however, the proposed change is considered to result in a reduction in construction works should the junction be made smaller. There is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to a smaller area of new highway to be constructed. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is not anticipated to result in any changes in operation. There may be minor changes to habitat impacts which in isolation are not considered significant. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	**significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Appleby to Brough scheme in the locality of the design change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change is within the Order Limits used for the assessment within the ES therefore it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains. There may be a reduction of effect as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	Major impacts are anticipated on ALC Grade 3a with over 20ha of land permanently lost in this scheme during construction. Major impacts are anticipated to Grade 3b soils with approximately 50ha of land permanently sealed during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	The proposed change to use the existing road would result in less land take and prevent a new highway to be built. However, to maintain the vertical clearance at the underbridge significant cutting may be required therefore this further impacts ALC Grade 3a soils. Therefore, it is unlikely to be sufficient to be considered substantial enough to affect the significance of effects reported in the ES. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there	The proposed change allows the opportunity for a minor reduction to the construction work within the North Pennines Area of Outstanding Natural Beauty

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	are significant effects identified for landscape character areas of Broad Valleys and Intermediate Farmland in construction and year 1 of operation. The effects are expected to reduce to non-significant by year 15. There are significant effects identified in the construction phase and the first year of operation at one viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 6.9 view from PRoW (bridleway) 350017 south of Lowgill Beck . These are expected to reduce to non-significant by year 15.	required as compared to what was assessed in the ES, however it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** In operation, the proposed change may result in minor reduction of impacts on visual receptors should the existing A66 be able to be reused, be brought closer to the new mainline A66 however it will not be discernible in the wider landscape. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Appleby to Brough scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area, four residential receptors were reported as adverse likely significant effects in the ES. Of which, three receptors are located at Low Broomrigg, Thunderstones and Broomrigg House to the east of the proposed design change and one	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	property, High Wood Holme, is located to the south-west of the proposed design change. Potential temporary significant vibration effects on human receptors were reported in the ES if any vibration sensitive receptors are located within a distance of 100m during start-up and run-down of vibratory roller/compactor, 70m during steady state of vibratory compactors and 50m during vibratory piling phases. There are residential receptors are located within the distance. Within the operational phase study area of 600m, three residential receptors were reported as likely significant adverse effects in the ES. These receptors are located at Low Broomrigg, Thunderstones and Broomrigg House to the east of the proposed design change.	There is no aspect of this proposed change that would introduce new or different effects on noise and vibration during operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Population and Human Health	There are 12 and 13 residual significant effects in construction and operation, respectively, reported in the ES for the Appleby to Brough scheme, however none of the receptors are in the locality of the design change.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change will not alter the level of access to land or businesses and does not reduce the level of PRoW provision that currently exists. **Therefore, the**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		proposed design change is not anticipated to result in a new adverse likely significant effect during operation.
Road Drainage and Water Environment	There is one residual significant effect following suitable mitigation in the ES for the Appleby to Brough scheme following the implementation of mitigation.	The proposed change is not anticipated to result any substantial worsening of the assumptions of construction method, programme and construction site boundary that were used within the ES assessment that could not be controlled by the requirements of the first iteration EMP. However there may be new cuttings required should the full extent of the Limit of Deviation be utilised. This give rise to **risk of a new significant adverse effect to groundwater** The proposed change may result in change to drainage design. **There is a risk of a new significant adverse effect in operation as a result of this change in design to surrounding watercourses,** however, it is possible that mitigation through design of drainage could be achieved to ensure the Highways England Water Risk Assessment Tool (HEWRAT) gives a passable score, this means that there will be appropriate levels of water quality in the discharge from the highways drainage system. However, this is yet to be confirmed.

3.25 DC-25 – Removal of Langrigg westbound junction, revision to Langrigg Lane link, and Shortening of Flitholme Road

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	The proposed change is anticipated to reduce construction work in the vicinity of HSR 48 (as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)), however construction phase NO_2 has not been modelled at this receptor. This is because only those receptors located at the worst case locations need to be assessed (i.e. the closest receptors to the road alignment) of which HSR 48 is not, as other receptors are closer to the proposed Scheme. Therefore if no significant effect is demonstrated at a worst case location the same can be said of properties further from the road, due to the decrease in NO_2 concentrations as distance increases from the roadside. However the modelled construction phase NO_2 is not anticipated to change in the DCO design for any human sensitive receptor on the Appleby to Brough scheme. It is not currently anticipated that any change in construction will be of the scale to result in any new or different significant effects in construction emissions. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the construction dust mitigation measures outlined in the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** An NO_2 concentration of 4.9µg/m^3 was predicted at the closest human receptor (HSR 48 as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)) in the operational Do Something scenario, which is well below the annual mean air quality objective. The proposed change is not anticipated to have an effect on the mainline A66 which is the dominant source of emissions, and **therefore it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species however, the

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	the ES on any biodiversity receptor on the Appleby to Brough scheme.	proposed change is considered to result in a reduction in construction works with the removal of the left-in/left-out junction and movement of the sideroad. There is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to a smaller area of new hardstanding and the opportunity to move the link road north, closer to the mainline A66 and further from an area of potential high value fen habitat. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is not anticipated to result in any changes in operation. There may be minor changes to habitat impacts which in isolation are not considered significant. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Appleby to Brough scheme in the locality of the design change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change requires a change to the Order Limits used for the assessment within the ES, however it is not anticipated that there would be any

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		change to the assessment of the impact to buried archaeological remains as the required land is not within an area of concern for archaeology. There may be a reduction of effect as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	Major impacts are anticipated on Agricultural Land Classification (ALC) Grade 3a with over 20ha of land permanently lost in this scheme during construction. Major impacts are anticipated to Grade 3b soils with approximately 50ha of land permanently sealed during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	The proposed design change includes the removal of the junction which will have a reduced impact on Agricultural Land Classification Grade 3b soils. This has the potential to result in a slight reduction in effect, however it is unlikely to be sufficient to be considered substantial enough to affect the significance of effects reported in the ES. There is a new area of Order Limits required, however **it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are significant effects in construction phase and year 1 of operation for landscape character areas of Broad Valley and Foothills. The effects are expected to reduce to non-significant by year 15.	The proposed change allows the opportunity for a minor reduction to the construction work within the North Pennines Area of Outstanding Natural Beauty required as compared to what was assessed in the ES, however it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	There are significant effects identified in the construction phase and the first year of operation at one viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 6.9 View from PRoW (bridleway) 350017 south of Lowgill Beck Co-ordinates: NY 76727 14984 looking North. These are expected to reduce to non-significant by year 15.	In operation, proposed change may result in minor reduction of impacts on visual receptors as a result of the reduction in works. The proposed change will be subject to further design which will identify solutions to adapt landscape planting to integrate the proposed change into the surrounding landscape. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Appleby to Brough scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is a small change in the Order Limits used in the assessment within the ES, however due to the scale and location of the proposed extension, it is not considered to be a risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area, four residential receptors were reported as adverse likely significant effects in the ES. Of which, three receptors are located at Low Broomrigg, Thunderstones and Broomrigg House to the east of the proposed design change and one property, High Wood Holme, is located to the south-west of the proposed design change. Potential temporary significant vibration effects on human receptors were reported	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** There is no aspect of this proposed change that would introduce new or different effects on noise and vibration during operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	in the ES if any vibration sensitive receptors are located within a distance of 100m during start-up and run-down of vibratory roller/compactor, 70m during steady state of vibratory compactors and 50m during vibratory piling phases. Thea residential receptors are located within the distance. Within the operational phase study area of 600m, three residential receptors were reported as likely significant adverse effects in the ES. These receptors are located at Low Broomrigg, Thunderstones and Broomrigg House to the east of the proposed design change.	
Population and Human Health	There are 12 and 13 residual significant effects in construction and operation, respectively, reported in the ES for the Appleby to Brough scheme, however none of the receptors are in the locality of the design change.	The proposed change may allow for a reduction in land required however it is not considered to be of a scale that is likely to affect the significance of the effect. The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change will not alter the level of access to land or businesses and does not reduce the level of PRoW provision that currently exists. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect during operation.**
Road Drainage and Water Environment	There is a residual significant effect on Flitholme Fen which is a potential Ground Water Dependant Terrestrial Ecosystem	The proposed change gives rise to the is potential for a positive impact should the road alignment be moved northwards out of Flitholme Fen, removing a significant

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	(GWDTE) related to the location of the link road potentially affected by this change.	effect on GWDTE and Spring. There are no watercourses likely to be impacted by the proposed change, it is not anticipated to change any floodplain, and there no significant new cuttings. The proposed change has the potential to reduce an adverse effect on the Flitholme Fen GWDTE by moving the alignment of the link road further from it and allows for the avoidance of Flitholme Spring. It is acknowledged that there is a proposal to relocate the ponds within this design change, however, this proposed change is not anticipated to require a revised drainage design, the existing drainage design is anticipated to be sufficient. The proposed change allows for the opportunity to relocate the pond currently situated to the south of this link road further north. As this pond relocation is not required to accommodate the proposed change, its relocation is considered to be sufficiently controlled by requirements of detailed drainage design. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation**

3.26 DC-26 - Revision to West View Farm Accommodation Bridge and Removal of West View Farm Underpass

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	The proposed change is anticipated to reduce construction work in the vicinity of HSR 50 (as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)), however construction phase NO_2 has not been modelled at this receptor. This is because only those receptors located at the worst case locations need to be assessed (i.e. the closest receptors to the road alignment) of which HSR 50 is not, as other receptors are closer to the proposed Scheme. Therefore if no significant effect is demonstrated at a worst case location the same can be said of properties further from the road, due to the decrease in NO_2 concentrations as distance increases from the roadside. However the modelled construction phase NO_2 is not anticipated to change in the DCO design for any human sensitive receptor on the Appleby to Brough scheme. It is not currently anticipated that any change in construction will be of the scale to result in any new or different significant effects in construction emissions. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the construction dust mitigation measures outlined in the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** An NO_2 concentration of 7.0µg/m^3 was predicted at the closest human receptor (HSR 50 as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)) in the operational Do Something scenario, which is well below the annual mean air quality objective. The proposed change is not anticipated to have an effect on the mainline A66 which is the dominant source of emissions, and **therefore it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the Appleby to Brough scheme.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species however, the proposed change is considered to result in a reduction in construction works should the underpass be removed, and the overbridge made smaller. There is therefore

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		potential for a slight reduction in effects on biodiversity during the construction phase due to a smaller area of new hardstanding and one less new structure to be constructed. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is not anticipated to result in any changes in operation. There may be minor changes to habitat impacts which in isolation are not considered significant. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	The ES reports that there would be a temporary significant adverse effect on the Grade II listed Boundary Stone to north of Bullistone Cottage, which would need to be relocated from its current position for the construction of the Left In/Left Out junction. This would be a moderate	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change requires a change to the Order Limits used for the assessment within the ES, however it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains as the required land is not within an area of concern for archaeology. The change in the design may allow for the listed boundary stone to not need to be relocated.

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	adverse effect lasting until reinstatement is possible, providing this is reinstated as close to its original position as possible.	However, it is still within the Order Limits so a worst-case assumption has been made that temporary relocation would still be required., however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	Major impacts are anticipated on ALC Grade 3a with over 20ha of land permanently lost in this scheme during construction. Major impacts are anticipated to Grade 3b soils with approximately 50ha of land permanently sealed during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	The proposed design change includes the removal of the junction which will have a reduced impact on Agricultural Land Classification Grade 3b soils. This has the potential to result in a slight reduction in effect, however it is unlikely to be sufficient to be considered substantial enough to affect the significance of effects reported in the ES. There is a new area of Order Limits required, however it **is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are significant effects in construction phase and year 1 of operation for landscape character areas of Broad Valleys and Foothills. The effects are expected to reduce to non-significant by year 15. There are significant effects identified in the construction phase and the first year of	The proposed change allows the opportunity for a minor reduction to the construction work within the North Pennines Area of Outstanding Natural Beauty required as compared to what was assessed in the ES, however it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change may allow for the a reduction of works to the southern alignment of this overbridge, with the overbridge moving towards the west there is

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	operation at one viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 6.11A view from adjacent to PRoW 309003 (bridleway) Co-ordinates: NY 78768 15045 and PRoW (footpath) 309034 looking north west; and Viewpoint 6.12 view from PRoW (footpath) 329001 between A66 Helbeck Road looking south west. These are expected to reduce to non-significant by year 15.	the potential to retain existing mature vegetation lining the track adjacent to Croft Cottage which is anticipated to reduce effects to the landscape receptor whilst also offering some visual screening for views towards the north west from Croft Cottage of the new overbridge, however this is not considered to be of the scale to result in new or different significant effects in the context of the A66 mainline. The inclusion of screen planting from sensitive visual receptors would likely lessen the visual effects experienced by the PRoW. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Appleby to Brough scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES, therefore it is not considered to be a risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area from the proposed design change, five receptors were reported as adverse likely significant effects in the ES. Of which, four are residential receptors and one is a non-residential receptor. These receptors are located at West View Farm to the west of the proposed design change, Croft Cottage is located immediately south of the proposed change and Grey Horse	A residential receptor, Croft Cottage, located immediately south of the design change may experience slightly less construction impacts due to the realignment of the junction and earthworks associated with that. It is not anticipated to result any substantial worsening of the assumptions of construction method, programme and construction site boundary that were used within the ES assessment that could not be controlled by the requirements of the EMP (APP-019). Therefore, **the proposed design change is not anticipated to result in a new adverse likely significant effect in construction.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Stables is located further south of the design. Within the operational phase study area of 600m, four receptors were reported as adverse likely significant effects in the ES. Of which, three are residential receptors and one is a non-residential receptor. These receptors are located at West View Farm to the west of the proposed design change.	There is no aspect of this proposed change that would introduce new or different effects on noise and vibration during operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Population and Human Health	There are 12 and 13 residual significant effects in construction and operation, respectively, reported in the ES for the Appleby to Brough scheme, however none of the receptors are in the locality of the design change.	The proposed change may allow for a reduction in land required however it is not considered to be of a scale that is likely to affect the significance of the effect. The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change will not alter the level of access to land or businesses and does not reduce the level of PRoW provision that currently exists. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect during operation.**
Road Drainage and Water Environment	There is one residual significant effect following suitable mitigation in the ES for the Appleby to Brough scheme following the implementation of mitigation.	There are no watercourses likely to be impacted by the proposed change, it is not anticipated to change any floodplain, there are no changes to drainage. There is potential for a reduction in cuttings in the removal of the new underpass which may reduce adverse effects on groundwater, however it is not anticipated to be of a scale to result in new or different significant effects. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation**

3.27 DC-27 - Construction of Noise Barrier South of Brough

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	The proposed change is anticipated to reduce construction work in the vicinity of HSR 52 and HSR 53 (as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)), however construction phase NO_2 has not been modelled at this receptor. This is because only those receptors located at the worst case locations need to be assessed (i.e. the closest receptors to the road alignment) of which HSR 53 is not, as other receptors are closer to the proposed Scheme. Therefore if no significant effect is demonstrated at a worst case location the same can be said of properties further from the road, due to the decrease in NO_2 concentrations as distance increases from the roadside. However the modelled construction phase NO_2 is not anticipated to change in the DCO design for any human sensitive receptor on the Appleby to Brough scheme. It is not currently anticipated that any change in construction will be of the scale to result in any new or different significant effects in construction emissions. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the construction dust mitigation measures outlined in the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** An NO_2 concentration of 7.5µg/m^3 and 7.0µg/m^3 was predicted at the closest human receptor (HSR 52 and HSR 53 respectively as shown on Figure 5.1 Air Quality Study Area and Constraints (APP-065)) in the operational Do Something scenario, which is well below the annual mean air quality objective. The proposed change is not anticipated to have an effect on the mainline A66 which is the dominant source of emissions, and **therefore it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in	The proposed change requires an additional area of Order Limits. While this area has not been subject to the full suite of surveys undertaken for the Order Limits of the DCO design, the area was picked up almost in its entirety in the Phase 1

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	the ES on any biodiversity receptor on the Appleby to Brough scheme.	Habitat surveys undertaken for the DCO design which includes a 250m survey buffer. The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species due to the new areas of Order Limits. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is not anticipated to result in any changes in operation. There may be minor changes to habitat impacts which in isolation are not considered significant. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Appleby to Brough scheme in the locality of the design change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change requires a change to the Order Limits used for the assessment within the ES, however it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains as the

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		required land is within the highways verge and has been previously developed. There may be a reduction of effect as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	Major impacts are anticipated on Agricultural Land Classification (ALC) Grade 3a with over 20ha of land permanently lost in this scheme during construction. Major impacts are anticipated to Grade 3b soils with approximately 50ha of land permanently sealed during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	The proposed change introduces a new area within the Order Limits however it falls within the 250m study area that was assessed in the ES. Due to the location of the strip of land being between the highway boundary and a residential area, the land is considered Urban soils. No additional impacts are considered likely. Mitigation measures for construction in this area would require a Foundations Pile Risk Assessment and Aquifer Protection Measures due to the principal Penrith Sandstone Aquifer (depending on foundation / construction methods) which are outlined in the Environmental Management Plan [**APP-019**]. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are significant effects in for landscape character areas of Broad Valley which are anticipated to last into year 15. There are no significant effects identified at any viewpoint as shown on ES Figure 10.4	Though there is a change in Order Limits, any resultant change to the construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the mitigation measures outlined in the first iteration EMP (APP-019) and the Project Design Principles (APP-302). **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105).	The extension of the Order Limits to accommodate noise barriers will not be out of character with typical built forms found within this environment compared with the overall landscape scale transitioning from rural to urban. Visual receptors around Lady Anne Drive have a moderate sensitivity, there will be a negligible magnitude of change as the introduction of the built form for noise barriers is consistent with the existing landscape grain where residential properties are bounded by timber fences or walls. There will be a slight adverse significance for residential visual receptors, but this is not considered significant. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	No construction or operation significant effects have been identified for the Appleby to Brough scheme.	There is requirement for a change of Order Limits within this design change. The new area of Order Limits is within a potential Mineral Consultation Area (MCA) for sand and gravel along entire route length, particularly to the south of existing carriageway. Widespread new engineering structures could impact or limit future extraction around the immediate vicinity of road. However, when considered in context of wider resource the scheme would not diminish access. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m there are no significant affects reported. With the study area of 600m, 16 residential receptors were reported as adverse likely significant effects in the ES. These receptors are located close to the existing A66 on Lady Anne Drive and Pembroke Close in Brough. Noise mitigation has been proposed in a form of noise barrier, 2-3m in height and 35m in length (Ref. 52). With this mitigation in	Noise associated with the construction of the noise barrier fence may result in temporary noise impacts at the closest receptors. However, it is understood that such construction activities would be relatively short and would not exceed 10 or more days and/or night in any 15 consecutive days and/or nights or a total number of 40 or more days in any six consecutive months. Therefore, it is unlikely the proposed design change in this area would result in a new adverse likely significant effect. . Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the mitigation measures outlined in the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES in construction.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	place, the identified significant effects would likely be removed.	The operational effects of the proposed design change in this area are already reported within the ES. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect in operation.**
Population and Human Health	There are 12 and 13 residual significant effects in construction and operation, respectively, reported in the ES for the Appleby to Brough scheme, however none of the receptors are in the locality of the design change.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** There is a change in Order Limits required, however the area of Order Limits are within the highways verge of the existing A66 and is not anticipated to alter the level of access to land or businesses and does not reduce the level of PRoW provision that currently exists. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect during operation.**
Road Drainage and Water Environment	There is one residual significant effect following suitable mitigation in the ES for the Appleby to Brough scheme following the implementation of mitigation.	The proposed change requires additional area to be incorporated into the Order Limits, however there are no watercourses likely to be impacted by the proposed change, it is not anticipated to change any floodplain, there are no changes to drainage and there no significant new cuttings. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation**

3.28 DC-28 - Realignment of Local Access Road to be Closer to New Dual Carriageway East of Bowes

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	There are no sensitive human or ecological receptors within 200m of the proposed change which may be affected by changes in air quality. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Biodiversity	There are no residual significant effects for construction or operation reported in the ES on any biodiversity receptor on the Bowes Bypass scheme.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species however, the proposed change is considered to result in a reduction in construction works should the junction be made smaller. There is therefore potential for a slight reduction in effects on biodiversity during the construction phase due to a smaller area of new highway to be constructed. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** There is bat mitigation planting in the area of the proposed change which is anticipated to be feasibly retained within the change. Barn owl obstacle planting is proposed in this location and should be retained within the proposed change. . There may be minor changes to habitat impacts which in isolation are not considered significant. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	**not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	There are significant adverse effects related to this design element (temporary construction, permanent construction and operation) to a group of three listed buildings at Stone Bridge Farmhouse.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change requires a change to the Order Limits used for the assessment within the ES, however it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains as the required land is within the highways verge and has been previously developed. There may be a reduction of effect as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** There would be changes to the East Bowes Accommodation Overpass, there would be no change to the area immediately north of the listed farmhouse group. The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	A moderate magnitude of impact is predicted, for the topic of geology and soils, as a result of the construction phase of the Project. Moderate impacts are anticipated to Agricultural Land Classification (ALC) Grade 3b soils with between 1- 20ha of land permanently	The proposed design change provides the opportunity to reduce the span of the East Bowes Accommodation Bridge which would have a minimal influence on reducing the impact on Agricultural Land Classification Grade 3b soils due to a potential reduction in land take. It is unlikely to be sufficient to be considered substantial enough to affect the significance of effects reported in the ES. **Therefore, it is not anticipated that this proposed change would result in**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	sealed during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	**any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are no significant effects identified for landscape character areas. There are significant effects identified at a number of viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 7.7A from PRoW (footpath) no.8 adjacent to Mid Low Field Farm, looking north west. This is expected to reduce to non-significant by year 15. There are significant effects identified for viewpoints 7.7 View from The Street, looking north-east and 7.7B View from PRoW (footpath) no.6, looking south which are expected to remain into year 15.	The proposed change it is not considered to be of the scale that would result in a change in significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change requires a change in the Limit of Deviation which may lead to a change in significance at visual receptors as reported in the previous column. Altering the Limit of Deviation from the DCO application will have an influence on the local landscape character, however it is not anticipated to be perceived on a larger scale due to the existing topography of the area. A change in the proposed height will be absorbed into the wider landscape. The proposals here for the LOD to be +/-2m from 1m (as in the DCO application) is anticipated to affect visual receptors as reported in the previous column. The combination of the worst-case scenario of+2m combined with the overbridge in this location gives **rise to a risk of a new significant adverse effect for visual receptors**.
Materials and Waste	No construction or operation significant effects have been identified for the Appleby to Brough scheme.	There is requirement for a change of Order Limits within this design change. The new area of Order Limits is within a potential Mineral Consultation Area (MCA) for sand and gravel along the entire route length, particularly to the south of existing carriageway. Widespread new engineering structures could impact or limit future extraction around the immediate vicinity of road. However, when considered in context of wider resource the scheme would not diminish access. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Noise and Vibration	Within the construction phase study area of 300m from the design change, one residential receptor (Stone Bridge Farm) was reported as adverse likely significant effects in the ES. This receptor is located approximately 300m from the proposed design change and immediately south of the proposed A66. Within the operational phase study area of 600m from the design change, one residential receptor (Stone Bridge Farm) was reported as adverse likely significant effects in the ES. This receptor is located approximately 300m from the proposed design change and immediately south to the proposed A66.	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** There is no aspect of this proposed change that would introduce new or different effects on noise and vibration during operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Population and Human Health	There are 18 and four residual significant effects in construction and operation, respectively, reported in the ES for the Bowes scheme, however none of the receptors are in the locality of the design change.	The proposed change may allow for a reduction in land required however it is not considered likely to be of a scale to affect the significance of the effect. The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change will not alter the level of access to land or businesses and does not reduce the level of PRoW provision that currently exists. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect during operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Road Drainage and Water Environment	There is one residual significant effect following suitable mitigation in the ES for the Appleby to Brough scheme following the implementation of mitigation.	There are no watercourses likely to be impacted by the proposed change, it is not anticipated to change any floodplain, there are no changes to drainage and there no significant new cuttings. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation**

3.29 DC-29 - Realignment of A66 Mainline and Collier Lane

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	There are no sensitive human or ecological receptors within 200m of the proposed change which may be affected by changes in air quality. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Biodiversity	There is a residual significant effect on barn owl during operation of the Stephen Bank to Carkin Moor scheme as a result of high risk of mortality and/or injury of individuals due to collisions with road traffic. This is residual as the necessary mitigation is anticipated to require a deviation from the standard of the road design and therefore is not guaranteed.	The proposed change may result in differing construction areas as compared to what was assessed in the ES as a result of new areas of Order Limits. While this area has not been subject to the full suite of surveys undertaken for the Order Limits of the DCO design, the area was picked up almost in its entirety in the Phase 1 Habitat surveys undertaken for the DCO design which includes a 250m survey buffer. The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species due to the new areas of Order Limits. Notwithstanding the commentary above it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed underpass to be removed does not include any proposed crossing mitigation, therefore it is not anticipated to result in any changes in operation. There may be minor changes to habitat impacts which in isolation are not considered significant as the new bridleway is situated within arable fields. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		However as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Stephen Bank to Carkin Moor scheme in the locality of the design change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change requires a change to the Order Limits used for the assessment within the ES, however it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains as the required land is in close proximity to the Order Limits as assessed and any change to construction phase effects are anticipated to be mitigated by the principles set out in the first iteration EMP (APP-019). **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	Moderate impacts are anticipated to Agricultural Land Classification (ALC) Grade 3a soils (BMV land) with between 1- 20ha of land permanently sealed during	The proposed design change results in the removal of the underpass, this will provide benefits in reducing impacts on Agricultural Land Classification (ALC) Grade 3b soils by reduced works. This would give rise to a slight reduction in effect. The Order Limit changes (slightly widened to accommodate the Public

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	construction. Major impacts are anticipated to Grade 3b soils with over 20ha of land permanently sealed during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	Right of Way) for the realigned Bridleway will have a minimal impact on ALC soils, there are no additional contaminated land sites to consider. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are no significant effects identified for landscape character areas. There are significant effects identified at a number of viewpoints as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 9.1 View from Colliers Lane, south of West Layton, looking South. These are expected to reduce to non-significant by year 15. There are significant effects identified in for Viewpoint 9.1A View from Public Right of Way (footpath) no.20.55/1/1, looking north. This is expected to remain in year 15.	The proposed change it is not considered to be of the scale that would result in a change in significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The change in vertical alignment Limit of Deviation to +3m from –3m as assessed in the ES will have significant effects on the local landscape receptors and visual receptors. This change may not be absorbed easily into the landscape. The proposed change results in a Limit of Deviation change of potentially 3m above the alignment assessed within the ES (-3m/+1m). The proposed change has the potential to lift the road an additional 2m higher which gives rise to **risk of a new significant effect to landscape character areas and visual receptors**. This proposed change will be subject to further detailed design to develop solutions to integrate this change into the landscape.
Materials and Waste	No construction or operation significant effects have been identified for the Stephen Bank to Carkin Moor scheme.	There is a requirement for additional Order Limits. There is a Limestone Mineral Safeguarding Area (MSA) throughout entire scheme alignment, Sand and Gravel at Browson Bank farm, around Fox Well, north of New Lane. The scheme may impact on future extraction of limestone resource. However, the change will be localised widening and creation of new highway structures which is unlikely to impact the wider access to the resource which is extensive throughout the

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
		county. Other areas of encroachment to other MSAs are very localised. Pockets of Building Stone (in particular at Carkin Moor bridleway). However, the scale of the encroachment is unlikely to alter with the proposed change. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m, one residential receptor was reported as temporary adverse significant effect in the ES. This is situated at Ravensworth on Waitlands Lane and immediately next to the existing A66. Within the operational phase study area of 600m,there are eight residential receptors were reported as adverse likely significant effects. These receptors are situated on Layton Manor Road and Collier Lane, within the West Leyton community, to the north of the A66. Two residential receptors were reported as beneficial likely significant effects in the ES. These receptors are located on Waitlands Lane and immediately next to the existing A66 (and within NIA 10437). The Limits of Deviation in this area on the A66 mainline were +/-5m horizontally (both north and south), +1m vertically upwards and -3m downwards.	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** The Limit of Deviation in the vertical alignment of +3m (raising the vertical alignment by +2m) gives rise to **risk of new or different significant effects** compared to those reported in the ES. There is no aspect of this proposed change that would introduce new or different effects on noise and vibration during operation including the removal of the underpass. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Population and Human Health	There are six and two residual significant effects in construction and operation, respectively, reported in the ES for the Stephen Bank to Carkin Moor scheme,	The proposed change requires additional land however it is not considered likely to be of a scale that would alter the significance of the effect reported in the ES. The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	however none of the receptors are in the locality of the design change.	boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The underpass that is proposed to be removed as part of the proposed change incorporated a Public Right of Way connection. This results in longer diversions for users of the bridleways. The likely length of diversion during operation would give rise to **a new adverse likely significant effect during operation**. It is possible that this risk could be reduced with revised Public Rights of Way design developed in engagement with relevant stakeholders, but this is yet to be confirmed.
Road Drainage and Water Environment	No significant effects in construction or operation reported in the ES for the Stephen Bank to Carkin Moor scheme in the locality of the design change.	There are no watercourses likely to be impacted by the proposed change, it is not anticipated to change any floodplain, there are no changes to drainage and there no significant new cuttings. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation**

3.30 DC-30 - Realignment of Maintenance/Footway Adjacent to Waitlands Lane

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	There are no sensitive human or ecological receptors within 200m of the proposed change which may be affected by changes in air quality. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Biodiversity	There is a residual significant effect on barn owl during operation of the Stephen Bank to Carkin Moor scheme as a result of high risk of mortality and/or injury of individuals due to collisions with road traffic. This is residual as the necessary mitigation is anticipated to require a deviation from the standard of the road design and therefore is not guaranteed.	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species due to the relocation of the access track. However, the proposed change is located within low value habitat and it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** There may be minor changes to habitat impacts which in isolation are not considered significant as the potential new locations are situated within arable fields. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP.

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	**Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Stephen Bank to Carkin Moor scheme in the locality of the design change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change is within the Order Limits used for the assessment within the ES therefore it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains. There may be a reduction of effect as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	Moderate impacts are anticipated to Agricultural Land Classification (ALC) Grade 3a soils (BMV land) with between 1- 20ha of land permanently sealed during construction. Major impacts are anticipated to Grade 3b soils with over 20ha of land permanently sealed during construction. This results in likely significant adverse effects. There are no likely significant effects predicted as a result of the operational phase of the Project.	The proposed design change potentially slightly increases the footprint of the embankment and the changes the locations of new access tracks which may result in changed impacts on Agricultural Land Classification Grade 3b soils. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are no significant effects identified for landscape character areas. There are significant effects identified in the construction phase and the first year of operation at a viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 9.8A View from Public Right of Way (bridleway) 20.30/8/1, looking south. These are expected to reduce to non-significant by year 15.	The proposed change it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** In operation, the proposed change is unlikely to be of the scale that will not be discernible in the wider landscape. The proposed change is not considered to be of the scale to result in new or different significant effects when considered in the context of the mainline A66. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	There are no significant effects for construction or operation reported in the ES on materials or waste as a result of the Temple Sowerby to Appleby scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m from the proposed design change, one residential receptor was reported as adverse likely significant effect in the ES. The receptor is situated on Waitlands Lane and immediately next to the existing A66 (within NIA 10437). Within the operational phase study area of 600m, three residential receptors reported	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** There is no aspect of this proposed change that would introduce new or different effects on noise and vibration during operation. **Therefore, it is not anticipated**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	as adverse likely significant effects in the ES. These receptors are at Squirrel House, Carking Moor Farm and Warriner House in Carking Moor Road located to the north of the proposed design change. Eight residential receptors were reported as adverse likely significant effect in the ES. These are situated on Layton Manor Road and Collier Lane, within the West Leyton community, to the north of the A66. Two residential receptors were reported as beneficial likely significant effects in the ES. These are located on Waitlands Lane in Lavensworth along the existing A66 (and within NIA 10437).	**that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Population and Human Health	There are six and two residual significant effects in construction and operation, respectively, reported in the ES for the Stephen Bank to Carkin Moor scheme, however none of the receptors are in the locality of the design change.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change will not alter the level of access to land or businesses and does not reduce the level of PRoW provision that currently exists. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect during operation.**
Road Drainage and Human Health	No significant effects in construction or operation reported in the ES for the Stephen Bank to Carkin Moor scheme in the locality of the design change.	There are no watercourses likely to be impacted by the proposed change, it is not anticipated to change any floodplain, there are no changes to drainage and there no significant new cuttings. **Therefore, there is no change in significance of the results as reported in the ES in construction or operation**.

3.31 DC-31 - Realignment of Warrener Lane

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	There are no sensitive human or ecological receptors within 200m of the proposed change which may be affected by changes in air quality. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Biodiversity	There is a residual significant effect on barn owl during operation of the Stephen Bank to Carkin Moor scheme as a result of high risk of mortality and/or injury of individuals due to collisions with road traffic. This is residual as the necessary mitigation is anticipated to require a deviation from the standard of the road design and therefore is not guaranteed	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species due to the potential realignment of Warrener Lane in the extent of the new Order Limits. However, the proposed change is within an area of low value habitat and it is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposal will allow a tie-in closer to A66 which would be within same arable field and is not anticipated to substantially change impacts on biodiversity receptors. There is mitigation for bats proposed in this locality which is anticipated to be feasibly retained within the design change. There may be minor changes to habitat impacts which in isolation are not considered significant as the potential new locations are situated within arable fields. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	that the Project's GHG emissions, in isolation, will not have a significant effect on climate. Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	**is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	No significant effects in construction or operation reported in the ES for the Stephen Bank to Carkin Moor scheme in the locality of the design change.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change is within the Order Limits used for the assessment within the ES therefore it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains. There may be a reduction of effect as the proposed change presents the opportunity to reduce the extent of works, however it is not considered of the scale to result in different significant effects. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	Moderate impacts are anticipated to Agricultural Land Classification (ALC) Grade 3a soils (BMV land) with between 1- 20ha of land permanently sealed during construction. Major impacts are anticipated to Grade 3b soils with over 20ha of land permanently sealed during construction. This results in likely significant adverse effects.	The proposed design change would potentially alter the construction footprint of the embankment and the changes to Warrener Lane. However it is unlikely to significantly vary the amount of Agricultural Land Classification Grade 3b soils lost as a result of the project. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	There are no likely significant effects predicted as a result of the operational phase of the Project.	
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are no significant effects identified for landscape character areas. There are significant effects identified in the construction phase and the first year of operation at a viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 9.8A View from Public Right of Way (PRoW) 20.30/8/1, looking south, and viewpoint 9.8PM View from PRoW 20.30/8/1, looking south. These are expected to reduce to non-significant in year 15.	The proposed change it is not considered to be of the scale that would result in a change of significant effects in the construction phase. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** In operation, the proposed change may result in Warrener Lane moving up to 12m laterally, however it is not anticipated to be of the scale that will not be discernible in the wider landscape. The proposed change is not considered to be of the scale to result in new or different significant effects to visual receptors when considered in the context of the mainline A66. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Materials and Waste	No construction or operation significant effects have been identified for the Stephen Bank to Carkin Moor scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m from the proposed design change, no	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	adverse likely significant effect was reported in the ES. Within the operational phase study area of 600m from the design change, four residential receptors were reported as adverse likely significant effects in the ES. Three of these receptors are at Squirrel House, Carking Moor Farm and Warriner House in Carking Moor Road located to the north of the proposed design change. The remaining receptor is Monks Rest Farm on Moor Lane in East Layton.	not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in any new or different significant effects to those reported in the ES in construction.** There is no aspect of this proposed change that would introduce new or different effects on noise and vibration during operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Population and Human Health	There are six and two residual significant effects in construction and operation, respectively, reported in the ES for the Stephen Bank to Carkin Moor scheme, however none of the receptors are in the locality of the design change.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change will not alter the level of access to land or businesses and does not reduce the level of PRoW provision that currently exists. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect during operation.**
Road Drainage and Human Health	No significant effects in construction or operation reported in the ES for the Stephen Bank to Carkin Moor scheme in the locality of the design change.	The proposed change is not anticipated to change any floodplain, there are no changes to drainage and there no significant new cuttings. The proposed change allows for the shortening of the culvert/watercourse crossing may result in a slight reduction of impact identified within the Appendix 14.1 Water Framework Directive Compliance Assessment. However, it is unlikely to be of the scale to result in a change in significance. **Therefore, there is no change in significance of the results as reported in the ES in construction or operation.**

3.32 DC-32 - Lower the A66 Mainline Levels East of Carkin Moor and Change an Underpass to an Overbridge

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
Air Quality	There are no residual significant effects for construction or operation reported in the ES for the DCO design in any scheme on any air quality receptor.	There are no sensitive human or ecological receptors within 200m of the proposed change which may be affected by changes in air quality. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES for construction or operation.**
Biodiversity	There is a residual significant effect on barn owl during operation of the Stephen Bank to Carkin Moor scheme as a result of high risk of mortality and/or injury of individuals due to collisions with road traffic. This is residual as the necessary mitigation is anticipated to require a deviation from the standard of the road design and therefore is not guaranteed	The proposed change may result in differing construction areas compared to the construction areas that were assessed in the ES. It is anticipated that there is the potential for different impacts on habitats and protected species due to the change in earthworks associated with the new structure. It is considered that the existing controls within the first iteration EMP (APP-019) are sufficient to be able to reduce the impacts of construction works. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in construction.** There is no mitigation associated with the crossing affected by this design change. There may be minor changes to habitat impacts which in isolation are not considered significant as the potential new locations are situated within arable fields. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.** However as noted in section 1.2 of this document, there is a risk of cumulative effects on habitats and any associated protected species at a Project level as a result of potential non-significant effects on habitats across all changes.
Climate	Greenhouse Gas emissions – Following assessment as set out in DMRB LA 114 and in line with the NPSNN, the ES concludes that the Project's GHG emissions, in isolation, will not have a significant effect on climate.	The proposed change is not considered to be of the scale that would alter the assessment of GHG emissions in either construction or operation. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES.** The proposed change is not anticipated to be of the scale to result in any different climate change risk which cannot be controlled within the EMP. **Therefore, it is not anticipated that this proposed change would result in**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	Climate Change Risk - The assessment concludes no residual significant climate change risks for the Project.	**different likely significant effects as compared to those reported in the ES in construction or operation.**
Cultural Heritage	Significant adverse effects were assessed from the design of the carriageway through the Roman Fort and Prehistoric Enclosed Settlement 400m west of Carkin Moor Farm – a scheduled monument. The bridleway underpass forms a part of the embedded mitigation for the design as it meant that the carriageway could be raised within the existing cutting through the Roman fort, reducing the required land take. The resulting effect was a permanent construction effect of moderate adverse significance.	The construction phase assessment for cultural heritage took the reasonable worst case approach in assuming impacts to archaeology within the extent of the Order Limits. The proposed change is within the Order Limits used for the assessment within the ES therefore it is not anticipated that there would be any change to the assessment of the impact to buried archaeological remains. The removal of the bridleway underpass would lower the carriageway from the designed levels through the scheduled Roman fort which would remove an element of the embedded mitigation related to the scheduled monument. This gives rise to the **risk of a worsening significant adverse effect from moderate to potentially very large.** There is potential to reduce this risk in further design to identify embedded mitigation and ensure sympathetic design of the new bridge in collaboration with relevant stakeholders. The new bridleway bridge would also add a new feature to the setting of the Roman fort, although this would not increase the operational effect. The proposed change is unlikely to substantially alter the mainline A66 and associated earthworks which is the dominant feature which may affect the setting of heritage features. **Therefore, it is not anticipated that this proposed change would result in any new or different likely significant effects as compared to those reported in the ES in operation.**
Geology and Soils	Moderate impacts are anticipated to Agricultural Land Classification (ALC) Grade 3a soils (BMV land) with between 1- 20ha of land permanently sealed during construction. Major impacts are anticipated to Grade 3b soils with over 20ha of land permanently sealed during construction. This results in likely significant adverse effects.	The new approach embankments for the bridleway overbridge may further impact Agricultural Land Classification Grade 3b soils during construction. However, reducing levels on the A66 is a benefit as earthworks are minimised. This would give rise to a slight reduction in effect. However, on balance this is **not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for construction.** There is no aspect of this proposed change that would introduce new or different effects on geology and soils in operation . **Therefore, it is not anticipated that**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	There are no likely significant effects predicted as a result of the operational phase of the Project.	**this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Landscape and Visual	In relation to the DCO design in the location of the proposed change, there are no significant effects identified for landscape character areas. There are significant effects identified in the construction phase and the first year of operation at a viewpoint as shown on ES Figure 10.4 Zone of Theoretical Visibility (ZTV 3km) and Viewpoints (APP-105): Viewpoint 9.8A view from Public Right of Way (bridleway) 20.30/8/1, looking South. These are expected to reduce to non-significant in year 15.	The proposed change from underpass to overbridge gives rise to the **risk of new significant effects in both construction and operation to both landscape character areas and visual receptors** as it is considered a substantial change from the DCO design in both the construction phase and the form of the structure in operation. The proposed change will be subject to further design development to identify solutions to manage the changes in construction phase and integrate the structure into the landscape in operation.
Materials and Waste	No construction or operation significant effects have been identified for the Stephen Bank to Carkin Moor scheme.	The ES assessment considered the Order Limits of for each scheme and waste infrastructure on a scale beyond that of just the Project. The design change is not of a scale or nature that is anticipated to result in any change to the waste infrastructure required or the materials. While there is a reduction in works, it is not considered to be of a scale or nature to affect the assessed materials required for the Project. There is no change in the Order Limits used in the assessment within the ES therefore there is no risk of different effects to minerals in the area. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects when compared to those reported in the ES for construction or operation.**
Noise and Vibration	Within the construction phase study area of 300m from the design change, no significant effect was reported in the ES. Within the operational phase study area of 600m, three residential receptors were reported as adverse likely significant effects	It is not currently anticipated that there will be any change in construction approach that will be of the scale to result in any new or different significant effects in construction noise and vibration. Any change to construction phase is not anticipated to introduce a construction methodology so novel it could not be mitigated via the measures outlined in the first iteration EMP (APP-019). **Therefore it is not anticipated that this proposed change would result in**

Environmental Topic	Reported Significant Effects in the DCO Environmental Assessment	Risk of Change in Assessed Significance as a Result of this Change
	in the ES. These receptors are at Squirrel House, Carking Moor Farm and Warriner House in Carking Moor Road located to the north of the proposed design change.	**any new or different significant effects to those reported in the ES in construction.** There is no aspect of this proposed change that would introduce new or different effects on noise and vibration during operation. **Therefore, it is not anticipated that this proposed change would result in any new or different significant effects as compared to those reported in the ES for operation.**
Population and Human Health	There are six and two residual significant effects in construction and operation, respectively, reported in the ES for the Stephen Bank to Carkin Moor scheme, however none of the receptors are in the locality of the design change.	The proposed change is not anticipated to result in any material changes in terms of factors such as construction method, programme and construction site boundary that could impact on population and human health receptors and which are not already adequately controlled by the requirements of the EMP (APP-019). **Therefore, based on the mitigation requirements in the EMP it is not anticipated that this proposed change would result in any new or different likely significant effect during construction.** The proposed change will not alter the level of access to land or businesses and does not reduce the level of PRoW provision that currently exists. **Therefore, the proposed design change is not anticipated to result in a new adverse likely significant effect during operation.**
Road Drainage and Water Environment	No significant effects in construction or operation reported in the ES for the Stephen Bank to Carkin Moor scheme in the locality of the design change.	There are no watercourses likely to be impacted by the proposed change, it is not anticipated to change any floodplain, there are no changes to drainage and there no significant new cuttings. **Therefore, it is not anticipated that this proposed change would result in different likely significant effects as compared to those reported in the ES in construction or operation**