

# M5 Junction 10 Improvements Scheme

## Change Application 2 Change Application Summary Report TR010063 – APP 10.16

Nationally Significant Infrastructure Projects: Changes to an application after it has been  
accepted for examination

Planning Act 2008

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# Infrastructure Planning Planning Act 2008

## Nationally Significant Infrastructure Projects: Changes to an application after it has been accepted for examination

### M5 Junction 10 Improvements Scheme Development Consent Order 202[x]

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#### Change Application 2 Change Application Summary Report

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# 1 Introduction

## 1.1. Purpose of this document

- 1.1.1. This document forms part of Change Application 2 made on the 11 October 2024 to request amendments to the application for development consent order for the M5 Junction 10 Improvements Scheme (the “**Scheme**”) (the “**DCO Application**”) under the Planning Act 2008 (the “**2008 Act**”) submitted to the Secretary of State for Transport via the Planning Inspectorate on 19 December 2023 by Gloucestershire County Council (the “**Applicant**”).
- 1.1.2. The DCO Application was accepted for Examination by the Planning Inspectorate on the 16 January 2024. The Scheme is currently in Examination which started on 4 June 2024 and is due to close on the 4 December 2024.
- 1.1.1. The Applicant submitted a Notification of Change Request [AS-061] (the “**Notification Letter**”) to the ExA on 12th August 2024 which outlined the Applicant’s proposal to apply for non-material amendments to the DCO Application comprising Changes 1 to 8. The ExA issued procedural decisions under Rule 9 of the Infrastructure Planning (Examination Procedure) Rules 2010/103 (the “**Examination Rules**”) responding to the Notification of Change Request on 21 August 2024 [PD-011] (the “**First Rule 9 Letter**”).
- 1.1.3. As outlined in the Covering Letter submitted with Change Application 1 [AS-062], the Applicant has decided to apply for Changes 1 to 8 in two separate Change Applications. Change Application 1 relates to the upgrade of compulsory powers sought over several land plots in connection with dormice mitigation and to address the Applicant’s engagement with National Highways (“**Change Application 1**”). Change Application 1 was submitted to the Planning Inspectorate on the 4 September 2024. A Summary Report of this Change Application 1 can be found on the Planning Inspectorate website [AS-063].
- 1.1.4. The ExA issued procedural decisions under Rule 9 of the Examination Rules on the 17 September 2024 [PD-014] (the “**Second Rule 9 letter**”) confirming the ExA’s decision to accept the changes proposed in Change Application 1 for examination.
- 1.1.5. This submission relates to the application to introduce Changes 1 to 7 as outlined in the Notification Letter to the examination (“**Change Application 2**”).

## 1.2. Legislative Context and Guidance

- 1.2.1. In preparing this Change Application 2, the Applicant has had regard to:
- Guidance by the Ministry of Housing, Communities and Local government and the Department for Levelling Up, Housing and Communities entitled Planning Act 2008: Examination stage for Nationally Significant Infrastructure Projects (30 April 2024) (the “**Examination Guidance**”). Paragraph 18 of the Examination Guidance concerns changes to a DCO application during examination.
  - Guidance by the Inspectorate entitled Nationally Significant Infrastructure Projects: Changes to an application after it has been accepted for examination (8 August 2024) (the “**Change Application Guidance**”):

The introduction to the Change Application Guidance states that “*in certain circumstances an applicant may decide they need to make a change to an application after it has been accepted for examination, for example, in response to the publication of new or emerging government policy or following on-going negotiations between the applicant and other interested parties*”, which is the case here.

Step 4’ of the Change Application Guidance sets out the information required to be included in the Change Application. The Applicant’s compliance with the

requirements of Step 4 is summarised in the table at Appendix A of this document.

- The additional requirements identified in the ExA's Rule 9 Letter. The Applicant's consideration of the ExA's guidance is summarised in the table at Appendix A of this document.

## 1.3. Non-Statutory Consultation

1.3.1. The seven changes are proposed following engagement and feedback from key stakeholders – including National Highways, local authorities, statutory environmental bodies and affected landowners.

1.3.2. Despite none of the changes included in this Change Application 2 giving rise to any new likely significant effects beyond those reported in the Environmental Statement (ES) [TR010063 - APP 5.9 to APP 6.13] submitted for the DCO application (and the subsequent updates submitted into DCO Examination through to Deadline 5), hereon referred to as the ES, the Applicant proposed to publicise in accordance with the spirit of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the “**EIA Regs**”) in respect of any further environmental information arising in connection with the proposed changes.

1.3.3. In terms of non-statutory engagement with key stakeholders, the Applicant held DCO meetings with key stakeholders and affected parties between 9 July 2024 and 11 July 2024, with further engagement on 19 August, 27 August and 17 September 2024. The purpose of these non-statutory consultation meetings was to seek views on the proposed changes to the DCO Application.

1.3.4. Meetings were held to present the proposed changes to the Joint Councils, Natural England, Environment Agency, National Highways and Lead Local Flood Authority (LLFA). These key stakeholders were presented with an overview of each of the proposed changes, the reason for the proposed changes and a summary of the potential environmental effects.

### Consultees

1.3.5. In its Second Rule 9 Letter the ExA confirmed that a targeted approach to consultation in accordance with the spirit of the EIA Regs was appropriate. The Exa confirmed that the consultation must engage all those persons identified in the 2008 Act, under section 42 (a) to (d) who would be affected by the proposed changes (giving a minimum of 28 days) including any section 42 persons not originally consulted on the application but who may now be affected by the proposed changes.

### Consultation Publicity

1.3.6. The Applicant carried out publication in appropriate newspapers for two weeks: two successive weeks in two local newspapers – the Gloucestershire Echo and the Gloucestershire Citizen (from 19 September 2024 and 26 September 2024) and once in a national newspaper – the Times – and once in the London Gazette.

1.3.7. Site notices were placed on Stanboro Lane and A4019 near the current entrance to the Robert Hitchens Ltd Land.

1.3.8. Notices were sent to Statutory Bodies and affected Interested Parties under section 42 of the 2008 Act and physical access to documents was made available in various locations.

1.3.9. The Applicant issued a Consultation Document to all affected and interested parties under section 42 of the 2008 Act with a summary description of all the proposed changes and its environmental impacts (later detailed in the Environmental Statement Addendum submitted with this application) as well as relevant useful information in relation to the change application process.

1.3.10. Consultation on the changes commenced on the **27 September 2024** and is proposed to run for 30 days until the **27 October 2024**.



- 1.3.11. Following consultation, all comments will be reviewed and responded to. The feedback will be taken into consideration and outlined in a Consultation Statement.
- 1.3.12. The Consultation Statement will identify affected persons, interested parties and prescribed consultation bodies who may be affected by or interested in the proposed changes. It will also provide full details of the consultation carried out in respect of the proposed changes, including justification for the scope of that consultation, and copies of the consultation responses received by the Applicant.
- 1.3.13. The Consultation Statement will:
- List the persons (affected by the changes) under section 42 (a) to (d) who have been consulted (identifying particularly any new persons i.e. those who were consulted in relation to the proposed change but not in relation to the original application);
  - Identify (within the list) those section 42 (d) persons who are “affected persons”;
  - Provide justification as to why any person under section 42 (a) to (d) is not affected by the proposed changes and has not therefore been consulted (if any);
  - Provide copies of any newspaper notices or site notices; and
  - Append as an annex any consultation responses received.

## 1.4. The proposed changes

- 1.4.1. Since the DCO Application was made, the Applicant has continued to refine designs to identify opportunities to further improve the proposals. As a result of this, the Applicant is proposing seven design changes to the Scheme during the Examination stage which would enable the delivery of more sustainable solutions to implement improvements to the Scheme.
- 1.4.2. The seven changes, which aim to reduce the impacts on the environment, the local community and landowners, and enhance Scheme buildability and affordability, are:
- |                 |                                                   |
|-----------------|---------------------------------------------------|
| <b>Change 1</b> | Link Road replacement of swales with filter drain |
| <b>Change 2</b> | Link Road replacement of culverts with bridges    |
| <b>Change 3</b> | Link Road River Chelt bridge structural form      |
| <b>Change 4</b> | Link Road alignment                               |
| <b>Change 5</b> | Relocation of existing NRTS transmission station  |
| <b>Change 6</b> | Flood storage area reconfiguration                |
| <b>Change 7</b> | Infill of existing northbound on-slip loop        |

- 1.4.3. These changes form part of Change Application 2. Figure 1-1 shows the location of these proposed changes.

## 1.5. Purpose of this Change Application 2

- 1.5.1. The Change Application 2 supports the DCO Application by:
- Explaining the proposed changes and why they are needed (see Chapter 2 of this Summary Report);
  - Confirming that no additional land is required as a result of the proposed changes and as such confirming that the Infrastructure Planning (Compulsory Acquisition) Regulations 2010 are not engaged (see Chapter 3 of this Summary Report);
  - Explaining why the proposed changes are considered to be non-material (rather than material) in nature, whether considered individually, cumulatively, or collectively (in Chapter 4 of this Summary Report).

- Demonstrating, in the Environmental Statement Addendum (ESA) [APP 10.23] (forming part of this Change Application 2), that the proposed changes have been subject to environmental assessment, and setting out the findings in the context of what was previously reported in the ES.
- Identifying the scope of the consequential amendments that would need to be made to previously submitted DCO Application documents, if the proposed changes were accepted by the ExA (as set out in the Schedule of Changes to DCO Application Documents [APP 10.17]);
- Providing clean and tracked change versions of the draft DCO together with a schedule of changes, showing how this document would change if the proposed changes were accepted by the ExA.



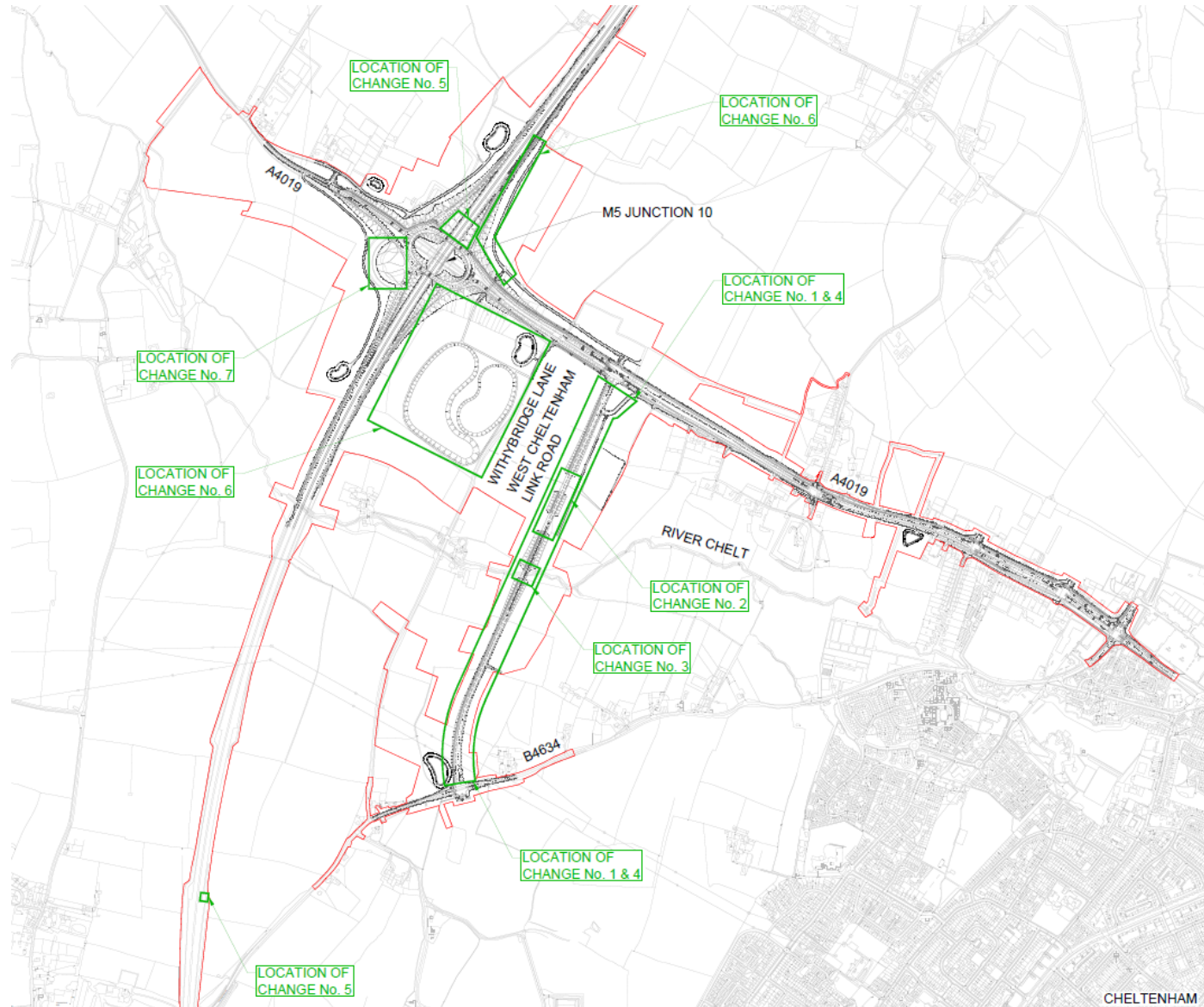


Figure 1-1 Location of proposed changes

## 2 The proposed changes

### 2.1. Change 1 – Link Road replacement of swales with filter drain

- 2.1.1. The Scheme, as submitted in the DCO Application, currently proposes three swales as the surface water collection method on the Link Road [see Figure 2-1].
- 2.1.2. The Applicant proposes to replace the swales with filter drains. Filter drains provide the following improvements:
- Are narrower than swales, which would allow the width of the Link Road to be reduced. This would decrease the quantity of fill material to be imported, and the footprint of the Link Road in the flood plain.
  - Provide continuity of drainage across field accesses.
  - Connect to bridge deck drainage solutions for the River Chelt bridge, and the flood alleviation structures.
- 2.1.3. Furthermore, altering the cross-section of the Link Road means that the number of filter drain runs can be reduced from three to two [see Figure 2-2].
- 2.1.4. In combination with the optimisation of the two-way footway cycleway in Change 4, these changes result in a 4m reduction in the width of the Link Road.

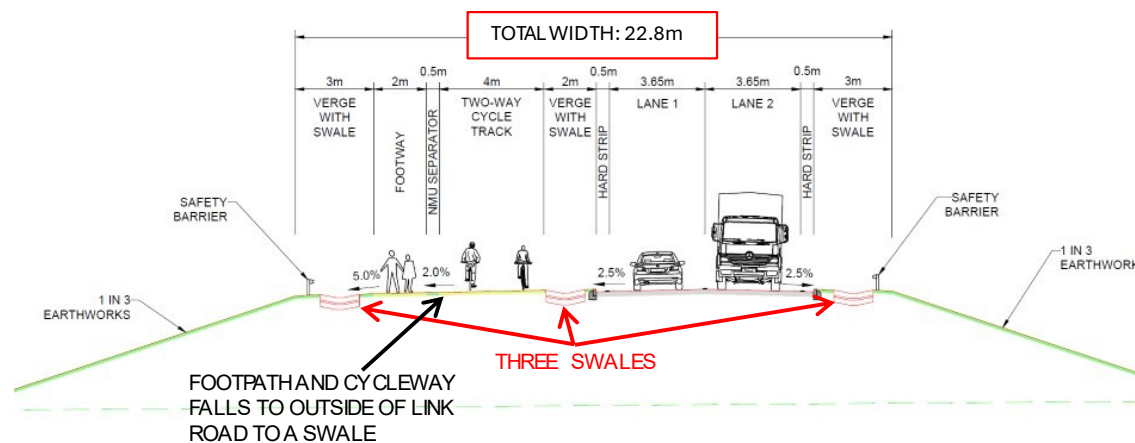


Figure 2-1 Link Road Scheme design cross-section

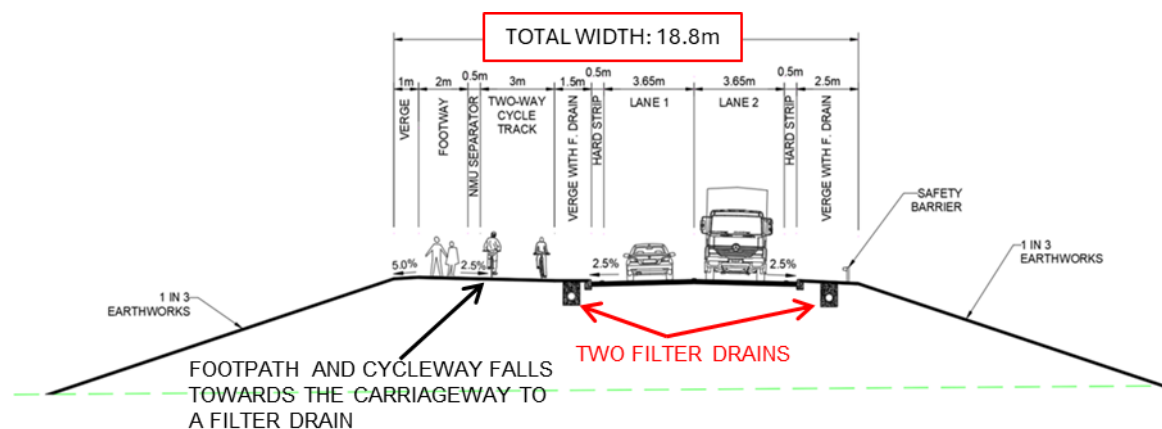


Figure 2-2 Link Road cross-section with proposed changes

2.1.5. The effects of this change are outlined in Table 2-1. This table should be read in conjunction with the ESA [APP 10.23].

Table 2-1 Effects of Change 1

Topic	DCO Documentation	Current Application	Impact of Proposed Change
Land & Works	REP5-002 2.2 Land Plans  Relevant land plots: 12/2i, 12/9c, 15/3b, 15/4c, 15/5a, 15/8d, 15/8d(i), 15/10f, 15/10f(i), 15/10f(ii), 16/1c, 16/3d, 16/3d(i), 16/3d(ii), 12/2k, 12/2k(i), 12/2v, 12/9b, 15/3c, 15/4b, 15/4e, 15/5b, 15/8a, 15/8a(i), 15/8b, 15/8c, 15/8c(i),	No works numbers specifically applicable to the swales on the Link Road.	Land plans are not impacted by this proposed change.  No amendments to the works descriptions required.

Topic	DCO Documentation	Current Application	Impact of Proposed Change
	15/8c(ii), 15/8c(iii), 15/8c(iv), 15/8(v), 15/10d, 15/10e, 15/10e(i), 15/10e(ii), 16/3c, 16/c(i), 16/3e, 16/3e(i), 16/3e(ii), 16/3e(iii), 15/8c(v), 15/10(ii), 16/3c(i), 15/4f, 15/8t  APP 10.29 Works Plans		
<b>Air Quality</b>	AS-012 Environmental Statement Chapter 5 – Air Quality	The swales along the link road are not assessed or mentioned specifically in ES Chapter 5.	It is considered that the proposed change would not alter the conclusions of ES Chapter 5.
<b>Noise and Vibration</b>	AS-014 Environmental Statement Chapter 6 – Noise and Vibration	The swales along the link road are not assessed or mentioned specifically in ES Chapter 6.	It is considered that the proposed change would not alter the conclusions of ES Chapter 6.
<b>Biodiversity</b>	REP1-012 Environmental Statement Chapter 7 – Biodiversity	The swales along the link road are not assessed specifically in ES Chapter 7.  Para 7.8.31 of chapter 7 states, “The Link Road includes roadside swales to collect runoff and convey it to new basins. Outgoing pipes from basins will discharge to new ditches at least 8m upstream of the outfalls. Flows are to be restricted to greenfield runoff rates. Basins will include forebay areas to manage contaminants and contain spillages”.	The filter drains are proposed to be topsoiled and grass seeded, however they are narrower than the swales. Additional planting and seeding will be incorporated into the design to offset this change.  This change would not alter the conclusions of ES Chapter 7 with regards to the potential impacts on biodiversity resources during construction or operation.  Overall, is considered that the proposed change would not alter the conclusions for biodiversity in ES Chapter 7.
<b>Road Drainage and</b>	REP1-014 Environmental	Chapter 8 states the Scheme will have a slight adverse effect on the routine run off on surface water quality	The reduction in width of the embankment would reduce the footprint and volume of the embankment within the

Topic	DCO Documentation	Current Application	Impact of Proposed Change
<b>Water Environment</b>	Statement Chapter 8 – Road Drainage and Water Environment	<p>within the Link Road drainage catchment during operation.</p> <p>Chapter 8 also concludes that the Scheme will have a slight adverse effect on the surface water as a result of a spillage.</p> <p>ES Chapter 8 does not specifically assess the swales in terms of groundwater, flood risk or hydromorphology.</p> <p>Para 8.7.34 in Chapter 8 states, “The Link Road includes roadside swales to collect runoff and convey it to new basins. Outgoing pipes from basins will discharge to new ditches at least 8m upstream of the outfalls. Flows are to be restricted to greenfield runoff rates. Basins will include forebay areas to manage contaminants and contain spillages”.</p> <p>Para 8.7.34 in Chapter 8 states, “The HEWRAT has been used to assess the impact of routine runoff on surface water quality.”</p>	<p>flood plain. This would consequently reduce the requirement for compensatory storage upstream of the link road.</p> <p>It is considered that there would be no change to the risk to surface water quality as a result of a spillage reported in ES Chapter 8, as filter drains provide the same spillage risk reduction factor as swales.</p> <p>It is acknowledged that filter drains are less efficient at removing sediment pollution. The Highways England Water Risk Assessment Tool (HEWRAT) and the Metal Bioavailability Assessment Tool (M-BAT) are used to assess the impact of the Scheme on water quality. The routine runoff assessment within the HEWRAT and the M-BAT confirmed that there would be no changes to the magnitude of impact and significance of effect from road runoff assigned in the ES.</p> <p>Overall, it is considered that the proposed change would not alter the conclusions of ES Chapter 8.</p>
<b>Landscape and Visual</b>	REP1-016 Environmental Statement Chapter 9 – Landscape and Visual	<p>The swales along the link road are not assessed specifically in ES Chapter 9.</p> <p>Chapter 9 concludes that the overall landscape effect of the Scheme is moderate adverse during construction and slight beneficial during operation (Year 15).</p> <p>There are no receptors with direct views of swales. The only receptor considered in the ES that may have a view of the swales is from the Public Rights of Way between Withybridge Lane/Hayden FPAB024/FPAUC11 at location VR7b. The whole scheme will have moderate adverse impacts on these receptors during construction,</p>	<p>The filter drains are proposed to be topsoiled and grass seeded, however they are narrower than the swales.</p> <p>Overall, it is considered that the proposed change would not alter the conclusions of ES Chapter 9.</p>

Topic	DCO Documentation	Current Application	Impact of Proposed Change
		moderate adverse during immediate operation (Year 1) and slight adverse during operation (Year 15).	
<b>Geology and Soils</b>	REP1-018 Environmental Statement Chapter 10 – Geology and Soils	The swales along the link road are not assessed or mentioned specifically in ES Chapter 10.	It is considered that the proposed change would not alter the conclusions of ES Chapter 10.
<b>Cultural Heritage</b>	APP-070 Environmental Statement Chapter 11 - Cultural Heritage	The swales along the link road are not assessed or mentioned specifically in ES Chapter 11.	It is considered that the proposed change would not alter the conclusions of ES Chapter 11.
<b>Materials and waste</b>	REP1-020 Environmental Statement Chapter 12 – Materials and Waste	<p>There is no assessment criteria or conclusion specifically related to drainage in Chapter 12 of the ES.</p> <p>There is no specific level of impact with regards waste and materials from the swales, the impact is for the whole Scheme.</p> <p>Chapter 12 of the ES concludes that during construction the Scheme will have a slight adverse effect with regards materials and a slight adverse effect with regards waste.</p> <p>During operation the Scheme will have no impact.</p> <p>Para 12.7.3 in Chapter 12 states, “The material quantities below have been summarised from the following components that will be needed to construction the Scheme...Drainage”</p>	<p>There would be a change in the type of materials required to create filter drains rather than swales. Filter drains would require the installation of carrier pipes and filter media.</p> <p>The proposed change would require less imported fill due to the reduction in embankment width, resulting in an overall reduction in material requirements when compared to ES Chapter 12.</p>
<b>Population and Human Health</b>	REP1-022 Environmental Statement Chapter 13 – Population and Human Health	The swales along the link road are not assessed specifically in ES Chapter 13.	It is considered that the proposed change would not alter the conclusions of ES Chapter 13.



Topic	DCO Documentation	Current Application	Impact of Proposed Change
<p><b>Climate</b></p>	<p>REP1-024                      Environmental Statement Chapter 14 – Climate</p>	<p>The swales along the link road are not assessed specifically in ES Chapter 14.</p> <p>Para 14.10.3 in Chapter 14 states: “The construction phase of the Scheme will generate 202,217 tCO<sub>2</sub>e. The largest emitting categories are Bulk Materials and Earthworks, contributing 55,898 tCO<sub>2</sub>e and 99,961 tCO<sub>2</sub>e respectively.”</p> <p>Table 14-7 shows that Drainage contributes 762 tCO<sub>2</sub>e to the construction phase of the Scheme.</p> <p>Table 14-13 states: “Drier summers combined with the projected increase in summer temperatures could lead to increased erosion as soils and their substrates dry out. This could affect the capacity of drainage infrastructure...”</p> <p>Although the detailed drainage design is not yet available it is assumed that it will assist operational maintenance by including accessible sediment traps that will be regularly cleared. It is also expected that the design will include concrete channels and swales, which will collect eroded sediment.”</p>	<p>Due to reduction in link road cross-section and the associated reduction in the requirement for imported fill, it is considered that the proposed change would have a slight beneficial impact on the construction phase carbon emissions. Overall, the change would not alter the conclusions reported in ES Chapter 14.</p>

## 2.2. Change 2 – Link Road replacement of box culverts with bridges

- 2.2.1. The submitted Scheme proposes two flood alleviation structures on the Link Road, to allow flood water to pass under the Link Road [see Figure 2-3]. These structures were to be constructed from rectangular, precast concrete units, to create a series of culverts.
- Group 1: 19 cells, 31.8m long, approximately 300 precast units.
  - Group 2: 18 cells, 37m long, approximately 340 precast units.
- 2.2.2. Through a buildability review, several key risks were identified for the proposed culverts:
- Potential for differential settlement across the extent of the culverts which would affect rideability and result in pavement cracking. Excessive differential settlement could also cause damage to the structure.
  - Ground improvement works required to provide a sound foundation for the large number of precast units.
  - Difficulty in achieving the required level tolerances across all units, due to the number and size of the pre-cast units.
  - The import and storage of the large number of precast units will be logistically complex and add risk to the construction programme.
  - Some culverts are in excess of 30m long, so less likely to be used by most species of terrestrial fauna.
  - The internal dimensions of the units would create a confined space for maintenance.
  - The ground improvements, material storage and placement of the units would all take place within the flood plain over a prolonged period. If flooding was to occur, the construction programme would be lengthened. Also, flood compensation would need to be created to manage flood risk during the works, which would add space constraints to construction activities.
- 2.2.3. The Applicant proposes to change the flood alleviation structures from culverts to bridges [see Figure 2-4]. These bridges would provide the following betterments:
- Mitigate the risk of settlement, thereby improving the rideability of the road and reducing the risk of damage to the road surface and the structure.
  - Piled foundations remove the requirement for extensive ground improvement and subsoil treatment.
  - Reduce the working time and space requirements within the floodplain.
  - Remove the confined space hazard for inspection and maintenance.
  - The bridges would have a larger opening than the culverts, which reduces the risk of blockages in a flood event, but also encourages the movement of fauna.

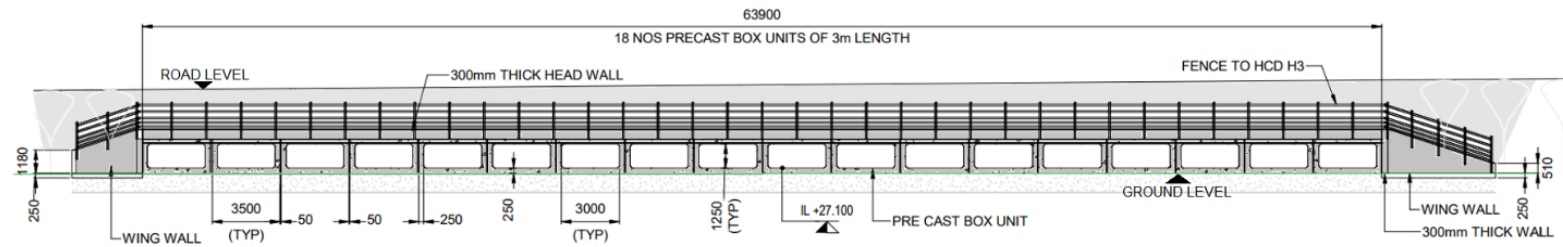


Figure 2-3 Elevation of the flood alleviation culverts in the Scheme design

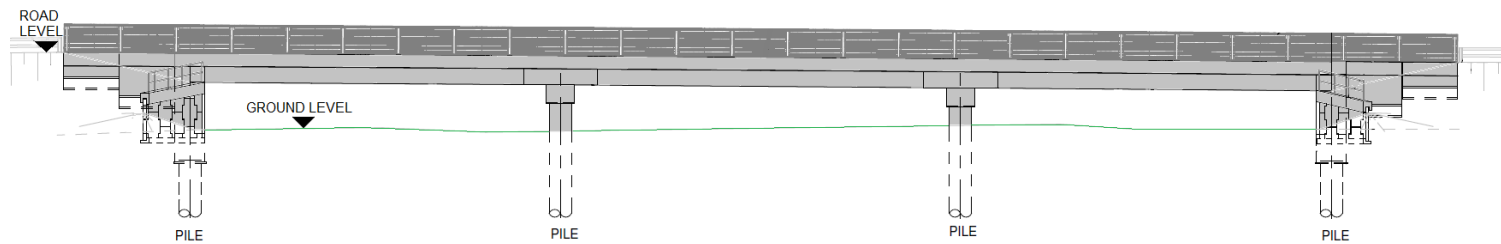


Figure 2-4 Elevation of the flood alleviation bridge in the proposed change

2.2.4. The effects of this change are outlined in Table 2-2. This table should be read in conjunction with the ESA [APP 10.23].

**Table 2-2 Effects of Change 2**

<b>Topic</b>	<b>DCO Documentation</b>	<b>Current Application</b>	<b>Impact of Proposed Change</b>
<b>Land &amp; Works</b>	REP5-002 2.2 Land Plans  Relevant land plots: 12/2i, 15/3b, 15/4c  APP 10.29 Works Plans	Work numbers 5(l) and 5(m).  Required for the construction of the West Cheltenham Link Road flood culverts (group 1). Required for the construction of the West Cheltenham Link Road flood culverts (group 2)	Land plans are not impacted by this proposed change.  New works description proposed to replace the words “flood culverts” with “bridges”.
<b>Air Quality</b>	AS-012 Environmental Statement Chapter 5 – Air Quality	The flood culverts on the link road are not assessed or mentioned specifically in ES Chapter 5.	It is considered that the proposed change would not alter the conclusions of ES Chapter 5.
<b>Noise and Vibration</b>	AS-014 Environmental Statement Chapter 6 – Noise and Vibration	In Chapter 6, the construction works are assessed for predicted construction noise levels (dB) versus distance (m).  Table 6-17 shows that the excavation for the base of the flood culverts is estimated to generate 82.5dB at 10m, and 74.5dB at 25m.	The flood alleviation bridges are proposed to be bore piled. The introduction of piling at this location means there is some potential for the generation of noise from an additional noise source. However, the ES Chapter 6 already considers the noise impacts due to piling in relation to other structures (such as the River Chelt Bridge) and the impact due to this change will not be greater than the impact that has already been assessed.  The flood alleviation bridges are proposed to be in the same location as the flood culverts in the Scheme design. As such, this change would not alter the noise receptors considered for these structures in Chapter 6.  Overall, it is considered that this proposal would not alter the conclusions of ES Chapter 6.
<b>Biodiversity</b>	REP1-012 Environmental	The flood culverts on the link road are not assessed specifically in ES Chapter 7.	The proposed change will provide a better ecological design in the longer term than culverts.

Topic	DCO Documentation	Current Application	Impact of Proposed Change
	<p>Statement Chapter 7 – Biodiversity</p>	<p>Para 7.8.19 states: “In addition, a series of flood relief structures are incorporated underneath the Link Road so as not to impede the existing periodic movement of floodwater that occurs in a westerly direction out of the River Chelt from a point upstream of the Link Road.”</p> <p>Table 7-15 states the following:</p> <p>With regards to Drain 12: “Drain 12 will be crossed by a box culvert 2 m high, 6 m wide and 31.85 m long, which will result in permanent open channel and riparian habitat loss. The culvert invert will be set 300 mm below bed level and set perpendicular to the road.”</p> <p>Level of impact (with only embedded mitigation) on Drain 12: Minor adverse</p>	<p>For example, increasing the air space available beneath the structure will pose less of a restriction to commuting and foraging bats.</p> <p>In addition, the proposed change would reduce the Scheme impact upon Drain 12.</p> <p>Overall, it is considered that the proposed change would not alter the conclusions of ES Chapter 7.</p>
<p><b>Road Drainage and Water Environment</b></p>	<p>REP1-014 Environmental Statement Chapter 8 – Road Drainage and Water Environment</p>	<p>ES Chapter 8 8.7.63 states: “For the Scheme in terms of flooding, the embedded mitigation includes:</p> <ul style="list-style-type: none"> <li>• Floodplain conveyance structures through the Link Road. At this stage, the Scheme includes 37 box culvert openings, 36 No. being 3 m wide and 1 m tall with an enlarged 6 m wide culvert accommodating an existing field drain.”</li> </ul> <p>Para 8.7.65 states: “The effect of the Scheme on the baseline conditions for this event are shown in Figure 8-8 and can be summarised as:</p> <ul style="list-style-type: none"> <li>• A change in the depth of flooding immediately upstream and downstream of the proposed Link Road: a mix of increases and decreases in flooding associated with the proposed Link Road culverts...”</li> </ul>	<p>The flood alleviation bridges require fewer supporting structures along their length compared to the culverts and therefore will have less interaction with flow pathways than the culverts.</p> <p>The proposed change would allow Drain 12 to be retained as the bridge structure would span the watercourse rather than cover it.</p> <p>Piles would be in rows parallel to groundwater flow, and would not be contiguous, so would not impede flow. A piling risk assessment will be completed at detailed design to ensure the piling method is appropriate for the geology and groundwater parameters.</p> <p>Hydraulic modelling for the proposed change shows that the flood alleviation bridges would not alter the assessment outcomes reported in ES Chapter 8.</p>

Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<p>Table 8-17 shows that watercourse Drain 12, which passes under the proposed flood culverts is of medium importance as a surface water feature and the proposed scheme will have a neutral impact on it.</p> <p>The hydromorphological impacts on Drain 12 are considered to be slight adverse.</p> <p>ES Chapter 8 considers that the scheme will have a neutral impact on groundwater and moderate to large adverse impact on flood risk.</p>	<p>Overall, it is considered that the proposed change would not alter the conclusions of ES Chapter 8 for surface water quality, hydromorphology, ground water or flood risk.</p>
<p><b>Landscape and Visual</b></p>	<p>REP1-016                      Environmental Statement Chapter 9 – Landscape and Visual</p>	<p>The culverts under the Link Road are not assessed specifically in ES Chapter 9; the assessment is made on the Link Road generally. Chapter 9 concludes that the overall landscape effect of the Scheme is moderate adverse during construction and slight beneficial during operation (Year 15).</p> <p>Para 9.11.13 in chapter 9 states, “The Link Road would present a new raised features in LCA C however the type and scale of this road is not atypical or incongruous to the existing landscape characteristics of this area”.</p> <p>Para 9.11.26 in chapter 9 states, “the Link Road would be a new feature in the landscape, but it is not anticipated that it would significantly reduce the feeling of openness in this small area”.</p> <p>Table 9-4 in chapter 9 scoped the following visual receptors “IN” with regards visibility of the Link Road:</p> <ul style="list-style-type: none"> <li>• Network of PROWs within 500m of the Scheme (PROWs between Withybridge Lane/Hayden FPAB024/FPAB015/FPAB016)</li> <li>• Group of properties at Butlers Court, west of</li> </ul>	<p>The change would result in a single linear elevated road span in place of a series of concrete box culverts. The bridges will be open structures and will therefore be less intrusive on the landscape and allow views through the embankment.</p> <p>The Scheme design does not propose planting along the length of these structures, so there will be no change in screening.</p> <p>The proposed change would have either result in no change or slight betterment to the views from the visual receptors. The impacts from the proposed change on the visual receptors would not be significant.</p> <p>Overall, it is considered that the proposed change would have no impact on the conclusions of ES Chapter 9.</p>



Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<ul style="list-style-type: none"> <li>• Withybridge Lane</li> <li>• Properties at Mill House Farm, east of Withybridge Lane</li> <li>• Properties at Hayden Hill Fruit Farm, on the B4634 at Hayden Hill Properties at Uckington, south of the A4019</li> </ul>	
<b>Geology and Soils</b>	REP1-018 Environmental Statement Chapter 10 – Geology and Soils	The flood culverts on the link road are not assessed or mentioned specifically in ES Chapter 10.	It is considered that the proposed change would not alter the conclusions of ES Chapter 10.
<b>Cultural Heritage</b>	APP-070 Environmental Statement Chapter 11 - Cultural Heritage	The flood culverts on the link road are not assessed or mentioned specifically in ES Chapter 11.	It is considered that the proposed change would not alter the conclusions of ES Chapter 11.
<b>Materials and waste</b>	REP1-020 Environmental Statement Chapter 12 – Materials and Waste	<p>There is no assessment criteria or conclusions specifically related to the flood culverts on the link road in Chapter 12 of the ES.</p> <p>There is no specific level of impact with regards waste and materials from the flood culverts; the impact is for the whole scheme.</p> <p>Chapter 12 of the ES concludes that during construction the scheme will have a slight adverse effect with regards materials and a slight adverse effect with regards waste.</p> <p>During operation the Scheme will have no impact.</p> <p>Para 12.7.3 in chapter 12 states, “The material quantities below have been summarised from the following components that will be needed to construction the Scheme...Structures”</p>	<p>The proposed flood relief bridges would require less imported fill material for the link road by removing the requirement to dig and replace soft material to create a sound foundation the precast units. The bridges would also remove the requirement for pre-cast culvert units.</p> <p>Alternative materials would be required for the flood alleviation bridges. Overall, it is considered the change for materials and waste would not be significant when compared against the conclusions of ES Chapter 12.</p>

Topic	DCO Documentation	Current Application	Impact of Proposed Change
<b>Population and Human Health</b>	REP1-022 Environmental Statement Chapter 13 – Population and Human Health	The flood culverts on the link road are not assessed or mentioned specifically in ES Chapter 13.	It is considered that the proposed change would not alter the conclusions of ES Chapter 13.
<b>Climate</b>	REP1-024 Environmental Statement Chapter 14 – Climate	<p>The flood culverts on the link road are not assessed specifically in ES Chapter 14.</p> <p>Para 14.10.3 in Chapter 14 states: “The construction phase of the Scheme will generate 202,217 tCO<sub>2</sub>e. The largest emitting categories are Bulk Materials and Earthworks, contributing 55,898 tCO<sub>2</sub>e and 99,961 tCO<sub>2</sub>e respectively.”</p>	<p>The proposed flood relief bridges would require less imported fill material for the link road, they would also remove the requirement for pre-cast culvert units which are carbon intensive.</p> <p>It is considered that the proposed change would have a slight beneficial impact on the construction phase carbon emissions. Overall, the change would not alter the conclusions reported in ES Chapter 14.</p>

## 2.3. Change 3 – Link Road River Chelt bridge structural form

- 2.3.1. The River Chelt bridge proposed in the current Scheme is a skewed structure [see Figure 2-6] with reinforced wing walls and a skewed span of 26.38m. The Scheme design also includes some reprofiling of the existing riverbank to reduce the risk of erosion and create more natural channel profiles [see Figure 2-5].
- 2.3.2. Skewed bridges are more difficult to design and construct and they introduce risk to the construction programme. Also, bridges with abutments that are perpendicular to the road generally perform better in the long-term, reducing the maintenance requirements.
- 2.3.3. The change is to utilise the requirement for the reprofiling works to straighten the river under the Link Road River Chelt Bridge (to run perpendicular to the Link Road), thereby allowing the installation of a straight (rather than skewed) structure with abutments running perpendicular to the Link Road [see Figure 2-7].
- 2.3.4. To mitigate for the section of straightened channel, the River Chelt will be realigned to exaggerate the natural meandering upstream and downstream of the River Chelt bridge. The pools and riffles between meanders described in the ES will be retained. The ES Scheme mitigation, including enhancements to riparian vegetation, bank reprofiling to create more natural profiles and installation of in channel enhancements, will also be further developed within the Order limits which are extended 160m upstream and 100m downstream of the River Chelt Link Road bridge.
- 2.3.5. A constructability review by the Applicant has identified the need for a temporary diversion channel to allow for the construction of the River Chelt reprofiling and mitigation associated with the Link Road River Chelt bridge. The requirement for the temporary diversion was not assessed as a construction activity within the ES. A temporary diversion would also be required for the change but would be no different from the diversion identified from the constructability review for the Scheme. To ensure any impacts from the temporary diversion are suitably mitigated, the Register of Environmental Actions and Commitments (REAC) [APP-10.26] will be updated (B23, WE1 and WE3) as this was not included in the ES.
- 2.3.6. A shorter span would result in a reduced beam depth, enabling a reduction in the vertical alignment of the road, in turn reducing the requirement for imported fill material.

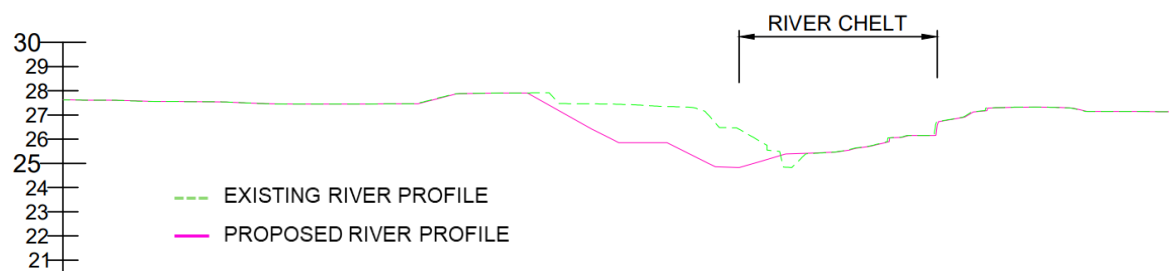


Figure 2-5 Cross-section of riverbank reprofiling proposed in Scheme design

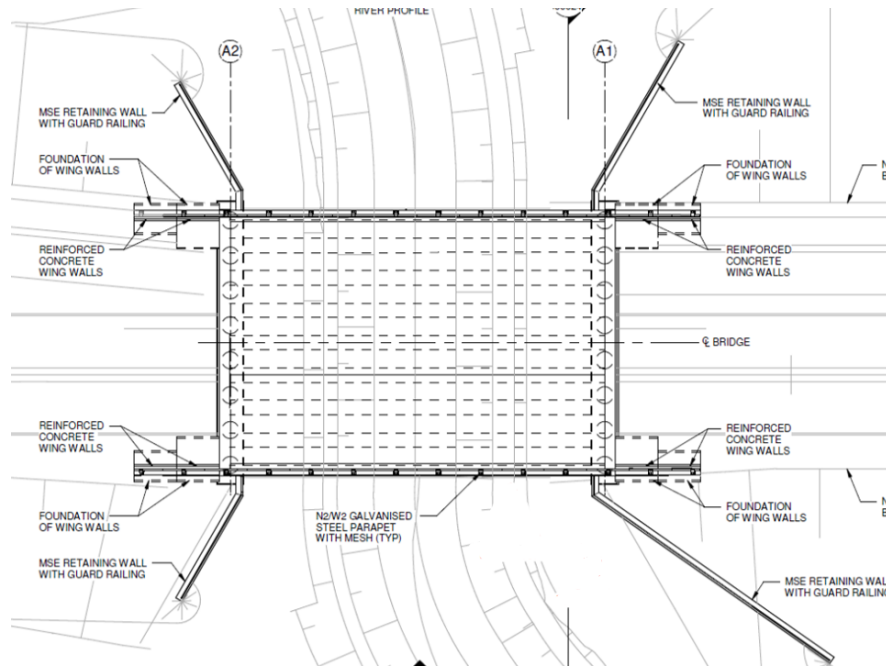


Figure 2-6 Plan of proposed square River Chelt bridge with straighter River Chelt

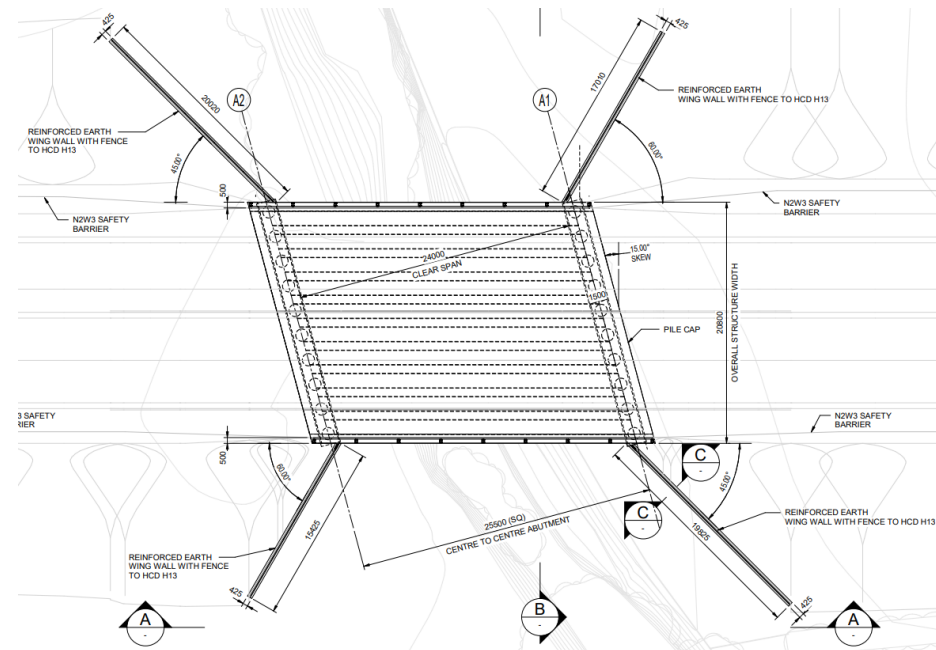


Figure 2-7 Plan of the skewed River Chelt bridge design in Scheme design

2.3.7. The effects of this change are outlined in Table 2-3. This table should be read in conjunction with the ESA [APP 10.23].

Table 2-3 Effects of Change 3

Topic	DCO Documentation	Current Application	Impact of Proposed Change
<b>Land &amp; Works</b>	REP5-002 2.2 Land Plans  Relevant land plots: 15/8a, 15/8c, 15/8d, 15/4b, 15/4e, 15/4f, 15/5b, 15/5b (i), 15/7a 15/8t 15/8b  APP 10.29 Works Plans	Work number 5(d).  New right for the construction, use, protection and maintenance of a new bridge over the River Chelt and associated environmental mitigation. New right for the diversion, construction, use and maintenance of public right of way FP AUC11 to the north of the River Chelt under the new River Chelt Bridge	No land plans are impacted by this proposed change.  No amendments required to the works description.
<b>Air Quality</b>	AS-012 Environmental Statement Chapter 5 – Air Quality	The River Chelt bridge on the link road is not assessed or mentioned specifically in ES Chapter 5.	It is considered that the proposed change would not alter the conclusions of ES Chapter 5.
<b>Noise and Vibration</b>	AS-014 Environmental Statement Chapter 6 – Noise and Vibration	In Chapter 6, the construction works are assessed for predicted construction noise levels (dB) versus distance (m).  Table 6-17 shows that pile installation for structures bases is estimated to generate 82.0dB at 10m, and 74.0dB at 25m.  Para 6.9.32. states “Table 6-19 shows that, for percussive piling method, the SOAEL threshold would be exceeded at vibration sensitive receptors beyond 100m of the piling sites. This is of particular relevance during the construction of the River Chelt Bridge as the nearest properties to piling works are expected to be around 100m away, so the use of percussive piling should be avoided, as a moderate (and significant impact) would be predicted. However, it is unlikely that percussive piling	This proposal would not change the structural form of the River Chelt bridge; piled foundations would still be required. The number and diameter of all structural piles will be confirmed through detailed design.  The proposal would not change the location of the River Chelt bridge. It is therefore considered that this change would not alter the noise receptors considered for this structure in Chapter 6.  Overall, it is considered that this proposal would not have an impact on the conclusions of ES Chapter 6.

Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<p>would result in building damage due to the distance from the works.”</p> <p>Para 6.9.33. states: “There will be twenty piles of 1.0m diameter each, for the construction of the River Chelt Bridge and thirty six piles, of 1.2m diameter each, for the construction of the Piffs Elm Bridges. The boring duration to do one pile per rig is around 1 day, but the number of rigs that would be operational at any one time is not known. Therefore, the duration of piling works is considered to be short-term only, due to the nature of the works.”</p> <p>Para 6.11.11. states: “For the M5, it has been assumed that rotary bored piling will be used to install structures, such as the Piffs Elm Bridges and the River Chelt Bridge.”</p>	
<b>Biodiversity</b>	REP1-012 Environmental Statement Chapter 7 – Biodiversity	<p>The Environmental Master Plan “Proposed Indicative River Chelt Link Road River Cross-Sections” illustrates the extent over which the DCO design proposes works within the River Chelt. Section F-F proposes amendments to the riverbed as well as the riverbank.</p> <p>The following references to the River Chelt bridge are made in ES Chapter 7.</p> <p>Para 7.6.138 states: “The proposed new River Chelt bridge crossing and a temporary haul road (Link Road; SO 90743 24593) occur within the Chelt - source to M5 (GB109054032820) waterbody. Here, the River Chelt has an Overall WFD classification of ‘Moderate’, with biological quality elements at ‘Good’.</p> <p>Table 7-15 states the following:</p>	<p>This change does not alter the proposed extent of works within the River Chelt.</p> <p>To mitigate for the section of straightened channel, the River Chelt will be reprofiled to exaggerate the natural meandering upstream and downstream of the River Chelt bridge. The pools and riffles between meanders described in the ES will be retained.</p> <p>A constructability review by the Applicant identified the requirement for a temporary river diversion to allow for the construction of the River Chelt reprofiling and mitigation associated with the Link Road River Chelt bridge included in the ES Scheme design (ES Chapter 2: The Scheme [AS-010]). The requirement for the temporary diversion was not assessed as a construction activity within the ES. A temporary diversion would also</p>



Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<p>With regards to River Chelt: “A new 30 m long, 20.8 m wide (deck width) and 2.8 m high clear span crossing over the River Chelt (West Cheltenham Link Road River Chelt Bridge) will result in permanent localised channel shading and loss of riparian habitat associated with earthworks for the construction of the bridge. Shading caused by the deck will impact in-channel and riparian vegetation structure under the bridge, as well as potentially having localised minor adverse impacts on other species such as aquatic macroinvertebrates and fish through habitat quality reduction.</p> <p>Temporary noise and visual disturbance associated with the construction of the permanent and temporary bridges that will cross the River Chelt may act to deter fish passage and spawning activity of fish, including species such as lamprey and European eel.</p> <p>Abutments will be set back from the channel on both sides, by approximately 4 m, removing the requirement for any in-channel piers or other structures. However, due to an increased likelihood of bank erosion (caused in part by shading acting to remove bankside vegetation) it is assumed that hard engineered bank protection will be required underneath the new bridge structure causing permanent modification and potential localised loss of marginal lamprey ammocoete habitat. The bank protection will prevent erosion and bank retreat that may otherwise undermine the new bridge abutments. At this stage, the details of the bank protection have not been determined but it has been assumed that the length will equal that of the width of the bridge deck and comprise of hard bank protection (e.g. rip-rap or non-biodegradable geotextile) as a worst case scenario. A bioengineered</p>	<p>be required for the change but would be no different from the diversion identified from the constructability review for the ES Scheme design. With the mitigation measures (as included in the updates to the REAC [APP 10.26] (WE1, WE3 and B23)) there would be no change to the outcomes of the assessment as reported in ES Chapter 7.</p> <p>It is anticipated that the fish species using the River Chelt would be exposed to similar construction impacts as those reported in ES Chapter 7.</p> <p>This proposal would maintain the minimum abutment set back from the riverbank proposed in the Scheme design to ensure habitat connectivity.</p> <p>The proposed design change is not anticipated to alter the impact on biodiversity, or result in a change to the assessment outcomes, as reported in ES Chapter 7.</p>

Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<p>“green solution” would be used to transition from the grey bank protection to the natural banks up and downstream of the crossing. At the detailed design stage, further assessment and consultation with the Environment Agency will determine the most pragmatic solution and confirm the need for bank protection, to specify the materials and general arrangement which will endeavour to minimise and, where possible, exclude hard engineered bank protection...</p> <p>Construction activities such as excavation, plant/material movements and piling to accommodate the new watercourse crossing may result in disturbance to aquatic species...”</p> <p>Level of impact (with only embedded mitigation) on River Chelt: Slight</p> <p>Table 7-17 states the following:</p> <p>With regards to River Chelt: “The new River Chelt Bridge to accommodate the Link Road has been designed to be clear span with no permanent interactions with the watercourse bed. A short length of bank protection is required, details of which are to be confirmed at detailed design.”</p> <p>Residual effect (with embedded and essential mitigation): Slight</p>	
<p><b>Road Drainage and Water Environment</b></p>	<p>REP1-014                      Environmental Statement Chapter 8 – Road Drainage and Water Environment</p>	<p>The following references to the River Chelt bridge are made in ES Chapter 8:</p> <p>Para 8.7.55 states: “it has been proposed that some form of bank protection will be required through the structure to protect the bridge abutments, footpath and fencing</p>	<p>It is considered that the proposal would result in no change to surface water quality and surface water quality from a spillage.</p> <p>A constructability review by the Applicant identified the need for a temporary diversion channel to allow for the</p>

Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<p>from potential future erosion. As a worst-case scenario, as part of this ES, it has been assumed that hard bank protection (such as rip-rap) will be required along both banks through the length of the structure (approximately 20.8m of channel). However, at the detailed design stage, further assessment (including a scour assessment) will determine the most pragmatic solution and confirm the need for bank protection, specify the materials and general arrangement which will aim to minimise and, where possible, utilise soft solutions rather than hard bank protection. As a WFD assessment will be required to support the application for a Flood Risk Activity Permit, pre application consultation will take place to align expectations and inform the Environment Agency of the proposed design.</p> <p>Para 8.7.56 states: “As the impacts to the River Chelt and Leigh Brook are expected to be minor, either a Slight or Moderate significance can be selected based on guidance in LA 104 (Table 8-2). The significance of impact has been assigned as Slight as the impacts are expected to be localised. With the embedded mitigation applied, any potential impacts will be mitigated to a level which is not significant.”</p> <p>Table 8-21 in chapter 8 states that the significance of effects on the River Chelt associated with surface water quality is slight adverse, surface water quality from a spillage is slight adverse, hydromorphology is slight adverse, groundwater is neutral and food risk is large benefit.</p>	<p>construction of the River Chelt reprofiling and mitigation associated with the Link Road River Chelt bridge. The requirement for the temporary diversion was not assessed as a construction activity within the ES. A temporary diversion would also be required for the change but would be no different from the diversion identified from the constructability review for the Scheme. With the mitigation measures, as secured in the updates to the REAC (WE1, WE3 and B23) [APP-10.26] there would be no change to the outcomes of the assessment as reported in ES Chapter 8.</p> <p>The effects on the water environment of straightening the channel through the structure would be offset by realigning works upstream and downstream to create increased sinuosity, to offset hydromorphological effects.</p> <p>There are no implications to the groundwater environment for the operational phase since any hydraulic interaction with groundwater is likely to be minimal.</p> <p>As reported in the FRA Addendum [APP 10.25], the effects not mitigated by embedded mitigation do not change the flood risk to those areas and can be considered a non-significant impact. This proposal would not change the assessment outcomes associated with flooding as reported in ES Chapter 8.</p> <p>Overall, it is considered that the proposed change would not alter the conclusions of ES Chapter 8.</p>
<b>Landscape and Visual</b>	REP1-016 Environmental	The River Chelt bridge is considered as part of the Link Road in Chapter 9. However, Chapter 9 does not report a	The structure would still be a new feature on the landscape. It is therefore considered that there would be

Topic	DCO Documentation	Current Application	Impact of Proposed Change
	Statement Chapter 9 – Landscape and Visual	<p>specific level of impact on the landscape from the link road or the River Chelt bridge. The impact on the landscape is considered for the whole Scheme only.</p> <p>The impact of the scheme on LCA C is slight beneficial.</p> <p>In addition, para 9.11.5 states: “Field hedges along the alignment of the Link Road would be severed along with some trees within them where the crossing of the River Chelt is proposed.”</p> <p>Para 9.11.13 states: “The Link Road and bridge over the River Chelt would present a new raised feature in Landscape Character Area C (LCA C), however the type and scale of this road is not atypical or incongruous to the existing landscape characteristics of this area”.</p> <p>Para 9.11.20 states: “The planting to the Link Road would also work to embed this feature into the landscape and ecological measures to the River Chelt would be providing beneficial effects improving the habitat here.”</p> <p>The new bridge will be visible from properties at Mill House Farm, east of Withybridge Lane. These receptors will have moderate adverse impacts during construction and either neutral or beneficial effects during operation (Year 15).</p>	<p>no change to the impact on local receptors as stated in Chapter 9.</p> <p>The proposed change would not result in any change in visual impact and would not alter the assessment outcomes in ES Chapter 9.</p>
<b>Geology and Soils</b>	REP1-018 Environmental Statement Chapter 10 – Geology and Soils	The River Chelt bridge on the link road is not assessed or mentioned specifically in ES Chapter 10.	It is considered that the proposed change would not alter the conclusions of ES Chapter 10.

Topic	DCO Documentation	Current Application	Impact of Proposed Change
<b>Cultural Heritage</b>	APP-070 Environmental Statement Chapter 11 - Cultural Heritage	The River Chelt bridge on the link road is not assessed or mentioned specifically in ES Chapter 11.	It is considered that the proposed change would not alter the conclusions of ES Chapter 11.
<b>Materials and waste</b>	REP1-020 Environmental Statement Chapter 12 – Materials and Waste	<p>The River Chelt bridge is not considered specifically in chapter 12. There is no specific level of impact with regards waste and materials from the link road or the River Chelt bridge. The impact of waste and materials is considered for the whole scheme.</p> <p>Chapter 12 of the ES concludes that during construction the Scheme will have a slight adverse effect with regards materials and a slight adverse effect with regards waste.</p>	<p>The squaring up of the River Chelt bridge will reduce the amount of material required for the bridge deck. The volume of materials required for the proposed change would be less than that considered in chapter 12.</p> <p>The proposed change would slightly improve the impact associated with materials and waste as documented in chapter 12. The proposed change is not considered to be significant.</p>
<b>Population and Human Health</b>	REP1-022 Environmental Statement Chapter 13 – Population and Human Health	The River Chelt bridge on the link road is not assessed or mentioned specifically in ES Chapter 13.	It is considered that the proposed change would not alter the conclusions of ES Chapter 13.
<b>Climate</b>	REP1-024 Environmental Statement Chapter 14 – Climate	<p>The River Chelt bridge on the link road is not assessed specifically in ES Chapter 14.</p> <p>Para 14.10.3 in Chapter 14 states: “The construction phase of the Scheme will generate 202,217 tCO<sub>2</sub>e. The largest emitting categories are Bulk Materials and Earthworks, contributing 55,898 tCO<sub>2</sub>e and 99,961 tCO<sub>2</sub>e respectively.”</p>	<p>Due to the reduction in materials for the bridge deck, the proposed change would offer a potential saving in Scheme carbon emissions.</p> <p>It is considered that the proposed change would have a slight beneficial impact on the construction phase carbon emissions. Overall, the change would not alter the conclusions reported in ES Chapter 14.</p>

## 2.4. Change 4 – Link Road alignment

- 2.4.1. The Link Road design in the submitted DCO Application is to be constructed on an embankment and will therefore be raised above the existing landscape. The embankment will be constructed from imported fill material. The vertical limit of deviation (LoD) set out in Article 8 of the draft DCO is a maximum of 0.5 metres upwards or 1.0 metre downwards. The Scheme design for the Link Road includes a 4m wide two-way footway cycleway.
- 2.4.2. The Applicant proposes to optimise the vertical alignment of the Link Road beyond the LoD, by reducing the height of the road by over 1m in localised areas [see Figure 2-9]. This would result in significant reductions in the requirement for imported fill.
- 2.4.3. In addition, the Applicant proposes to reduce the width of the two-way footway cycleway from 4m to 3m to optimise the width of the Link Road [see Figures 2-1 and 2-2]. A review of the potential number of future cyclists identified that a 3m wide cycleway would be more than sufficient for the number of users identified.

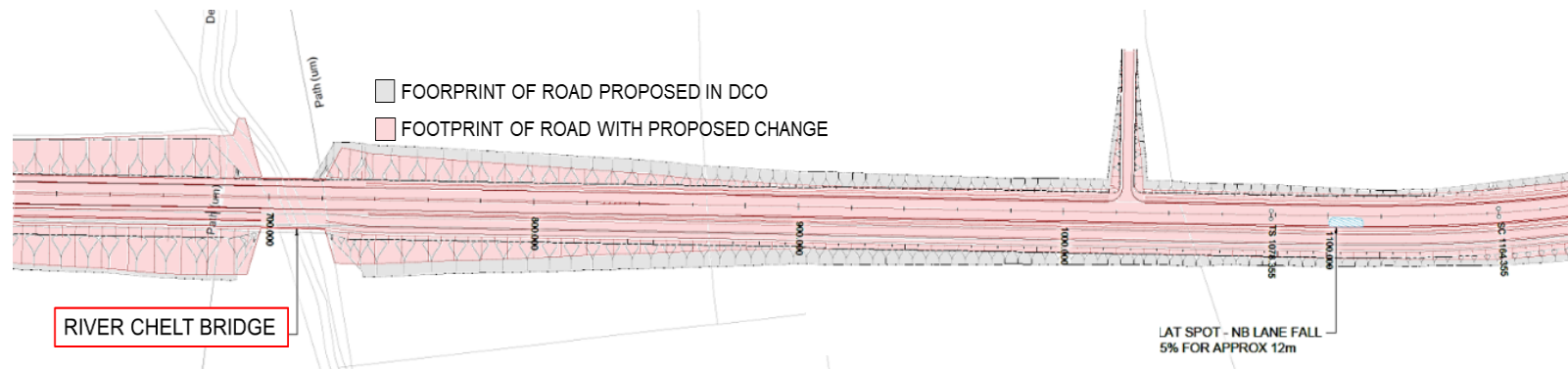


Figure 2-8 Link Road plan showing reduced footprint of embankment



Figure 2-9 Link Road long-section showing Scheme design vs proposed change

2.4.4. The effects of this change are outlined in Table 2-4. This table should be read in conjunction with the ESA [APP 10.23].

Table 2-4 Effects of Change 4

Topic	DCO Documentation	Current Application	Impact of Proposed Change
<b>Land &amp; Works</b>	<p>REP5-002 2.2 Land Plans</p> <p>Relevant land plots:                      12/2i, 12/9c, 15/3b, 15/4c, 15/5a, 15/8d, 15/8d(i), 15/10f, 15/10f(i), 15/10f(ii), 16/1c, 16/3d, 16/3d(i), 16/3d(ii), 12/2k, 12/2k(i), 12/2v, 12/9b, 15/3c, 15/4b, 15/4e, 15/5b, 15/8a, 15/8a(i), 15/8b, 15/8c, 15/8c(i), 15/8c(ii), 15/8c(iii), 15/8c(iv), 15/8(v), 15/10d, 15/10e, 15/10e(i), 15/10e(ii), 16/3c, 16/c(i), 16/3e, 16/3e(i), 16/3e(ii), 16/3e(iii), 15/8c(v), 15/10(ii), 16/3c(i), 15/4f, 15/8t</p> <p>APP 10.29 Works Plans</p>	<p>Work number 5 and 6.</p> <p>Required for the construction of a new West Cheltenham Link Road south of the A4019 (Tewkesbury Road) to join with the B4634 with footway and cycleway to the west and private access, signage and ducting. New right of temporary access for the construction of a new West Cheltenham Link Road south of the A4019 (Tewkesbury Road) to join with the B4634 with footway and cycle track to the west and private access, signage and ducting, and new permanent rights to provide, protect, inspect, and maintain environmental and ecological mitigation. New right for the construction, use, protection and maintenance of a new bridge over the River Chelt and associated environmental mitigation. New right for the diversion, construction, use and maintenance of public right of way FP ABO24/FP AUC11 to the south of the River Chelt under the new River Chelt Bridge.</p>	<p>Land plans are not impacted by this proposed change.</p> <p>No works descriptions are impacted by this proposed change.</p>
<b>Air Quality</b>	<p>AS-012 Environmental Statement Chapter 5 – Air Quality</p>	<p>The horizontal alignment of the Link Road is assessed within ES Chapter 5. The vertical alignment of the Link Road is not assessed specifically in ES Chapter 5.</p>	<p>It is considered that the proposed change to the vertical alignment of the link road would not alter the conclusions of ES Chapter 5.</p>



Topic	DCO Documentation	Current Application	Impact of Proposed Change
<p><b>Noise and Vibration</b></p>	<p>AS-014 Environmental Statement Chapter 6 – Noise and Vibration</p>	<p>In Chapter 6, the construction works are assessed for predicted construction noise levels (dB) versus distance (m).</p> <p>Table 6-17 shows that:</p> <ul style="list-style-type: none"> <li>• Imported fill – place, spread &amp; compact is estimated to generate 80.5dB at 10m, and 72.5dB at 25m.</li> <li>• Link Road haul route (assume worst case 3 wagons in one hour) is estimated to generate 81.8dB at 10m, and 73.9dB at 25m.</li> </ul> <p>Table 6-20 shows that The House in The Tree, Elm Cottage and Mayville may experience adverse effects of vibration resulting from compaction on the link road. The vibration significance threshold was assessed to be exceeded for Elm Cottage only.</p> <p>Para 6.9.95 regarding the significance of the changes in road traffic noise predicted to result from the Scheme states: “In addition, consideration should be given to new bypass routes, such as the new Link Road. The new road would create a source of noise affecting the façade of buildings that are currently quiet. However, the minor noise benefit from the reduction in traffic on Withybridge Lane, (above SOAEL), should outweigh the minor noise increase from the Link Road, as overall the noise levels at this location are reducing.</p> <p>Para 6.12.2 states: “The construction noise assessment determined that a number of representative noise sensitive properties, and other properties in the same area) have the potential for a significant noise effect. Properties that are particularly at risk are those close to</p>	<p>This proposal would reduce the requirement for imported fill material to construct the Link Road. It may therefore reduce the programme duration for the earthworks and the number of lorry movements.</p> <p>Although this proposal would result in localised betterment, it is considered that it would not change the overall outcomes of the construction traffic noise assessment in ES Chapter 6.</p> <p>This change will not alter the operational traffic flow characteristics of the Link Road. Reducing the vertical alignment will not result in an adverse change in operational noise relative to the assessment in ES Chapter 6</p>

Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<p>the A4019, East of the M5 as well as properties close to the Link Road and any new access roads to individual properties.</p>	
<b>Biodiversity</b>	<p>REP1-012            Environmental Statement Chapter 7 – Biodiversity</p>	<p>ES Chapter 7 makes the following references to biodiversity on the Link Road:</p> <p>Para 7.8.54 states: “At the Link Road, the embankments will be planted with blocks of woodland and hedgerows with trees, creating a strong north-east to south-west green corridor. North-west to south-east movement will be maintained by the incorporation of wildlife underpasses and hop-over planting, as well as the clear span bridge structure over the River Chelt.”</p> <p>Para 7.8.65 states: “The construction of the Link Road will result in a number of hedgerows being severed, one of which (hedgerow 132) has been identified as a key commuting/foraging location”</p>	<p>This change would reduce the planting area available on the Link Road embankments. However, this planting can be offset at the toe of the embankments.</p> <p>The change will retain the numerous crossing points and ecological mitigation measures, including oversized culverts and bat hop-overs.</p> <p>Overall, it is considered that the proposed change would not alter the conclusions for biodiversity in ES Chapter 7.</p>
<b>Road Drainage and Water Environment</b>	<p>REP1-014            Environmental Statement Chapter 8 – Road Drainage and Water Environment</p>	<p>The Link Road covers two drainage catchments assessment in Chapter 8:</p> <ul style="list-style-type: none"> <li>• Combined basin: northern end of the link road, at the junction with the A4019</li> <li>• Link Road: southern end of the link road</li> </ul> <p>Table 8-21 in Chapter 8 states that “the residual significance of effect on the water environment during operation”, for the catchments on the Link Road, are as follows:</p> <p>Surface water quality - routine run off:</p> <ul style="list-style-type: none"> <li>• Link Road catchment: Slight adverse</li> </ul>	<p>The proposed change would not alter the Scheme impact on surface water quality during construction or operation.</p> <p>The change is not anticipated to impact WFD compliance with respect to water quality.</p> <p>There are no implications for hydromorphological impacts or the groundwater environment resulting from this change.</p> <p>The reduction in height of the embankment would reduce the footprint and volume of the embankment within the flood plain. This would consequently reduce the requirement for compensatory storage upstream of the link road.</p>

Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<ul style="list-style-type: none"> <li>• Combined basin catchment: Slight benefit</li> </ul> Surface water quality - spillage: Slight adverse <ul style="list-style-type: none"> <li>• Link Road catchment: Slight adverse</li> <li>• Combined basin catchment: Slight adverse</li> </ul> Hydromorphology: <ul style="list-style-type: none"> <li>• Drain 12: Slight adverse</li> <li>• Drain 15: Slight adverse</li> </ul> Flood risk: <ul style="list-style-type: none"> <li>• River Chelt floodplain - downstream of M5: Large benefit</li> </ul>	Overall, the proposal would not alter the conclusions of ES Chapter 8.
<b>Landscape and Visual</b>	REP1-016 Environmental Statement Chapter 9 – Landscape and Visual	Although the Link Road is considered in Chapter 9, the conclusions regarding impact are for the Scheme as whole. There are no conclusions regarding the specific level of impact on the landscape from the Link Road.  The impact of the Scheme on Landscape Character Assessment (LCA) Area C West Cheltenham is slight beneficial.  Para 9.11.13 states, “The Link Road and bridge over the River Chelt would present a new raised feature in LCA C, however, the type and scale of this road is not atypical or incongruous to the existing landscape characteristics of this area”.  Para 9.11.20 states, “The planting to the Link Road would also work to embed this feature into the landscape...”	The change in vertical alignment would reduce the height of the Link Road by over 1m in a localised area, which will result in the traffic using it being less prominent within the landscape, with a slight increase in screening provided. This would result in a slight beneficial improvement in visual impacts. This change is not considered to be significant against the conclusions of ES Chapter 9.

Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<p>Para 9.11.26, “the Link Road would be a new feature in the landscape, but it is not anticipated that it would significantly reduce the feeling of openness in this small area. The proposed roadside planting would help embed the road, whilst also allowing filtered views through and across the Link Road. The Scheme proposed to replace lost vegetation to existing road verges reinstating the filtered openness provided by these features.</p> <p>Chapter 9 concludes the Scheme would have a significant but temporary effect during construction and immediately upon completion. However during operation (Year 15) the Scheme could provide overall beneficial effects on the landscape character.</p> <p>The link road is visible from the following receptors:</p> <p>Group of properties at Butlers Court, west of Withybridge Lane</p> <p>Properties at Mill House Farm, east of Withybridge Lane</p> <p>Group of properties at The House in the Tree public house and Elm Cottage, Orchard House and Hayden Farm, at the junction of Withybridge Lane and B4634.</p> <p>Properties at Hayden Hill Fruit Farm, on the B4634 at Hayden Hill</p> <p>Properties at Uckington, south of the A4019</p> <p>Chapter 9 concludes that the above properties will have moderate adverse effects during construction apart from Bulter’s Court, Elms Cottage group and Hayden Fruit Farm which would experience moderate adverse and</p>	

Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<p>significant effects immediately following construction (Year 1).</p> <p>Chapter 9 also concludes that during operation (Year 15) Elms Cottage Group, Hayden Hill, properties around Uckington will have a slight adverse effect on their views. This is largely due to the present of new lighting or the Link Road as a new but embedded feature in the view.</p> <p>Finally, Chapter 9 concludes that all other receptors would have either neutral or beneficial effects on their view.</p>	
<b>Geology and Soils</b>	REP1-018 Environmental Statement Chapter 10 – Geology and Soils	The link road is not assessed specifically in ES Chapter 10.	It is considered that the proposed change would not alter the conclusions of ES Chapter 10.
<b>Cultural Heritage</b>	APP-070 Environmental Statement Chapter 11 - Cultural Heritage	<p>Chapter 11 assesses the impact of the Scheme as a whole. The following information is provided with regards to the link road:</p> <p>11.7.2 states: “In addition to the desk-based searches to identify and evaluate the heritage baseline, a geophysical survey of the land proposed for the Link Road was conducted and the findings incorporated herein... The results are presented in Appendix 11.3 and 11.4 (application document TR010063 - APP 6.15) ...”</p> <p>Appendix 11.4 states: “9.9 In summary, the evaluation uncovered two areas of dense archaeological features dating to the late Iron Age/Romano British period. These comprised numerous ditches, many showing multiple phases of activity. The ditches likely formed enclosures and boundaries delineating a settlement site, although</p>	<p>The proposed change would reduce the footprint of the link road. It will not change the horizontal alignment of the link road.</p> <p>The proposed reduction in height of the link road in localised areas would broadly be viewed as a positive change from a heritage perspective.</p> <p>Overall, it is considered that the proposed change would not alter the conclusions of ES Chapter 11.</p>

Topic	DCO Documentation	Current Application	Impact of Proposed Change
		settlement structures were not recorded. The archaeological features correlated to anomalies shown on the geophysical survey. Some features uncovered in the trial trenches were not detected in the geophysical survey suggesting the archaeological remains could be more extensive.”	
<b>Materials and waste</b>	REP1-020 Environmental Statement Chapter 12 – Materials and Waste	There is no assessment criteria or conclusion specifically related to the Link Road in Chapter 12 of the ES.  Chapter 12 of the ES concludes that during construction the scheme will have a slight adverse effect with regards materials and a slight adverse effect with regards waste.  During operation the scheme will have no impact.	The proposed change would reduce the requirement for imported fill material which will provide a benefit against the conclusions of ES Chapter 12. Overall, the proposed change is not considered to be significant.
<b>Population and Human Health</b>	REP1-022 Environmental Statement Chapter 13 – Population and Human Health	The link road is not assessed specifically in ES Chapter 13.	It is considered that the proposed change would not alter the conclusions of ES Chapter 13.
<b>Climate</b>	REP1-024 Environmental Statement Chapter 14 – Climate	The link road is not assessed specifically in ES Chapter 14.  Para 14.10.3 in Chapter 14 states: “The construction phase of the Scheme will generate 202,217 tCO <sub>2</sub> e. The largest emitting categories are Bulk Materials and Earthworks, contributing 55,898 tCO <sub>2</sub> e and 99,961 tCO <sub>2</sub> e respectively.”	The proposed change would reduce the requirement for imported fill material. This could offer savings in Scheme carbon emissions.  It is considered that the proposed change would have a slight beneficial impact on the construction phase carbon emissions. Overall, the change would not alter the conclusions reported in ES Chapter 14.



## 2.5. Change 5 – Relocation of existing NRTS Transmission Station

- 2.5.1. The location of the existing Uckington National Telecommunication Roadside Service (the “NRTS”) transmission station (TS) is in close proximity (4.9m) to the construction works proposed for the Piffs Elm bridge north [See Figures 2-10, 2-12 and 2-14]
- 2.5.2. Further to the conclusions in ES Chapter 13: Population and Human Health [REP1-022], the Applicant completed a constructability review of the retaining walls proposed for the Piffs Elm north bridge eastern abutment. The Applicant identified that the proximity of the TS to the construction works for the retaining wall poses significant health and safety risk to operatives.
- 2.5.3. The works would also pose a risk to the TS structure and the power and communication cables which run to the TS. The NRTS provides a data link around National Highways’ roadside telecommunications network. This link must be kept in operation at all times. During construction, an interrupter bypass cable will be required to divert the data link around the construction area and keep the network operational. The bypass cable would need to return to the TS to maintain the data link and would therefore run through the works area where it may be at risk of damage.
- 2.5.4. For these reasons, it has been determined that the TS needs to be relocated from its current location.
- 2.5.5. The new TS would be modular, similar to that shown in Figure 2-11, with approximate dimensions of 6.7m (L) x 4.8m (W) x 3m (H). The new TS will be located within the Scheme Order limits and highway boundary, approximately 2.6km south of the existing location [see Figures 2-13 and 2-15]. There is existing hardstanding in the verge of the southbound carriageway which would provide a suitable location.
- 2.5.6. Once the TS is relocated, the retaining walls will no longer be required for the Piffs Elm North bridge. As a result, the retaining walls on the north side of the east and west abutments would be replaced with planted embankments.
- 2.5.7. There is potential for the TS to be relocated by National Highways NRTS team prior to commencement of main works.

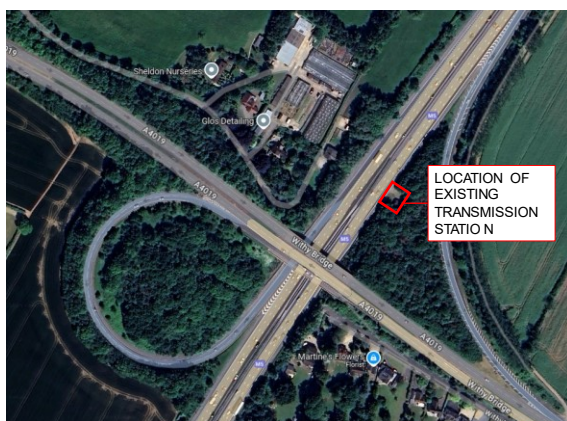


Figure 2-12 Location of existing TS relative to existing M5 J10



Figure 2-10 Photo of existing TS



Figure 2-11 Example modular TS from M3



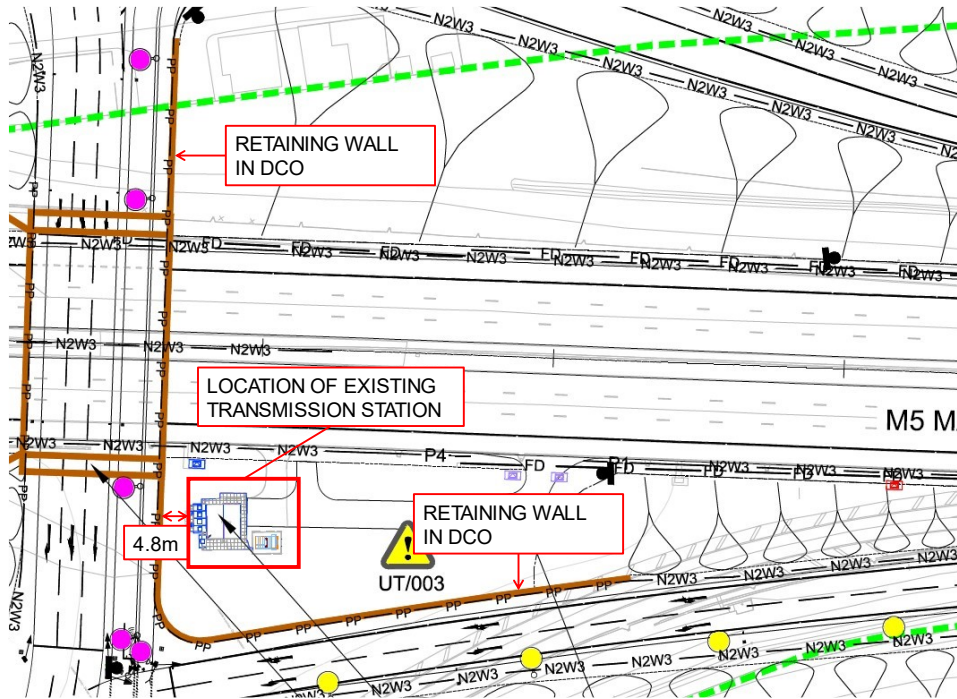


Figure 2-13 Existing TS location in Scheme design with dimensions for working room

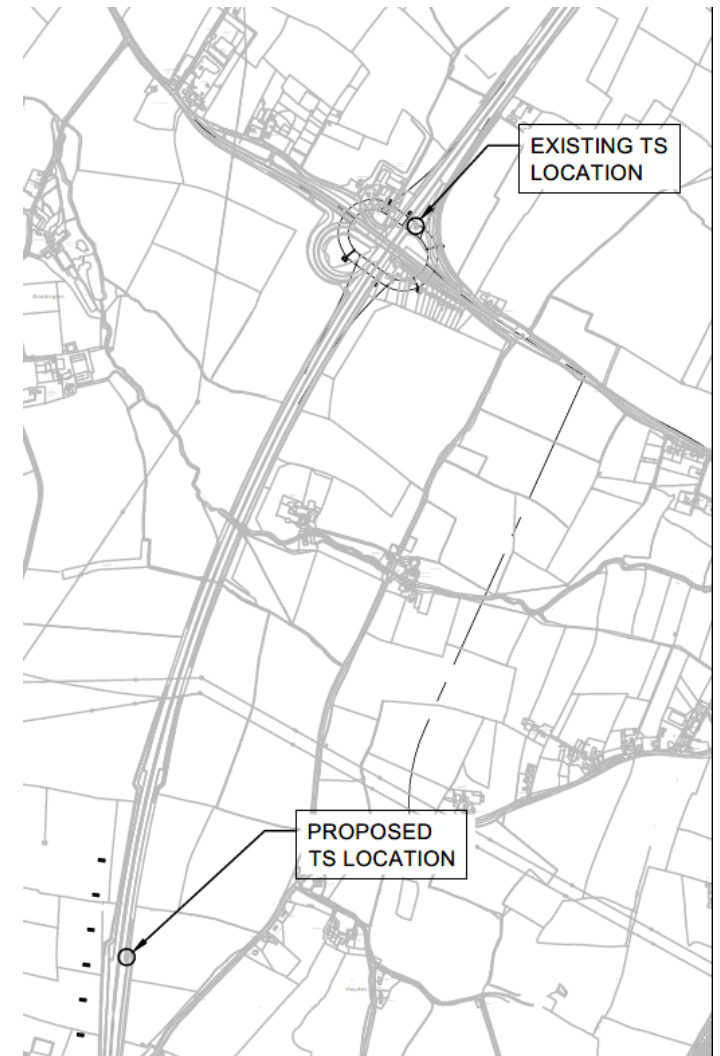


Figure 2-14 Location of existing and proposed TS



Figure 2-15 Proposed location for new TS, 2.6km south of M5 J10 Piffs Elm Interchange

2.5.8. The effects of this change are outlined in Table 2-5. This table should be read in conjunction with the ESA [APP 10.23].

**Table 2-5 Effects of Change 5**

<b>Topic</b>	<b>DCO Documentation</b>	<b>Current Application</b>	<b>Impact of Proposed Change</b>
<b>Land &amp; Works</b>	<p>REP5-002 2.2 Land Plans</p> <p>Relevant land plots:</p> <p>Existing TS location: 5/2d, 5/2e, 5/2kk and 5/2n</p> <p>New TS location: 8/1b</p> <p>APP 10.29 Works Plans</p>	<p>Work number 1(c).</p> <p>New right for the construction of motorway signage and associated cabling and ducting works. New right for the construction of a new southbound exit slip from the M5 to the A4019. New right for the construction of a new grade separated roundabout junction and maintenance bays. New right for the construction of a new roundabout over the M5 comprising a circulatory carriageway and the Piffs Elm interchange bridges (north and south). New right for the demolition of the existing A4019 bridge over the M5</p> <p>New right for the diversion, use, protection, inspection and maintenance of water pipeline for the benefit of Severn Trent Water Limited New right for the diversion, use, protection, inspection and maintenance of gas main for the benefit of Wales and West Utilities Limited. New right for the diversion, use, protection, inspection and maintenance of telecommunication cable and associated apparatus and equipment.</p> <p>8/1b currently associated with work 1(a) Required for the construction of motorway signage and associated cabling and ducting works and associated works.</p>	<p>No land plans or land rights are impacted by this proposed change.</p> <p>New work numbers required for demolition of the existing transmission station and construction of a new modular transmission station.</p>
<b>Air Quality</b>	AS-012 Environmental Statement Chapter 5 – Air Quality	The presence of the TS near to the M5 J10 Piffs Elm Interchange does not affect the air quality assessment reported in ES Chapter 5.	It is considered that the proposed change to relocate the TS within the Order limits would not alter the conclusions of ES Chapter 5.
<b>Noise and Vibration</b>	AS-014 Environmental Statement Chapter 6 – Noise and Vibration	In Chapter 6, the construction works are assessed for predicted construction noise levels (dB) versus distance (m).	The change is not anticipated to materially change the construction phase traffic flows or traffic volumes. Therefore, there will be no change to traffic related noise.

Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<p>Table 6-17 shows that:                      Imported fill – place, spread &amp; compact is estimated to generate 80.5dB at 10m, and 72.5dB at 25m.</p> <p>Table 6-20 shows that Barn Farm and Informal Traveller site may experience adverse effects of vibration resulting from compaction on the M5. The vibration significance threshold was assessed to be exceeded for the Informal Traveller site only.</p>	<p>Given the modular nature of the TS it is anticipated that the implementation of the change would not require additional construction programme or plant to that considered in the ES.</p> <p>This change is not anticipated to change the conclusion of the assessment of operational or construction noise presented in ES Chapter 6.</p>
<b>Biodiversity</b>	REP1-012 Environmental Statement Chapter 7 – Biodiversity	ES Chapter 7 does not specifically assess the Piffs Elm Interchange or the transmission station.	<p>This proposal would replace the retaining walls at the Piffs Elm north bridge with embankments, which provide enhanced opportunities for planting.</p> <p>The construction of the new transmission station would be at a location of existing hardstanding. It would therefore require minimal vegetation removal.</p> <p>Overall, it is considered that the proposed change would not alter the conclusions for biodiversity in ES Chapter 7.</p>
<b>Road Drainage and Water Environment</b>	REP1-014 Environmental Statement Chapter 8 – Road Drainage and Water Environment	<p>The transmission station is not considered specifically in ES Chapter 8.</p> <p>The existing TS lies within a drainage catchment that would have a slight adverse impact on surface water quality due to routine runoff, slight adverse impact to surface water quality due to a spillage, a neutral impact on groundwater, and a neutral impact on flood risk.</p>	<p>The footprint of the proposed new NRTS TS is small and is proposed to be located on existing partly surfaced verge and hardstanding area.</p> <p>This proposal would not change the assessment outcomes during construction and operation as reported in ES Chapter 8.</p>
<b>Landscape and Visual</b>	REP1-016 Environmental Statement Chapter 9 – Landscape and Visual	The TS and retaining walls at the Piffs Elm Interchange are not considered specifically in Chapter 9. However, Chapter 9 does conclude that the overall landscape effect of the proposed scheme is moderate adverse	This proposal would replace the retaining walls at the Piffs Elm north bridge with embankments. This would provide continuity across the Piffs Elm structures, such that all abutments would have planted embankments.

Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<p>during construction, and slight beneficial during operation (Year 15).</p> <p>No views of the TS or the retaining walls are considered in Chapter 9. The only views of these features would be from the M5. The impacts on the users of the M5 from the whole scheme are:</p> <p>Construction: Moderate adverse</p> <p>Operation (Year 1): Slight adverse</p> <p>Operation (Year 15): Neutral</p>	<p>The construction of the new transmission station would be at a location of existing hardstanding. It would therefore require minimal vegetation removal.</p> <p>Visual receptors for the new location of the TS are VR9 The House in the Tree Public House, Elm Cottage, Orchard House and PRow FPAB026. The new TS would not be visible to these receptors due to existing screening.</p> <p>It is considered that there would be no change to the assessment outcomes in ES Chapter 9.</p>
<b>Geology and Soils</b>	REP1-018 Environmental Statement Chapter 10 – Geology and Soils	The TS and retaining walls at the Piffs Elm Interchange are not assessed specifically in ES Chapter 10.	It is considered that the proposed change would not alter the conclusions of ES Chapter 10.
<b>Cultural Heritage</b>	APP-070 Environmental Statement Chapter 11 - Cultural Heritage	The TS and retaining walls at the Piffs Elm Interchange are not assessed specifically in ES Chapter 11.	It is considered that the proposed change would not alter the conclusions of ES Chapter 11.
<b>Materials and waste</b>	REP1-020 Environmental Statement Chapter 12 – Materials and Waste	<p>There is no assessment criteria or conclusion specifically related to the Piffs Elm Interchange and TS in Chapter 12 of the ES.</p> <p>Chapter 12 of the ES concludes that during construction the scheme will have a slight adverse effect with regards materials and a slight adverse effect with regards waste.</p> <p>During operation the scheme will have no impact.</p>	<p>The proposed change would remove the requirement for retaining walls at Piffs Elm bridge north but would increase the requirement for imported fill in this area.</p> <p>New materials would be required for the construction of the new modular TS, and waste would be generated through the demolition of the existing TS. The materials from the old TS would be recycled in the scheme where feasible.</p> <p>Overall, the proposed change is not considered to be significant against the conclusions of ES Chapter 12.</p>

Topic	DCO Documentation	Current Application	Impact of Proposed Change
<b>Population and Human Health</b>	REP1-022 Environmental Statement Chapter 13 – Population and Human Health	There is no assessment criteria and conclusion specifically related to the Piffs Elm Interchange and TS in Chapter 13 of the ES.	It is considered that the proposed change would not alter the conclusions of ES Chapter 13.
<b>Climate</b>	REP1-024 Environmental Statement Chapter 14 – Climate	<p>There is no assessment criteria and conclusion specifically related to the Piffs Elm Interchange and TS in Chapter 14 of the ES.</p> <p>Para 14.21.10 in Chapter 14 states: “...no back up power supplies are required for most of the road safety technology. The proposed communication network transmission station at J10 is an exception to this, it has power backup which would be used to report the loss of equipment (due to a power cut). In the event of a power cut the electrical supply to the Scheme would be treated as a priority supply for power restoration.”</p>	<p>Although the proposal requires additional imported fill material to construct the embankments, the retaining walls require significant temporary works and more plant movements. It is therefore considered that the solutions would be comparable in terms of Scheme carbon emissions.</p> <p>The demolition of the existing TS would create additional waste, and the new TS would require additional materials.</p> <p>Overall, it is considered that the proposed change would not alter the conclusions of ES Chapter 14.</p>



## 2.6. Change 6 – Flood storage area reconfiguration

- 2.6.1. In the Scheme submitted as part of the DCO application, a FSA (c.82,000m<sup>3</sup> of below ground storage with c.200,000m<sup>3</sup> of total excavated material) is proposed to the south-east of the Piffs Elm Interchange, between the M5 Corridor, A4019 and Link Road [see Figure 2-16]. The solution was developed based on the following principles:
- The A4019 needs to be raised to meet the height of the new Piffs Elm Interchange at the M5 Junction 10. This will prevent flood waters flowing north over the A4019.
  - The level of the new Withybridge underpass, which provides a route for bats and the bridleway to pass under the A4019, was set above the design flood event (1in100year + 53% for climate change) so would not carry flood waters under the A4019.
  - The existing 750mm diameter pipes that pass under the A4019 were both proposed to be stopped up.
- 2.6.2. This flood storage area would need to be registered as a large-raised reservoir under the Reservoirs Act 1975. In the design flood event, the M5 and A4019 embankments would act as impoundment structures under the Reservoirs Act 1975. This means that the M5 and A4019 embankments form the dam to the reservoir. This would place significant responsibilities on the maintaining parties. National Highways have raised their concerns in relation to the Scheme proposals for the design, operation and maintenance of current the flood storage area, which has led the Applicant to explore alternative solutions.
- 2.6.3. The Applicant proposes an alternative flood storage solution which would allow flood waters to flow north of the A4019 and reduce the volume of water that would be stored to the south-east of the Piffs Elm Interchange [see Figure 2-17].
- 2.6.4. The alternative solution is as follows:
- Two separate basins to store 23,500m<sup>3</sup> and 62,000m<sup>3</sup> entirely below the current ground level (which would require a total excavation of c.145,000m<sup>3</sup> of material). The larger basin would be a reservoir under the Reservoirs Act 1975. Under the current legislation the smaller basin would not be a reservoir and would be designed as an operational wetland.
  - Creation of channels to carry floodwater from the basins to the River Chelt, to the existing Piffs Elm culvert underneath the M5, and through the Withybridge underpass.
  - New culverts will be created under the A4019, with a new ditch to carry flows to Leigh brook, which then passes under the M5 through the Barn Farm culvert. In order to create sufficient space for the new ditch to Leigh brook, the M5 southbound off-slip road has been shortened by 55m to 348m total length. Appendix F of the Transport Assessment [REP4-021] shows that the maximum queue length on the southbound off-slip (M5 North approach SB) in the 2042 scenario is 56 PCU in the am peak. This is equivalent to 336m and therefore within the new slip road length.
  - Withybridge underpass lowered and existing 750mm pipes under A4019 replaced with twin culverts, to provide flood conveyance under the A4019.
- 2.6.5. This solution would not use either the M5 or the A4019 road embankments as impoundment structures for the reservoir. As a result, the solution reduces the maintenance responsibilities (when compared to the Scheme) required under the Reservoirs Act 1975.



Figure 2-16 200,000m<sup>3</sup> reservoir in Scheme design



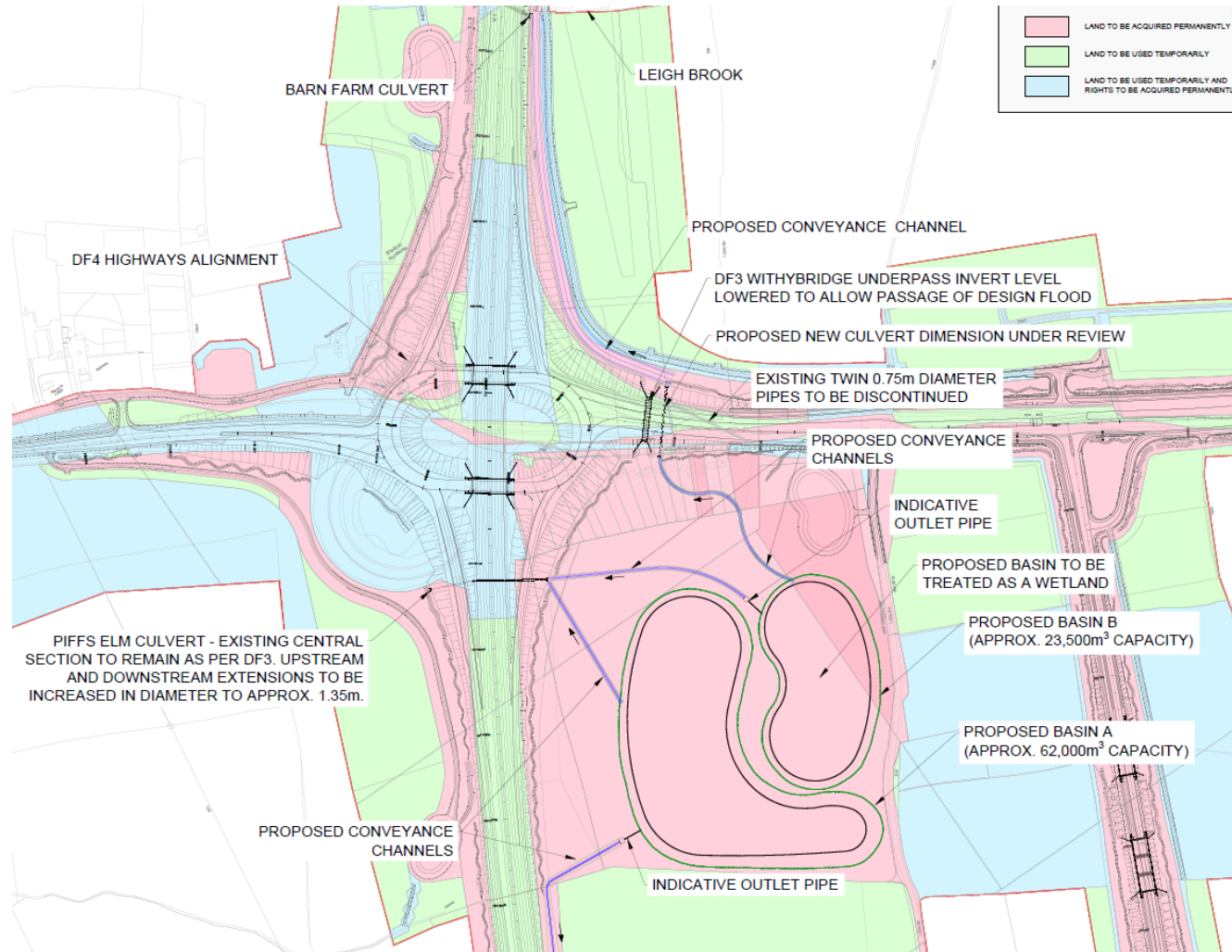


Figure 2-17 Plan of alternative flood storage area

2.6.6. The effects of this change are outlined in Table 2-6. This table should be read in conjunction with the ESA [APP 10.23].

**Table 2-6 Effects of Change 6**

<b>Topic</b>	<b>DCO Documentation</b>	<b>Current Application</b>	<b>Impact of Proposed Change</b>
Land & Works	REP5-002 2.2 Land Plans  Relevant land plots: 6/4b, 5/15b  APP 10.29 Works Plans	Work number 6d.  New right to construct, use, protect, inspect and maintain a flood compensation area.	Land Plans will not be impacted by this proposed change.  Works description for the flood storage area to be revised to include the new size in square meters.
Air Quality	AS-012 Environmental Statement Chapter 5 – Air Quality	The flood storage area is not assessed specifically in ES Chapter 5.	It is considered that the proposed change would not alter the conclusions of ES Chapter 5.
Noise and Vibration	AS-014 Environmental Statement Chapter 6 – Noise and Vibration	In Chapter 6, the construction works are assessed for predicted construction noise levels (dB) versus distance (m).  Table 6-17 shows that: <ul style="list-style-type: none"> <li>Flood storage area - Excavate is estimated to generate 82.5dB at 10m, and 74.5dB at 25m.</li> </ul>	The proposal would require some additional construction activities, for example for the new culverts through the A4019. However, the Scheme already proposes activities of a similar nature (such as the service crossings under the M5). These activities are not assessed within ES Chapter 6.  The proposal would not introduce any new receptors for noise and vibration.  Overall, it is considered that this change would not have a significant impact on the conclusions of ES Chapter 7 for noise and vibration during construction or operation.
Biodiversity	REP1-012 Environmental Statement Chapter 7 – Biodiversity	ES Chapter 7 makes the following references to the flood storage area:  Para 7.8.5 states: “An area of farmland to the southeast of the motorway junction (referred to as the flood storage area) will be transformed into an area supporting wetland	This proposal would have the following effect on the biodiversity resources identified in ES Chapter 7: <ul style="list-style-type: none"> <li>Bats: Bats will still be able to use the Withybridge Underpass and forage over the vegetated area</li> </ul>

Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<p>habitats surrounded by woodland, scrub and species-rich grassland, whilst also fulfilling its role as a flood storage area. The area will incorporate a permanently wet area, plus ephemeral wet grassland pools. A channel will link the outfall of the attenuation basin to the Piffs Elm culvert which will regularly refresh the permanent waterbody to avoid stagnation. Depressions have been designed to include variations in bed topography, with shallow bank slopes to create drawdown zones and marginal shelves. The approach will be to lightly seed the ephemeral areas with wetland grass species and suitable marginal plants, allowing a degree of natural regeneration. Scrub and woodland planting will be designed to complement the wetland areas, and these areas together with the adjacent species-rich grassland will collectively create a habitat mosaic suitable for a range of species. The area will be monitored before a management plan is produced to suit the developing conditions and habitats”.</p> <p>Table 7-11 shows:</p> <ul style="list-style-type: none"> <li>• 1.01 ha of waterbodies and associated planting will be created within the flood storage area.</li> <li>• 5.34 ha of wet grassland with marginal planting will be created within depressions in the flood storage area and within the attenuation basins.</li> </ul> <p>Para 7.8.188 states: “Unwanted logs from vegetation clearance and stones from ground works will be used to create piles close to existing ponds or newly created waterbodies, which comprise six attenuation basins as well as wetland areas within the flood storage area.”</p>	<p>to the southeast of the M5J10 gyratory. No change to the conclusions in Chapter 7.</p> <ul style="list-style-type: none"> <li>• Dormouse: The change will not change the level of flood risk to the hedgerow proposed for dormouse displacement north of the A4019 as in the Scheme. No change to the conclusions in Chapter 7.</li> <li>• Otter: The wetland habitat provision still includes areas of standing water and habitat suitable for use by otter. No change to the conclusions in Chapter 7.</li> <li>• River Chelt: The proposed ditch channel along the south bound carriageway of the West Cheltenham Link Road will drain to the River Chelt. No change to the conclusions in Chapter 7.</li> <li>• Leigh Brook: There would be a change in construction activities. The connection to Leigh Brook will be retained as per the baseline conditions, which is severed in the Scheme. The change incorporates the pollution prevention measures as reported in ES Chapter 7. No change to the conclusions in Chapter 7.</li> </ul> <p>Overall, it is considered that the proposed change would not alter the conclusions for biodiversity in ES Chapter 7.</p>

Topic	DCO Documentation	Current Application	Impact of Proposed Change
Road Drainage and Water Environment	REP1-014 Environmental Statement Chapter 8 – Road Drainage and Water Environment	<p>ES Chapter 8 makes the following references to the flood storage area:</p> <p>Table 8-18 states: “During operation, [compensatory flood storage area] excavation may alter groundwater flow directions including groundwater contributions to surface watercourses... No embedded mitigation has been specified for excavations. However, the current CFSA design indicates it is likely to be shallow and vary between 1.5 and 3 m in depth with the intention for part of the CFSA to be in full hydraulic continuity with groundwater. Mitigation is embedded in the form of best practice.”</p> <p>Para 8.7.63 states: “For the Scheme in terms of flooding, the embedded mitigation includes: [...] Compensatory floodplain to offset the volume of water displaced by the Scheme during the design flood, prior to the removal of any existing floodplain. This includes a large (&gt;190,000 m<sup>3</sup>) flood storage basin between the M5 motorway and Withybridge Lane, and 2,775 m<sup>3</sup> of compensatory floodplain immediately east of the Link Road.”</p> <p>Para 8.7.65 states: “The impact of the Scheme flood model for the present day 1% annual exceedance probability event (1 in 100-year return period) is described in detail in the FRA (Appendix 8.1 - application document TR010063 - APP 6.15). The effect of the Scheme on the baseline conditions for this event are shown in Figure 8-8 and can be summarised as:</p> <ul style="list-style-type: none"> <li>• A reduction in baseline flood levels upstream (east) of the M5 motorway embankment, south of the A4019, resulting from excavated (reduced)</li> </ul>	<p>The proposal would remove the requirement to use either the M5 or the A4019 road embankments to impound the reservoir.</p> <p>The HEWRAT calculations confirmed that there would be no changes to the magnitude of impact and significance of effect assigned in ES Chapter 8.</p> <p>As reported in the FRA Addendum [APP 10.25], the effects not mitigated by embedded mitigation do not change the flood risk to those areas and can be considered a non-significant impact. This proposal would not change the assessment outcomes associated with flooding as reported in ES Chapter 8.</p> <p>No change to groundwater is anticipated against the conclusions of ES Chapter 8, as the invert level of the Scheme is comparable to the invert level of the alternative solution.</p> <p>The ES reviews hydromorphology however not in specific reference to the flood storage area. Hydromorphological impacts will be assessed through detailed design and additional mitigation may be required.</p> <p>The proposed change would reduce the requirement for water management during excavation activities during construction.</p> <p>Overall, it is considered that the proposed change would not alter the conclusions of ES Chapter 8.</p>

Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<p>ground levels where the flood storage area is proposed...</p> <ul style="list-style-type: none"> <li>• Deeper flooding in the flood storage area by the M5 motorway as a result of excavated (reduced) ground levels...</li> </ul> <p>Para 8.7.66 states: “The 1% annual exceedance probability event (1 in 100-year return period) with allowance for climate change (+53%) (the design flood) is described in detail in the FRA. The effect of the Scheme on the baseline conditions for this event are shown in Figure 8-9 and can be summarised as: [...]</p> <ul style="list-style-type: none"> <li>• Deeper flooding in the flood storage area by the M5 motorway as a result of excavated (reduced) ground levels.</li> <li>• No flooding of the A4019 and property at Piffs Elm (Elmstone Business Park and Stanboro Cottage), downstream (west) of the M5 motorway embankment, where the Scheme prevents flows from passing over the highway.</li> <li>• A significant reduction in baseline flood levels in the Leigh Brook floodplain, upstream and downstream of the motorway, due to the Scheme removing the culverts under the A4019 and also raising the A4019 and preventing extreme floods from overtopping this road and entering the Leigh Brook catchment...”</li> </ul> <p>Chapter 8 used the Highways England Water Risk Assessment Tool (HEWRAT) to inform the assessment of the impact of the Scheme on surface water quality through routine runoff and accidental spillages.</p>	

Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<p>Chapter 8 concluded that the Scheme is compliant with WFD objectives, as informed by the WFD compliance assessment.</p>	
Landscape and Visual	<p>REP1-016                      Environmental Statement Chapter 9 –                      Landscape and Visual</p>	<p>ES Chapter 9 makes the following references to the flood storage area:</p> <p>Para 9.9.4 states that the general features of the Scheme that are likely to change the landscape or visual amenity of the area include: “construction of attenuation basins, flood storage area, flood compensation area and associated drainage features.”</p> <p>Para 9.10.9 states that the operational mitigation includes: “Naturalistic earth contouring and appropriate planting to the flood storage area to embed into the landscape and provide attractive habitat area. (Note: it is anticipated to introduce some areas of planting/seeding but allow most of this area to naturally develop).”</p> <p>Para 9.11.14 states the following regarding the Operational effects in year 1: “Whilst not typical features of the area, the proposed “naturalistic” earthworks for the formation of the flood storage area and the attenuation basins would ensure they do not appear at odds with the landscape, although initially the fencing and access road surfacing would be obvious until grass and proposed planting began to establish.”</p> <p>Para 9.11.19 states the following regarding the Operational effects in year 15: “planting to the attenuation basins and flood storage area would also have established to embed these into the landscape, with the flood storage area potentially becoming an asset in the landscape as a new valued habitat area.”</p>	<p>The change will reconfigure the FSA and provide two separate basins. The visual impacts would be limited as the visual components of the FSA (open water marginal vegetation and planted slopes) would be the same as the current Scheme, but rearranged.</p> <p>Overall, the proposal would not change the impact assessment for landscape or visual receptors as stated in ES Chapter 9.</p>



Topic	DCO Documentation	Current Application	Impact of Proposed Change
		Chapter 9 concludes that the overall landscape effect of the proposed scheme is moderate adverse during construction and slight beneficial during operation (Year 15).	
Geology and Soils	REP1-018 Environmental Statement Chapter 10 – Geology and Soils	<p>ES Chapter 10 makes the following references to the flood storage area:</p> <p>Para 10.11.1 states: “A total of 31.56 ha of subgrade 3a BMV agricultural land is anticipated to be lost resulting in a very large adverse effect which is significant. A total of 22.56 ha of subgrade 3b agricultural land is also anticipated to be lost resulting in a moderate adverse effect which is significant. A further 1.13 ha of Subgrade 3b agricultural land is anticipated to have permanent reduction in ALC classification to Grade 4, due the ground level being reduced to create a flood compensation area (located to the east of the Link Road). The land will be returned to agriculture, but its use may be restricted to grass production. This results in a moderate effect which is significant.”</p>	It is considered that the proposed change would not alter the conclusions of ES Chapter 10.
Cultural Heritage	APP-070 Environmental Statement Chapter 11 - Cultural Heritage	The flood storage area is not assessed specifically in ES Chapter 11.	It is considered that the proposed change would not alter the conclusions of ES Chapter 11.
Materials and waste	REP1-020 Environmental Statement Chapter 12 – Materials and Waste	<p>There is no assessment criteria or conclusion specifically related to the flood storage area in Chapter 12 of the ES.</p> <p>There is no specific level of impact with regards waste and materials from the flood compensation area and the impact is for the whole scheme.</p>	<p>The excavation volumes for the proposed change are comparable to the Scheme design, with some additional concrete required for the new culverts under the A4019.</p> <p>It is considered that the proposed change would not alter the Scheme impact associated with materials and waste as documented in ES Chapter 12.</p>



Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<p>Chapter 12 of the ES concludes that during construction the scheme will have a slight adverse effect with regards materials and a slight adverse effect with regards waste.</p> <p>During operation the scheme will have no impact.</p>	
Population and Human Health	REP1-022 Environmental Statement Chapter 13 – Population and Human Health	There is no assessment criteria and conclusion specifically related to the flood storage area in Chapter 13 of the ES.	It is considered that the proposed change would not alter the conclusions of ES Chapter 13.
Climate	REP1-024 Environmental Statement Chapter 14 – Climate	There is no assessment criteria and conclusion specifically related to the flood storage area in Chapter 14 of the ES.	It is considered that the proposed change would have a negligible impact on the construction phase carbon emissions reported in ES Chapter 14.

## 2.7. Change 7 – Infill of existing northbound on-slip loop

- 2.7.1. The existing M5 J10 northbound on-slip loops onto the M5 carriageway. The current Scheme design proposes to retain the embankment loop in its current form.
- 2.7.2. The Applicant proposes to infill the loop with site won material [see Figures 2-18 and 2-19], which is not suitable to be reused elsewhere, in order to create a new, raised platform to extend woodland planting from the retained vegetation at the outer bank of the existing slip road and provide strengthened screening of the Piffs Elm Interchange.
- 2.7.3. This change would ease the maintenance of the proposed planting as the gradient of the south-west embankment of the Piffs Elm Interchange would be significantly reduced.

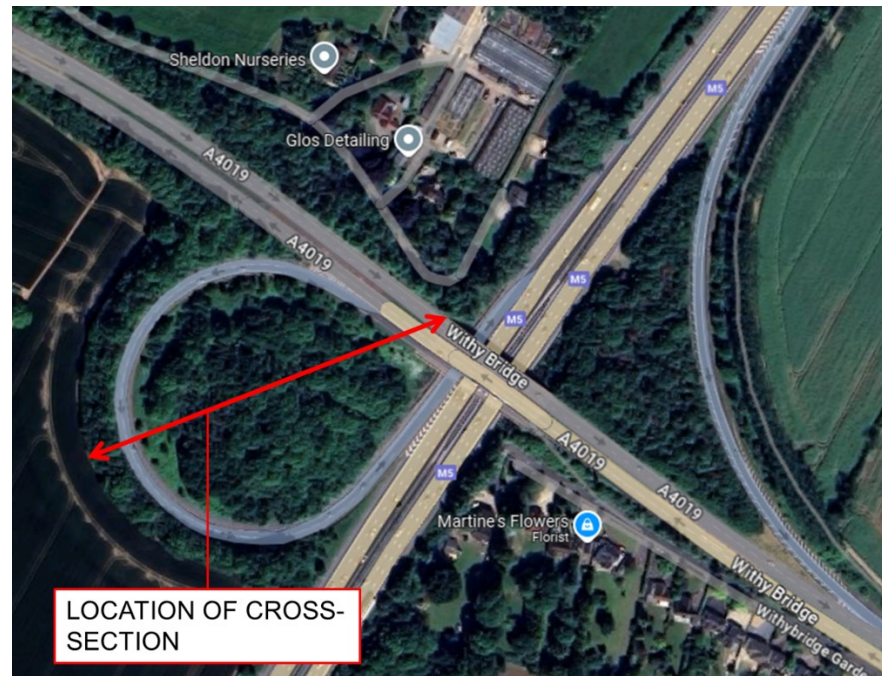


Figure 2-18 Location of the infill of the northbound on-slip loop

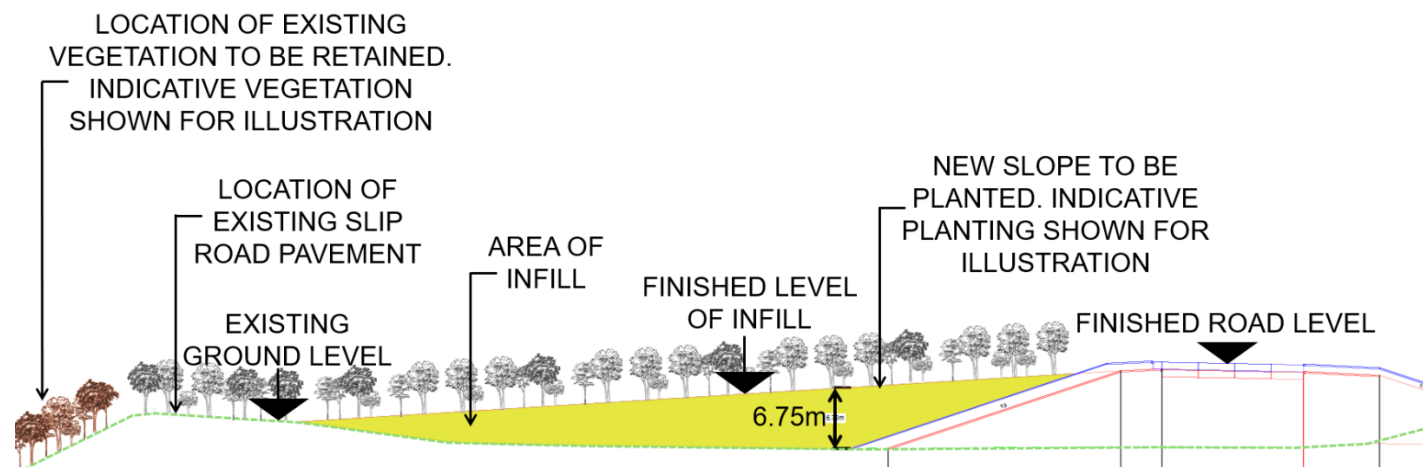


Figure 2-19 Cross-section, showing the yellow area to be infilled

2.7.4. The effects of this change are outlined in Table 2-7. This table should be read in conjunction with the ESA [APP 10.23].

Table 2-7 Effects of Change 7

Topic	DCO Documentation	Current Application	Impact of Proposed Change
Land & Works	REP5-002 2.2 Land Plans  Relevant land plots: 5/2n  APP 10.29 Works Plans	Work number. 1b, 1d, 2, 2a, 2c, 2d, 3  New right for the construction of a new northbound exit slip from the M5 to the A4019. New right for the construction of a new southbound entry slip from the A4019 to the M5. New right for the construction of a new grade separated roundabout junction and maintenance bays. New right for the construction of a new roundabout over the M5 comprising a circulatory carriageway and the Piffs Elm interchange bridges (north and south). New right for the extension of the Piffs Elm culvert. New right for the demolition of the existing A4019 bridge over the M5 New right for the realignment and widening of the A4019 (Tewkesbury Road) northwest of Junction 10 with	No land plans are impacted by this proposed change.  No amendments required to the works descriptions.

Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<p>associated footway, cycleway, shared use path, private access points, signage and ducting.</p> <p>New right for the diversion of telecommunication cable and associated apparatus and equipment</p>	
<b>Air Quality</b>	AS-012 Environmental Statement Chapter 5 – Air Quality	The presence of the M5 J10 northbound onslip loop has not been assessed beyond its operational use in the “without scheme” scenario in ES Chapter 5.	It is considered that the proposed change would not alter the conclusions of ES Chapter 5.
<b>Noise and Vibration</b>	AS-014 Environmental Statement Chapter 6 – Noise and Vibration	<p>In ES Chapter 6, the construction works are assessed for predicted construction noise levels (dB) versus distance (m).</p> <p>Table 6-17 shows that:</p> <p>Imported fill – place, spread &amp; compact is estimated to generate 80.5dB at 10m, and 72.5dB at 25m.</p> <p>Table 6-20 shows that Barn Farm and Informal Traveller site may experience adverse effects of vibration resulting from compaction on the M5. The vibration significance threshold was assessed to be exceeded for the Informal Traveller site only.</p>	<p>This change will not increase the assumed programme in Chapter 6, or alter plant requirements; therefore, the change will not change the outcomes of the construction noise assessment presented in ES Chapter 6.</p> <p>The change will not alter the operational traffic patterns or flows for the Scheme. Given the change introduces intervening ground it’s likely that any change in noise would be beneficial for sensitive receptors in Boddington. Any beneficial change to predicted noise levels would be slight and therefore there would be no change to the operational noise assessment outcomes in the ES Chapter 6.</p>
<b>Biodiversity</b>	REP1-012 Environmental Statement Chapter 7 – Biodiversity	The M5 J10 northbound onslip loop is not assessed specifically in ES Chapter 7.	The change would require some additional vegetation clearance in the M5 J10 northbound on-slip loop. However, the infill would create a larger area of shallower gradient embankment, increasing the overall area of planting and may provide small, localised benefits to birds and bats.
<b>Road Drainage and</b>	REP1-014 Environmental Statement Chapter 8 –	The M5 J10 northbound onslip loop is not assessed specifically in ES Chapter 8.	No impact on hydromorphology, surface water, flood risk or groundwater as considered in ES Chapter 8.

Topic	DCO Documentation	Current Application	Impact of Proposed Change
<b>Water Environment</b>	Road Drainage and Water Environment	<p>Chapter 8 used the Highways England Water Risk Assessment Tool (HEWRAT) to inform the assessment of the impact of the Scheme on surface water quality through routine runoff and accidental spillages. Effects on surface water quality are concluded to be not significant.</p> <p>Chapter 8 concluded that the Scheme is compliant with WFD objectives, as informed by the WFD compliance assessment.</p> <p>The Scheme will not change the level of flood risk or impact groundwater.</p>	No change to pollution risk to River Chelt and Leigh Brook as documented in ES Chapter 8.
<b>Landscape and Visual</b>	REP1-016 Environmental Statement Chapter 9 – Landscape and Visual	<p>The M5 J10 northbound onslip loop is not assessed specifically in the ES. However, Chapter 9 does conclude that the overall landscape effect of the proposed scheme is moderate adverse during construction and slight beneficial during operation (Year 15).</p> <p>The following outcomes have been assessed for the visual receptors impacted by the northbound onslip loop:</p> <p>PRoW FPAB012, FPAB013 &amp; FPAB014 (Boddington to Stanboro):</p> <p>Construction: moderate adverse</p> <p>Operation Year 1: slight adverse</p> <p>Operation Year 15: slight beneficial</p> <p>VR13 Properties at Boddington:</p> <p>Construction: slight adverse</p> <p>Operation Year 1: neutral</p>	<p>This change introduces a change in landform, removing the existing highway loop pavement and re-profiling the area to create a gradual fall from the Junction southwest towards the motorway boundary. This would result in the removal of additional vegetation located inside the loop and create additional space for mitigation planting of native woodland.</p> <p>All mature woodland to the outer edge of the existing loop will be retained and protected during construction.</p> <p>This change will result in no change in appearance, compared to the Scheme, through an overall increase in vegetation cover and the removal of redundant infrastructure.</p> <p>Overall, it is considered that the proposed change would not alter the conclusions of ES Chapter 9.</p>

Topic	DCO Documentation	Current Application	Impact of Proposed Change
		<p>Operation Year 15: neutral</p> <p>VR7a PRoWs between Boddington / Withybridge Lane crossing M5 FPAB013/FPAB015/FPAB016:</p> <p>Construction: moderate adverse</p> <p>Operation Year 1: slight adverse</p> <p>Operation Year 15: slight beneficial</p>	
<b>Geology and Soils</b>	REP1-018 Environmental Statement Chapter 10 – Geology and Soils	The M5 J10 northbound onslip loop is not assessed specifically in ES Chapter 10.	It is considered that the proposed change would not alter the conclusions of ES Chapter 10.
<b>Cultural Heritage</b>	APP-070 Environmental Statement Chapter 11 - Cultural Heritage	The M5 J10 northbound onslip loop is not assessed specifically in ES Chapter 11.	It is considered that the proposed change would not alter the conclusions of ES Chapter 11.
<b>Materials and waste</b>	REP1-020 Environmental Statement Chapter 12 – Materials and Waste	<p>There is no assessment criteria or conclusion specifically related to the M5 J10 northbound onslip loop in Chapter 12 of the ES. The impact is for the whole Scheme.</p> <p>Chapter 12 of the ES concludes that during construction the scheme will have a slight adverse effect with regards materials and a slight adverse effect with regards waste.</p> <p>During operation the scheme will have no impact.</p>	<p>The proposed change would allow more site-won excavated material to be used on site, preventing it from being transported offsite for management or disposal.</p> <p>The proposed change would slightly improve the impact associated with materials and waste as documented in chapter 12. The proposed change is not significant.</p>
<b>Population and Human Health</b>	REP1-022 Environmental Statement Chapter 13 – Population and Human Health	The M5 J10 northbound onslip loop is not assessed specifically in ES Chapter 13.	It is considered that the proposed change would not alter the conclusions of ES Chapter 13.



Topic	DCO Documentation	Current Application	Impact of Proposed Change
<b>Climate</b>	REP1-024 Environmental Statement Chapter 14 – Climate	There is no assessment criteria and conclusion specifically related to the M5 J10 northbound onslip loop in Chapter 14 of the ES.	<p>The proposed change would allow more site-won excavated material to be used on site. As such, there would be a reduction in Scheme carbon emissions from reduced plant movements.</p> <p>It is considered that the proposed change would have a slight beneficial impact on the construction phase carbon emissions. Overall, the change would not alter the conclusions reported in ES Chapter 14.</p>

## 2.8. Cumulative environmental effects assessment

2.8.1. The following table assesses the cumulative environmental effect of all proposed changes:

Table 2-8 Cumulative environmental effect of proposed changes

Topic	DCO Documentation	Current Application	Impact of Proposed Change
<p><b>Cumulative Effects Assessment</b></p>	<p>APP-074 Environmental Statement Cumulative Effects Assessment chapter</p> <p>REP4-034 Cumulative Effects Assessment Technical Note</p>	<p>ES Chapter 13 conclusions are as follows:</p> <p><b>Intra-Scheme cross-topic CEA key findings:</b>                      Para 15.16.7 states: There are no residual significant beneficial intra-Scheme cumulative construction effects predicted. The beneficial effects at the M5 Junction 10 southern quadrant receptors are assessed as residual moderate beneficial intra-Scheme cumulative operational effects, which are significant.</p> <p><b>Inter-project cross-topic CEA key findings:</b>                      Para 5.16.10 states: The inter-project CEA concluded negligible adverse effects for 14 of the RFFPs, which are not significant.</p> <p>Para 15.16.11 states: Potential interactions that could lead to significant adverse (moderate and large) cumulative inter-project effects have been identified in relation to the following four RFFPs, all of which are related to strategic sites or safeguarded land that appear in planning policy documents.</p> <p><b>Strategic highways projects:</b>                      Para 15.16.15 states: The adverse effects on the regular users of the wider Cheltenham and Gloucester strategic transport network are assessed as residual minor adverse inter-project cumulative operational effects, which are not significant.</p>	<p>There are no changes to the Scheme Order Limits as a result of the seven proposed design changes. Therefore, there are no changes to the other developments the Scheme could interact with, as presented in the Cumulative Effects Assessment.</p> <p>There are no new environmental receptors identified for the seven proposed design changes that are shared with other developments and therefore no potential for cumulative effects.</p> <p>There are no new or different significant effects for any other environmental topics as a result of the proposed design changes. There are therefore no changes to the cumulative effects as reported in the Cumulative Effects Assessment.</p>

## 3 Changes to land take

- 3.1.1. The Applicant can confirm that no land outside the current Order limits is required for proposed changes being sought in the Change Application 2. As a result, the Applicant is not seeking to acquire any additional land for the purposes of the Change Application 2, therefore the Infrastructure Planning (Compulsory Acquisition) Regulations 2010 (CA Regulations) are not engaged.
- 3.1.2. There are no instances of plots previously required for new rights and/or temporary powers that are now required on a freehold acquisition basis.
- 3.1.3. The works descriptions for some of the plots will be updated to reflect the changes.

## 4 Additional Consents or Licences

- 4.1.1. The Applicant confirms that the proposed changes to the DCO Application as a result of the proposed changes do not result in any changes to the consents/licences identified for the Scheme and further that the proposed changes do not impede on securing those consents/licences.

## 5 Rationale for Applicant's consideration of the proposed changes as non-material

- 5.1.1. There is no specific legal or technical definition of the term "non-material". However, the Applicant has had regard to paragraph 018 (Can changes be made to an application during an examination?) of the Examination Guidance.
- 5.1.2. In addition to the above, the Applicant has considered the matters set out in Table 3.1 when forming its view on whether the proposed changes are material. This reflects the Examination Guidance which provides helpful guide as to what factors the ExA will consider when determining whether a change is material.

Table 5-1 Change Application Guidance

<b>Factors</b>	<b>Applicant's consideration of materiality</b>
The changes would mean the project is effectively a different one from that contained in the application	The Applicant does not view the proposed changes as substantial, nor does it view the proposed changes as altering the substance of the DCO Application originally submitted.
The application (as changed) is still of a sufficient standard for examination	The application (as changed) is still of a sufficient standard for examination.
Sufficient consultation on the changed application can be undertaken to allow for the examination to be completed within the statutory timetable	The Applicant confirms that, although there are no statutory requirements for consultation to be carried out, sufficient consultation has been carried out with affected parties pre-submission of Change Application 2 and that the proposed timetable can accommodate consideration

	of the proposed changes in what is left of the examination.
The changes would breach the principles of fairness and reasonableness for parties participating in the examination	The Applicant considers the proposed changes would not breach the principles of fairness and reasonableness for parties given their targeted nature and previous involvement with affected parties.
Any other procedural requirements can still be met.	The Applicant confirms that any other requirements can still be met.

5.1.3. The Applicant recognises that ultimately it is for the ExA to determine whether new information constitutes a material change and that the ExA will need to consider the proposed changes both individually and cumulatively. However, the Applicant considers that the changes represent minor design changes, individually and cumulatively, and should therefore be viewed as non-material.

## 5.2. Conclusion and formal request for proposed changes to be made

5.2.1. The changes proposed by the Applicant as applied for in this Change Application 2 are all within the Order limits of the Scheme and are the result of further constructability review and refinement and evolution of the Scheme's preliminary design. The proposed changes have been identified by the Applicant, in consultation with key stakeholders, to improve the Scheme buildability, sustainability and maximise opportunities to reduce costs where possible.

5.2.2. The Applicant submits that the changes proposed in Change Application 2 should be accepted by the ExA as a non-material change on the basis that they are:

- Minor in nature;
- All within the Order limits;
- Do not change the environmental impacts of the Scheme as reported;
- Do not engage the Infrastructure Planning (Compulsory Acquisitions) Regulations 2010; and
- There is sufficient time left in examination for the proposed changes to be examined.

5.2.3. It is important to bear in mind that none of the changes proposed by the Applicant are considered to be controversial in nature and in some cases are reacting to changes proposed or requested by the relevant parties. Of themselves they do not provide for any new issues being raised or additional land acquisition required, and it is hoped therefore that each of the proposed changes will be uncontroversial, even if it is considered the proposals are "material" in planning terms.

5.2.4. The Applicant acknowledges the Examining Authority has 28 days to make a decision in respect of the formal Change Application 2. However, the Applicant would be grateful if such decision could be made in a shorter period (no more than 10 or 14 days from submission) in order to be able to accommodate any possible additional requests by the Examining Authority.

5.2.5. A detailed indicative programme for progressing this Change Application 2 together with Change Application 1 through the DCO process is provided in Table 1 below, which slightly amend that included in the Summary Report provided with Change Application 1 [AS-063]:

**Table 5-2 Indicative Programme**

<b>Procedure</b>	<b>Deadline</b>
Submit Change Application 2 to ExA	11 October 2024
ExA decision on acceptance of change request (Change Application 2)	25 October 2024
Deadline for relevant representations (closing date for Consultation)	27 October 2024
Applicant to certify compliance with CA Regulations (Change Application 1)	28 October 2024
ExA to set timetable for examining proposed change (Change Applications 1 and 2)	30 October 2024
Notification of Issue Specific (ISH), Compulsory Acquisition (CAH) or Open Floor (OFH) hearings by ExA (if required)	30 October 2024
Consultation Statement issued to ExA	5 November 2024
Issue of written questions by ExA	11 November 2024
Deadline for written representations and responses to written questions	19 November 2024
Change ISH, CAH or OFH date (if required)	20 November 2024
Date for responses to written representations and comments on responses to written questions	2 December 2024 (Deadline 10)
Deadline for post hearing submissions	2 December 2024 (Deadline 10)

# Appendices





# Appendix A.

## A.1 Change Application Compliance Table

Reference	Requirement	Details of Compliance
<b><i>Nationally Significant Infrastructure Projects: Changes to an application after it has been accepted for examination (8 August 2024)</i></b>		
<b>Process for requesting a change to an application</b>		
Step 1 – The change notification	The applicant decides to request a change to an application which has already been accepted for examination (during the pre-examination or examination stage) and informs the Examining Authority in writing. This is known as the 'change notification'.	Change Notification submitted on 12 <sup>th</sup> August 2024 [AS-061].
Step 2 – Advice from the Examining Authority	After considering the change notification the Examining Authority will provide advice to the applicant about the procedural implications of the proposed change. This includes the need, scale, and nature of consultation that the applicant should undertake before formally submitting the change application. The Examining Authority will advise if any consultation the applicant has already carried out is adequate.	The ExA provided advice to the Applicant in the Rule 9 Letters dated 21 <sup>st</sup> August 2024 [PD-014] and 17 <sup>th</sup> September 2024 [PD-016]. The Applicant's consideration of this advice is detailed in further down in this table.
Step 3 – The applicant consults about the proposed change	<p>The applicant should carry out appropriate consultation about the proposed change. This step may be carried out earlier, before the change notification, to potentially save time and inform the applicant's approach to the change application. However, the Examining Authority may consider that further consultation is required (Step 2).</p> <p>The applicant should consult all those persons prescribed under section 42(1)(a) to (d) of the Planning Act 2008 who would be affected by the proposed change, giving a minimum of 28 days from receipt of the information about the proposed change for responses.</p>	<p>Notices of a statutory consultation for Change 8 (covered in Change Application 1) in accordance with the CA Regulations were published in the national and local press on 19<sup>th</sup> and 26<sup>th</sup> September 2024. This consultation includes a non-statutory consultation for Changes 1 to 7 (covered in Change Application 2).</p> <p>Targeted approach to consultation was agreed with the ExA and confirmed in the ExA Rule 9 letters.</p> <p>Targeted consultation with all those persons prescribed under section 42(1)(a) to (d) of the 2008 Act commenced on 27<sup>th</sup> September 2024 and is due to end on 27<sup>th</sup> October 2024.</p> <p>Relevant documentation was uploaded and made available in the Applicant's dedicated webpage.</p>

Reference	Requirement	Details of Compliance
	<p>If a targeted approach to the identification of those affected by the proposed change is adopted then detailed justification should be provided about why the applicant considers it is not necessary to consult all the prescribed persons. For example, the proposed change would not affect the functions of statutory undertakers.</p> <p>If applicable, the applicant should identify any newly prescribed persons that have been consulted in relation to the proposed change but were not consulted in relation to the original application.</p>	
Step 4 – The change application	The applicant makes a formal request to the Examining Authority to change the application by providing the relevant information.	This Summary Report forms part of the Change Application 2 submitted by the Applicant on 11 <sup>th</sup> October 2024. Inclusion of the relevant information is set out further below in this table.
Step 5 - The Examining Authority decides whether to accept or reject the change application	<p>The Examining Authority will consider the applicant's change application, the consultation responses and any other representations made and decide whether to accept and examine the changed application or reject the proposed change.</p> <p>The Examining Authority must notify interested parties of any decision to accept or reject a change application. If the change application is accepted the Examining Authority will confirm how it will be examined. Their procedural decision will be published on the project information page of the Find a National Infrastructure Project website. Where the Examining Authority has decided to reject the change application the applicant will need to decide how to proceed.</p>	This step is for the ExA.
Step 6 – The changed application	Where the Examining Authority has decided to accept the change application, the examination will proceed by considering the 'changed application'. The changed application is the original application as it has been changed by the accepted change application.	This step will be completed after there is a decision on Change Application 2.
<p><b><i>Nationally Significant Infrastructure Projects: Changes to an application after it has been accepted for examination (8 August 2024)</i></b></p> <p>Information to include in the change application</p>		

Reference	Requirement	Details of Compliance
Point 1	A confirmed description of the proposed change. Where this has changed from that provided with the change notification this should be clearly explained.	Included in Chapter 2 of this Summary Report.
Point 2	A confirmed statement setting out the reasons and need for making the change. The applicant should provide any further information that was not included in the change notification.	Included in Chapter 2 of this Summary Report
Point 3	A full schedule of all application documents and plans listing the revisions to each document and plan which would occur because of the change or, as necessary, marked as 'no change'.	Schedule of Changes to DCO Application Documents for Change Application 2 [TR010063/APP/10.17].
Point 4	A statement identifying any impact the proposed change would have on securing any consents or licences for the project. The applicant should confirm if there would be any delay in securing these before the close of the examination.	Included in paragraph 4 of this Summary Report.
Point 5	Clean and track changed versions of the draft DCO showing the proposed changes. Also, clean and track changed versions of the draft explanatory memorandum. If updated versions of these have been submitted into the examination during the pre-examination or examination stage the applicant should check with the Examining Authority which versions should be used for this purpose.	<p>Clean and tracked-change versions of the dDCO have been provided with the Change Application 2: [TR010063/APP/10.18] and [TR010063/APP/10.19]</p> <p>The changes to the dDCO submitted with the Change Application 2 have been made to the most recent clean and tracked versions of dDCO submitted into the Examination at Deadline 5.</p> <p>For completeness, the Applicant has also provided a clean copy of the Explanatory Memorandum with the Change Application 2 [TR010063/APP/10.20] to ease review of the dDCO. However, as no changes to the Explanatory Memorandum are required for Change Application 2, the Applicant has not provided a tracked changed version.</p>

Reference	Requirement	Details of Compliance
Point 6	<p>If the proposed change includes a request to include additional compulsory acquisition powers, confirmation that the applicant has consent from all persons with an interest in the additional land that the additional powers can be included in the application. Evidence of the consent must be provided. If the applicant has not obtained consent, they must provide the information prescribed by regulation 5 of the CA Regulations:</p> <ul style="list-style-type: none"> <li>• A supplement to the Book of Reference</li> <li>• A land plan identifying the additional land, or the land affected by the proposed provision of additional compulsory acquisition (clean and track-changed version from the latest version of the land plans submitted to the examination)</li> <li>• A statement of reasons as to why the additional land is required</li> <li>• A statement indicating how it is proposed to fund acquisition of the additional land (a funding statement)</li> </ul> <p>The applicant should provide a supplemental land rights tracker giving details of the status of negotiations about the additional land. The applicant should also include a detailed description of how they consider the procedures in regulations 6 to 19 of the CA Regulations can be accommodated within the examination timetable.</p>	<p>This point is not applicable to Changes 1 to 7 incorporated into Change Application 2.</p>
Point 7	<p>If the proposed change results in any new or different likely significant environmental effects, provision of other environmental information as necessary and confirmation that:</p> <ul style="list-style-type: none"> <li>• the effects of the proposed change have been adequately assessed and that the environmental information has been subject to publicity. Whilst this is not a statutory requirement, the publicity should reflect the requirements of The</li> </ul>	<p>As set out in Section 2 of this Summary Report, Changes 1 to 7 will not result in any new or different environmental effects and no changes to the Environment Statement or further environmental assessment are required to support Change Application 2.</p>

Reference	Requirement	Details of Compliance
	<p>Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations 2017)</p> <ul style="list-style-type: none"> <li>any consultation bodies who might have an interest in the proposed change have been consulted (reflecting the requirements of the EIA Regulations 2017). The applicant should identify those consultation bodies who were consulted on the proposed changes but were not consulted on the original application</li> </ul>	
Point 8	<p>Where consultation has been carried out (either voluntarily, at the direction of the Examining Authority, or in accordance with the requirements of the CA Regulations or EIA Regulations 2017) a consultation report must be provided. The consultation report should:</p> <ul style="list-style-type: none"> <li>confirm who has been consulted in relation to the proposed change and explain how and why they have been consulted</li> <li>include details of how the applicant has considered the content of the consultation responses received</li> <li>include copies of all consultation responses received, including any responses to publicity about the proposed change. These should be included as an annex to the consultation report.</li> </ul>	<p>As set out in Section 3.2 of this Summary Report and as advised by the ExA's Rule 9 Letter, the Applicant will produce a Consultation Statement following completion of the statutory consultation under the CA Regulations for intended submission to the Examining Authority by 5th November 2024.</p>
<b><i>Additional advice from the ExA's Rule 9 Letter</i></b>		
Materiality of the proposed change	<p>It is not clear from what has been set out so far whether the Applicant has the written consent from all of those parties with land interests to the changes proposed. The Applicant should therefore make clear how the procedures under Regulation 5 to 19 of the CA Regulations could be accommodated within the examination timetable.</p>	<p>This point is not applicable to Changes 1 to 7 incorporated into Change Application 2.</p>

Reference	Requirement	Details of Compliance
	<p>The Applicant has not made any comment as to whether there would be any change as to land of which Temporary Possession (TP) is sought and this should be clarified.</p>	
<p>Materiality of the proposed change</p>	<p>On receipt of the formal change request, such factors may lead the ExA to conclude that the changes taken together are material. This means that before accepting the material changes for Examination, the ExA will need to have the following information provided with the change request:</p> <ul style="list-style-type: none"> <li>• the information identified in the latest guidance set out under Step 1 – The Change Notification, Information to include in a change notification;</li> <li>• if landowner consent is not received and the CA Regulations are engaged, the information prescribed by Regulation 5 of the CA Regulations and clarification that the procedural requirements of the CA Regulations can be met; and</li> <li>• evidence that any new or different environmental effects have been adequately assessed, subject to publicity and that any consultation bodies have been consulted.</li> </ul>	<p>The Applicant confirms that the requested information is provided within the Notification of Change Request [<b>AS-061</b>] and the documents submitted for Change Application 2 on 11<sup>th</sup> October 2024 including this Summary Report.</p> <p>Please refer to the above sections of this table which summarise the Applicant's compliance with the updated Change Application Guidance.</p>
<p>Materiality of the proposed change</p>	<p>The Applicant is also advised that it is, of course, possible that the ExA may consider one or more proposed change is acceptable as a change (whether or not material), but another or others not. The Applicant is therefore asked to consider the interdependence of these with each other.</p>	<p>As set out in the Change Application 1 Cover Letter and Section 1 of this Summary Report, the Applicant considers that Changes 1 to 7 can be considered independently of Change 8.</p>
<p>Consultation</p>	<p>It is not clear to the ExA why this would not commence until around 2 October 2024, but if the consultation period cannot commence earlier than this date, it appears that the Examination Timetable may need to be adjusted to accommodate each of the steps necessitated by the CA Regulations.</p>	<p>The revised timetable proposed in Section 4 of this Summary Report incorporates a current start date of 27<sup>th</sup> September 2024 for the consultation and end date of 27<sup>th</sup> October 2024. Due to CA Regulations being engaged for Change Application 1, it was not possible to commence consultation before the end of the publications.</p>



Reference	Requirement	Details of Compliance
	<p>In these circumstances the Applicant should consider if it is possible to bring forward the consultation period as it appears that otherwise it may not be possible to accommodate either the necessary time to notify of hearings, or for the time allowed for Affected Parties to request hearings to be held.</p> <p>As such it is clear that the Applicant will need to set out how it anticipates the procedures under regulations 6 to 19 of the CA Regulations could be accommodated within the examination timetable.</p>	
Consultation	<p>The ExA agrees that the consultation must engage all those persons identified in the Planning Act 2008 under section 42 (a) to (d) who would be affected by the proposed changes (giving a minimum of 28 days) including any section 42 persons not originally consulted on the application but who may now be affected by the proposed changes.</p> <p>The Applicant also proposes, and the ExA agrees, that the public should be consulted through formal notification and publication in appropriate newspapers. The ExA also agrees that site notices should be posted. The ExA consider the Applicant should ensure that access to physical documents is available for those who are unable to access material online.</p>	The Applicant's approach to the consultation is set out in Section 3.2 of this Summary Report.
Consultation	<p>The Applicant should submit a Consultation Statement, and the ExA recommends that this:</p> <ul style="list-style-type: none"> <li>• lists the persons (affected by the changes) under section 42 (a) to (d) who have been consulted (identifying particularly any new persons i.e. those who were consulted in relation to the proposed change but not in relation to the original application);</li> </ul>	As set out in Section 3.2 of this Summary Report, the Applicant will produce a Consultation Statement following completion of the consultation for intended submission to the Examining Authority by 5th November 2024. The Consultation Statement will cover the particulars advised by the ExA and those prescribed by Stage 4 of the Change Application Guidance.

Reference	Requirement	Details of Compliance
	<ul style="list-style-type: none"> <li>• identifies (within the above list) those section 42 (d) persons who are “affected persons”, meaning those persons over whose land Compulsory Acquisition powers will be exercised.</li> </ul> <p>It is noted that as the CA Regulations are engaged the Applicant will also need to update the details in respect of the affected land;</p> <ul style="list-style-type: none"> <li>• provides justification as to why any person under section 42 (a) to (d) is not affected by the proposed changes and has not therefore been consulted (if any);</li> <li>• provides copies of any newspaper notices or site notices; and</li> <li>• appends as an annex any consultation responses received.</li> </ul>	
Timing Implications	<p>The Applicant, in Section 7 of the Notification letter, identifies an indicative programme setting out a number of the steps to be undertaken with consultation ending on 1 November and a further 14 days for the Applicant to provide an updated Consultation Report.</p> <p>This would currently not appear to recognise that if the CA Regs are engaged, as appears to be accepted, that while a period to allow Relevant Representations would run until 1 November (Regulation 7), the ExA would then need to consider if a further assessment of issues would need to be undertaken (Regulation 11), and then subsequently consider how this should be examined.</p>	<p>As set out above in relation to the ExA’s advice concerning consultation, the revised timetable proposed in Section 4 of this Summary Report incorporates a current start date of 27<sup>th</sup> September 2024 for the consultation and end date of 27<sup>th</sup> October 2024.</p> <p>The second part of this point is not applicable to Changes 1 to 7 incorporated in Change Application 2.</p>
Timing Implications	<p>Each of these elements then allows for Interested Parties or Affected Persons to request a further Open Floor Hearing (OFH) or Compulsory Acquisition Hearing (CAH) and a period of 21 days would be required for people to consider whether this should be requested.</p> <p>In the event that a hearing was requested appropriate notice periods of those hearings would then need to be accommodated (Regulations 15 and 16).</p>	<p>As set out above in relation to the ExA’s advice concerning consultation, the Applicant would request the ExA to publish an updated Examination timetable by 30 October 2024 including a compulsory acquisition hearing on or after 20 November 2024.</p>

Reference	Requirement	Details of Compliance
		<p>This timetabling would enable the ExA to give 21 days' notice to each additional affected person and each additional interested person of (a) the deadline by which that person must notify the ExA of their wish to be heard at the hearings, and (b) the date, time and place fixed for the hearings, as required by regulations 15 and 16 of the CA Regulations. It is proposed for the notice of (a) and (b) to be provided concurrently.</p>
<p>Timing Implications</p>	<p>In addition to these constraints, the Applicant would need to provide Certification that they had undertaken the appropriate consultation and notification. It is not apparent whether or where this is included within your current schedule. The ExA are unlikely to be able to commence with issuing a Rule 8(3) letter amending the examination timetable (which appears to be needed based the current understanding of the proposed changes) in advance of this.</p> <p>The ExA cannot stress enough the importance of meeting the above-mentioned timescales and, whilst ensuring the consultation still comply with the CA Regulations, the importance of submitting the Certificates of Compliance, as required by Regulation 9 of the CA Regulations, promptly after the close of the consultation period (ie as early as possible the day after the close of the consultation period) and significantly earlier than the 10 working days allowed. Failure to submit the Certificates of Compliance promptly following the close of the consultation period may make it impossible to facilitate hearings in line with the necessary notice periods.</p>	<p>The Applicant confirms that the Applicant proposes to certify compliance with the CA Regulations in accordance with regulation 9 by 28 October, as set out in the Sections 3 and 4 of this Summary Report. The Applicant would then request the ExA to publish a Rule 8(3) Letter on 30 October 2024.</p>

Reference	Requirement	Details of Compliance
Timing Implications	<p>Even, in the event that the Rule 8(3) letter confirms that there has been no change to the identified issues to be examined, it still must facilitate the provision to allow the request for OFH or CAH.</p> <p>There appears to be a very limited window where meeting the obligations of the Regulations coincides with the current schedule indicated, should the consultation period end in November as currently specified. The letter indicates that the Applicant considers there are two days of hearings available, it will be important to clarify where this could be accommodated, as currently this is not clear how these might be achieved</p>	<p>As explained above, the Applicant's proposal is for a Rule 8(3) letter issued on 30 October to timetable an OFH and CAH on or after 20 November. This timetabling would enable the ExA to give 21 days' notice to each additional affected person and each additional interested person of (a) the deadline by which that person must notify the ExA of their wish to be heard at the hearings, and (b) the date, time and place fixed for the hearings, as required by regulations 15 and 16 of the CA Regulations.</p>
Timing Implications	<p>The Applicant is therefore asked to ensure that all documentation submitted to support the change request is submitted as a discrete and separate contained set of information with each document clearly identified in both the document heading and the file name as relating to the change request. If this documentation is provided alongside other changes to the Application that would otherwise be forthcoming those other changes to the original documentation not including the proposed changes as a result of the change request should also be submitted as separate versions and identified as such.</p>	<p>The Applicant has adopted the advised approach to the submission of documents relating specifically to Change Application 2.</p>

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