



HIF Banwell Bypass and Highways Improvements Project

Environmental Statement Chapter 15 - Cumulative Effects

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15 Cumulative Effects

15.1 Introduction

- 15.1.1 This chapter outlines the assessment of cumulative effects associated with the construction and operation of the Scheme.
- 15.1.2 The Town and Country Planning (Environmental Impact Assessment) Regulations 2017/571 (“the EIA Regulations”) are the regulations which govern the preparation of an environmental statement (“ES”) for the purposes of undertaking an environmental impact assessment (“EIA”) in England. The EIA Regulations implement the amended European Union Directive on Environmental Impact Assessment 2014/52/EU (“the EIA Directive”).
- 15.1.3 The Regulations and best practice guidance identify two types of cumulative effects as follows:
- Cumulative effects from a single project (e.g. combined effects of differing environmental impacts on a single receptor or resource), and
 - Cumulative effects from different projects (in combination with the project being assessed).
- 15.1.4 North Somerset Council (NSC) and the Local Planning Authority (LPA) have been consulted and have provided a list of potential projects that could give rise to cumulative effects in association with the Scheme.

15.2 Legislative Context

- 15.2.1 Planning applications for EIA development must be accompanied by an ES which includes prescribed information, including the information set out Schedule 4 of the EIA Regulations (reg.18 of the EIA Regulations).
- 15.2.2 Schedule 4 confirms that an ES must include a description of the likely significant effects of the development on the environment

resulting from “*the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources*”. The description of likely significant effects in the ES must therefore cover cumulative effects (paragraph 5, Schedule 4 of the EIA Regulations).

- 15.2.3 The implications of this requirement are that the ES must consider both:
- how the different environmental effects of a development will interact and
 - how the proposed development will interact with other developments in the same area.
- 15.2.4 The North Somerset Core Strategy (2017) has a number of policies that relate to cumulative effects, these include the following:
- Policy SA1 – Housing allocations
 - Policy CS13 – Scale of new housing
 - Policy CS 14 – Distribution of new housing
 - Policy CS16 – Affordable housing
- 15.2.5 In addition the Sites and Policies Plan Part 2; Site Allocations Plan 2018 includes the following:
- Policy SA1 – Housing allocations
 - Policy SA4 – Employment allocations
 - Policy SA8 – Community use allocation

15.3 Assessment Method

- 15.3.1 Cumulative effects comprise the combined effects of reasonably foreseeable human induced changes within a specific geographical area and over a certain period of time and can be both direct and indirect.
- 15.3.2 The cumulative assessment will follow DMRB LA 104 guidance and will cover the most likely significant cumulative effects, rather than reporting every potential interaction.

In-combination effects

- 15.3.3 The guidance states that in the first type (cumulative effects from a single project) the effects arise from the 'combined action of a number of environmental topic specific impacts upon a single receptor/ resource'.
- 15.3.4 An initial list of receptors was identified in the Combined Screening and Scoping report, refer to ES Volume 3 - Appendix 1B - WSP EIA Combined Screening and Scoping Report. This was reviewed with the project team, NSC and the Local Planning Authority (LPA) and updated following responses from the LPA Screening Opinion (refer to ES Volume 3 - Appendix 1.C - NSC Local Planning Authority Scoping Opinion Report).
- 15.3.5 Topic chapters have identified sensitive receptors and have assessed the impact on individual or groups of receptors as relevant to that chapter. However, impacts associated with one or more topics have the potential to interact and combine with one another to have a greater impact and change to the baseline on certain receptors.
- 15.3.6 The qualitative evaluation of the combined impact on specific receptors considers the following:
- Combined magnitude of impact;
 - Sensitivity/ value/ importance of the receptor/ receiving environment to change; or/ and
 - Duration and reversibility of effect.
- 15.3.7 This assessment considers the common sensitive receptors, which are generally the local residents. In addition the impacts on designated sites have been assessed. Potential receptors of these in-combination effects include the following:
- nearby residents (highest sensitivity);
 - users of the PRoW (medium sensitivity);
 - local workers and road users (low sensitivity); and
 - designated sites (high sensitivity).
- 15.3.8 The in-combination effects have been assessed during construction and operation and presented in Section 15.5 and Table 15-3 below.

Cumulative effects with other projects

15.3.9 For the second type (cumulative effects from other projects) DMRB LA 104 states:

The assessment of cumulative effects should report on:

- a) Roads projects which have been confirmed for delivery over a similar timeframe;
- b) Other development projects with valid planning permissions or consent orders, and for which EIA is a requirement; and
- c) Proposals in adopted development plans with a clear identified programme for delivery.

15.3.10 The assessment of cumulative effects shall:

- a) establish the zone of influence of the project together with other projects;
- b) establish a list of projects which have the potential to result in cumulative effects; and
- c) obtain further information and detail on the list of identified projects to support further assessment.

15.3.11 The cumulative impact assessment has been carried out using a four stage approach, which reflects the proposed approach in the National Infrastructure Planning Advice Note 17^{15.2}, as follows:

Stage 1: establish a long list of potential developments

Stage 2: establish a short list

Stage 3: information gathering

Stage 4: assessment

15.3.12 The long list of potential projects identified in the Combined Screening and Scoping Report (refer to ES Volume 3 - Appendix 1.B - WSP EIA Combined Screening and Scoping Report) has been reviewed and refined following further consultation with NSC and the LPA. Additional developments recommended by the LPA have also been included.

15.3.13 Given the scale of proposed development within the local area and its potential proximity to the Scheme, committed developments and development allocations as per NSC's emerging Local Plan have been considered in the assessment,

together with improvements proposed as part of the wider HIF highways and utilities works where they do not form part of the Scheme (refer to HIF a) – c) in Table 15-4).

- 15.3.14 As the emerging Local Plan is still being developed and consulted upon, there is no detail of the actual development sites or proposals which it will support once adopted. The proposed sites for allocations have been highlighted in this assessment together with the overarching development proposals. The assessments undertaken within this chapter are high level and provide an indication of the type of impact anticipated. It is anticipated that detailed environmental assessments will be prepared as part of the planning submissions for the developments and it is recommended that the results of this assessments are taken into consideration at that time where appropriate.
- 15.3.15 Although not directly relevant to the Scheme because it is guidance on Nationally Significant Infrastructure Projects, the Planning Inspectorate (“PINS”) has issued guidance on assessing cumulative effects in Advice Note 17 (August 2019)^{15.2}. The advice recognises that whilst development identified in an emerging local plan should be added to the ‘long list’ of cumulative developments to be considered there may be limited information available about those developments. The Advice Note recognises that assumptions and limitations may therefore need to be applied, and a level of certainty attributed to such developments.
- 15.3.16 The long listed schemes and projects are listed in Table 15-4 and shown on ES Volume 2 - Figure 15.2 – Planning Applications Assessed.
- 15.3.17 Projects were scoped out based on the relevant Zol (see following section and Table 15-1 for details), scale (for example 10no. dwellings or above) and nature of development (for example no private house extensions etc).
- 15.3.18 The traffic model developed for the Scheme has included the developments included in the emerging Local Plan and other known proposed developments as shown in Table 15-4. Therefore, the cumulative effects of these developments with the Scheme have been included in the individual assessments for the design year for Air Quality (refer to ES Volume 1 - Chapter 5

- Air Quality), Noise and Vibration (refer to ES Volume 1 - Chapter 11 - Noise and Vibration) and Road Drainage and the Water Environment (refer to ES Volume 1 - Chapter 13 - Road Drainage and the Water Environment). Projects that were likely to only impact these chapters were also scoped out from the assessment of cumulative effects. For further details on the traffic data refer to planning Documents - Transport Assessment.
- 15.3.19 The Habitats Regulations Assessment (HRA) (refer to ES Volume 3 - Appendix 8.C - Habitats Regulations Assessment) has assessed the cumulative impact on European sites and therefore these are not included as part of the Cumulative Impact Assessment.
- 15.3.20 Where projects have been identified as 'under construction' these form part of the baseline and have not been considered as part of the cumulative effects, unless they are large phased projects where later phasing would have the potential for cumulative effects.
- 15.3.21 More detailed information for the short listed projects was collated from the planning portal and other publicly available sources in order to inform the assessment. This information included the following:
- a) proposed design and location information;
 - b) proposed programme of construction, operation and decommissioning and
 - c) environmental assessments that set out the baseline data and effects arising from the proposed developments.
- 15.3.22 The assessment was carried out based on the level of detail available at the time of the assessment and this was different for different projects.
- 15.3.23 The significance criteria to assess the cumulative effects was qualitative and based on the following:
- a) Duration of effect – temporary/ permanent
 - b) Extent of effect – geographical area of an effect
 - c) Type of effect – additive or synergistic
 - d) Frequency of effect
 - e) 'value' and resilience of the receptor affected
 - f) Likely success of mitigation

- 15.3.24 The cut off date for the assessment was May 2022. Applications submitted after this date have not been included in the assessment.

Zone of Influence

- 15.3.25 Zones of Influence (Zol) have been developed for each topic assessed, refer to Table 15-1. These are based on the Zols outlined in the Combined Screening and Scoping Report (refer to ES Volume 3 - Appendix 1.B - WSP EIA Combined Screening and Scoping Report) and takes into consideration the National Infrastructure Planning Advice Note 17: Cumulative effects assessment relevant to Nationally Significant Infrastructure Projects and relevant topic guidance. Whilst the Scheme does not fall into this category the Advice Note includes useful guidance and parameters.
- 15.3.26 The Zol for air quality has been extended to 350m for construction noise in accordance with consultation with NSC and to reflect best practice.
- 15.3.27 The Zol for biodiversity is shown as 2km for general ecological features. The Zol for bats is 30km, this has not been included in the assessment as it is covered in the HRA. Refer to ES Volume 3 - Appendix 8.C - Habitats Regulations Assessment

Table 15-1 Zone of Influence extents for assessment of potential cumulative effects:

Environmental factor	Zone of influence
Air quality	Up to 350m from the Scheme boundary (for construction dust) and up to 200m from the Affected Road Network (ARN) once operational
Cultural Heritage	Up to 1km from the Scheme boundary
Landscape and Visual effects	Up to 3km from the centreline of the Scheme
Biodiversity	Study areas vary by ecological features, generally up to 2km from Scheme

Environmental factor	Zone of influence
	boundary; 30km for bats
Geology and Soils	Up to 500m from the Scheme boundary
Material assets and waste	Up to 5km from the Scheme boundary
Noise and vibration	Up to 600m from Scheme boundary
Population and Human health	Up to 500m from the Scheme boundary
Road drainage and the water environment	Up to 1km from the Scheme boundary

Consultation

- 15.3.28 Consultation was carried out on the cumulative effects as part of the Screening and Scoping process. The responses from this consultation are included in ES Volume 3 - Appendix 1.D. - EIA Combined Screening and Scoping Consultation. Additional consultation has been carried out with the LPA to confirm both the potential developments and the approach to the assessment.
- 15.3.29 Cumulative effects have been discussed at Environmental Liaison group meetings and with statutory bodies at the ES draft chapter review meetings, refer to ES Volume 1 – Chapter 1.
- 15.3.30 The following specific consultation has been carried out as part of this assessment:

Table15-2 Table of Consultation

Consultee	Date	Form of consultation	Main issues
NSC	03/08/2021	Response to Combined Screening and Scoping Report	Confirmation of method and approach
NSC	15/02/2022	Meeting	Review of long list for in-combination and cumulative assessments
NSC	22/02/2022	Meeting	Review of projects; scope out of Bristol Airport

Consultee	Date	Form of consultation	Main issues
NSC	02/2022	Email correspondence throughout the month	Confirmation of projects and approach for cumulative impact assessment
NSC	09/03/2022	Meeting	Review of Zol for assessments

15.4 Assessment Assumptions and Limitations

- 15.4.1 The assessment of effect interactions resulting from the Scheme has focused on the residual effects from the construction and operational phases following the implementation of mitigation measures. It is assumed that identified mitigation measures would be incorporated or adopted to mitigate any potential adverse effects resulting from the Scheme.
- 15.4.2 The assessment of cumulative effects with other developments has been based on the interpretation and assessment of data provided by third parties and available in the public domain.
- 15.4.3 Given the status of the emerging Local Plan, there is no data to support the assessments therefore they have been carried out based on the area and proposed description provided by NSC.

15.5 Assessment of Cumulative Effect of a Single Project (In-combination Effects)

- 15.5.1 The first cumulative impact assessment type as outlined in Section 15.1.1 (cumulative effects from a single project) are addressed in Table 15-3 below using a matrix style approach, which quantifies the in-combination effects of a number of environmental impacts on a certain receptor (e.g. combined effects of noise and air quality on nearby residents).
- 15.5.2 Table 15-3 outlines the in-combination effects of environmental effects on the sensitive receptors based on the findings of the relevant detailed environmental topic chapters and assuming mitigation is in place. The assessment is qualitative and based on the assessments carried out for the topic chapter (ES Volume 1 - Chapters 5-14) and best professional judgement. Guidance

outlined in DMRB LA 104 and National Infrastructure Planning Advice Note Seventeen have been considered when undertaking the assessment

- 15.5.3 In-combination effects have been considered for those topics where significant effects have been identified. Therefore, it does not consider multiple individual slight adverse effects to be significant.
- 15.5.4 The assessments for Geology and Soils (ES Volume 1 - Chapter 9 - Geology and Soils), Materials and Waste (ES Volume 1 - Chapter 10 - Materials and Waste), Road Drainage and the Water Environment (ES Volume 1 Chapter 13) and Climate (ES Volume 1 - Chapter 14 - Climate) have resulted in no significant impacts and are therefore not included in Table 15-3 below.
- 15.5.5 In addition the wider mitigation areas are considered to be not significant due to their nature and location and therefore not included in the assessment and Table 15-3 below.
- 15.5.6 In general the construction effects will be temporary and operational longer term.
- 15.5.7 The receptors assessed are shown on ES Volume 2 - Figure 15.1 - Location of developments.

Table 15-3 In combination effects on sensitive receptors

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
Construction									
1	Banwell Village.	High	Neutral	Neutral	Neutral	Neutral	Major/ Moderate adverse	Neutral	The impacts of all topics with the exception of noise are not significant, it is not considered that there would be an in-combination impact on Banwell Village. The significance of this in-combination effect is considered neutral .
2	Properties along A371 to south of Ch 0+000 (Knightcott Road)	High	Slight beneficial	Neutral	Substantial adverse	Neutral	Major/ Moderate adverse	Moderate adverse	The visual impacts, noise and population and human health (land use and accessibility) of the Scheme during construction are likely to have an in-combination effect on the properties along the A371, Knightcott road to the west of the Scheme. The significance of this in-combination effect is considered Major adverse
3	Summer Lane Park Homes	High	Neutral	Neutral	Slight adverse	Neutral	Moderate adverse	Slight adverse	Given the impacts of all topics with the exception of noise are all slight or neutral, it is not considered that there would be an in-combination impact on Summer Lane Park Homes. The significance of this in-combination effect is considered neutral .
4	Properties in Stonebridge	High	Neutral	Neutral	Substantial/ Moderate adverse	Neutral	Minor adverse	Slight adverse	Given the impacts of all topics with the exception of visual impact are all slight or neutral, it is not

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
									considered that there would be an in-combination impact on the properties in Stonebridge. The significance of this in-combination effect is considered neutral .
5	Property on Whitecross Lane (Quarry Lea)	High	Neutral	Neutral	Substantial adverse	Neutral	Minor adverse	Slight adverse	Given the impacts of all topics with the exception of visual impact are all slight or neutral, it is not considered that there would be an in-combination impact on the property on Whitecross Lane. The significance of this in-combination effect is considered neutral .
6	Stonebridge Farm and caravan park	High	Neutral	Neutral	Moderate adverse	Neutral	Major/ Moderate adverse	Large adverse	The visual impacts, noise and population and human health (land use and accessibility) of the Scheme during construction are likely to have an in-combination effect on Stonebridge Farm and Caravan Park, with the severance of the Caravan Park. The significance of this in-combination effect is considered Major adverse
7	Court Farm	High	Neutral	Neutral	Substantial adverse	Neutral	Moderate adverse	Moderate adverse	The visual impacts, noise and population and human health (land use and accessibility) of the Scheme during construction are likely to have an in-combination effect on Court Farm. The significance of this in-combination effect is considered Major adverse

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
8	Properties on Wolvershill road (south)	High	Neutral	Neutral	Moderate/ Slight adverse	Neutral	Major/ Moderate adverse	Moderate adverse	The visual impacts, noise and population and human health (land use and accessibility) of the Scheme during construction are likely to have an in-combination effect on the properties on Wolvershill Road (south). The significance of this in-combination effect is considered Moderate adverse
9	Properties along Cook's Lane	High	Neutral	Neutral	Neutral / Moderate adverse	Neutral	Moderate adverse	Slight adverse	The visual and noise impacts of the Scheme are likely to have an in-combination effect on the properties along Cooks Lane. The significance of this in-combination effect is considered Moderate adverse .
10	Properties along Moor road (north)	High	Neutral	Neutral	Neutral	Neutral	Minor adverse	Neutral	Given the impacts of all topics are all slight or neutral and not significant, it is not considered that there would be an in-combination impact on the properties along Moor road (north). The significance of this in-combination effect is considered neutral .
11	Properties along Moor road (south)	High	Neutral	Neutral	Substantial/ Slight/ Neutral	Neutral	Minor adverse	Neutral	Given the impacts of all topics with the exception of visual impact are all slight or neutral and not significant, it is not considered that there would be an in-combination impact on the properties along Moor road (south). The

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
									significance of this in-combination effect is considered neutral .
12	Riverside (North)	High	Neutral	Neutral	Moderate adverse	Neutral	Major/ Moderate adverse	Neutral	The visual and noise impacts of the Scheme during construction are likely to have an in-combination effect on the properties along Riverside (north). The significance of this in-combination effect is considered Moderate adverse
13	Riverside (South)	High	Neutral	Neutral	Slight adverse	Neutral	Minor adverse	Neutral	Given the impacts of all topics are all slight or neutral and not significant, it is not considered that there would be an in-combination impact on the properties along Riverside (south). The significance of this in-combination effect is considered neutral .
14	Banwell Football Club and playing fields	High	Neutral	Neutral	Moderate adverse	Neutral	Minor adverse	Moderate adverse	The visual and population and human health impacts of the Scheme during construction are likely to have an in-combination effect on Banwell Football Club. The significance of this in-combination effect is considered Moderate adverse
15	Towerbrook Farm	High	Neutral	Neutral	Moderate/ Slight adverse/ No change	Neutral	Moderate adverse	Neutral	The visual and noise impacts of the Scheme during construction are likely to have an in-combination effect on Towerbrook Farm. The significance of this in-combination effect is considered Moderate adverse

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
16	Solar Farm	Low	Neutral	Neutral	Negligible	Neutral	Minor adverse	Neutral	Given the impacts of all topics are all negligible or neutral and not significant, it is not considered that there would be an in-combination impact on the solar farm. The significance of this in-combination effect is considered neutral .
17	Properties along A368 East Street	High	Neutral	Neutral	Substantial adverse	Neutral	Major/ Moderate adverse	Slight adverse	The visual and noise impacts of the Scheme during construction are likely to have an in-combination effect on properties along A368 East Street. The significance of this in-combination effect is considered Moderate adverse
18	Properties on A371 top of Castle Hill	High	Neutral	Neutral	Substantial adverse	Neutral	Major/ Moderate adverse	Slight adverse	The visual and noise impacts of the Scheme during construction are likely to have an in-combination effect on properties on A371 top of Castle Hill. The significance of this in-combination effect is considered Major adverse
19	Properties along Dark Lane	High	Neutral	Neutral	Substantial/ Moderate adverse	Neutral	Major/ Moderate adverse	Slight adverse	The visual and noise impacts of the Scheme during construction are likely to have an in-combination effect on properties along Dark Lane. The significance of this in-combination effect is considered Major adverse
20	Mendip Hills AONB	High	Neutral	Neutral	Slight adverse	Neutral	N/A	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
									significance of this in-combination effect is considered neutral .
21	PRoW Footpath AX3/11/10 off Summer Lane	Med	Neutral	Neutral	Moderate adverse	Neutral	N/A	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .
22	Footpath AX3/25/10 leading to Whitecross Lane	Med	Neutral	Neutral	Substantial adverse	Neutral	N/A	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .
23	PRoW Footpath AX3/5/10 off Wolvershill Road	Med	Neutral	Neutral	Slight adverse	Neutral	N/A	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .
24	PRoW Footpath AX3/6/10 Cook's Lane to Moor Lane	Med	Neutral	Neutral	Substantial adverse	Neutral	N/A	Large adverse due to PRoW closure.	The visual impacts, noise and population and human health (land use and accessibility) of the Scheme during construction are likely to have an in-combination effect on the PRoW Footpath AX3/6/10 Cook's Lane to Moor Lane. The significance of this in-combination effect is considered Major adverse

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
25	Nye Drove PRoW Bridleway AX3/59/10	Med	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .
26	Riverside junction with PRoW Bridleway AX3/24/10	Med	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .
27	PRoW footpath AX3/9/10 and Eastermead Lane	Med	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .
28	Footpath AX3/47/10 off Wint Hill	Med	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .
29	PRoW Restricted Byway AX3/23/10	Med	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
30	PRoW footpaths AX3/18/10, AX3/19/10, AX3/47/10, AX3/47/20 on Banwell Hill	Med	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .
31	Byway AX3/23/30 used as PRoW south of Towerhead	Med	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .
32	Strawberry Line NCR 26 PRoW AX29/41/20, between Winscombe and Sandford	Med	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .
33	Local road users on A371 to West of Banwell	Low	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .
34	Local road users on A371 to East of Banwell	Low	Neutral	Neutral	Moderate adverse	Neutral	N/A	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
35	Local road users of Wolvershill road	Low	Neutral	Neutral	Neutral	Neutral	N/A	Moderate adverse	Given the impacts of all topics other than population and human health (land use and accessibility) are slight or neutral and not significant, it is not considered that there would be an in-combination effects. The significance of this in-combination effect is considered neutral .
36	Local road users of Moor Lane	Low	Neutral	Neutral	Moderate adverse	Neutral	N/A	Slight adverse	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .
37	Local Road users of Riverside	Low	Neutral	Neutral	Moderate adverse	Neutral	N/A	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .
38	Properties along A368 including Sandford and Churchill	High	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .
39	Properties along A371 Banwell to Sidcot incl Winscombe	High	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
									significance of this in-combination effect is considered neutral .
40	North Somerset and Mendips SAC	High	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .
41	Banwell Conservation Area	High	Neutral	Slight adverse	Slight adverse	Neutral	Neutral	Neutral	Given the impacts of all topics are slight or neutral and not significant, it is not considered that there would be an in-combination effect. The significance of this in-combination effect is considered neutral .
Operation									
1	Banwell Village.	High	Moderate beneficial	Neutral	No change/ Slight beneficial	Neutral	Significant beneficial	Slight beneficial	There are predicted beneficial air quality, landscape, noise and population and human health effects on Banwell village, with noise and air quality as significant, the significance of this in-combination effect is considered Moderate beneficial .
2	Properties along A371 to south of Ch 0+000 (Knightcott Road)	High	Slight beneficial	Neutral	Moderate/ Slight beneficial	Neutral	Not significant	Neutral	There are beneficial visual effects but as the results of all other topics are not significant it is not considered that there would be an in-combination effect on Properties along A371 to south of Ch 0+000 (Knightcott Road). The significance

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
									of this in-combination effect is considered neutral .
3	Summer Lane Park Homes	High	Moderate adverse (due to future housing)	Neutral	Slight adverse	Neutral	12 properties on the western edge and 11 properties on the eastern edge of Summer Park Homes site have significant adverse effect due to the HIF development rather than Scheme, the others are not significant	Neutral	There would be significant noise and air quality effects due to the HIF development rather than Scheme. As the results of all other topic assessments are not significant it is not considered that there would be an in-combination effect on Summer Lane Park Homes. The significance of this in-combination effect for the Scheme is considered neutral .
4	Properties in Stonebridge	High	Neutral	Neutral	Moderate/ Slight adverse	Neutral	Some properties have significant beneficial effect, the others are not significant	Neutral	There are predicted significant beneficial noise effects, moderate/ slight visual adverse effects and the results of all other topic assessments are not significant. The significance of this in-combination effect is considered neutral .
5	Property on Whitecross Lane (Quarry Lea)	High	Neutral	Neutral	Moderate adverse	Neutral	slight adverse	Neutral	There are predicted significant visual effects, the results of all other topic assessments are not significant. The significance of this

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
									in-combination effect is considered neutral .
6	Stonebridge Farm and caravan park	High	Neutral	Neutral	Slight adverse	Neutral	Significant beneficial	Neutral	The results of all topic assessment are not significant. The significance of this in-combination effect is considered neutral .
7	Court Farm	High	Neutral	Neutral	Moderate adverse	Neutral	Not significant	Moderate beneficial	The results of all topic assessment are not significant. The significance of this in-combination effect is considered neutral .
8	Properties on Wolvershill road (South)	High	Neutral	Neutral	Slight/ Neutral	Neutral	Some properties have significant beneficial effect, the others are not significant	Neutral	There are predicted significant noise effects, results of all topic other assessments are not significant. The significance of this in-combination effect is considered neutral .
9	Properties along Cook's Lane	High	Neutral	Neutral	Neutral / Slight adverse	Neutral	3 properties have significant beneficial effect, 5 properties have significant adverse effect, the rest are not significant	Neutral	There are predicted significant beneficial noise effects, results of all other topic assessments are not significant. The significance of this in-combination effect is considered neutral .

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
10	Properties along Moor road (North)	High	Neutral	Neutral	Neutral	Neutral	Not significant	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
11	Properties along Moor road (South)	High	Neutral	Neutral	Moderate adverse / Negligible/ No Change	Neutral	A few properties have significant adverse effect, the rest are not significant	Neutral	There are predicted significant noise and landscape effects on a few properties along Moor road (south). The results of all other topic assessments are not significant. The significance of this in-combination effect is considered slight adverse and not significant .
12	Riverside (North)	High	Neutral	Neutral	Slight adverse	Neutral	A few properties have significant adverse effect, the rest are not significant	Neutral	There are predicted significant noise on a few properties along Riverside (north). The results of all other topic assessments are not significant. The significance of this in-combination effect is considered neutral .
13	Riverside (South)	High	Neutral	Neutral	Negligible	Neutral	Not significant	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
14	Banwell Football Club and playing fields	High	Neutral	Neutral	Not significant	Not significant	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
15	Towerbrook Farm	High	Neutral	Neutral	Slight adverse/ Negligible/ No Change	Not significant	Not significant	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
16	Solar Farm	Low	Neutral	Neutral	Not significant	Not significant	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
17	Properties along A368 East Street	High	Neutral	Neutral	Moderate/ Slight adverse	Not significant	Significant beneficial	Neutral	There are predicted significant visual effects and beneficial noise effects on properties along Riverside (north). The results of all other topic assessments are not significant. The significance of this in-combination effect is considered neutral .
18	Properties on A371 top of Castle Hill	High	Slight beneficial	Neutral	Not significant	Not significant	Significant beneficial	Neutral	There are predicted significant beneficial noise effects on properties on A371 top of Castle Hill. The results of all other topic assessments are not significant. The significance of this in-combination effect is considered neutral .
19	Properties along Dark Lane	High	Slight beneficial	Neutral	Moderate/ Slight adverse	Not significant	Some properties have significant beneficial effect, the	Neutral	There are predicted significant landscape effects and beneficial noise effects on some properties along Dark Lane. The results of all other topic assessments are not significant. The significance of this

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
							others are not significant		in-combination effect is considered neutral .
20	Mendip Hills AONB	High	Neutral	Neutral	Not significant	Not significant	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
21	PRoW Footpath AX3/11/10 off Summer Lane	Med	Neutral	Neutral	Not significant	Neutral	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
22	Footpath AX3/25/10 leading to Whitecross Lane	Med	Neutral	Neutral	Slight adverse	Neutral	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
23	PRoW Footpath AX3/5/10 off Wolvershill Road	Med	Neutral	Neutral	Not significant	Neutral	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
24	PRoW Footpath AX3/6/10 Cook's Lane to Moor Lane	Med	Neutral	Neutral	Not significant	Neutral	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
25	Nye Drove PRoW	Med	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
	Bridleway AX3/59/10								combination effect is considered neutral .
26	Riverside junction with PRoW Bridleway AX3/24/10	Med	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
27	PRoW footpath AX3/9/10 and Eastermead Lane	Med	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
28	Footpath AX3/47/10 off Wint Hill	Med	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
29	PRoW Restricted Byway AX3/23/10	Med	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
30	PRoW footpaths AX3/18/10, AX3/19/10, AX3/47/10, AX3/47/20 on Banwell Hill	Med	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
31	Byway AX3/23/30 used	Med	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
	as PRoW south of Towerhead								combination effect is considered neutral .
32	Strawberry Line NCR 26 PRoW AX29/41/20, between Winscombe and Sandford	Med	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
33	Local road users on A371 to West of Banwell	Low	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
34	Local road users on A371 to East of Banwell	Low	Neutral	Neutral	Neutral	Neutral	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
35	Local road users of Wovershill road	Low	Neutral	Neutral	Neutral	Neutral	N/A	Slight adverse	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
36	Local road users of Moor Lane	Low	Neutral	Neutral	Slight adverse	Neutral	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .

Ref	Receptor / Environmental Resource	Sensitivity	Air Quality	Cultural heritage	Landscape and Visual effects	Biodiversity	Noise	Population and human health	Description of in-combination effects
37	Local Road users of Riverside	Low	Neutral	Neutral	Slight adverse	Neutral	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
38	Properties along A368 including Sandford and Churchill	High	Neutral	Neutral	Neutral	Neutral	Not significant	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
39	Properties along A371 Banwell to Sidcot incl Winchcombe	High	Neutral	Neutral	Neutral	Neutral	Not significant	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
40	North Somerset and Mendips SAC	High	Neutral	Not significant	Neutral	Not significant	N/A	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .
41	Banwell Conservation Area		Neutral	Not significant	Neutral	Not significant	Not significant	Neutral	The results of all topic assessments are not significant. The significance of this in-combination effect is considered neutral .

15.6 Assessment of Cumulative Effects from Different Projects

- 15.6.1 Through a combination of the qualitative evaluation and mitigation presented in the ES, conclusions have been drawn as the likelihood for significant cumulative environmental effects resulting from the Scheme in combination with other developments.
- 15.6.2 The long list of development projects reviewed are included in Table 15-4 below. These are based on developments included in the Combined Screening and Scoping Report (refer to ES Volume 3 Appendix 1.B - WSP EIA Combined Screening and Scoping Report). Additional developments were requested by the LPA which have been included in the long list.
- 15.6.3 A number of improvements proposed as part of the wider HIF highways and utilities work were initially identified for consideration as cumulative effects and were included in the Combined Screening and Scoping Report (refer to ES Volume 3 Appendix 1.B - WSP EIA Combined Screening and Scoping Report) however they have been included as part of the Scheme and have been assessed in the specialist topic chapters as appropriate. These include the following:
- a) Capacity improvement at A38/A368 Churchill Junction
 - b) Localised highway works on the A368/A371
 - c) Capacity improvement at M5 Junction 21 (no proposals at present)
 - d) Improved walking and cycling connections
 - e) Placemaking improvements in Banwell
 - f) Off-site strategic utilities upgrades (no proposals at present).
- 15.6.4 The assessment considers the topics identified in chapters 5-14. Climate has been assessed and presented in the In-combination climate change impacts (ICCI) assessment, in ES Volume 3 - Appendix 14.F – Carbon Assessment Report and therefore it has been scoped out of this chapter.
- 15.6.5 The assessment of cumulative effects for developments is based on information obtained from the NSC planning portal: [Simple](#)

Search (n-somerset.gov.uk). The assessments are undertaken based on the implementation of proposed mitigation as appropriate.

- 15.6.6 Table 15-4 outlines the long list of developments that were screened for potential cumulative effects with the Scheme. The Zol for relevant topic assessments is include in Table 15-1.
- 15.6.7 The assessment of the short listed developed is shown in Table 15-5. The developments assessed are shown on ES Volume 2 - Figure 15.2 - Planning Applications Assessed.

Table 15-4 Cumulative effects with other projects – Screening of developments

Ref	Site Name	Planning Application Ref	Description	Approximate distance from the scheme	Included in Traffic Model	Status	Included in assessment
1	Haywood Village (residential)	20/P/2758/NMA	Residential development of approx. 2,500 dwellings	3.9km west	Yes	Has consent. Construction ongoing	YES – due to phasing
2	Haywood Village (employment)	20/P/2758/NMA	Development of 32.6 ha of employment space to provide approx. 3,500 jobs.	3.6km north-west	Yes	Has consent. Construction ongoing	YES – due to phasing
3	Locking Parklands (residential)	21/P/1596/FUL	Residential development of approx. 3,950 dwellings	1.9km north-west	Yes	Has consent. Construction ongoing. (Modwen homes)	YES – due to phasing
4	Locking Parklands (employment)	21/P/3445/NMA	Development of 10ha of employment space to provide approx. 1,000 jobs.	2km north-west	Yes	Has consent. Construction due to commence in 2022	YES
5a	HIF (1a)		933 dwellings	TBC	Yes	Expected build at 2039	YES
5b	HIF (1b)		Residential and employment	TBC	Yes	Expected build at 2039	YES

Ref	Site Name	Planning Application Ref	Description	Approximate distance from the scheme	Included in Traffic Model	Status	Included in assessment
5c	HIF (1c)		933 dwellings	TBC	Yes	Expected build at 2039	YES
6	Land adjacent to Plum Tree Farm	08/P/0626/RM	Residential development of 8 dwellings	2.8km north west	Yes	Has consent. Construction period TBC.	No – outside of Zol
7	Brimbleworth Farm St Georges	19/P/0811/FUH	Listed building consent for the extension and renovation of building to north of Brimbleworth Farmhouse	5.2m north west	Yes	Has consent	No – outside of Zol
8	Scot Elm Drive	17/P/2087/RM	Residential development of 69 dwellings	2.4km north west	Yes	Has consent. Construction period TBC.	No – outside of Zol
9	Royal Pier Hotel	21/P/2682/FUL	Redevelopment of site with the erection of 90no. residential apartments	9.5km north west	Yes	Unknown	No – outside of Zol
10	The Bayside Hotel	18/P/3273/RDC	Erection of 5 storey residential building providing 24 no. apartments with	8.6km north west	Yes	Has consent.	No – outside of Zol

Ref	Site Name	Planning Application Ref	Description	Approximate distance from the scheme	Included in Traffic Model	Status	Included in assessment
			associated car parking and landscaping.				
11	Westacres Caravan Park	19/P/0413/FUL	Residential development of 125 dwellings	2.4km north-west	Yes	Construction started (The Wick- Bloor homes).	No construction ongoing
12	Former Weston Library and adjacent BT building, Boulevard	19/P/0413/FUL	Conversion of Central Library to 22no.residential apartments	8.3km west	Yes	Has consent.	No – outside of Zol
13	Land at Wilson Gardens / Scot Elm Drive, W-s-M	17/P/0752/F	Residential development of 49 dwellings	2.6km north west	Yes	Has consent. Construction period TBC.	No – outside of Zol
14	Woodborough Farm, Winscombe	18/P/3214/RM, 19/P/1866/RM	Residential development of 175 dwellings	2.2km south east	Yes	Under construction	No – under construction
15	Pudding Pie Lane (East), Churchill	17/P/1894/RM	Residential development of 141 dwellings	4.4km east	Yes	Under construction	No – under construction

Ref	Site Name	Planning Application Ref	Description	Approximate distance from the scheme	Included in Traffic Model	Status	Included in assessment
16	Says Lane, Churchill	17/P/2560/RM	Residential development of 43 dwellings	4.2km east	Yes	Under construction	No – under construction
17	Land to the east of Wolvershill Road, Banwell	18/P/2275/RM	Residential development of 44 dwellings	230m south west	Yes	Under construction	No – under construction
18	Land south of Bristol Road, Churchill	18/P/4241/RM	Residential development of 40 dwellings	3.6km east	Yes	Has consent. (Mendip Gate Development)	No – under construction
19	Land south of Cadbury Garden Centre, Congresbury	18/P/3367/RM	Residential development of 21 dwellings	5.9km north east	Yes	Under construction.	No – under construction
20	Leonard Elms Care Home, Congresbury	18/P/3461/FUL	Mixed development of 11 dwellings and 0.5ha of employment land	4.6km north east	Yes	Has consent. Construction period TBC.	No – outside of Zol
21	Land at Western Trade Centre Banwell	19/P/0230/RM	Residential development of 10 dwellings	Adjacent to the scheme	Yes	Has consent. Construction period TBC.	YES
22	Land south of William Daw Close, Banwell	18/P/3334/OUT	Residential development of 26 dwellings	610m south east	Yes	Has consent. Construction period TBC.	YES

Ref	Site Name	Planning Application Ref	Description	Approximate distance from the scheme	Included in Traffic Model	Status	Included in assessment
						(Newland homes)	
23	Land to the north of A368, Sandford	17/P/1799/RM	Residential development of 118 dwellings	1.1km east	Yes	Under construction. (Russet Copse)	No – under construction
24	F Sweeting & Son site, Station Road, Sandford	18/P/2024/OUT	Residential development of 16 dwellings	45m south east	Yes	Has outline consent.	No – under construction
25	Land Off Anson Road, Locking	19/P/2950/FUL	New 2 storey Doctors Surgery with parking	2.1km north west	No	Unknown	No – outside of Zol
26	Land to the West of M5 Trenchard Road, Locking,	18/P/3038/OUT	Residential development of 75 dwellings	425m west	No	Has consent with legal agreement	YES
27	William Daw Close, Banwell	21/P/1164/FUL	Residential development of 11 dwellings	700m south east	Yes	Planning application registered	YES
28	Bowerhouse solar pv Bowerhouse Land, Havage Drove, Off Box Bush Lane, Rolstone, Banwell BS24 6UA	20/P/0620/FUL	Extension to existing solar farm	1.2km north/north east of the Scheme.	No	Has consent.	YES

Ref	Site Name	Planning Application Ref	Description	Approximate distance from the scheme	Included in Traffic Model	Status	Included in assessment
29	Land to the West of Wolvershill Road, Banwell	18/P/1735/OUT	Residential development of 54 dwellings	230m south west	Yes	Has consent.	YES
30	Summer Lane Care Home, Diamond Batch, Weston-super-Mare, BS24 7FY	19/P/2864/FUL	Care home	3km north west	No	Unknown	No – outside of Zol
31	Land Adjacent to Diamond Batch, Summer Lane, Weston-super-Mare, BS24 7FY,	20/P/1059/FUL	Residential development	3.2km north west	No	Unknown	No – outside of Zol
32	Bristol Airport expansion	18/P/5118/OUT	Airport expansion	10.9km north east	No	Appeal successful; planning permission granted	No – outside of Zol A traffic modelling sensitivity test and the results were not significant.
33	Winterstoke Hundred Academy Expansion	Unknown	New secondary school, part of the HIF, but with a separate planning application	1.7km west	No	Unknown. Planning submission spring 2021	No – under construction

Ref	Site Name	Planning Application Ref	Description	Approximate distance from the scheme	Included in Traffic Model	Status	Included in assessment
34	A38 online improvements between A386 and Bristol Airport, including Downside Road junction improvements and A38 widening at Bristol Airport	N/A	Junction improvements and active travel.	11km north east	No	Full business case to be developed.	No – outside of Zol, limited works to provide cumulative effects
35	Tutshill Sluice Weston-super-Mare to Clevedon off-road cycle and pedestrian route, part of coastal footpath	Unknown	Off road cycle and pedestrian route	12km north west	No	Full business case to be developed.	No – outside of Zol
36	A371 Safer Road Fund between A371 Airport Roundabout, Weston-super-Mare and the A368 junction in Banwell including changes to speed limits and cycling and walking improvements		Minor road improvements, improvements for cycling and walking	400m	Yes	Under construction	No – under construction
37	Planning application for Primary School on Ladymead road		Construction of primary school	0.9km	No	Application to be submitted. Proposed opening in 2023	No – included in operation baseline
38	Former Mooseheart Lodge (Kildare House), 70	18/P/5196/FUL	Redevelopment to include a 18no. bed hotel; 3no holiday lets	1.5km south-east of the Scheme	Yes	Approved.	YES

Ref	Site Name	Planning Application Ref	Description	Approximate distance from the scheme	Included in Traffic Model	Status	Included in assessment
	Woodborough Road, Winscombe		and up to 14no. residential units.				
39	North of Greenhill Rd, Sandford	20/P/1120/OUT	Construction of up to 37no. dwellings, a parish hall, a business hub/innovation hive and associated infrastructure	2.5km east of the Scheme	Yes	Planning application registered	YES
40	Land at Dinghurst Road, Churchill	21/P/2123/OUT	Construction of up to 25no. dwellings	Approx. 4km to east of the Scheme	Yes	Planning application registered	YES

Table 15-5 Cumulative effects with other projects – Assessment of Cumulative effects

Development	Assessment of Effects
<p>Haywood Village (residential) Former Weston Airfield, Winterstoke Road, Weston-super-Mare (Planning Reference No. 12/P/1510/OT2)</p>	<p>Description: Approximately 1650 residential dwellings. Located approximately 3.9km west of the Scheme. Planning approved and construction has commenced.</p> <p>Predicted impacts:</p> <p><u>Air Quality</u> – Outside the Zone of Influence. Whilst this is a relatively large development, it lies approximately 3.9km to the west of the Scheme, and to the west of M5 motorway. Therefore, it is not expected that the construction of this development would generate cumulative air quality impacts alongside the construction phases of the Banwell Bypass itself. The 'operational' traffic arising from this development has already been included within the Future 'Do Minimum' and 'Do Something' traffic flow datasets used for the Scheme air quality assessment. Therefore the 'operational' cumulative effects have already been taken into account for this development.</p> <p><u>Cultural Heritage</u> – Outside the Zone of Influence. There would be no visual connectivity with heritage assets for the Scheme. A full assessment would be required to assess the buried archaeology and it would be mitigated appropriately. There are no predicted significant effects for both construction and operation.</p> <p><u>Landscape</u> – Outside the Zone of Influence. There would be no visual connectivity and combined impact on the landscape character. There are no predicted significant effects for both construction and operation.</p> <p><u>Biodiversity</u> – Outside the Zone of Influence. Assessments would be required on a relevant species and habitats and it would be mitigated appropriately. There are no predicted significant effects for both construction and operation.</p> <p><u>Geology and Soils</u> – Outside the Zone of Influence. There are no predicted significant effects for both construction and operation.</p> <p><u>Material Assets and Waste</u> – Within Zone of Influence. The depletion of finite natural resources e.g. aggregate for construction would increase from the Scheme and other developments. The sensitivity of the UK supply of key construction aggregate is assessed to be low as there is low scarcity of these materials. Therefore, the qualitative assessment of the significance of this effect is slight adverse and not significant. The requirement to dispose of waste from the Scheme would result in a permanent reduction in waste infrastructure capacity within reasonable proximity of the Scheme. It has not been possible to locate information regarding likely quantities of waste in relation to this development. Therefore, there is insufficient information to quantify these potential effects. It is considered that there is likely adequate waste management infrastructure capacity for the waste arisings from the Scheme and development, therefore this is assessed to be of low sensitivity. The magnitude of the impact is assessed to be Moderate Adverse as</p>

Development	Assessment of Effects
	<p>it is assumed that the Scheme and development would need to meet the requirements of relevant legislation and local policies. This would include adherence to the waste hierarchy and a target of at least 70% recovery of wastes generated. It is assumed that waste arisings from consented schemes would be segregated and sent for composting, recycling or for further segregation and sorting at a materials recovery facility. Given the limited amount of waste to be taken offsite for the Scheme the assessment of the significance of this effect is slight adverse and not significant.</p> <p><u>Noise and Vibration</u> – Outside the Zone of Influence. Whilst this is a relatively large development, it lies approximately 3km to the west of the Scheme and to the west of the M5 motorway. Therefore, it is not expected that the construction of this development would generate cumulative noise and vibration impacts alongside the construction phase of the Banwell Bypass itself. The 'operational' traffic arising from this development has already been included within the Future 'Do Minimum' and 'Do Something' traffic flow datasets used for the Banwell Bypass noise assessment. Therefore the 'operational' cumulative effects have already been taken into account for this development.</p> <p>Population and Human Health – Outside the Zone of Influence. Given the distance from the Scheme and its location to the west of the M5, There are no predicted significant effects for both construction and operation.</p> <p><u>Road Drainage and Water Environment</u> – Outside the Zone of Influence. Traffic modelling, which feeds into the assessment of pollution from routine runoff of the highway has considered an uplift based on anticipated development. Given the location of the development it is not considered to generate cumulative road drainage or flood impacts alongside the construction phase of the Scheme. The operational cumulative effects have already been taken into account for this development.</p>
<p>Haywood Village (employment) Former Weston Airfield, Winterstoke Road, Weston-super-Mare</p> <p>(Planning Reference No. 12/P/1510/OT2)</p>	<p>Description: 8ha of class B1, B2 and B8 employment development, primary school, a link road with associated roundabouts, works associated with drainage/flood management, landscaping, public open space, wetlands area, linear lake and allotments. Located approximately 3.6km west of the Scheme. Construction has commenced, development phased.</p> <p>Predicted impacts:</p> <p><u>Air Quality</u> – Outside the Zone of Influence. Whilst this is a relatively large development, it lies approximately 3.6km to the west of the Scheme, and to the west of M5 motorway. Therefore, it is not expected that the construction of this development would generate cumulative air quality impacts alongside the construction phases of the Banwell Bypass itself. The 'operational' traffic arising from this development has already been included within the Future 'Do Minimum' and 'Do Something' traffic flow datasets used for the Scheme air quality assessment. Therefore the 'operational' cumulative effects have already been taken into account for this development.</p>

Development	Assessment of Effects
	<p><u>Cultural Heritage</u> – Outside the Zone of Influence. There would be no visual connectivity with heritage assets for the Scheme. A full assessment would be required to assess the buried archaeology and it would be mitigated appropriately. There are no predicted significant effects for both construction and operation.</p> <p><u>Landscape</u> – Outside the Zone of Influence. There would be no visual connectivity and combined impact on the landscape character. There are no predicted significant effects for both construction and operation.</p> <p><u>Biodiversity</u> – Outside the Zone of Influence. Assessments would be required on a relevant species and habitats and it would be mitigated appropriately. There are no predicted significant effects for both construction and operation.</p> <p><u>Geology and Soils</u> – Outside the Zone of Influence. There are no predicted significant effects for both construction and operation.</p> <p><u>Material Assets and Waste</u> – Within Zone of Influence. The depletion of finite natural resources e.g. aggregate for construction would increase from the Scheme and other developments. The sensitivity of the UK supply of key construction aggregate is assessed to be low as there is low scarcity of these materials. Therefore, the qualitative assessment of the significance of this effect is slight and not significant. The requirement to dispose of waste from the Scheme would result in a permanent reduction in waste infrastructure capacity within reasonable proximity of the Scheme. It has not been possible to locate information regarding likely quantities of waste in relation to this development. Therefore, there is insufficient information to quantify these potential effects. It is considered that there is likely adequate waste management infrastructure capacity for the waste arisings from the Scheme and development, therefore this is assessed to be of low sensitivity. The magnitude of the impact is assessed to be Moderate Adverse as it is assumed that the Scheme and development would need to meet the requirements of relevant legislation and local policies. This would include adherence to the waste hierarchy and a target of at least 70% recovery of wastes generated. It is assumed that waste arisings from consented schemes would be segregated and sent for composting, recycling or for further segregation and sorting at a materials recovery facility. Given the limited amount of waste to be taken offsite for the Scheme the assessment of the significance of this effect is slight adverse and not significant.</p> <p><u>Noise and Vibration</u> – Outside the Zone of Influence. Whilst this is a relatively large development, it lies approximately 1.9km to the west of the Scheme and to the west of the M5 motorway. Therefore, it is not expected that the construction of this development would generate cumulative noise and vibration impacts alongside the construction phase of the Banwell Bypass itself. The 'operational' traffic arising from this development has already been included within the Future 'Do Minimum' and 'Do Something' traffic flow datasets used for the Scheme noise assessment. Therefore the 'operational' cumulative effects have already been taken into account for this development.</p>

Development	Assessment of Effects
	<p>Population and Human Health – Outside the Zone of Influence. Given the distance from the Scheme and its location to the west of the M5, there are no predicted significant effects for both construction and operation.</p> <p><u>Road Drainage and Water Environment</u> – Outside the Zone of Influence. Traffic modelling, which feeds into the assessment of pollution from routine runoff of the highway has considered an uplift based on anticipated development. Given the location of the development it is not considered to generate cumulative road drainage or flood impacts alongside the construction phase of the Scheme. The operational cumulative effects have already been taken into account for this development.</p>
Locking Parklands (residential) Locking Moor Road, Weston-super-Mare, North Somerset (Planning Reference No. 13/P/0997/OT2)	<p>Description: Large scale development of mixed use residential, employment, education and infrastructure to include up to 1200no. residential dwellings; up to 5.5ha of employment development; up to 2.1ha of retail, services, cafe, restaurant, drinking, takeaway and community uses; up to 5.15ha leisure use; primary school - 2.4ha; secondary education - 1.8ha; with 32.4ha of landscaping, open space and necessary infrastructure works and construction of new access from A371. Approximately 1.9km west of the Scheme. Construction has commenced.</p> <p>Predicted impacts:</p> <p><u>Air Quality</u> – Outside the Zone of Influence. Whilst this is a relatively large development, it lies approximately 1.9km to the west of the Scheme, and to the west of M5 motorway. Therefore, it is not expected that the construction of this development would generate cumulative air quality impacts alongside the construction phases of the Banwell Bypass itself. The 'operational' traffic arising from this development has already been included within the Future 'Do Minimum' and 'Do Something' traffic flow datasets used for the Scheme air quality assessment. Therefore the 'operational' cumulative effects have already been taken into account for this development.</p> <p><u>Cultural Heritage</u> – Within Zone of Influence. The development lies to the west of the M5 and a small section of its eastern limits lie within the Zone of Influence. There would be no visual connectivity with heritage assets for the Scheme. A full assessment would be required to assess the buried archaeology and it would be mitigated appropriately. Given its proximity to surrounding development the significance of effect would be Slight adverse and not significant for construction and not significant during operation.</p> <p><u>Landscape</u> – Within Zone of Influence. The development lies within the Zone of Influence, but outside the assessed Visual Envelope / Study area. Visual impacts would be blocked by the M5 corridor and associated planting and infrastructure therefore there would be no predicted significant cumulative effects of this development with the Scheme during construction or operation.</p>

Development	Assessment of Effects
	<p><u>Biodiversity</u> – The development lies within the Zone of Influence but to west of the M5 which is considered to provide a barrier to many species. The proposed development lies within the Zone of Influence for the North Somerset Bats SAC and could reduce foraging and commuting opportunities. The Scheme has a landscape and ecological management plan to manage the biodiversity within the Scheme. Construction has commenced and given its location to the west of M5 it is unlikely that there would be any cumulative effects during construction. Although both projects would be adequately mitigated, given its proximity to surrounding development it is likely to be a cumulative impact on the overall biodiversity resource, it is likely that there would be Slight adverse and not significant cumulative effects during operation.</p> <p><u>Geology and Soils</u> – Outside the Zone of Influence. There are no predicted significant effects for both construction and operation.</p> <p><u>Material Assets and Waste</u> – Within Zone of Influence. The depletion of finite natural resources e.g. aggregate for construction would increase from the Scheme and other developments. The sensitivity of the UK supply of key construction aggregate is assessed to be low as there is low scarcity of these materials. Therefore, the qualitative assessment of the significance of this effect is slight and not significant. The requirement to dispose of waste from the Scheme would result in a permanent reduction in waste infrastructure capacity within reasonable proximity of the Scheme. Construction waste from this development is estimated to be approximately 36,818 tonnes (Paragraph 3.6.7 of the Waste Management Strategy). From Environment Agency data, the remaining landfill capacity in South West England at the end of 2020 was 10,460,214.877 (29,620,030m³); 0.3% of the remaining landfill capacity. Therefore, the volume of waste is unlikely to cause a significant cumulative effect. It is considered that there is likely adequate waste management infrastructure capacity for the waste arisings from the Scheme and development, therefore this is assessed to be of low sensitivity. The magnitude of the impact is assessed to be Moderate Adverse as it is assumed that the Scheme and development would need to meet the requirements of relevant legislation and local policies. This would include adherence to the waste hierarchy and a target of at least 70% recovery of wastes generated. It is assumed that waste arisings from consented Schemes would be segregated and sent for composting, recycling or for further segregation and sorting at a materials recovery facility. The assessment of this effect is slight adverse and not significant.</p> <p><u>Noise and Vibration</u> – Outside the Zone of Influence. This is a large development which lies just outside of the assessment area and to the west of the M5 motorway. However, It is not expected that the construction of this development land parcel would generate cumulative noise and vibration impacts alongside the construction phases of the Scheme. The 'operational' traffic arising from this development has already been included within the Future 'Do</p>

Development	Assessment of Effects
	<p>Minimum' and 'Do Something' traffic flow datasets used for the Banwell Bypass noise assessment. Therefore the 'operational' cumulative effects have already been taken into account for this development.</p> <p><u>Population and Human Health</u> – Outside the Zone of Influence. Given the distance from the Scheme and its location to the west of the M5, there are no predicted significant effects for both construction and operation.</p> <p><u>Road Drainage and Water Environment</u> – The development lies to the west of the M5 and a small section of its eastern limits lie within the Zone of Influence. Traffic modelling, which feeds into the assessment of pollution from routine runoff of the highway has considered an uplift based on anticipated development. There are no cumulative impacts are anticipated during construction or operation.</p>
<p>Locking Parkland (employment) Land at Locking Parklands, North of the A371, Locking Moor Road and West of North - South Spine Road, Locking, Weston-super-Mare, North Somerset</p> <p>(Planning Reference No. 21/P/1596/FUL)</p>	<p>Description: Construction of a new secondary school site and associated sports hall and pitches, alongside external social and learning spaces, hard and soft landscaping, car parking, cycle parking and boundary treatment. Approximately 1.9km west of the Scheme. Planning approved September 2021.</p> <p>Predicted impacts:</p> <p><u>Air Quality</u> – Outside the Zone of Influence. Whilst this is a relatively large development, it lies approximately 1.9km to the west of the Scheme, and to the west of M5 motorway. Therefore, it is not expected that the construction of this development would generate cumulative air quality impacts alongside the construction phases of the Banwell Bypass itself. The 'operational' traffic arising from this development has already been included within the Future 'Do Minimum' and 'Do Something' traffic flow datasets used for the Scheme air quality assessment. Therefore the 'operational' cumulative effects have already been taken into account for this development.</p> <p><u>Cultural Heritage</u> – Outside the Zone of Influence. The development lies to the west of the M5 and there would be no visual connectivity with heritage assets for the Scheme. A full assessment would be required to assess the buried archaeology and it would be mitigated appropriately. There are no predicted significant cumulative effects with this development during construction or operation.</p> <p><u>Landscape</u> – Within the Zone of Influence, but outside the assessed Visual Envelope / Study area for the Scheme. Visual impacts would be blocked by the M5 corridor and associated planting and infrastructure therefore no predicted significant cumulative effects during construction or operation.</p> <p><u>Biodiversity</u> – The development lies within the Zone of Influence but to west of the M5 which is considered to provide a barrier to many species. The proposed development lies within the Zone of Influence for the North Somerset Bats SAC and could reduce foraging and commuting opportunities, although the site is of poor quality for these activities. The</p>

Development	Assessment of Effects
	<p>Scheme has a landscape and ecological management plan to manage the biodiversity within the Scheme. Construction has commenced and given its location to the west of M5 it is unlikely that there would be any cumulative effects during construction. Although both projects would be adequately mitigated, given its proximity to surrounding development it is likely to be a cumulative impact on the overall biodiversity resource and therefore the significance of effect during operation would be Slight adverse and not significant cumulative impact.</p> <p><u>Geology and Soils</u> – Outside the Zone of Influence. There are no predicted significant effects for both construction and operation.</p> <p><u>Material Assets and Waste</u> – Within Zone of Influence. The depletion of finite natural resources e.g. aggregate for construction would increase from the Scheme and other developments. The sensitivity of the UK supply of key construction aggregate is assessed to be low as there is low scarcity of these materials. Therefore, the qualitative assessment of the significance of this effect is slight and not significant. The requirement to dispose of waste from the Scheme would result in a permanent reduction in waste infrastructure capacity within reasonable proximity of the Scheme. Construction waste from this development is estimated to be approximately 36,818 tonnes (Paragraph 3.6.7 of the Waste Management Strategy). From Environment Agency data, the remaining landfill capacity in South West England at the end of 2020 was 10,460,214.877 (29,620,030m³); 0.3% of the remaining landfill capacity. Therefore, the volume of waste is unlikely to cause a significant cumulative effect. It is considered that there is likely adequate waste management infrastructure capacity for the waste arisings from the Scheme and development, therefore this is assessed to be of low sensitivity. The magnitude of the impact is assessed to be Moderate Adverse as it is assumed that the Scheme and development would need to meet the requirements of relevant legislation and local policies. This would include adherence to the waste hierarchy and a target of at least 70% recovery of wastes generated. It is assumed that waste arisings from consented Schemes would be segregated and sent for composting, recycling or for further segregation and sorting at a materials recovery facility. The assessment of the significance of this effect is slight and not significant.</p> <p><u>Noise and Vibration</u> – Outside the Zone of Influence. It is not expected that the construction of this development is likely to generate cumulative noise and vibration impacts alongside the construction phases of the Scheme. The 'operational' traffic arising from this development has already been included within the Future 'Do Minimum' and 'Do Something' traffic flow datasets used for the Banwell Bypass noise assessment. Therefore the 'operational' cumulative effects have already been taken into account for this development.</p> <p><u>Population and Human Health</u> – Outside the Zone of Influence. Given the distance from the Scheme and its location to the west of the M5, there would be no predicted significant cumulative effects of this development with the Scheme during construction or operation.</p>

Development		Assessment of Effects
		<p><u>Road Drainage and Water Environment</u> – Outside the Zone of Influence. The development lies to the west of the M5. Traffic modelling, which feeds into the assessment of pollution from routine runoff of the highway has considered an uplift based on anticipated development. There are no predicted significant effects for both construction and operation.</p>
HIF (1a-c) Service Village	<p>Description: Location tbc, likely to be just north of the Scheme within the Wolvershill road area. Areas outlined in the NSC emerging Local Plan and is subject to planning application and approval.</p> <p>HIF 1a: 933 dwellings outlined in NSC emerging Local Plan</p> <p>HIF 1b: 900 homes and 23500sqm employment GFA outlined within NSC's emerging Local Plan</p> <p>HIF 1c: 933 dwellings outlined in NSC emerging Local Plan</p> <p>Given the size and location for each element of the HIF Service Village are similar and the details are to be developed, the predicted impacts are likely to be similar for each element and therefore they have been combined in the assessment. The expected construction will not coincide with the construction of the Scheme. Therefore, the following predicted impacts are assessed only for operation at the design year. There is no environmental information associated with the Schemes available to date. The allocations are subject to the emerging Local Plan and should any of the allocations be taken forward, they would have to conform to all relevant legislation and policy at that time including requirements for mitigation.</p> <p>Predicted impacts:</p> <p><u>Air Quality</u> – Within the Zone of Influence. The Scheme will be constructed prior to this development therefore there will be no predicted cumulative effects during construction. The 'operational' traffic arising from this development has already been included within the Future 'Do Minimum' and 'Do Something' traffic flow datasets used for the Scheme air quality assessment. Therefore the 'operational' cumulative effects have already been taken into account for this development. Any potential future operational effects can be mitigated at the development design phase by locating properties away from the Scheme.</p> <p><u>Cultural Heritage</u> – Within Zone of Influence. While small scale incremental developments in and around the area of the Scheme are likely to have less of a cumulative impact, both visually and on the buried archaeological resource, any large-scale development of the land between the settlement of Banwell and the Scheme, or to the north of the Scheme to include the potential development in the area to the north of Banwell/ the A371 and east of the M5 is considered likely to have a substantial cumulative impact upon the historic landscape of this area and it would be important to</p>	

Development	Assessment of Effects
	<p>ensure that the investigation and mitigation was adequately planned and implemented. Insufficient design data is available for these developments to determine whether it has a cumulative impact upon the historic environment in combination with the Scheme.</p> <p><u>Landscape</u> – Within Zone of Influence. Given that there is no detailed information on the exact location, size, layout or design in relation to these allocations, there is insufficient information to quantify these potential effects. However, the long-term development of low lying previously agricultural land use would be considered to have a detrimental and fundamental impact on landscape character. Ostensibly altering it from an undeveloped open landscape into one where the underlying landscape character is secondary or subsumed by the new development. Given the potential for direct views from and to the developments the visual amenity of the area is also likely to be impacted. This, seen in conjunction with the Scheme would result in cumulative effects on Landscape Effects. It is considered essential that the mitigation implemented for the Scheme is retained and forms the basis of any mitigation for the developments that lie in close proximity to the Scheme. Consideration should be given to the design to ensure that the development fits within the existing landscape structure and does not impact on the setting of the Mendip Hills AONB.</p> <p><u>Biodiversity</u> – Within Zone of Influence. Given that there is no detailed information on the exact location, size, layout or design in relation to these allocations, there is insufficient information to quantify these potential effects. However, the long-term development of low lying previously agricultural land use would be considered to have a detrimental and fundamental impact on the biodiversity of the area reducing foraging and connectivity for a range of species including dormouse, bats, otter, badger and reptiles. There is also the potential for significant impacts on habitats and designated sites. This, seen in conjunction with the Scheme would result in cumulative effects on Biodiversity. The emerging Local Plan Habitats Regulations Assessment (HRA) would consider the impacts of the Local Plan proposals including these developments on European Protected Sites and the biodiversity assessment and HRA for the developments would consider the Scheme as part of the baseline conditions. It is considered essential that the mitigation implemented for the Scheme is retained and forms the basis of any mitigation for the developments that lie in close proximity to the Scheme. Ongoing monitoring of protected species and sites is recommended to ensure a robust baseline is available to assess the impacts associated with the proposed developments. This development could result in Significant cumulative effects with the Scheme during operation.</p> <p><u>Geology and Soils</u> – Within Zone of Influence. There is currently no information available regarding these developments. Therefore, there is insufficient information to quantify these potential effects. There are potential effects for soil resources however this can be assessed when the design for the development is progressed.</p>

Development	Assessment of Effects
	<p><u>Material Assets and Waste</u> – Within Zone of Influence. There is currently no information available regarding likely quantities of waste in relation to these developments. Therefore, there is insufficient information to quantify these potential effects.</p> <p><u>Noise and Vibration</u> – The developments lie partially within the Zone of Influence. There is currently no indication of exactly where the elements of the development will be located within the 'Local Plan Allocations' demarcation area. The eastern and southern areas of this development lie close to existing residential properties near Stonebridge and Summer Lane. Given that the developments will not be constructed at the same time as the Scheme there would be no cumulative construction impacts but cumulative operational impacts would need to be assessed in detail.</p> <p><u>Population and Human Health</u> – The developments lie partially within the Zone of Influence. There is currently no information available regarding the development proposals. Therefore, there is insufficient information to quantify these potential effects. It is considered essential that the mitigation implemented for the Scheme is retained and forms the basis of any mitigation for the developments that lie in close proximity to the Scheme. With good design taking into consideration the existing baseline there is potential for beneficial impacts in combination with the Scheme.</p> <p><u>Road Drainage and Water Environment</u> – The developments lie partially within the Zone of Influence. Traffic modelling, which feeds into the assessment of pollution from routine runoff of the highway has considered an uplift based on anticipated development. There are no predicted significant effects during operation..</p>
<p>Land at Western Trade Centre Banwell Western Trade Centre, Knightcott Road, Banwell, BS29 6HT</p> <p>(Planning Reference No. 19/P/0230/RM)</p>	<p>Description: Construction of 10no. dwellings, following demolition of existing buildings on site. Located adjacent to the south of western tie-in of the Banwell bypass and A371 Knightcott Road. Planning Approved and construction has not commenced.</p> <p>Predicted impacts:</p> <p><u>Air Quality</u> – Within the Zone of Influence. This is a relatively small development close to the Scheme therefore, it is not expected that the construction of this development would generate cumulative air quality impacts alongside the construction phases of the Banwell Bypass itself. The 'operational' traffic arising from this development has already been included within the Future 'Do Minimum' and 'Do Something' traffic flow datasets used for the Scheme air quality assessment. Therefore the 'operational' cumulative effects have already been taken into account for this development.</p> <p><u>Cultural Heritage</u> – Within Zone of Influence. Given the small size of the development on a brown field site adjacent to A371 Knightcott Road it is unlikely that there would be any cumulative effects on the cultural heritage. There are no predicted significant effects for both construction and operation.</p> <p><u>Landscape</u> – Within Zone of Influence. This relatively small development would occupy a previously developed brownfield site. Subject to reserved matters regarding landscaping this is not anticipated to have an adverse impact on</p>

Development	Assessment of Effects
	<p>existing landscape character or cumulative visual effects during construction or operation. There are no predicted significant effects for both construction and operation.</p> <p><u>Biodiversity</u> – Within Zone of Influence. The development site is relatively small on a brown field site adjacent to A371 Knightcott Road. It is considered essential that the mitigation implemented for the Scheme is retained and forms the basis of any mitigation for the development. Ongoing monitoring of protected species and sites is recommended to identify any changes in the data that may require further mitigation. With mitigation in place, it is not anticipated that there would be any cumulative effects on biodiversity during construction or operation. There are no predicted significant effects for both construction and operation.</p> <p><u>Geology and Soils</u> – Within Zone of Influence. The development lies on a brown field site and it is expected that land contamination issues would be addressed in accordance with governmental guidance and provide an assessment of risks and undertake remediation where necessary. Therefore, it is considered that no cumulative effects in relation to land contamination are likely. In addition, there are no cumulative effects with respect to soil resources is anticipated as it is located on a brown field site.</p> <p><u>Material Assets and Waste</u> – Within Zone of Influence. The depletion of finite natural resources e.g. aggregate for construction would increase from the Scheme and other developments. The sensitivity of the UK supply of key construction aggregate is assessed to be low as there is low scarcity of these materials. Therefore, the qualitative assessment of the significance of this effect is slight and not significant. The requirement to dispose of waste from the Scheme would result in a permanent reduction in waste infrastructure capacity within reasonable proximity of the Scheme. It has not been possible to locate information regarding likely quantities of waste in relation to this development. Therefore, there is insufficient information to quantify these potential effects. It is considered that there is likely adequate waste management infrastructure capacity for the waste arisings from the Scheme and development, therefore this is assessed to be of low sensitivity. The magnitude of the impact is assessed to be Moderate Adverse as it is assumed that the Scheme and development would need to meet the requirements of relevant legislation and local policies. This would include adherence to the waste hierarchy and a target of at least 70% recovery of wastes generated. It is assumed that waste arisings from consented schemes would be segregated and sent for composting, recycling or for further segregation and sorting at a materials recovery facility. The assessment of the significance of this effect is slight and not significant.</p> <p><u>Noise and Vibration</u> – Within Zone of Influence. Whilst this is a small development, it is expected that the construction of this development could generate noise and vibration impacts to existing dwellings immediately adjacent to this site, resulting in a cumulative effect combined with the construction phases of the Scheme. However, it is not expected that this development will generate any significant increase in the number of vehicle movements on the roads within the</p>

Development	Assessment of Effects
	<p>assessment area and would therefore have no effect upon the outcome of the 'operational' noise assessment. There are no predicted significant effects for both construction and operation.</p> <p><u>Population and Human Health</u> – Within Zone of Influence. This is a small development and it could create limited additional pressure to local facilities and resources in Banwell. There is the potential for a slight adverse and not significant cumulative impact during construction, if the construction is concurrent, and during operation.</p> <p><u>Road Drainage and Water Environment</u> – Within Zone of Influence. Traffic modelling, which feeds into the assessment of pollution from routine runoff of the highway has considered an uplift based on anticipated development. There are no predicted significant effects for both construction and operation.</p>
Land south of William Daw Close, Banwell (Planning Reference No. 18/P/3334/OUT)	<p>Description: Residential development of up to 26no. dwellings and associated infrastructure and landscaping. Located south east of the Scheme's Banwell West Junction. Planning Approved July 2020 and construction has not commenced.</p> <p>Predicted impacts:</p> <p><u>Air Quality</u> – Within the Zone of Influence. This is a relatively small development close to the Scheme however, it is not expected that the construction of this development would generate cumulative air quality impacts alongside the construction phases of the Banwell Bypass itself. The 'operational' traffic arising from this development has already been included within the Future 'Do Minimum' and 'Do Something' traffic flow datasets used for the Scheme air quality assessment. Therefore the 'operational' cumulative effects have already been taken into account for this development.</p> <p><u>Cultural Heritage</u> – Within Zone of Influence. This is a small development on the edge of Banwell village. Whilst there is the potential for significant cumulative impact upon the historic landscape, it is anticipated that works will be undertaken in accordance with archaeological best practice and should any finds be made full investigation is carried out. Therefore, it is unlikely that there would be any cumulative effects on the cultural heritage. There are no predicted significant effects for both construction and operation.</p> <p><u>Landscape</u> – Within Zone of Influence. This development located on the western edge of Banwell on greenfield land adjacent to William Daw Close would result in the extension of settlement mass along the northern flanks of Banwell Hill and adjacent to the Mendip Hills AONB. Cumulative effects would be anticipated especially in the light of settlement encroachment on the Valued Landscape designation immediately to the west and setting of the AONB. With mitigation in place, it is anticipated that there would be a slight adverse and not significant cumulative impact on the landscape character and visual amenity during operation.</p> <p><u>Biodiversity</u> – Within Zone of Influence. The development site is a relatively small site on the edge of the Banwell settlement. It is considered essential that the mitigation implemented for the Scheme is retained and forms the basis of any mitigation for the development. Ongoing monitoring of protected species and sites is recommended to identify</p>

Development	Assessment of Effects
	<p>any changes in the data that may require further mitigation. With mitigation in place for the proposed development it is not anticipated that there would be any cumulative effects on biodiversity during construction or operation. There are no predicted significant effects for both construction and operation.</p> <p><u>Geology and Soils</u> – Within Zone of Influence. It is expected that land contamination issues for this development would be addressed in accordance with governmental guidance and provide an assessment of risks and undertake remediation where necessary. Therefore, it is considered that no cumulative effects in relation to land contamination are likely. In addition, no predicted significant cumulative effects with respect to soil resources are anticipated as it is outside agricultural land.</p> <p><u>Material Assets and Waste</u> – Within Zone of Influence. The depletion of finite natural resources e.g. aggregate for construction would increase from the Scheme and other developments. The sensitivity of the UK supply of key construction aggregate is assessed to be low as there is low scarcity of these materials. Therefore, the qualitative assessment of the significance of this effect is slight and not significant. The requirement to dispose of waste from the Scheme would result in a permanent reduction in waste infrastructure capacity within reasonable proximity of the Scheme. It has not been possible to locate information regarding likely quantities of waste in relation to this development. Therefore, there is insufficient information to quantify these potential effects. It is considered that there is likely adequate waste management infrastructure capacity for the waste arisings from the Scheme and development, therefore this is assessed to be of low sensitivity. The magnitude of the impact is assessed to be Moderate Adverse as it is assumed that the Scheme and development would need to meet the requirements of relevant legislation and local policies. This would include adherence to the waste hierarchy and a target of at least 70% recovery of wastes generated. It is assumed that waste arisings from consented schemes would be segregated and sent for composting, recycling or for further segregation and sorting at a materials recovery facility. The assessment of the significance of this effect is slight and not significant.</p> <p><u>Noise and Vibration</u> – Within Zone of Influence. No cumulative effects are anticipated. Whilst this is a very small development, it is expected that the construction of this development could generate noise and vibration impacts to existing dwellings immediately adjacent to it, which may result in cumulative effects when combined with the construction phases of the proposed Banwell Bypass. However, it is not expected that this development will generate any significant increase in the number of vehicle movements on the roads within the assessment area and would therefore have no effect upon the outcome of the 'operational' noise assessment.</p> <p><u>Population and Human Health</u> – Within Zone of Influence. It is possible that there will be additional pressure to local facilities and resources in Banwell. There is the potential for a slight adverse and not significant cumulative impact during construction, if the construction is concurrent, and during operation.</p>

Development	Assessment of Effects
Land to the West of M5 and East of, Trenchard Road, Locking (Planning Reference No. 18/P/3038/OUT)	<p>Road Drainage and Water Environment – Within Zone of Influence. Traffic modelling, which feeds into the assessment of pollution from routine runoff of the highway has considered an uplift based on anticipated development. There are no predicted significant effects for both construction and operation.</p> <p>Description: Construction of up to 75 dwellings with provision of access, drainage, landscape bunds and other ancillary works. Located immediately to the west of the M5 and north of A371, approximately 400m west of the Scheme's western tie in to A371. Planning Approved Nov 2020 and construction has not commenced.</p> <p>Predicted impacts:</p> <p><u>Air Quality</u> – Outside the Zone of Influence. This development is located immediately west of the M5. Therefore, it is not expected that the construction of this development would generate cumulative air quality impacts alongside the construction phases of the Banwell Bypass itself. The 'operational' traffic arising from this development has already been included within the Future 'Do Minimum' and 'Do Something' traffic flow datasets used for the Scheme air quality assessment. Therefore the 'operational' cumulative effects have already been taken into account for this development.</p> <p><u>Cultural Heritage</u> – Within the Zone of Influence. The development lies to the west of the M5 and there would be no visual connectivity with heritage assets for the Scheme. A full assessment would be required to assess the buried archaeology and it would be mitigated appropriately. Whilst there is the potential for significant cumulative impact upon the historic landscape, given its size, proximity to surrounding development and the M5 the significance of effect would be Slight adverse and not significant for construction and not significant during operation</p> <p><u>Landscape</u> – Within the zone of influence, but outside the assessed Visual Envelope / Study area. Visual impacts are blocked by the M5 corridor and associated planting and infrastructure therefore no predicted significant cumulative effects.</p> <p><u>Biodiversity</u> – Within Zone of Influence. The development site is a relatively small site on the edge of existing settlement and the M5. With mitigation in place for the proposed development it is not anticipated that there would be any cumulative effects on biodiversity during construction or operation. There are no predicted significant effects for both construction and operation.</p> <p><u>Geology and Soils</u> – Within Zone of Influence. It is expected that land contamination issues for this development would be addressed in accordance with governmental guidance and provide an assessment of risks and undertake remediation where necessary. Therefore, it is considered that no cumulative effects in relation to land contamination are likely. In addition, no significant cumulative effects with respect to soil resources is anticipated as it is outside agricultural land.</p>

Development	Assessment of Effects
	<p><u>Material Assets and Waste</u> – Within Zone of Influence. The depletion of finite natural resources e.g. aggregate for construction would increase from the Scheme and other developments. The sensitivity of the UK supply of key construction aggregate is assessed to be low as there is low scarcity of these materials. Therefore, the qualitative assessment of the significance of this effect is slight and not significant. The requirement to dispose of waste from the Scheme would result in a permanent reduction in waste infrastructure capacity within reasonable proximity of the Scheme. It has not been possible to locate information regarding likely quantities of waste in relation to this development. Therefore, there is insufficient information to quantify these potential effects. It is considered that there is likely adequate waste management infrastructure capacity for the waste arisings from the Scheme and development, therefore this is assessed to be of low sensitivity. The magnitude of the impact is assessed to be Moderate Adverse as it is assumed that the Scheme and development would need to meet the requirements of relevant legislation and local policies. This would include adherence to the waste hierarchy and a target of at least 70% recovery of wastes generated. It is assumed that waste arisings from consented schemes would be segregated and sent for composting, recycling or for further segregation and sorting at a materials recovery facility. The assessment of the significance of this effect is slight and not significant.</p> <p><u>Noise and Vibration</u> – On the very edge of the Zone of Influence. This development is located within the far western quadrant of the assessment area, immediately west of the M5. Whilst this is a relatively small housing development, it is situated close to existing residential and other noise sensitive properties which lie within the far western quadrant of the assessment area, close to the M5. However, given the intervening distance from the closest section of the Scheme works, along with the noise from the M5, it is considered unlikely that any cumulative effects would arise from the construction phases of the Scheme. It is not expected that this development will generate any significant increase in the number of vehicle movements on the roads within the assessment area and would therefore have no effect upon the outcome of the 'operational' noise assessment.</p> <p><u>Population and Human Health</u> – On the very edge of the Zone of Influence. Given the distance from the Scheme and its location to the west of the M5, there would be no significant predicted cumulative effects of this development with the Scheme during construction or operation.</p> <p><u>Road Drainage and Water Environment</u> – Within the Zone of Influence. Traffic modelling, which feeds into the assessment of pollution from routine runoff of the highway has considered an uplift based on anticipated development. There are no predicted significant effects for both construction and operation.</p>
William Daw Close, Banwell	<p>Description: Construction of 11no. residential dwellings along with the provision of public open space, landscaping, drainage and associated infrastructure. Located just south east of the Scheme's Banwell West Junction. Planning Application submitted in April 2021 and status is currently registered. It should be noted that this plot is adjacent to</p>

Development	Assessment of Effects
(Planning Reference No. 21/P/1164/FUL)	<p>land South of William Daw Close. If both these developments go ahead there will be cumulative effects with both developments. The assessment below addresses this development only.</p> <p>Predicted impacts:</p> <p><u>Air Quality</u> – Within the Zone of Influence. This is a relatively small development close to the Scheme however, it is not expected that the construction of this development would generate cumulative air quality impacts alongside the construction phases of the Banwell Bypass itself. The 'operational' traffic arising from this development has already been included within the Future 'Do Minimum' and 'Do Something' traffic flow datasets used for the Scheme air quality assessment. Therefore the 'operational' cumulative effects have already been taken into account for this development.</p> <p><u>Cultural Heritage</u> – Within Zone of Influence. This is a small development on the edge of Banwell village. It is anticipated that works will be undertaken in accordance with archaeological best practice and should any finds be made full investigation is carried out. Whilst there is the potential for significant cumulative impact upon the historic landscape, it is unlikely that there would be any cumulative effects on the cultural heritage. There are no predicted significant effects for both construction and operation.</p> <p><u>Landscape</u> – Within Zone of Influence. This development located on the western edge of Banwell on greenfield land adjacent to William Daw Close would result in the extension of settlement mass along the northern flanks of Banwell Hill and adjacent to the AONB. Cumulative effects would be anticipated especially in the light of settlement encroachment on the Valued Landscape designation immediately to the west and setting of the AONB. With mitigation in place it is anticipated that there would be a slight adverse and not significant cumulative effect on the landscape character and visual amenity during operation.</p> <p><u>Biodiversity</u> – Within Zone of Influence. The development site is located a relatively small site on the edge of the Banwell settlement. It is considered essential that the mitigation implemented for the Scheme is retained and forms the basis of any mitigation for the development. Ongoing monitoring of protected species and sites is recommended to identify any changes in the data that may require further mitigation. With mitigation in place for the proposed development it is not anticipated that there would be any cumulative effects on biodiversity during construction or operation. There are no predicted significant effects for both construction and operation.</p> <p><u>Geology and Soils</u> – Within Zone of Influence. It is expected that land contamination issues for this development would be addressed in accordance with governmental guidance and provide an assessment of risks and undertake remediation where necessary. Therefore, it is considered that no cumulative effects in relation to land contamination are likely. In addition, no predicted significant cumulative effects with respect to soil resources is anticipated as it is outside agricultural land.</p>

Development	Assessment of Effects
	<p><u>Material Assets and Waste</u> – Within Zone of Influence. The depletion of finite natural resources e.g. aggregate for construction would result from the Scheme and other developments. The sensitivity of the UK supply of key construction is assessed to be low as there is low scarcity of these materials. Therefore, the qualitative assessment of the significance of this effect is slight and not significant. The requirement to dispose of waste from the Scheme would result in a permanent reduction in waste infrastructure capacity within reasonable proximity of the Scheme. It has not been possible to locate information regarding likely quantities of waste in relation to this development. Therefore, there is insufficient information to quantify these potential effects. It is considered that there is likely adequate waste management infrastructure capacity for the waste arisings from the Scheme, therefore this is assessed to be of low sensitivity. The magnitude of the impact is assessed to be Moderate Adverse as it is assumed that the Scheme would need to meet the requirements of relevant legislation and local policies. This would include adherence to the waste hierarchy and a target of at least 70% recovery of wastes generated. It is assumed that waste arisings from consented Schemes would be segregated and sent for composting, recycling or for further segregation and sorting at a materials recovery facility. The assessment of the significance of this effect is slight and not significant.</p> <p><u>Noise and Vibration</u> – Within Zone of Influence. Whilst this is a very small development, it is expected that the construction of this development could generate noise and vibration impacts to existing dwellings immediately adjacent to it, which may result in cumulative effects when combined with the construction phases of the proposed Banwell Bypass. However, it is not expected that this development will generate any significant increase in the number of vehicle movements on the roads within the assessment area and would therefore have no effect upon the outcome of the noise assessment. There are no predicted significant effects for both construction and operation.</p> <p><u>Population and Human Health</u> – Within Zone of Influence. It is possible that there will be additional pressure to local facilities and resources in Banwell. There is the potential for a slight adverse cumulative effect during construction, if the construction is concurrent, and during operation.</p> <p><u>Road Drainage and Water Environment</u> – Within Zone of Influence. Traffic modelling, which feeds into the assessment of pollution from routine runoff of the highway has considered an uplift based on anticipated development. There are no predicted significant effects for both construction and operation.</p>
Bowerhouse solar pv Bowerhouse Land, Havage Drove, Off Box Bush Lane, Rolstone, Banwell BS24 6UA	<p>Description: Installation of ground mounted photovoltaic units and associated works to extend the existing solar farm. Located approximately 1.2km north/ north east of the Scheme. Planning Approved Dec 2020 and construction has not commenced.</p> <p>Predicted impacts:</p>

Development	Assessment of Effects
(Planning Reference No. 20/P/0620/FUL)	<p><u>Air Quality</u> – Outside the Zone of Influence. There are no predicted significant effects for both construction and operation.</p> <p><u>Cultural Heritage</u> – Outside the Zone of Influence. Although there is the potential for buried archaeology, this is limited. It is outside of the Zol and there is no direct visual linkage. With mitigation in place there are no predicted significant effects for both construction and operation.</p> <p><u>Landscape</u> – The long term development of low lying previously agricultural land use would be considered to have a detrimental and fundamental impact on landscape character ostensibly altering it from an undeveloped open landscape into one where the underlying landscape character is secondary or clearly influenced by the new development. This together with the Scheme would result in significant cumulative effects</p> <p><u>Biodiversity</u> – Within Zone of Influence. This is an extension to an existing solar farm. It falls with Consultation Zone C of the North Somerset and Mendip Bats SAC. Ongoing monitoring of protected species and sites is recommended to identify any changes in the data that may require further mitigation. With mitigation in place for the proposed development it is not anticipated that there would be any cumulative effects on biodiversity during construction or operation. There are no predicted significant effects for both construction and operation.</p> <p><u>Geology and Soils</u> – Outside the Zone of Influence. There are no predicted significant effects for both construction and operation.</p> <p><u>Material Assets and Waste</u> – The depletion of finite natural resources e.g. aggregate for construction would result from the Scheme and other developments. The sensitivity of the UK supply of key construction is assessed to be low as there is low scarcity of these materials. Therefore, the qualitative assessment of the significance of this effect is slight and not significant. The requirement to dispose of waste from the Scheme would result in a permanent reduction in waste infrastructure capacity within reasonable proximity of the Scheme. It has not been possible to locate information regarding likely quantities of waste in relation to this development. Therefore, there is insufficient information to quantify these potential effects. It is considered that there is likely adequate waste management infrastructure capacity for the waste arisings from the Scheme, therefore this is assessed to be of low sensitivity. The magnitude of the impact is assessed to be Moderate Adverse as it is assumed that the Scheme would need to meet the requirements of relevant legislation and local policies. This would include adherence to the waste hierarchy and a target of at least 70% recovery of wastes generated. It is assumed that waste arisings from consented Schemes would be segregated and sent for composting, recycling or for further segregation and sorting at a materials recovery facility. The assessment of the significance of this effect is slight and not significant.</p>

Development	Assessment of Effects
	<p><u>Noise and Vibration</u> – Outside the Zone of Influence. There are no predicted significant effects for both construction and operation.</p> <p><u>Population and Human Health</u> – Outside the Zone of Influence. There are no predicted significant effects for both construction and operation.</p> <p><u>Road Drainage and Water Environment</u> – Outside the Zone of Influence. There are no predicted significant effects for both construction and operation.</p>
<p>Land to the west of Wovershill Road, Banwell (Planning Reference No. 18/P/4735/OUT)</p>	<p>Description: Residential development of 54 dwellings. Located within the Scheme area to the south and on the northern border of Banwell Village. Planning application approved with legal agreement May 2021 and construction has not commenced.</p> <p>Predicted impacts:</p> <p><u>Air Quality</u> – Within the Zone of Influence. This is a relatively small development close to the Scheme however, it is not expected that the construction of this development would generate cumulative air quality impacts alongside the construction phases of the Banwell Bypass itself. The 'operational' traffic arising from this development has already been included within the Future 'Do Minimum' and 'Do Something' traffic flow datasets used for the Scheme air quality assessment. Therefore the 'operational' cumulative effects have already been taken into account for this development. No Cumulative effects anticipated.</p> <p><u>Cultural Heritage</u> – Within the Zone of Influence. There is the potential for buried archaeology but the assessment results indicate low potential. There is limited but cumulative impact on the setting of the Conservation Area and that of SM and listed buildings. With mitigation in place there are predicted slight adverse and not significant effects for both construction and operation.</p> <p><u>Landscape</u> – Within Zone of Influence. The development will result in change from agricultural enclosures to resident development. Although the visual effects from the proposed development are either highly localised or seen in the context of contiguous development in Banwell they are in close proximity to the Scheme. With mitigation in place it is anticipated that there would be a slight adverse and not significant cumulative impact on the landscape character and visual amenity during operation.</p> <p><u>Biodiversity</u> – Within Zone of Influence. The site lies within Consultation Zone C of the North Somerset and Mendip Bats SAC. There is potential for protected species such as badger, dormouse, water vole. Given the proximity to the Scheme and the potential for concurrent construction ongoing monitoring of protected species and sites is recommended to identify any changes in the data that may require further mitigation. With mitigation in place for the</p>

Development	Assessment of Effects
	<p>Scheme and the proposed development it is not anticipated that there would be any cumulative effects on biodiversity during construction or operation. There are no predicted significant effects for both construction and operation.</p> <p><u>Geology and Soils</u> – Within Zone of Influence. It is expected that land contamination issues for this development would be addressed in accordance with governmental guidance and provide an assessment of risks and undertake remediation where necessary. Therefore, it is considered that no cumulative effects in relation to land contamination are likely. In addition, no cumulative effects with respect to soil resources is anticipated as it is outside agricultural land.</p> <p><u>Material Assets and Waste</u> – The depletion of finite natural resources e.g. aggregate for construction would increase from the Scheme and other developments. The sensitivity of the UK supply of key construction aggregate is assessed to be low as there is low scarcity of these materials. Therefore, the qualitative assessment of the significance of this effect is slight and not significant. The requirement to dispose of waste from the Scheme would result in a permanent reduction in waste infrastructure capacity within reasonable proximity of the Scheme. It has not been possible to locate information regarding likely quantities of waste in relation to this development. Therefore, there is insufficient information to quantify these potential effects. It is considered that there is likely adequate waste management infrastructure capacity for the waste arisings from the Scheme and development, therefore this is assessed to be of low sensitivity. The magnitude of the impact is assessed to be Moderate Adverse as it is assumed that the Scheme and development would need to meet the requirements of relevant legislation and local policies. This would include adherence to the waste hierarchy and a target of at least 70% recovery of wastes generated. It is assumed that waste arisings from consented schemes would be segregated and sent for composting, recycling or for further segregation and sorting at a materials recovery facility. The assessment of the significance of this effect is slight and not significant.</p> <p><u>Noise and Vibration</u> – Within Zone of Influence. Whilst this is a relatively small development, it is expected that the construction of this development could generate noise and vibration impacts to existing dwellings immediately adjacent to it, which may result in cumulative effects when combined with the construction phases of the proposed Banwell Bypass. However, it is not expected that this development will generate any significant increase in the number of vehicle movements on the roads within the assessment area and would therefore have no effect upon the outcome of the noise assessment. No cumulative effects are anticipated.</p> <p><u>Population and Human Health</u> – Within Zone of Influence. It is possible that there will be additional pressure to local facilities and resources in Banwell. There is the potential for a slight adverse cumulative impact during construction, if the construction is concurrent, and during operation.</p>

Development	Assessment of Effects
<p>Former Mooseheart Lodge (Kildare House), 70 Woodborough Road, Winscombe, BS25 1BA (Planning Reference No. 18/P/5196/FUL)</p> <p>Road Drainage and Water Environment – Within Zone of Influence. Traffic modelling, which feeds into the assessment of pollution from routine runoff of the highway has considered an uplift based on anticipated development. No cumulative effects are anticipated during construction or operation.</p> <p>Description: Redevelopment of former guest house (Kildare House) to a 18no. bed boutique hotel, wedding, and events venue, with ancillary restaurant, bar, gymnasium, and spa, regeneration of outbuildings to provide hotel accommodation, conversion of former site offices to 3no. holiday lets and the provision of landscape enhancements and associated works, including retention of a bat barn (Kildare House development), and up to 14no. residential units. Located approximately 1.5km south-east of the Scheme. Planning approved with legal agreement in March 2022 and construction has not commenced.</p> <p>Predicted impacts:</p> <p><u>Air Quality</u> – Outside the Zone of Influence. This is a relatively small development and it lies approximately 2.5km to the east of the Scheme, therefore, it is not expected that the construction of this development would generate cumulative air quality impacts alongside the construction phases of the Banwell Bypass itself. The 'operational' traffic arising from this development has already been included within the Future 'Do Minimum' and 'Do Something' traffic flow datasets used for the Scheme air quality assessment. Therefore the 'operational' cumulative effects have already been taken into account for this development.</p> <p><u>Cultural Heritage</u> – Outside the Zone of Influence. There is the potential for buried archaeology but given the size of the proposed development and its location outside of the Zol, with mitigation in place there are slight predicted slight adverse and not significant effects for both construction and operation.</p> <p><u>Landscape</u> – Within the zone of influence, but outside the assessed Visual Envelope / Study area. Visual impacts are truncated by underlying topography and vegetation limiting any visual or landscape connection. No cumulative effects on Landscape Effects are anticipated.</p> <p><u>Biodiversity</u> – Within Zone of Influence. The site lies within Consultation Zone C of the North Somerset and Mendip Bats SAC. There is a maternity roost of lesser horseshoe bats within the site, it also contains a woodland which is a Local Wildlife Site. There is potential for protected species. Given the distance from the Scheme and with mitigation in place for the Scheme and the proposed development it is not anticipated that there would be any cumulative effects on biodiversity during construction or operation. Ongoing monitoring of protected species and sites is recommended to identify any changes in the data that may require further mitigation. There are no predicted significant effects for both construction and operation.</p>	

Development	Assessment of Effects
	<p><u>Geology and Soils</u> – Outside the Zone of Influence. There are no predicted significant effects for both construction and operation.</p> <p><u>Material Assets and Waste</u> – Within Zone of Influence. The depletion of finite natural resources e.g. aggregate for construction would result from the Scheme and other developments. The sensitivity of the UK supply of key construction is assessed to be low as there is low scarcity of these materials. Therefore, the qualitative assessment of the significance of this effect is slight and not significant. The requirement to dispose of waste from the Scheme would result in a permanent reduction in waste infrastructure capacity within reasonable proximity of the Scheme. It has not been possible to locate information regarding likely quantities of waste in relation to this development. Therefore, there is insufficient information to quantify these potential effects. It is considered that there is likely adequate waste management infrastructure capacity for the waste arisings from the Scheme, therefore this is assessed to be of low sensitivity. The magnitude of the impact is assessed to be Moderate Adverse as it is assumed that the Scheme would need to meet the requirements of relevant legislation and local policies. This would include adherence to the waste hierarchy and a target of at least 70% recovery of wastes generated. It is assumed that waste arisings from consented Schemes would be segregated and sent for composting, recycling or for further segregation and sorting at a materials recovery facility. The assessment of the significance of this effect is slight and not significant.</p> <p><u>Noise and Vibration</u> – Outside the Zone of Influence. It is therefore considered unlikely to produce noise and vibration effects which might result in any cumulative effect when combined with the scheme's construction phases and operation.</p> <p><u>Population and Human Health</u> – Outside the Zone of Influence. Given the distance from the Scheme, there would be no significant cumulative effects of this development with the Scheme during construction or operation.</p> <p><u>Road Drainage and Water Environment</u> – Outside the Zone of Influence. Traffic modelling, which feeds into the assessment of pollution from routine runoff of the highway has considered an uplift based on anticipated development. Given the location of the development it is not considered to generate cumulative road drainage or flood impacts alongside the construction phase of the Scheme. The operational cumulative effects have already been taken into account for this development.</p>
North of Greenhill Rd, Sandford (Planning Reference No. 20/P/1120/OUT)	<p>Description: Construction of up to 37no. dwellings, a parish hall (up to 650sqm in size), a business hub/ innovation hive (up to 300 sqm) and associated infrastructure with access, following demolition of existing buildings on site. Located approximately 2.5km east of the Scheme. Planning status is registered.</p>

Development	Assessment of Effects
	<p>Predicted impacts:</p> <p><u>Air Quality</u> – Outside the Zone of Influence. This is a relatively small development, and it lies approximately 2.5km to the east of the Scheme, therefore, it is not expected that the construction of this development would generate cumulative air quality impacts alongside the construction phases of the Banwell Bypass itself. The 'operational' traffic arising from this development has already been included within the Future 'Do Minimum' and 'Do Something' traffic flow datasets used for the Scheme air quality assessment. Therefore the 'operational' cumulative effects have already been taken into account for this development.</p> <p><u>Cultural Heritage</u> – Outside the Zone of Influence. There is the potential for impacts on buried archaeology and the built heritage but given the size of the proposed development and its location outside of the ZOI, with mitigation in place there are slight predicted slight adverse and not significant effects for both construction and operation.</p> <p><u>Landscape</u> – Within the Zone of Influence, but outside the assessed Visual Envelope / Study area. Visual impacts are truncated by underlying topography and vegetation limiting any visual or landscape connection. No cumulative effects on Landscape Effects are anticipated.</p> <p><u>Biodiversity</u> – Within Zone of Influence. The site is located within Consultation Zone Band B for the North Somerset and Mendip Bats SAC. There is potential for cumulative effects on protected species but given the location and the size of the development with mitigation in place for the Scheme and the proposed development it is not anticipated that there would be any cumulative effects on biodiversity during construction or operation. Ongoing monitoring of protected species and sites is recommended to identify any changes in the data that may require further mitigation. There are no predicted significant effects for both construction and operation.</p> <p><u>Geology and Soils</u> – Outside the Zone of Influence. There are no predicted significant cumulative effects for both construction and operation.</p> <p><u>Material Assets and Waste</u> – Within Zone of Influence. The depletion of finite natural resources e.g. aggregate for construction would result from the Scheme and other developments. The sensitivity of the UK supply of key construction is assessed to be low as there is low scarcity of these materials. Therefore, the qualitative assessment of the significance of this effect is slight and not significant. The requirement to dispose of waste from the Scheme would result in a permanent reduction in waste infrastructure capacity within reasonable proximity of the Scheme. It has not been possible to locate information regarding likely quantities of waste in relation to this development. Therefore, there is insufficient information to quantify these potential effects. It is considered that there is likely adequate waste management infrastructure capacity for the waste arisings from the Scheme, therefore this is assessed to be of low sensitivity. The magnitude of the impact is assessed to be Moderate Adverse as it is assumed that the Scheme would</p>

Development	Assessment of Effects
	<p>need to meet the requirements of relevant legislation and local policies. This would include adherence to the waste hierarchy and a target of at least 70% recovery of wastes generated. It is assumed that waste arisings from consented Schemes would be segregated and sent for composting, recycling or for further segregation and sorting at a materials recovery facility. The assessment of the significance of this effect is slight and not significant.</p> <p><u>Noise and Vibration</u> – Outside the Zone of Influence. It is therefore considered unlikely to produce noise and vibration effects which might result in any cumulative effect when combined with the scheme's construction phases and operation. There are no predicted significant cumulative effects for both construction and operation.</p> <p>Population and Human Health – Outside the Zone of Influence. Given the distance from the Scheme, there would be no predicted significant cumulative effects of this development with the Scheme during construction or operation.</p> <p><u>Road Drainage and Water Environment</u> – Outside the Zone of Influence. Traffic modelling, which feeds into the assessment of pollution from routine runoff of the highway has considered an uplift based on anticipated development. Given the location of the development it is not considered to generate cumulative road drainage or flood impacts alongside the construction phase of the Scheme. The operational cumulative effects have already been taken into account for this development.</p>
<p>Land at Dinghurst Road, Churchill (Planning Reference No. 21/P/2123/OUT)</p>	<p>Description: Construction of up to 25no. dwellings with details of access and associated works. Located approximately 4km east of the Scheme. Planning status is registered.</p> <p>Predicted impacts:</p> <p><u>Air Quality</u> – Outside the Zone of Influence. This is a relatively small development and it lies approximately 4km to the east of the Scheme, therefore, it is not expected that the construction of this development would generate cumulative air quality impacts alongside the construction phases of the Banwell Bypass itself. The 'operational' traffic arising from this development has already been included within the Future 'Do Minimum' and 'Do Something' traffic flow datasets used for the Scheme air quality assessment. Therefore the 'operational' cumulative effects have already been taken into account for this development.</p> <p><u>Cultural Heritage</u> – Outside the Zone of Influence. There is the potential for impacts on buried archaeology and the built heritage but given the size of the proposed development and its location outside of the Zol, with mitigation in place there are slight predicted slight adverse and not significant effects for both construction and operation.</p>

Development	Assessment of Effects
	<p><u>Landscape</u> – Within the Zone of Influence, but outside the assessed Visual Envelope / Study area. Visual impacts are truncated by underlying topography and vegetation limiting any visual or landscape connection. No cumulative effects on Landscape Effects are anticipated</p> <p><u>Biodiversity</u> – Outside Zone of Influence. The site lies within Consultation Band C of the North Somerset and Mendip Bats SAC. Whilst there is the potential for protected species given the size of the development and the distance from the Scheme development with mitigation in place for the Scheme and the proposed development it is not anticipated that there would be any cumulative effects on biodiversity during construction or operation. Ongoing monitoring of protected species and sites is recommended to identify any changes in the data that may require further mitigation. There are no predicted significant effects for both construction and operation.</p> <p><u>Geology and Soils</u> – Outside the Zone of Influence. There are no predicted significant cumulative effects for both construction and operation.</p> <p><u>Material Assets and Waste</u> – Within Zone of Influence. The depletion of finite natural resources e.g. aggregate for construction would result from the Scheme and other developments. The sensitivity of the UK supply of key construction is assessed to be low as there is low scarcity of these materials. Therefore, the qualitative assessment of the significance of this effect is slight and not significant. The requirement to dispose of waste from the Scheme would result in a permanent reduction in waste infrastructure capacity within reasonable proximity of the Scheme. It has not been possible to locate information regarding likely quantities of waste in relation to this development. Therefore, there is insufficient information to quantify these potential effects. It is considered that there is likely adequate waste management infrastructure capacity for the waste arisings from the Scheme, therefore this is assessed to be of low sensitivity. The magnitude of the impact is assessed to be Moderate Adverse as it is assumed that the Scheme would need to meet the requirements of relevant legislation and local policies. This would include adherence to the waste hierarchy and a target of at least 70% recovery of wastes generated. It is assumed that waste arisings from consented Schemes would be segregated and sent for composting, recycling or for further segregation and sorting at a materials recovery facility. The assessment of the significance of this effect is slight and not significant.</p> <p><u>Noise and Vibration</u> – Outside the Zone of Influence. It is therefore considered unlikely to produce noise and vibration effects which might result in any cumulative effect when combined with the scheme's construction phases and operation.</p> <p><u>Population and Human Health</u> – Outside the Zone of Influence. Given the distance from the Scheme, there would be no predicted significant cumulative effects of this development with the Scheme during construction or operation.</p>

Development	Assessment of Effects
	<p><u>Road Drainage and Water Environment</u> – Outside the Zone of Influence. Traffic modelling, which feeds into the assessment of pollution from routine runoff of the highway has considered an uplift based on anticipated development. Given the location of the development it is not considered to generate cumulative road drainage or flood impacts alongside the construction phase of the Scheme. The operational cumulative effects have already been taken into account for this development.</p>

15.7 Conclusions

- 15.7.1 The assessment was undertaken to determine the potential for in-combination effects associated with the Scheme on specific receptors. It also assessed the potential for cumulative effects with other developments.
- 15.7.2 The assessment found that the Scheme had the potential to result in major adverse in-combination effects during construction on the following receptors:
- a) Properties along A371 to south of Ch 0+000 (Knightcott Road)
 - b) Stonebridge Farm and caravan park
 - c) Court Farm
 - d) Properties on A371 top of Castle Hill
 - e) Properties along Dark Lane
 - f) PRoW Footpath AX3/6/10 Cook's Lane to Moor Lane
- 15.7.3 The assessment found that the Scheme had the potential to result in moderate adverse in-combination effects during construction on the following receptors:
- a) Properties on Wolvershill road (south)
 - b) Properties along Cook's Lane
 - c) Riverside (North)
 - d) Banwell Football Club and playing fields
 - e) Towerbrook Farm
 - f) Properties along A368 East Street
- 15.7.4 These would all be temporary, of short duration, generally synergistic and localised with a high likely success of construction mitigation.
- 15.7.5 With mitigation in place there would be a moderate beneficial effect in Banwell Village resulting from improvements in Air Quality, Landscape and Visual Effects, Noise and Vibration and Population and Human Health.
- 15.7.6 There is the potential for other beneficial effects during operation in particular for Landscape and Visual Effects, Noise and

Vibration and Population and Human Health but they are generally slight beneficial and not significant.

- 15.7.7 These would be long term, additive, localised and with a high likely success of construction mitigation.
- 15.7.8 The following developments lie within the cumulative effects Zone of Influence. These are at various stages of planning and construction:
- two large residential and employment developments (Haywood Village and Locking Parkland) to the west of the Scheme;
 - one medium sized residential development of up to 75 dwellings;
 - seven small residential development ranging from 10 to 54 dwellings, one of which includes a small boutique hotel;
 - an extension to the existing Bowerhouse Solar Panel farm; and;
 - the HIF housing development which is set out in the emerging Local Plan, an approximate location has been identified but this development is dependent upon the adoption of the Local Plan.
- 15.7.9 The assessment of cumulative effects for each topic (Chapter 5 to 14) for these developments has been undertaken as shown in Table 15-5 above. This does not include the cumulative effects associated with the HRA. These are contained in the HRA (refer to ES Volume 3 Appendix 8.C - Habitats Regulations Assessment).
- 15.7.10 Whilst there is the potential for cumulative effects with proposed developments, with mitigation in place for both the proposed Scheme and developments, they are generally slight adverse or neutral and not significant.
- 15.7.11 The potential is slight adverse with respect to Material Assets and Waste based on the depletion of natural resources.
- 15.7.12 Any small scale developments between the Banwell Village and the Scheme; or large scale developments to the north of the Scheme are considered likely to have significant cumulative impact upon the historic landscape, biodiversity of the area and the landscape and visual effects. However, given the size and location of developments, and with mitigation in place, these are

considered slight adverse.

- 15.7.13 With respect to Population and Human Health there is the potential for a slight adverse effect on the small residential developments close to the Scheme during construction if they are concurrent with the Scheme construction and also during operation.
- 15.7.14 When considering the cumulative effects of all developments with the Scheme there will unlikely be a significant cumulative effect during construction as the larger developments are currently underway and the smaller are unlikely to cause a significant effect.
- 15.7.15 During operation Air Quality, Noise and Vibration and the Road Drainage and the Water Environment topic chapters have considered the change in traffic due to the developments so any impacts have been considered as part of the Scheme.
- 15.7.16 Due to the size and proximity to the Scheme of the HIF (a-c) development, it could cause cumulative effects during construction if they are built concurrently. However, this is unlikely given the preliminary status of the emerging Local Plan and the programme for the Scheme road opening being in 2024.
- 15.7.17 As there is limited information available at this stage operational cumulative effects cannot be assessed, however there is potential for significant effects if the cumulative effects are not fully mitigated.
- 15.7.18 At the time planning applications are submitted it is anticipated that the Scheme will form part of the baseline for the environmental assessments for the HIF development. In addition, the mitigation implemented as part of the Scheme should be retained and managed in accordance with the Landscape and Ecology Management Plan (LEMP) and Maintenance Environmental Management Plan (MEMP) to ensure no reduction in mitigation or double movement of protected species.
- 15.7.19 Therefore, careful consideration of the operational effects will need to be considered by the appropriate developer during the design phases of the HIF development.

- 15.7.20 The Scheme is compliant with all relevant legislation and policy for Cumulative Effects. In conclusion the Scheme would not have an impact on the Policies and Plans identified in Section 15.2 and would fulfil their principles and requirements.

15.8 References

- (15.1) National Policy Statements | National Infrastructure Planning (planninginspectorate.gov.uk)
- (15.2) Advice Note 17: Cumulative effects assessment relevant to nationally significant infrastructure projects | National Infrastructure Planning (planninginspectorate.gov.uk)