August 2021 | HT | P18-0847

SUPPLEMENTARY ENVIRONMENTAL INFORMATION (SEI) TO THE ENVIRONMENTAL STATEMENT

TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017

LAND AT OAKLEY FARM, BATTLEDOWN, CHELTENHAM

ON BEHALF OF ROBERT HITCHINS LTD

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PREAMBLE

1.1 An Environmental Statement (ES) was submitted to Cheltenham Borough Council (CBC) in January 2020 accompanying a planning application concerning land at Oakley Farm, Cheltenham (the Application Site). The CBC planning application reference is 20/01069/OUT.

1.2 This ES had been prepared to accompany an outline planning application for a: -

"Development comprising up to 250 residential dwellings, associated infrastructure, ancillary facilities, open space and landscaping. Demolition of existing buildings. Creation of a new vehicular access from Harp Hill."

1.3 A Planning appeal has been made pursuant to Section 78 of the Town and Country Planning Act 1990, in respect of land at Oakley Farm, Cheltenham (appeal planning application reference APP/B1605/W/21/3273053).

1.4 Following examination of the ES, the Secretary of State notified Robert Hitchins Ltd (the Appellant), pursuant to Regulation 25 of the EIA Regulations, that, to comply with Schedule 4 of those regulations (Information for inclusion in environmental statements) the appellant is required to supply further information.

1.5 The supplementary environmental information (SEI) which forms this EIA Addendum includes:

- An updated assessment of the likely significant effects from cumulative traffic impacts taking into account anticipated traffic growth in the Cheltenham Borough Council Local Plan up to and including the year 2031.
- A revised non-technical summary (NTS) incorporating the updated traffic assessment

1.6 All work undertaken as part of this SEI is listed in the bullet points below:

- Revised Chapter 9 Transport and Access;
- Revised NTS; and
- A summary update.

1.7 This SEI has been set out in the same structure and order of the chapters within the ES it is supporting. Where new information is necessary it is provided under the corresponding chapter of this SEI report. In addition, a note has been added

under chapters where no additional information is required so it is clear to the reader which chapters of the ES have required more information to support them.

1. INTRODUCTION

1.1 No additional information is required as part of this SEI to support Chapter 1 of the ES.

2. ASSESSMENT AND METHODOLOGY

2.1 No additional information is required as part of this SEI to support Chapter 2 of the ES.

3. THE APPLICATION SITE AND PROPOSED DEVLEOPMENT

3.1 No additional information is required as part of this SEI to support Chapter 2 of the ES.

4. ALTERNATIVES

4.1 No additional information is required as part of this SEI to support Chapter 4 of the ES.

5. SOCIO-ECONOMICS

5.1 No additional information is required as part of this SEI to support Chapter 5 of the ES.

5.2 The conclusions of the Socio-Economics Chapter remain unaltered.

6. LANDSCAPE AND VISUAL ASSESSMENT

6.1 No additional information is required as part of this SEI to support Chapter 6 of the ES.

6.2 The conclusions of the Landscape and Visual Chapter remain unaltered.

7. BIODIVERSITY

7.1 No additional information is required as part of this SEI to support Chapter 7 of the ES.

7.2 The conclusions of the Biodiversity Chapter remain unaltered.

8. CULTURAL HERITAGE

8.1 No additional information is required as part of this SEI to support Chapter 8 of the ES.

8.2 The conclusions of the Cultural Heritage Chapter remain unaltered.

9. TRANSPORT AND ACCESS

INTRODUCTION

9.1 This Environmental Statement Addendum chapter considers the potential effects of the Proposed Development on land at Oakley Farm, Cheltenham on Transport and Access **(Appendix 1).**

9.2 This Chapter is to be read in conjunction with the following appendices and figures of the original Environmental Statement.

- Appendix 9.1, Transport Assessment
- Appendix 9.2, Residential Travel Plan
- Figure 9.1: 2024 Forecast Year, AM Peak Hour
- Figure 9.2: 2024 Forecast Year, PM Peak Hour
- Figure 9.3: 2024 Forecast Year + Proposed Development AM Peak Hour
- Figure 9.4: 2024 Forecast Year + Proposed Development PM Peak Hour

9.3 Additional figures are provided at **Appendix 1**, and comprise of the following drawings:

- Figure 9.5: 2031 Forecast Year AM Peak Hour
- Figure 9.6: 2031 Forecast Year PM Peak Hour
- Figure 9.7: 2031 Forecast Year + Proposed Development AM Peak Hour
- Figure 9.8: 2031 Forecast Year + Proposed Development PM Peak Hour
- Figure 9.9: Harp Hill Pedestrian Linkages (drawing no.H628/05 Rev A)
- Figure 9.10: B4075 Priors Road Pedestrian/ Cycle Linkages (drawing no. H628/08 Rev A)
- Figure 9.11: Potential widening to Harp Hill approach to B4075 Priors Road/ Harp Hill Roundabout (drawing no. H628/04 Rev C)

9.4 PREVIOUS ASSESSMENT APPROACH

9.5 The previous assessment of Transport and Access within the January 2020 ES prepared to accompany the application (CBC planning reference: 20/01069/OUT) [and EIA Addendum Chapter 8 prepared to accompany the Section 78 (appeal planning application reference: APP/B1605/W/21/3273050)] set out assessment of likely significant effects during operation to consider the following scenarios:

- 2019 Base Year *(Scenario 1)*
- 2024 with Committed Development *(Scenario 2)*
- 2024 with Committed Development plus Proposed Development *(Scenario 3)*

9.6 The previous ES assessment concluded that the effect in 2024 with committed development (Scenario 2) would lead to a low magnitude of change with regards to increase in traffic. To the west of the new site access junction, Harp Hill is predicted to experience an 18.9% increase in traffic in the AM peak and a 20.9% increase in the PM peak.

9.7 With mitigation, the Magnitude of Change on the Harp Hill approach to the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout reduces from High to Negligible in the AM peak hour and remains Low in the PM peak hour. The effect on this junction with mitigation would be Negligible in the AM peak hour and Minor to Moderate Beneficial in the PM peak hour.

9.8 The overall residual effect of the Proposed Development in transport terms was concluded likely to be generally Minor to Moderate Beneficial.

9.9 ASSESSMENT

9.10 Following subsequent comments from the LPA, Gloucestershire County Council and the Planning Inspectorate two further scenarios have been considered:

- 2031 with committed development *(Scenario 4)*
- 2031 with committed development plus proposed development *(Scenario 5)*

9.11 An assessment is now made of the likely significant effects from cumulative traffic impacts on the Application Site for the additional two scenarios (Scenario 4 and 5)

and are included in detail as a revised Chapter 9 of this ES Addendum **(Appendix 1).**

9.12 CONCLUSION

9.13 The overall conclusion drawn from the revised Chapter 9 Transport and Assessment remains that a low magnitude of change of traffic impacts would be created in 2024 and 2031 allowing for traffic growth with 250 dwellings occupied.

9.14 With mitigation, the Magnitude of Change on the Harp Hill approach to the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout reduces from High (increase) to Low (decrease) in the AM peak hour and reduced from Low (increase) to Low (decrease) in the PM peak hour. The effect on this junction with mitigation would be Minor to Moderate Beneficial in the AM peak hour and Minor to Moderate Beneficial in the PM peak hour.

9.15 The overall residual effect of the Proposed Development in transport terms is likely to be generally Minor Adverse to Minor - Moderate Beneficial.

9.16 Accordingly, the previous assessment with regard to Transport and Access contained within the August 2021 ES remains valid and conditions imposed on the Planning Permission can also apply to this application (as sought to be varied). Therefore, no additional further assessment is required as part of this ES Addendum to support Chapter 9.

10. AIR QUALITY

10.1 No additional information is required as part of this SEI to support Chapter 10 of the ES.

10.2 The conclusions of the Air Quality Chapter remain unaltered.

11. NOISE AND VIBRATION

11.1 No additional information is required as part of this SEI to support Chapter 11 of the ES.

11.2 The conclusions of the Noise and Vibration Chapter remain unaltered.

12. HYDROLOGY, FLOOD RISK AND DRAINAGE

12.1 No additional information is required as part of this SEI to support Chapter 12 of the ES.

12.2 The conclusions of the Hydrology, Flood Risk and Drainage Chapter remain unaltered.

13. GROUND CONDITIONS AND CONTAMINATION

13.1 No additional information is required as part of this SEI to support Chapter 13 of the ES.

13.2 The conclusions of the Ground Conditions and Contamination Chapter remain unaltered.

14. SUMMARY

14.1 The supplementary environmental information (SEI) which forms this EIA Addendum is provided to respond to the request for an updated assessment of the likely significant effects from cumulative traffic impacts taking into account anticipated traffic growth in the Cheltenham Borough Council Local Plan up to and including the year 2031.

14.2 This SEI includes an updated Chapter 9 Transport and Access (**Appendix 1**) and updated NTS (**Appendix 2**).

14.3 All work undertaken as part of this SEI is listed in the bullet points below:

- Revised Chapter 9 Transport and Access;
- Revised NTS; and
- A summary update.

14.4 As a result of the findings from this SEI the overall conclusions of each chapter of the Environmental Statement have not altered.

APPENDIX 1

9 TRANSPORT AND ACCESS

9.1 INTRODUCTION

9.1.1 This chapter considers the transport related environmental effects of the Proposed Development, and identifies, where necessary, mitigation measures in accordance with the relevant planning policy framework and guidance.

9.1.2 The EIA transport assessment has been undertaken informed by the Transport Assessment (TA) and inspection of the surrounding area.

9.1.3 A Residential Travel Plan has been prepared in conjunction with the TA as a guide to managing travel to and from the Proposed Development.

9.2 ASSESSMENT APPROACH

9.2.1 The EIA transport assessment reported in this chapter has drawn primarily on the technical assessment undertaken for and reported in the TA. The methodology for the TA technical assessment is set out in the TA and has been agreed with Gloucestershire County Council, in its role as the local transport authority, through pre-application consultation.

Methodology

9.2.2 The EIA transport assessment has been based upon the Institute of Environmental Assessment (now the Institute of Environmental Management & Assessment) guidance document Guidelines for the Environmental Assessment of Road Traffic (the IEMA Guidelines). The IEMA Guidelines suggest in paragraph 3.15 that two broad rules-of-thumb could be used as a screening process to delimit the scale and extent of the assessment. These are:

Rule 1 include highway links where traffic flows will increase by more than 30% (or the number of heavy good vehicles will increase by more than 30%)

Rule 2 include any other specifically sensitive areas where traffic flows have increased by 10% or more.

9.2.3 These rules-of-thumb form the starting point for the assessment of effects. Paragraph 3.16 of the IEMA Guidelines comments that projected changes in traffic flows of 10% or less create no discernible environmental impact. Paragraph 3.20 explains that sensitive locations under Rule 2 include accident black-spots, conservation areas, hospitals and links with high pedestrian flows.

Study Area

9.2.4 The Study Area for this assessment covers the immediate surrounding transport network, in particular Harp Hill. Noise and air quality effects are addressed elsewhere in the ES.

Assessment of Significance

9.2.5 The significance of the transport effects of the Proposed Development is considered in the context of the following subject areas, which are based on the IEMA Guidelines:

- Severance
- Driver Delay
- Pedestrian Delay
- Pedestrian Amenity
- Fear and Intimidation
- Accidents and Safety

9.2.6 Hazardous Loads have not been included because no hazardous loads are anticipated to be associated with the Proposed Development.

9.2.7 The groups and special interests that may be affected by the Proposed Development have been considered and the following list of potential 'receptors' has been identified, based upon Paragraph 3.20 of the IEMA Guidelines:

- Sensitive groups including children, the elderly and the disabled
- Accident 'black spots'
- Highway corridor operating close to or over capacity
- People walking
- People cycling
- Sensitive locations – schools, hospitals and town centre

9.2.8 To record the likely significant environmental effects of the Proposed Development, the following methodology has been adopted.

9.2.9 First a magnitude of change scale in respect of each of the transport subject areas is defined in **Table 9.1**. This scale is based on the thresholds identified in the IEMA guidelines supplemented by best practice and professional judgement.

Table 9.1: Magnitude of Change Scale

Subject Area	Magnitude of Change			
	High	**Medium**	**Low**	**Negligible**
Severance	Change in highway link traffic flow of over 60%	Change in highway link traffic flow of 30% to less than 60%	Change in highway link traffic flow of 10% to less than 30%	Change in highway link traffic flow of less than 10%
Driver Delay	Change in average delay per vehicle of over 60%	Change in average delay per vehicle of 30% to less than 60%	Change in average delay per vehicle of 10% to less than 30%	Change in average delay per vehicle of less than 10%
Pedestrian Delay	Change in highway link traffic flow of over 60%	Change in highway link traffic flow of 30% to less than 60%	Change in highway link traffic flow of 10% to less than 30%	Change in highway link traffic flow of less than 10%
Pedestrian Amenity	Change in highway link traffic flow of over 60%	Change in highway link traffic flow of 30% to less than 60%	Change in highway link traffic flow of 10% to less than 30%	Change in highway link traffic flow of less than 10%

Subject Area	Magnitude of Change			
	High	Medium	Low	Negligible
Fear and Intimidation	Change in highway link traffic flow of over 60%	Change in highway link traffic flow of 30% to less than 60%	Change in highway link traffic flow of 10% to less than 30%	Change in highway link traffic flow of less than 10%
Accidents and Safety	Change in highway link / junction traffic flow of over 60%	Change in highway link / junction traffic flow of 30% to less than 60%	Change in highway link / junction traffic flow of 10% to less than 30%	Change in highway link / junction traffic flow of less than 10%

9.2.10 A Sensitivity of Receptor Scale is defined in **Table 9.2**.

Table 9.2: Sensitivity of Receptor Scale

High	Medium	Low	Negligible
Sensitive groups including children, elderly and disabled Locations with poor collision records Sensitive locations – schools, hospitals and town centre	People walking People cycling Key highway corridor or junction	N/A	N/A

9.2.11 A matrix is then developed which identifies the significance of the effects as follows.

Table 9.3: Significance Matrix

		Sensitivity of Receptor			
		High	Medium	Low	Negligible
Magnitude of Change	**High**	**Major**	**Major**	**Moderate**	Negligible
	Medium	**Major**	**Moderate**	Minor to Moderate	Negligible
	Low	**Moderate**	Minor to Moderate	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

9.2.12 As is highlighted in the table, Major and Moderate effects are considered significant for the purpose of the EIA Regulations.

9.2.13 Any likely significant environmental effects are recorded against the seven point Significance Scale as set out in Chapter 2: Assessment Scope and Methodology. The scale is derived from the interaction of the receptor sensitivity and magnitude of change of effect as detailed in the matrix set out in **Table 9.3**, and described in transport terms, for the purpose of this EIA transport assessment, as follows:

Table 9.4: Significance Scale

Significance Scale	Description
Major Beneficial	Change that would delay the need for planned modification to off-site infrastructure
Moderate Beneficial	Increased perception of changing conditions that may delay the need for planned modifications to off-site infrastructure
Minor Beneficial	Perception of changing conditions e.g. reduction in delay
Neutral / Not Significant	No perceivable change
Minor Adverse	Perception of changing conditions e.g. increase in delay
Moderate Adverse	Increased perception of changing conditions that may require modifications to off-site infrastructure
Major Adverse	Change requiring modifications to off-site infrastructure

9.2.14 The assessment has considered the significant effects, as appropriate, that are: direct; indirect; secondary; cumulative; short term; medium term; long term; permanent; temporary; positive and negative. For this assessment, short term has been considered as less than one year, medium term effect as between one and ten years in duration, and long term as greater than 10 years.

Legislative and Policy Framework

9.2.15 The EIA transport assessment has considered the development proposals and transport issues with reference to national and local policy and guidance, as follows:

National Policies

- National Planning Policy Framework (NPPF) July 2018

Local Policies

- Gloucestershire Local Transport Plan
- Joint Core Strategy for Gloucester, Cheltenham and Tewkesbury (JCS)
- Cheltenham Borough Local Plan – Adopted 2006 (Saved Policies)
- The Cheltenham Plan – Emerging Local Plan

Guidance

- Guidelines for the Environmental Assessment of Road Traffic, Institute of Environmental Management and Assessment (1993)
- Design Manual for Roads and Bridges (http://www.standardsforhighways.co.uk/ha/standards/dmrb/)
  - CD 123 Geometric Design of at-grade priority and signal-controlled junctions
  - TD 9/93 Highway Link Design
  - GG 119 Road Safety Audit
- Manual for Streets, Department for Transport (2007), & Manual for Streets 2, Chartered Institution of Highways & Transportation (2010)
- Planning Practice Guidance to the NPPF (https://www.gov.uk/government/collections/planning-practice-guidance)

Survey Techniques

9.2.16 Traffic surveys were carried out on the road network in the vicinity of the site by an independent specialist survey company in September 2019. The surveys included:

- Automatic traffic counts (ATCs);
- Manual classified turning counts (MCCs); and
- Queue length surveys.

Scoping Criteria

9.2.17 A Transport Assessment Scoping Study setting out the proposed scope and methodology for the TA was prepared and submitted to Gloucestershire County Council for approval on 10 May 2019. Comments were received from GCC dated 13 June 2019 and these have been taken into account in the preparation of the TA.

9.2.18 This chapter also takes account of CBC's Scoping Opinion dated 12 July 2019.

9.2.19 CBC's scoping opinion acknowledges that the applicant has entered into pre-application discussions with the County Council (GCC) in respect of the Transport Assessment, and identifies this as a separate exercise involving GCC, and therefore CBC's scoping opinion does not deal specifically with transport related matters. However, CBC's scoping opinion does include some more general comments in relation to transport assessment and access, as follows:

> **The Environmental Statement should include an assessment of the Emergency Services (ambulance, fire and rescue and police) and the Council would expect a Framework/Draft Travel Plan to accompany the Transport Assessment.**

9.2.20 The EIA transport assessment, based on the TA technical assessment, includes as assessment of access for the Emergency Services to the Proposed Development.

9.2.21 A Residential Travel Plan has been prepared in conjunction with the TA and is provided as part of the planning application documentation.

9.2.22 CBC's scoping opinion also makes reference to a condition attached to the 1998 outline planning permission relating to residential development on land adjacent to the Application Site (GCHQ Oakley behind Sainsbury's) (Ref. 97/00818/PO). The condition reads:

> **19. No more than 40 houses shall be served by the access onto Harp Hill at the east end of the site.**
>
> **Reason: the road network in the locality is not capable of accommodating the traffic associated with more than this number of houses.**

9.2.23 The scoping opinion goes on to say that the relevance of this condition to the Proposed Development will need to be discussed with GCC Highways at an early stage and included in any Transport Assessment, particularly when considering the cumulative/wider area effects of the proposals.

Limitations to the Assessment

9.2.24 It is considered that there are no particular technical limitations placed on the assessment.

9.3 BASELINE CONDITIONS

Site Description and Context

9.3.1 The Application Site comprises an area of approximately 14.9 hectares of land at Oakley Farm, Cheltenham, and it is located north of Harp Hill, approximately 3km east of Cheltenham town centre. It is bounded by Harp Hill to the south, existing residential development to the west and north, and further residential development and Hewlett's Reservoir site to the east. Cheltenham Footpath 86, a Public Right of Way, routes along the western boundary connecting Harp Hill with the B4075 Priors Road, via the existing farm access. The farm access extends eastwards from the B4075 Priors Road along the northern extent of the site.

Baseline Survey Information

9.3.2 Baseline information collected is summarised in **Table 9.5**.

Table 9.5: Baseline Information

Baseline Information	Source
Existing transport network	Site visits / OS Mapping / topographical survey / Google Streetview
Public rights of way	Gloucestershire County Council
Local cycle routes	Cheltenham Borough Council
Public transport information	Public transport operator timetable information, Traveline and National Rail Enquires
Road traffic collision data	Gloucestershire County Council
2019 peak period traffic data	Independent traffic survey company

Local Highway Network

Harp Hill

9.3.3 Harp Hill borders the Application Site to the south and is subject to a 30mph speed limit within the vicinity of the Application Site and street lighting is present. There is no provision for pedestrians along the majority of the site frontage, although an informal path appears to have been formed along the verge on the southern side of the carriageway in front of the existing residential properties.

9.3.4 Towards the western end of the Application Site's frontage with Harp Hill, there is a footway on the southern side of Harp Hill, to the west of the junction with Stanley Road, which continues westwards towards the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout. A further 230m to the west of Stanley Road, there are footways on both sides of Harp Hill leading towards the double roundabout and Cheltenham town centre.

B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Roundabout

9.3.5 The existing B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout comprises two 3-arm roundabouts, one of which is a mini-roundabout, located approximately 45m apart, measured from the central islands. There is one traffic lane on all approaches. There are footways on both sides of the carriageway with uncontrolled crossing points on all external approaches to the junction as well as across the centre section between the junctions, the majority of which have dropped kerbs and tactile paving.

Priors Road (B4075)

9.3.6 Priors Road is located to the west of the Application Site and connects with Cheltenham Footpath 86, the key existing pedestrian access route to the Application Site. Priors Road routes between the double roundabout junction with Harp Hill, to the south, and Prestbury Road, to the north. Priors Road is a single carriageway with one lane in each direction, with the exception of the signalised junction with Redmarley Road, where there are additional lanes for right and left turning traffic. Staggered Toucan crossing facilities are provided at the junction across Priors Road and Redmarley Road. Priors Road has street lighting, a footway on either side and is subject to a 30mph speed limit.

Existing Traffic Data

9.3.7 Existing traffic flows on Harp Hill have been established from an automatic traffic counter (ATC) in September 2019. Summary traffic flow information is set out in **Table 9.6**.

Table 9.6: Average Weekday Traffic Flows (vehicles)

Time Period	Harp Hill	
	Direction	Traffic Flow (vehicles)
AM Peak Hour (08:00-09:00)	Eastbound	225
	Westbound	282
	Total	507
PM Peak Hour (17:00-18:00)	Eastbound	168
	Westbound	221
	Total	389
24-Hour	Eastbound	1,730
	Westbound	2,055
	Total	3,785

9.3.8 On an average weekday (24-Hour), approximately 1% of vehicles on Harp Hill were recorded as HGVs.

9.3.9 The ATC also recorded traffic speeds. Average weekday mean and 85th percentile speeds are summarised in **Table 9.7**.

Table 9.7: Average Weekday Traffic Speeds (mph)

Harp Hill		
Direction	Average Mean Speed (mph)	Average 85%ile Speed (mph)
Eastbound	28.7	33.9
Westbound	27.3	31.7

9.3.10 Spreadsheets summarising the 2019 Base Year AM and PM peak hour turning counts at junctions in the vicinity of the Proposed Development.

Walking and Cycling

9.3.11 Cheltenham Footpath 86, an existing public right of way, routes along the western edge of the Application Site, from Harp Hill to the north-western corner of the Application Site. There are no footways on Harp Hill along the majority of the Application Site frontage, although an informal path appears to have been formed along the southern side of the carriageway in front of the existing residential properties. Towards the western end of the Application Site's frontage with Harp Hill, there is a footway on the southern side of Harp Hill, to the west of the junction with Stanley Road, which continues westwards towards to the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout. A further 230m to the west of Stanley Road, there are footways to both sides of Harp Hill leading towards the double roundabout and Cheltenham town centre.

9.3.12 Cheltenham Footpath 86 offers opportunities for access from the Application Site towards Priors Road, to the west, and Harp Hill, to the south. Priors Road has footways and formal pedestrian and cyclist crossing points. There is currently no footway present on the northern side of Harp Hill where Cheltenham Footpath 86 emerges onto Harp Hill; pedestrians must cross the carriageway to join the footway on the southern side of Harp Hill. There is no existing formal or informal crossing point.

9.3.13 Cheltenham town centre is within 3km of the Application Site. From Priors Road and Harp Hill towards Cheltenham town centre, the network of pedestrian facilities is comprehensive with lit footways and pedestrian crossing points.

9.3.14 There is no specific provision for people travelling by cycle on Harp Hill; however the Cheltenham Cycle Map classes the road as a route which is suitable for people with a moderate level of experience/confidence. Other residential streets surrounding the Application Site are generally considered as quiet roads suitable for most people to cycle on. A signposted route for cycles is provided from Priors Road to the town centre via Whaddon Road, Prestbury Road and Winchcombe Street. This route is direct but has limited cycle-specific infrastructure.

Public Transport

9.3.15 The nearest bus stops to the Application Site are located in the existing built up area to the north west of the Application Site in the vicinity of Sainsbury's on Priors Road and in the vicinity of the Community Centre on Whaddon Road.

9.3.16 Bus routes Q and P, which serve the Sainsbury's bus stops, provide a regular circular town route, via the town centre. These routes, which operate in opposite directions, currently both operate on a 120 minute frequency.

9.3.17 Bus route A offers a more frequent service, which also serves Cheltenham town centre, but also provides longer distance travel options to destinations including GCHQ, a key employment site. The service operates at a frequency of approximately every 12 minutes during the week and every 15 – 20 minutes at weekends.

9.3.18 Cheltenham Spa Railway Station is located approximately 4.6 km from the centre of the Application Site. Cheltenham Spa has excellent rail links to destinations across the country. CrossCountry, GWR, Transport for Wales and West Midlands Trains all operate from the station providing hourly services to destinations including Cardiff Central, London Paddington, Birmingham and Nottingham, as well as to Bristol Temple Meads and Manchester Piccadilly. Services to Gloucester operate at a typical frequency of 2-4 services per hour.

9.3.19 The approximate journey time to key locations is shown below:

- Gloucester – 10 minutes

- Bristol Temple Meads – 45 minutes
- Birmingham New Street – 45 minutes
- Cardiff Central – 80 minutes
- London Paddington – 125 minutes

9.3.20 Cheltenham Station is accessible by cycle, and sheltered cycle parking is available outside the station. Bus route A stops on Arle Road, which is approximately 1km walk from the station.

Road Safety

9.3.21 Collision data have been obtained from GCC for the roads within the study area. The collision data covers the 5-year period from 1 January 2014 to 31 December 2018.

9.3.22 There were no collisions recorded within the EIA transport assessment study area over the five year assessment period, which includes Harp Hill, the B4075 Priors Road in the vicinity of the site, and the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout.

9.3.23 Overall it is considered that the collision records do not point to any existing highway safety issues which require more detailed examination as part of the EIA transport assessment.

9.4 ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS

9.4.1 The EIA transport assessment has considered the likely significant effects in relation to the construction, operation and decommissioning phases of the Proposed Development.

9.4.2 The Proposed Development, described in more detail elsewhere in the Environmental Statement, includes the following elements:

- Demolition of existing buildings;
- Up to 250 residential dwellings;
- Open space and landscaping;
- Vehicular access from Harp Hill, parking; and
- Supporting infrastructure and utilities.

9.4.3 The Land Use Parameter Plan (**Figure 3.1**) identifies the proposed area of built development, green infrastructure and the zone within which the highway corridor will be located.

9.4.4 The Access and Movement Parameter Plan (**Figure 3.4**) also identifies the highway corridor flexibility zone, as well as the proposed pedestrian / cycleway linkages, the existing public right of way and the potential emergency access.

Construction

9.4.5 Construction activities will include the building of the residential dwellings plus the civil engineering works associated with the construction of the new infrastructure, including the new site access junction and internal development roads, cycling and walking links, drainage attenuation features, and landscaping etc.

9.4.6 Construction of the Proposed Development will give rise to deliveries of materials and products that will be transported by heavy goods vehicles (HGVs). In addition there will be on site operation of construction equipment and plant.

9.4.7 The likely numbers of construction vehicles is dependent on the rate of construction, which in turn is affected by prevailing market forces. Assuming a nominal annual build rate of approximately 70 units, a development of 250 units would mean an overall construction period of approximately 3-4 years. It takes around 70 operatives to build at this rate, plus an additional 14 site staff. As a worst case, assuming no car sharing or non-car trips, these operatives and site staff would generate 84 vehicle movements in the morning as well as in the evening.

9.4.8 It is estimated that on a typical day there may be in the order of 7 HGV trips per day, equating to on average 14 two-way HGV vehicle movements per day. This is equivalent to less than 2 HGV movements per hour.

Severance, Pedestrian Delay, Pedestrian Amenity, and Fear and Intimidation

9.4.9 The percentage change in traffic flow as a result of construction traffic should not result in more than a **Negligible** magnitude of change (less than 10%) in respect of Severance, Pedestrian Delay, Pedestrian Amenity, and Fear and Intimidation. Thus irrespective of the Sensitivity of the Receptor, applying the Significance Matrix, the likely effect would be of **Negligible** significance.

9.4.10 Setting aside the percentage change in traffic flow, the effects of construction traffic, particularly HGVs, could be perceived by other road users to be a **Minor Adverse** significant effect; however the construction period is only temporary and expected to be medium term in its effect.

Driver Delay

9.4.11 The percentage change in traffic flow as a result of construction traffic should not result in more than a **Negligible** magnitude of change in respect of Driver Delay. During peak periods of construction activity, in particular in the vicinity of Harp Hill and the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout, which is a **Medium** sensitive receptor, the effect may potentially increase to **Minor – Moderate Adverse** for a short period without mitigation.

Accidents and Safety

9.4.12 There were no collisions recorded within the EIA transport assessment study area. The TA found that the collision data does not point to any existing highway safety issues which require more detailed examination nor does it highlight any part of the highway network that might experience a change to the personal injury accident rate during construction. The percentage change in traffic flow as a result of construction traffic should not result in more than a **Negligible** magnitude of change. It is concluded therefore that the effect on Accidents and Safety during the Construction period would be **Negligible**.

Operation

9.4.13 The operation of the Proposed Development refers to when the development is completed and all dwellings are occupied, representing the greatest effect on the surrounding transport network.

9.4.14 The TA provides the methodology behind the assessment of the traffic effects on the local network. In summary, the assessment considers the following scenarios:

- 2019 Base Year *(Scenario 1)*
- 2024 with Committed Development *(Scenario 2)*
- 2024 with Committed Development plus Proposed Development *(Scenario 3)*

9.4.15 Following subsequent comments from the LPA, GCC and PINS two further scenarios have been considered

- 2031 with committed development (Scenario 4)
- 2031 with committed development plus proposed development (Scenario 5)

9.4.16 Traffic growth has been applied to the 2019 base year traffic flows to establish the 2024 and 2031 forecasts with background growth, in accordance with recommended current practice and as agreed with GCC Highways, using the TEMPro software to derive traffic growth factors based on the National Trip End Model. In addition, other committed development has been included explicitly. The TEMPro growth assumes that the Development Plan allocations will come forward within the Plan period; given the current shortfall in housing delivery, the TEMPro growth applied can be considered to be inflated.

9.4.17 Predicted trip generation and distribution for the weekday AM (08:00 – 09:00) and PM (17:00 – 18:00) peak periods are set out below. Trip generation rates have been derived from the TRICS database. Based on these trip rates, the Proposed Development would generate the following vehicular trips during the weekday AM and PM peak hours:

Table 9.8: Predicted Proposed Development Vehicular Trip Generation

Time Period	Arrivals	Departures	Total
AM Peak Hour (08:00 – 09:00)	30	94	124
PM Peak Hour (17:00 – 18:00)	85	39	124

9.4.18 The distribution of the generated traffic onto the surrounding highway network has been based on 2011 Census journey to work data for car driver mode of travel.

9.4.19 Diagrams summarising the 2024 and 2031 AM and PM peak hour link flows without and with the Proposed Development are contained in **Figures 9.1 – 9.8.**

9.4.20 A new site access junction is proposed on Harp Hill to the south of the Application Site. The maximum effect in terms of percentage change in modelled link flows with the Proposed Development occurs on Harp Hill. In 2024, to the west of the new site access junction, Harp Hill is predicted to experience a 20.5% increase in traffic in the AM peak and a 22.8% increase in the PM peak. To the east of the new site access, Harp Hill is predicted to experience a 3.5% increase in traffic in the AM peak and a 3.9% increase in the PM peak.

9.4.21 In 2031, to the west of the new site access junction, Harp Hill is predicted to experience a 19.7% increase in traffic in the AM peak and a 21.9% increase in the PM peak. To the east of the new site access, Harp Hill is predicted to experience a 3.4% increase in traffic in the AM peak and a 3.8% increase in the PM peak.

9.4.22 Further afield the predicted increase in traffic on the surrounding highway links at 2024 is well below 10% and at 2031 below 5%. Other than Harp Hill, no highway links meet the criteria for assessment set out in the Assessment Approach section above.

Severance, Pedestrian Delay, Pedestrian Amenity, and Fear and Intimidation

9.4.23 Only links that would experience a change in traffic flow of 10% or more need to be identified, because a change in highway link traffic flow of less than 10% would have a Magnitude of Change that would be **Negligible**. Irrespective of the Sensitivity of Receptor, applying the Assessment Matrix the effect would be **Negligible,** and a Negligible effect is defined as **"No perceivable change"** on the Significance Scale.

9.4.24 By reference to the TA and the discussion above, the only link that is predicted to experience an increase in traffic flow of greater than 10% is Harp Hill to the west of the proposed new site access junction. The predicted increase in traffic flow is a **Low** Magnitude of Change. The Sensitivity of the Receptors, people walking and cycling, is **Medium**; therefore, applying the Assessment Matrix the effect would be **Minor - Moderate Adverse**, without any mitigation. A Moderate Adverse effect is defined as an "Increased perception of changing conditions that may require modifications to off-site infrastructure".

Driver Delay

9.4.25 Harp Hill, to the west of the new site access junction, is predicted to experience an increase in traffic flows with the Proposed Development, which equates to a **Low** Magnitude of Change. The increase in traffic flows associated with the Proposed Development on all other links within the EIA transport assessment study area is less than 10%. Therefore, only Harp Hill meets the criteria for assessment set out in the Assessment Approach section above for the purposes of screening.

9.4.26 In order to determine the effect of the Proposed Development in respect of Driver Delay, junction capacity analysis has been undertaken for the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout. It is highlighted that although Harp Hill is predicted to experience an increase in traffic flow of greater than 10%, the junction overall is likely to experience an increase in traffic flows of less than 5% during the peak hours. TRL's Junctions 9 model has been used to assess the operational capacity of the junction and the results for Harp Hill are summarised in **Table 9.9 and Table 9.10**.

Table 9.9: Existing B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Roundabout Junctions 9 Results– AM Peak Hour (08:00 – 09:00)

Scenario	Harp Hill Approach		
	Max Queue (vehicles)	Max Delay (seconds / vehicle)	Max RFC
2024 with Committed Development	7	80	0.89
2024 with Committed Development plus Proposed Development	43	403	1.11
Difference	+36	+323	+0.22
Percentage difference	+514.3%	+403.8%	+24.7%
2031 with Committed Development	10	121	0.95
2031 with Committed Development plus Proposed Development	59	550	1.16
Difference	+49	+429	+0.21
Percentage difference	+490.0%	+354.5%	+22.1%

Table 9.10: Existing B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Roundabout Junctions 9 Results – PM Peak Hour (17:00 – 18:00)

Scenario	Harp Hill Approach		
	Max Queue (vehicles)	Max Delay (seconds / vehicle)	Max RFC
2024 with Committed Development	2	19	0.60
2024 with Committed Development plus Proposed Development	2	23	0.67
Difference	0	+4	+0.07
Percentage difference	0.0%	+21.1%	+11.7%
2031 with Committed Development	2	21	0.64
2031 with Committed Development plus Proposed Development	2	26	0.71
Difference	0	+5	+0.07
Percentage difference	0.0%	+23.8%	+10.9%

9.4.27 Driver delay on the Harp Hill approach at the existing B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout is predicted to increase by a maximum

of 323 seconds in the AM peak hour and 4 seconds in the PM peak hour in 2024 as a result of the Proposed Development. In 2031 it is predicted to increase by a maximum of 429 seconds in the AM peak hour and 5 seconds in the PM peak hour In percentage terms, the Magnitude of Change is **High** in the AM peak hour and **Low** in the PM peak hour. The Harp Hill approach to the junction in the AM peak hour is also predicted to have a Maximum RFC (Ratio of Flow to Capacity) of greater than 1, suggesting that this approach is operating over capacity. The Sensitivity of the Receptor is **Medium**. Applying the Assessment Matrix, the effect on this junction would be **Major Adverse** in the AM peak hour and **Minor to Moderate Adverse** in the PM peak hour. A Major Adverse effect is defined as a **"Change requiring modifications to off-site infrastructure"**. A Minor Adverse effect is defined as a **"Perception of changing conditions e.g. increase in delay"**. A Moderate Adverse effect is defined as an **"Increased perception of changing conditions that may require modifications to off-site infrastructure"**.

9.4.28 Beyond the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout, the increase in traffic flow associated with the Proposed Development is predicted to be 2% or less. Therefore no further assessment is required.

Accidents and Safety

9.4.29 As identified above, there were no collisions recorded within the EIA transport assessment study area over the five year assessment period. This includes Harp Hill, the B4075 Priors Road in the vicinity of the site, and the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout junction. The TA found that the collision data does not point to any existing highway safety issues which require more detailed examination.

9.4.30 It has been predicted that the Proposed Development would result in an increase of 20.5% - 22.8% in link traffic flow on Harp Hill in 2024, reducing to 19.7% - 21.9% in 2031, which would have a Magnitude of Change that would be **Low**. With reference to the baseline assessment, Harp Hill is not a location with a poor collision record, and therefore the Sensitivity of Receptor is **Negligible**. Applying the Assessment Matrix the effect would be **Negligible** and a Negligible effect is defined as **"No perceivable change"**. It is therefore considered that no specific mitigation is required as a result of the Proposed Development in respect of Accidents and Safety.

9.4.31 With regards to access to the Proposed Development for Emergency Services, the new site access junction and the internal road layout will be designed in accordance with the Design Manual for Roads and Bridges, Manual for Streets, and local authority design guidance, as appropriate. This, together with a potential emergency access via the route of the existing farm access from Priors Road, should ensure that safe and suitable access for Emergency Services can be achieved.

Decommissioning

9.4.32 Given the nature and intended longevity of the Proposed Development's operational life, decommissioning has not been considered relevant as part of this study. Accordingly, this chapter focuses on the potential likely significant effects during construction and operational phases only.

9.5 MITIGATION AND ENHANCEMENT

Mitigation by Design

9.5.1 A new site access junction will be designed in accordance with the Design Manual for Roads and Bridges, Manual for Streets, and local authority design guidance, as

appropriate, to ensure that it is safe and suitable. In addition a potential emergency access is proposed via the route of the existing farm access from Priors Road.

9.5.2 The internal site layout will be designed in a manner which facilitates walking and cycling, providing linkages to existing routes, including the existing public right of way, which links to the B4075 Priors Road and Harp Hill, to allow good access for sustainable modes of transport.

9.5.3 A pedestrian and cycle link is proposed between the proposed development and the B4075 Priors Road along the route of the existing farm access. This link will extend along the northern boundary of the application site with connections to the existing public right of way, Cheltenham Footpath 86, and the proposed development. These linkages are identified on the Access and Movement Parameter Plan, which also identifies pedestrian linkages to Harp Hill at the western and eastern extents of the application site's Harp Hill frontage.

Additional Mitigation

Construction

9.5.4 Mitigation measures will be implemented during construction in the form of controls imposed by planning conditions, health and safety legislation requirements and good construction site practices. Managing the construction effects will also form part of the Construction Management Plan or similar document. The management control mitigation measures will be intended to protect the environment, amenity and safety of local residents, businesses, the general public and the surroundings in the vicinity of the Proposed Development.

9.5.5 As part of a Construction Management Plan or similar, a construction vehicle routeing regime for access to the construction site will be identified and agreed with the local highway authority to ensure that drivers of construction related vehicles do not use inappropriate routes. The regime will aim to ensure that construction vehicles use the strategic highway network wherever possible.

Operation

9.5.6 To ensure that the Proposed Development is planning policy compliant, measures to encourage walking, cycling and public transport, to mitigate the additional travel demands of the Proposed Development, and to improve the surrounding transport infrastructure are proposed. These measures are summarised below.

9.5.7 Additional mitigation during operation will include a new section of footway on the northern side of Harp Hill to provide a link between Cheltenham Footpath 86, where it emerges onto Harp Hill, and the existing footway on the northern side of Harp Hill, which currently terminates approximately 70m to the west of the application site's western boundary, as shown in PFA drawing no. H628/5 Rev A at **Figure 9.9**.

9.5.8 Works to Priors Road to include the provision of a controlled Toucan crossing facility on Priors Road and a section of shared footway/cycleway on the western side of the carriageway to link with the existing signposted cycle route towards the town centre via Whaddon Road, as shown in PFA drawing no. H628/08 Rev A at **Figure 9.10**.

9.5.9 Additional mitigation during operation will also include implementation of a Residential Travel Plan to encourage travel by sustainable modes. If required, a proportionate contribution will be made towards enhancement to pedestrian and cycle routes in the wider area, subject to further consultation with GCC, with reference to the Review of Routes exercise undertaken as part of the Transport Assessment.

9.5.10 If required, a proportionate contribution will be made towards enhancement to bus services in the area.

9.5.11 Improvements comprising the widening of the Harp Hill approach to the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout which will enable two cars to align side by side at the stop line to increase capacity, as shown in PFA drawing no. H628/04 Rev C at **Figure 9.11**.

Table 9.11: Mitigation

Ref	Measure to avoid, reduce or manage any adverse effects and/or to deliver beneficial effects	How measure would be secured		
		By Design	By S.106	By Condition
1	A Construction Management Plan or similar, to include a construction vehicle routeing regime, will be prepared to manage the construction effects of the Proposed Development.			X
2	The new site access will be designed in accordance with the Design Manual for Roads and Bridges, Manual for Streets and local authority design guidance, as appropriate, to ensure that it is safe and suitable.	X		
3	The internal site layout will be designed to include a potential emergency access via the route of the existing farm access from Priors Road	X		
4	The internal site layout will be designed in a manner which facilities walking and cycling, and provides linkages to existing routes, including the existing public right of way, which links to both Priors Road and Harp Hill, to allow good access for sustainable modes of transport.	X		
5	A pedestrian and cycleway link will be provided for access to the existing bus stops and local facilities on Priors Road.	X		
6	A new section of footway on the northern side of Harp Hill, to provide a link between Cheltenham Footpath 86, where it emerges onto Harp Hill, and the existing footway on the north side of Harp Hill.			X
7	An uncontrolled pedestrian crossing facility on Harp Hill, towards the western end of the site frontage, to link with the existing footway provision on the south side of Harp Hill.			X
8	Appropriate arrangements will be made to secure a new Toucan crossing facility on Priors Road and a section of shared footway/cycleway on the western side			X

Ref	Measure to avoid, reduce or manage any adverse effects and/or to deliver beneficial effects	How measure would be secured		
		By Design	By S.106	By Condition
	of the carriageway, to link with the existing signposted cycle route towards the town centre on Whaddon Road.			
9	Appropriate arrangements will be made to secure improved bus stops on Priors Road.		X	
10	An Interim Residential Travel Plan has been prepared in conjunction with the TA to provide a framework for the developer working in conjunction with the local highway authority to promote sustainable travel patterns and behaviour without reducing mobility or accessibility.			X
11	If required, a proportionate contribution will be made towards enhancement to pedestrian and cycle routes in the wider area.		X	
12	If required, a proportionate contribution will be made towards enhancement to public transport (bus) services in the vicinity of the Proposed Development.		X	
13	Appropriate arrangements will be made to secure improvements at the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout.			X

Enhancements

9.5.12 The proposed additional mitigation / enhancement includes appropriate arrangements to secure a new section of footway and an uncontrolled pedestrian crossing facility on Harp Hill, towards the western end of the site frontage, to link with the existing footway provision on both the north and south sides of Harp Hill; a controlled Toucan crossing and a shared footway/cycleway on Priors Road to connect with the existing signposted cycle route on Whaddon Road; and improvements at the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout.

9.5.13 The proposed mitigation / enhancement measures have been considered in respect of the subject areas set out in the Assessment Approach section above.

Severance, Pedestrian Delay, Pedestrian Amenity, and Fear and Intimidation

9.5.14 It is considered that the new section of footway and the uncontrolled pedestrian crossing facility on Harp Hill would have a **Minor – Moderate Beneficial** effect on pedestrians using the public right of way route, Cheltenham Footpath 86. The new facility would also benefit residents of the Proposed Development who wish to walk towards the town centre or other facilities, via Harp Hill. A Minor Beneficial effect is defined as a **"Perception of changing conditions e.g. reduction in delay"**. A Moderate Beneficial effect is defined as an **"Increased perception of changing conditions that may delay the need for planned modifications to off-site infrastructure"**.

9.5.15 It is considered that the new Toucan crossing and section of shared footway/cycleway on Priors Road would have a **Moderate Beneficial** effect on pedestrians and cyclists using the public right of way route and new shared footway/cycleway link between the Application Site and Priors Road. The new facility would improve access to the existing northbound bus stop on Priors Road as well as benefitting both existing residents on Harp Hill and new residents of the Proposed Development, who wish to walk or cycle towards the town centre or other facilities, via Priors Road and Whaddon Road. A Moderate Beneficial effect is defined as an **"Increased perception of changing conditions that may delay the need for planned modifications to off-site infrastructure"**.

Driver Delay

9.5.16 The capacity of the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout has been further assessed with highway improvements to the Harp Hill approach to the junction. The results for Harp Hill are summarised in **Table 9.12 and Table 9.13**.

Table 9.12: Improved B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Roundabout Junctions 9 Results– AM Peak Hour (08:00 – 09:00)

Scenario	Harp Hill Approach		
	Max Queue (vehicles)	Max Delay (seconds / vehicle)	Max RFC
2024 with Committed Development (existing junction)	7	80	0.89
2024 with Committed Development plus Proposed Development (existing junction)	43	403	1.11
2024 with Committed Development plus Proposed Development (with mitigation)	3	32	0.78
Difference (mitigation comparison with existing)	-4	-48	-0.11
Percentage difference	-57.1%	-60.0%	-12.4%
2031 with Committed Development (existing junction)	10	121	0.95
2031 with Committed Development plus Proposed Development (existing junction)	59	550	1.16
2031 with Committed Development plus Proposed Development (with mitigation)	4	37	0.81
Difference (mitigation comparison with existing)	-6	-84	-0.14
Percentage difference	-60.0%	-61.3%	-14.7%

Table 9.13: Improved B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Roundabout Junctions 9 Results – PM Peak Hour (17:00 – 18:00)

Scenario	Harp Hill Approach		
	Max Queue (vehicles)	Max Delay (seconds / vehicle)	Max RFC
2024 with Committed Development (existing junction)	2	19	0.60
2024 with Committed Development plus Proposed Development (existing junction)	2	23	0.67
2024 with Committed Development plus Proposed Development (with mitigation)	1	11	0.50
Difference (mitigation comparison with existing)	-1	-8	-0.10
Percentage difference	-50%	-42.1%	-16.7%
2031 with Committed Development (existing junction)	2	21	0.64
2031 with Committed Development plus Proposed Development (existing junction)	2	26	0.71
2031 with Committed Development plus Proposed Development (with mitigation)	1	12	0.53
Difference (mitigation comparison with existing)	-1	-9	-0.11
Percentage difference	-50.0%	-42.9%	-17.2%

9.5.17 Without mitigation, the Harp Hill approach to the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout, is predicted to have a Maximum RFC of over 1 in the AM peak hour with the Proposed Development. With mitigation, the maximum RFC is predicted to be 0.78 in the AM peak hour and 0.50 in the PM peak hour, with the Proposed Development in 2024. In 2031 with the Proposed Development the maximum RFC will be 0.81 and 0.53 respectively. Driver Delay (Maximum Delay in seconds / vehicle) on the Harp Hill approach with the Proposed Development and mitigation also reduced both in the AM peak hour and PM peak hour.

9.5.18 With mitigation, the Magnitude of Change on the Harp Hill approach, in percentage terms, reduces from **High (increase)** to **Low (decrease)** in the AM peak hour and reduced from **Low (increase) to Low (decrease)** in the PM peak hour. The Sensitivity of the Receptor is **Medium**. Applying the Assessment Matrix, the effect on this

junction would be **Minor to Moderate Beneficial** in the AM peak hour and **Minor to Moderate Beneficial** in the PM peak hour. A Minor Beneficial effect is defined as a **"Perception of changing conditions e.g. reduction in delay"**. A Moderate Beneficial effect is defined as an **"Increased perception of changing conditions that may delay the need for planned modifications to off-site infrastructure"**.

9.6 CUMULATIVE AND IN-COMBINATION EFFECTS

9.6.1 It is necessary to assess the effects of the Proposed Development taking in account the potential cumulative and in-combination effects as a result of other third party developments in the vicinity of the Application Site. The following committed developments have been considered as part of the EIA transport assessment:

- Bouncers Lane (Application Ref. 18/01527/REM)
- Cromwell Court (Application Ref. 18/02581/FUL)
- GCHQ applications
  - GCHQ – Phase 1 (Application Ref. 06/00352/REM)
  - GCHQ – Phase 1 (Application Ref. 06/00380/REM)
  - GCHQ – Phase 2 (Application Ref. 07/01296/REM)
  - GCHQ – Phase 2 (Application Ref. 07/01465/REM)
  - GCHQ – Phase 3 (Application Ref. 13/01683/REM)

9.6.2 The location of these committed development are shown on the Cumulative Plan (**Figure 2.1**).

Cumulative Effects

9.6.3 As the Assessment of Likely Significant Effects - Operation section above sets out the scenarios assessed and explains that committed development is included in the 2024 and 2031 future baseline. The cumulative impact of these committed developments has been considered as follows.

Bouncers Lane (Application Ref. 18/01527/REM)

9.6.4 The Bouncers Lane proposal is for 54 dwellings. The Transport Assessment for the outline planning application for 58 dwellings calculated that the development would have a net impact of -2 and +5 two-way trips during the AM and PM peak hours, respective, when off-set against the lawful employment land use. Therefore the impact of the development proposals, in transport terms, is considered to be not significant.

9.6.5 However, as the site is currently redundant, the 2019 traffic surveys would not have recorded any traffic flows to/from the site and therefore, technically, the development would actually result in an increase in traffic flows against this baseline. The Transport Assessment for the outline planning application predicts that the proposed development of 58 dwellings would generate in the order of 31 two-way trips during the peak hours. To be robust, this assessment has included for the development explicitly, with the predicted peak hour traffic generation based on the Transport Assessment and the trip distribution across the wider network based on the 2019 junction turning count surveys.

Cromwell Court (Application Ref. 18/02581/FUL)

9.6.6 The Cromwell Court proposal comprises demolition of the existing dwelling and construction of 8 new self and custom build dwellings. The Transport Statement calculated that the development would generate in the order of 3 – 4 two-way trips during the peak

hours, and concluded that the impact would not be significant. It is considered that the impact of this development would be negligible and no further assessment is required.

GCHQ applications (Application Ref. Various)

9.6.7 The GCHQ site obtained outline planning permission is 2003 and is now substantially built out and occupied. Therefore traffic generation from all phases of the development will be included in the 2019 baseline traffic surveys. No further assessment is required.

9.6.8 The cumulative effect of the committed development in-combination with the Proposed Development has been assessed in the 2024 and 2031 with Committed Development plus Proposed Development scenarios *(Scenarios 3 & 5)*. Therefore the overall cumulative effect on Transport and Access is as assessed in the Assessment of Likely Significant Effects - Operation section above.

In-Combination Effects

9.6.9 The potential effects on air quality arising from traffic associated with the Proposed Development are addressed in Chapter 10 on Air Quality. The potential effects on noise arising from traffic associated with the Proposed Development are addressed in Chapter 11 on Noise and Vibration.

9.6.10 A Residential Travel Plan has also been prepared as a guide to managing travel to and from the Proposed Development. This sets out measures to encourage travel by sustainable modes rather than single occupancy private car, in order to mitigate the potential effects of travel associated with the Proposed Development on Climate Change.

9.7 SUMMARY

Introduction

9.7.1 The likely significant effects of the Proposed Development in terms of transport and access have been considered. The proposed development will give rise to increased travel demand once occupied. It will also generate construction related traffic during the construction period.

9.7.2 A comprehensive Transport Assessment has been prepared. The Transport Assessment examines the transport effects of the Proposed Development on the local transport system and provides the basis for this assessment. A Residential Travel Plan has also been prepared as a guide to managing travel to and from the Proposed Development.

Baseline Conditions

9.7.3 The Application Site comprises an area of approximately 14.9 hectares of land at Oakley Farm, Cheltenham, and it is located north of Harp Hill, approximately 3km east of Cheltenham town centre. It is bounded by Harp Hill to the south, existing residential development to the west and north, and further residential development and Hewlett's Reservoir site to the east. Cheltenham Footpath 86, a Public Right of Way, routes along the western boundary connecting Harp Hill with the B4075 Priors Road, via the existing farm access. The farm access extends eastwards from the B4075 Priors Road along the northern extent of the site.

9.7.4 Collision data have been obtained from GCC for the roads in the vicinity of the Application Site. The collision data covers the 5-year period from 1 January 2014 to 31 December 2018. There were no collisions recorded within the EIA transport assessment

study area over the five year assessment period, which includes Harp Hill, the B4075 Priors Road in the vicinity of the site, and the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout. Overall it is considered that the collision records do not point to any existing highway safety issues which require more detailed examination as part of the EIA transport assessment.

9.7.5 The nearest bus stops to the Application Site are located in the existing built up area to the north west of the Application Site in the vicinity of Sainsbury's on Priors Road and in the vicinity of the Community Centre on Whaddon Road. Bus routes Q and P provide a regular circular town route, via the town centre, and both operate on a 120 minute frequency. Bus route A offers a more frequent service, which also serves Cheltenham town centre, but also provides longer distance travel options to destinations including GCHQ, a key employment site. The service operates at a frequency of approximately every 12 minutes during the week and every 15 – 20 minutes at weekends.

9.7.6 Cheltenham Spa Railway Station is located approximately 4.6km from the centre of the Application Site. Cheltenham Spa has excellent rail links to destinations across the country, including hourly services to destinations including Cardiff Central, London Paddington, Birmingham and Nottingham, as well as to Bristol Temple Meads and Manchester Piccadilly. Services to Gloucester operate at a typical frequency of 2-4 services per hour.

Likely Significant Effects

9.7.7 Construction activities will include the building of the residential dwellings plus the civil engineering works associated with the construction of the new infrastructure, including the new site access junction and internal development roads, cycling and walking links, drainage attenuation features, and landscaping. It is estimated that on a typical day there may be in the order of 7 HGV trips per day, equating to on average 14 two-way HGV vehicle movements per day. This is equivalent to less than 2 HGV movements per hour. The effects of construction traffic, particularly HGVs, could be perceived by other road users to be **Minor Adverse**; however the construction period is only temporary and expected to be medium term in its effect.

9.7.8 The effect of the proposed development in 2024 and 2031 allowing for traffic growth with 250 dwellings occupied has been assessed since this gives the worst case for the effect on the local road network and thus represents a robust assessment.

9.7.9 The maximum effect in terms of percentage change in modelled link flows with the Proposed Development occurs on Harp Hill to the south of the Application Site. To the west of the new site access junction, Harp Hill is predicted in 2024 to experience an 20.5% increase in traffic in the AM peak and a 22.8% increase in the PM peak, which equates to a **Low** Magnitude of Change. The impact reduced in 2031 but still equates to a **Low** Magnitude of Change. Further afield the predicted increase in traffic on highway links is well below 10%. Other than Harp Hill, no highway links meet the criteria for assessment set out in the Assessment Approach section above.

9.7.10 This level of increase in traffic is expected to have a **Minor to Moderate Adverse** effect on pedestrian movements (Severance, Pedestrian Delay, Pedestrian Amenity, and Fear and Intimidation), and a **Negligible** effect on Accidents and Safety, without mitigation.

9.7.11 In order to determine the effect of the Proposed Development in respect of Driver Delay, junction capacity analysis has been undertaken for the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout. It is highlighted that although Harp Hill is predicted to experience an increase in traffic flow of greater than 10%, the junction overall is likely to experience an increase in traffic flows of less than 5% during

the peak hours. Without mitigation, the effect on this junction would be **Major Adverse** in the AM peak hour and **Minor to Moderate Adverse** in the PM peak hour.

Mitigation and Enhancement

9.7.12 Mitigation measures will be implemented during construction in the form of controls imposed by planning conditions, health and safety legislation requirements and good construction site practices. As part of a Construction Management Plan or similar, a construction vehicle routeing regime for access to the construction site will be identified and agreed with the local highway authority to ensure that drivers of construction related vehicles do not use inappropriate routes.

9.7.13 A new site access junction on Harp Hill and the potential emergency access on the B4075 Priors Road will be designed in accordance with current standards and guidance to ensure that it is safe and suitable.

9.7.14 The internal site layout will be designed in a manner which facilitates walking and cycling, providing links to existing routes to allow good access for sustainable modes of transport. A pedestrian and cycleway link is proposed between the Proposed Development and Priors Road along the route of the existing farm access. Further pedestrian linkages are proposed to Harp Hill with cycle linkages to Harp Hill proposed via the new site access junction.

9.7.15 A Residential Travel Plan has been prepared to encourage travel by sustainable modes.

9.7.16 The proposed mitigation / enhancement includes a new section of footway and an uncontrolled pedestrian crossing facility on Harp Hill, and a controlled Toucan crossing facility a new section of shared footway/cycleway and improved bus stops on Priors Road. It is considered that these proposed measures would result in a **Minor –Moderate Beneficial** effect, in terms of pedestrian and cycle movements on Harp Hill and Priors Road.

9.7.17 If required, a proportionate contribution will be made towards enhancement to bus services in the area.

9.7.18 With mitigation, the Magnitude of Change on the Harp Hill approach to the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout reduces from **High (increase)** to **Low (decrease)** in the AM peak hour and reduced from **Low (increase) to Low (decrease)** in the PM peak hour. The effect on this junction with mitigation would be **Minor to Moderate Beneficial** in the AM peak hour and **Minor to Moderate Beneficial** in the PM peak hour.

Conclusion

9.7.19 It is concluded that with the implementation of the mitigation and enhancement measures outlined, including the Residential Travel Plan aimed at encouraging travel by sustainable modes, the additional traffic demand would be safely and satisfactorily accommodated on the local transport network.

9.7.20 The overall residual effect of the Proposed Development in transport terms is likely to be generally **Minor Adverse to Minor - Moderate Beneficial**.

Table 9.12: Summary of Effects, Mitigation and Residual Effects

Receptor / Receiving Environment	Description of Effect	Nature of Effect *	Sensitivity Value **	Magnitude of Effect **	Geographical Importance ***	Significance of Effects ****	Mitigation / Enhancement Measures	Residual Effects ****
Construction								
Road users: pedestrians, cyclists, and drivers (Harp Hill)	Severance, pedestrian delay, pedestrian amenity, and fear and intimidation	Temporary	Medium	Negligible (Low)	Local - County	Negligible (Minor Adverse)	Construction Management Plan	Negligible (Minor Adverse)
Road users: drivers (Harp Hill and B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout)	Driver delay	Temporary	Medium	Negligible (Low)	Local - County	Negligible (Minor – Moderate Adverse)	Construction Management Plan	Negligible (Minor Adverse)
Road users: pedestrians, cyclists, and drivers (Harp Hill)	Accidents and Safety	Temporary	Medium	Negligible	Local	Negligible	-	Negligible
Operation								
Road users: pedestrians and cyclists (Harp Hill)	Severance, pedestrian delay, pedestrian amenity, and fear and intimidation	Permanent	Medium	Low	Local	Minor to Moderate Adverse	Provision of new section of footway and uncontrolled crossing on Harp Hill	Minor – Moderate Beneficial

Receptor / Receiving Environment	Description of Effect	Nature of Effect *	Sensitivity Value **	Magnitude of Effect **	Geographical Importance ***	Significance of Effects ****	Mitigation / Enhancement Measures	Residual Effects ****
Road users: pedestrians and cyclists (Harp Hill and Priors Road)	Severance, pedestrian delay, pedestrian amenity, and fear and intimidation	Permanent	Medium	Low	Local	Minor to Moderate Adverse	Provision of controlled Toucan crossing on Priors Road and new section of shared footway/cycleway	Minor – Moderate Beneficial
Road users: drivers (B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout)	Driver delay	Permanent	Medium	High (AM) / Low (PM)	Local	Major Adverse (AM) / Minor to Moderate Adverse (PM)	Highway improvements to Harp Hill approach to roundabout	Minor to Moderate Beneficial
Road users: pedestrians, cyclists, and drivers (Harp Hill)	Accidents and Safety	Permanent	Negligible	Medium	Local	Negligible	-	Negligible
Cumulative and In-combination								
-	-	-	-	-	-	-	-	-

Notes:

* Enter either: Permanent or Temporary / Direct or Indirect

** Only enter a value where a sensitivity v magnitude effects has been used – otherwise 'Not Applicable'

*** Enter either: International, European, United Kingdom, Regional, County, Borough/District or Local

**** Enter either: Major / Moderate / Minor / Negligible AND state whether Beneficial or Adverse (unless negligible)

Oakley Farm, Cheltenham

2031 Forecast Year

AM Peak Hour

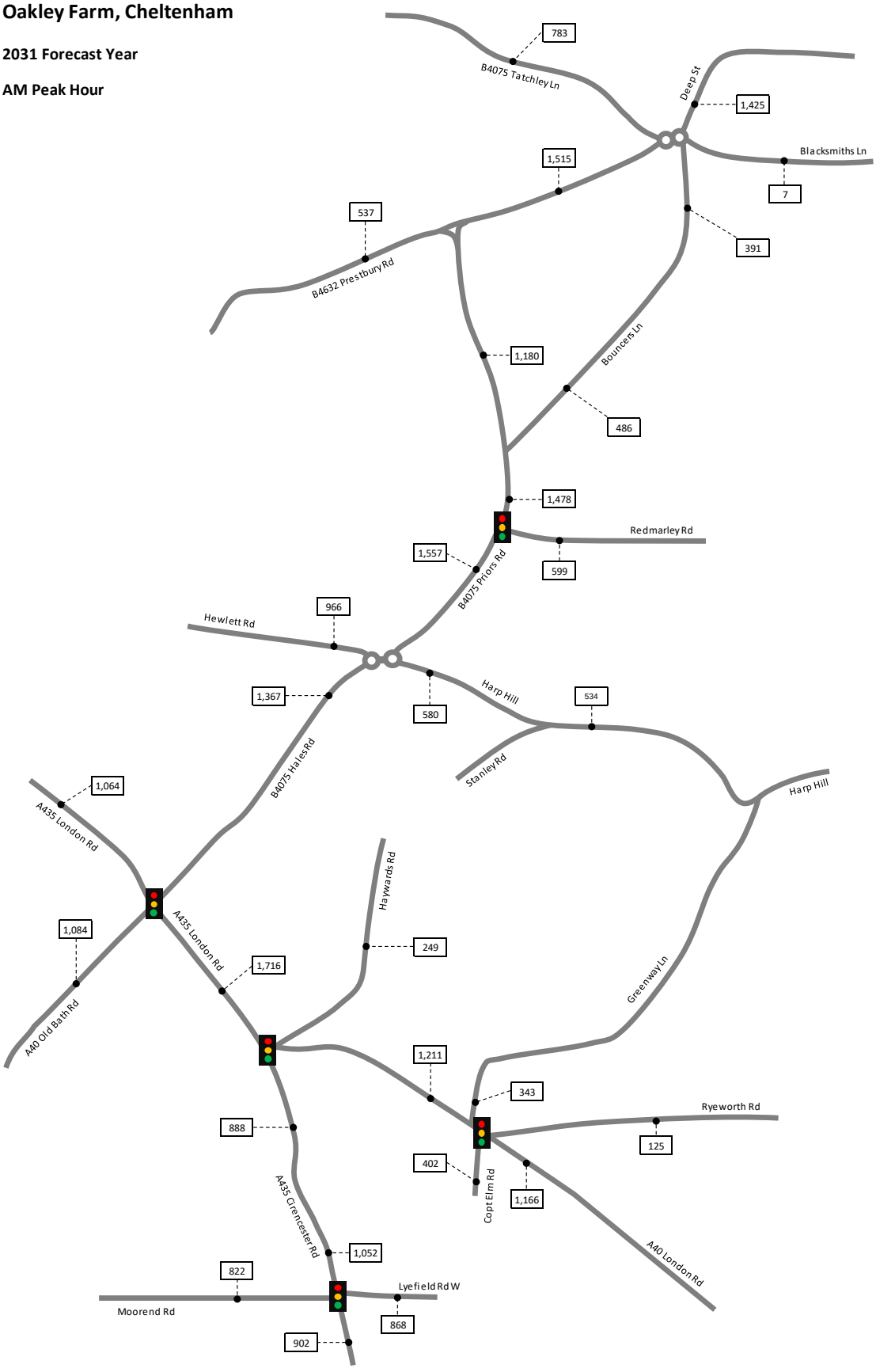


FIGURE 9.5

2031 AM Peak Hour Link Flows without Proposed Development

DRWG No: **P18-0847 Fig 9.5**

Date: 28/07/21

Scale: NTS

Oakley Farm, Cheltenham

2031 Forecast Year

PM Peak Hour

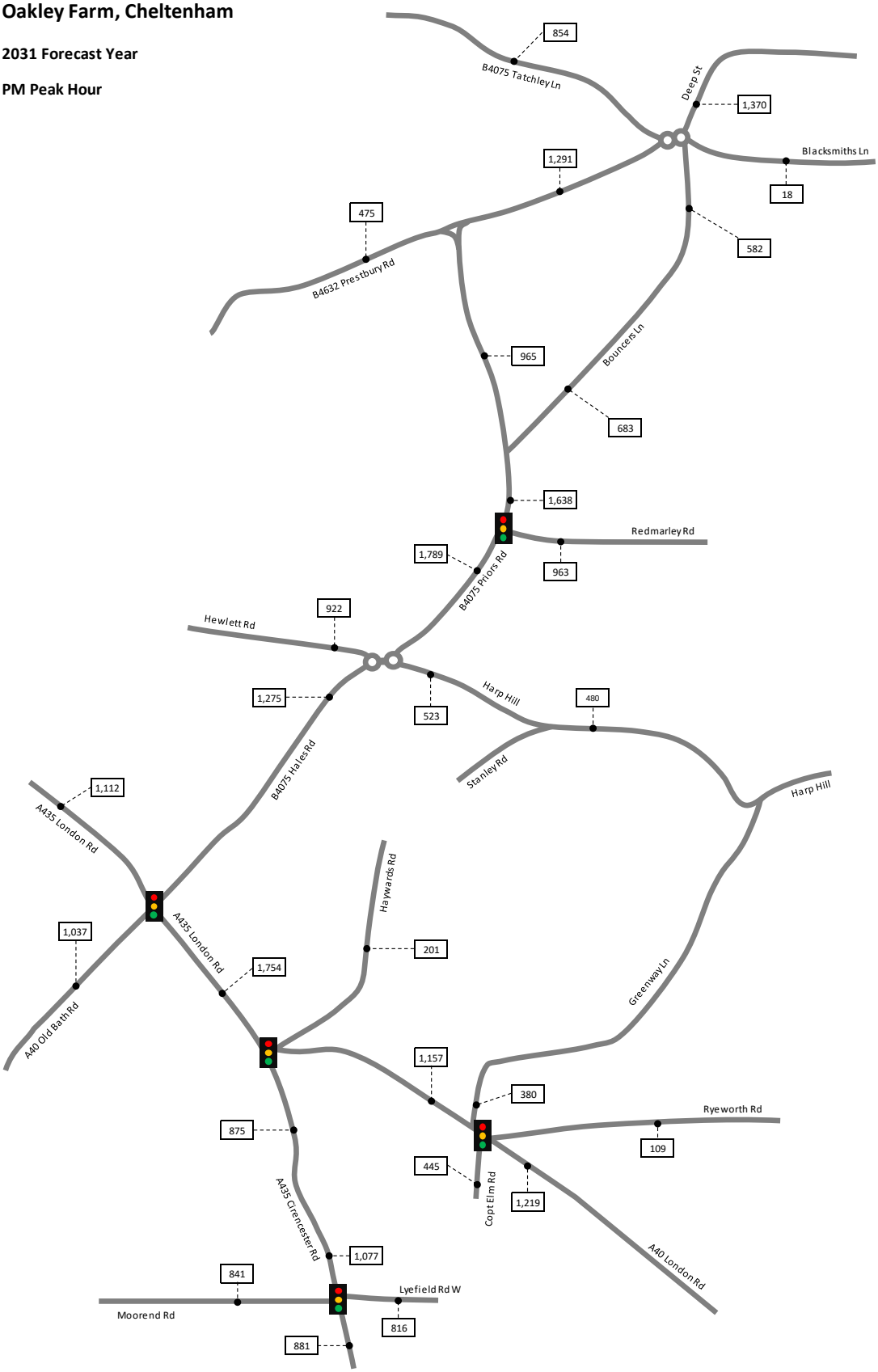


FIGURE 9.6

2031 PM Peak Hour Link Flows without Proposed Development

DRWG No: **P18-0847 Fig 9.6**

Date: 28/07/21

Scale: NTS

Oakley Farm, Cheltenham

2031 Forecast Year + Proposed Development

AM Peak Hour

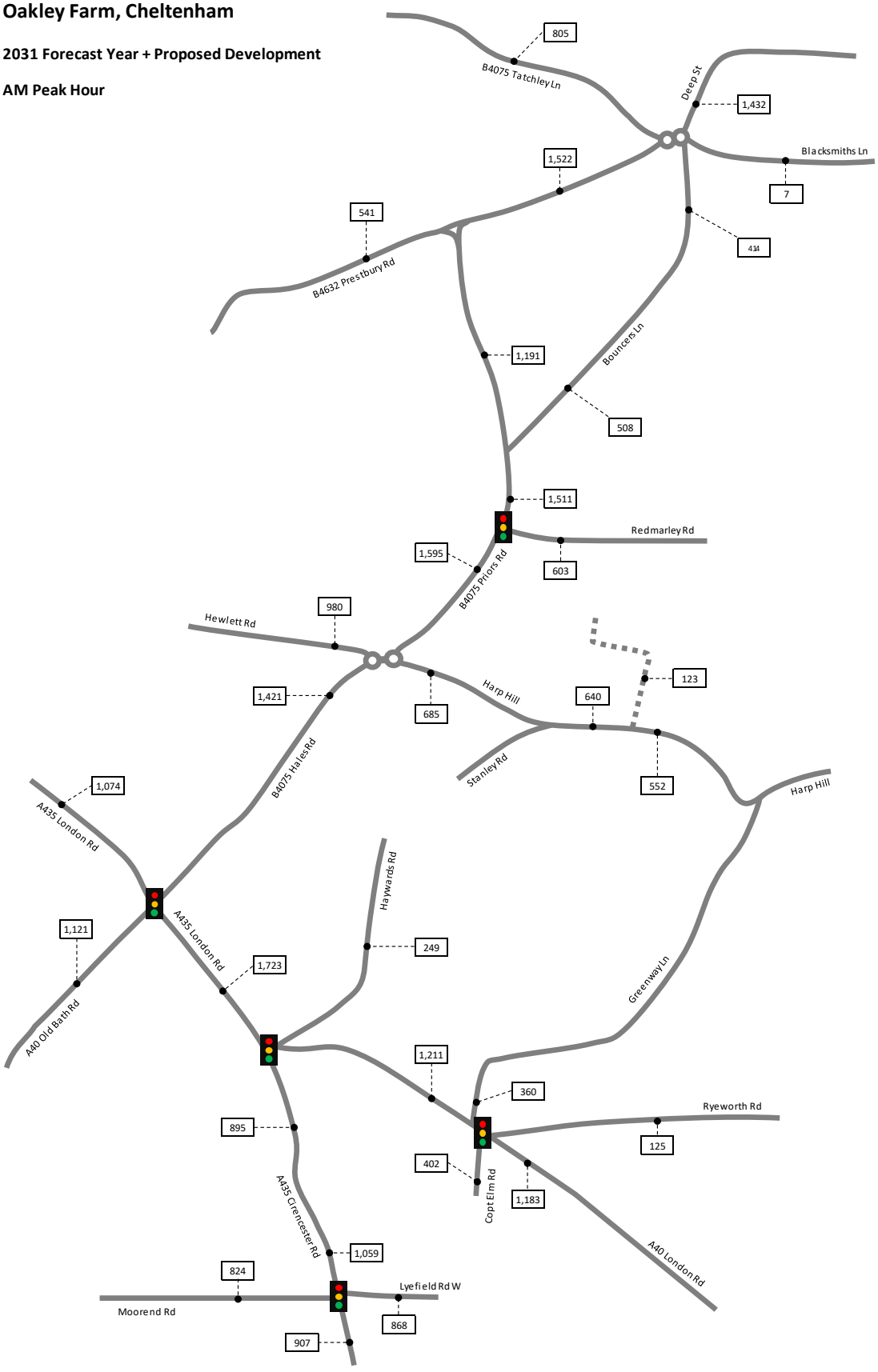


FIGURE 9.7

2031 AM Peak Hour Link Flows with Proposed Development

DRWG No: **P18-0847 Fig 9.7**

Date: 28/07/21

Scale: NTS

Oakley Farm, Cheltenham

2031 Forecast Year + Proposed Development

PM Peak Hour

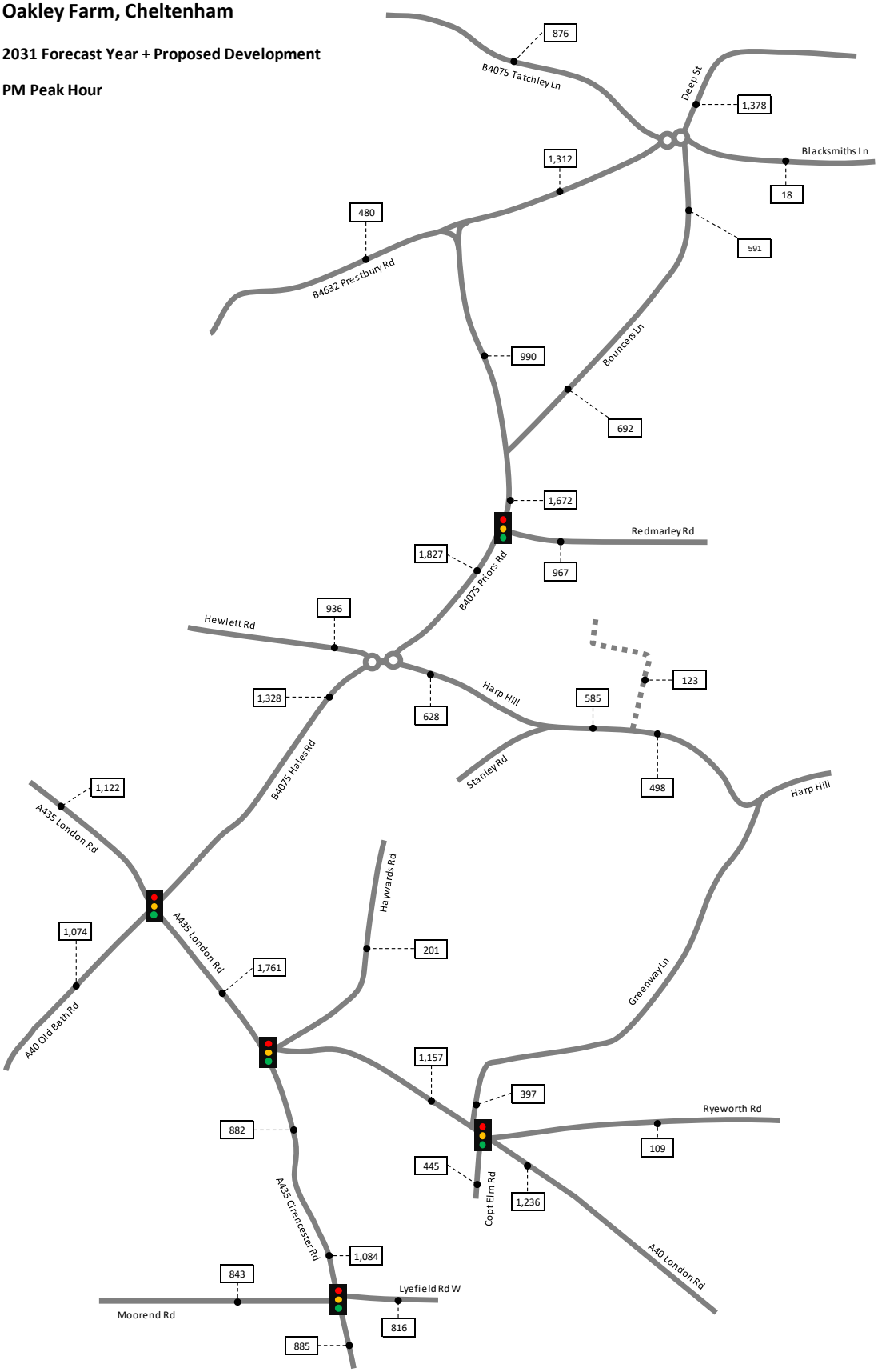


FIGURE 9.8

2031 PM Peak Hour Link Flows with Proposed Development

DRWG No: **P18-0847 Fig 9.8**

Date: 28/07/21

Scale: NTS

NOTES

1. Based on Topographical Survey undertaken by Ruxton Surveys shown in Drawings 18169/01–03 dated November 2018 and the Illustrative Masterplan produced by Robert Hitchins Ltd shown in drawing 333.P.3.9 dated August 2019.

2. Visibility Splays based on 85th %ile speeds recorded in September 2019.

KEY

- Visibility Splays
- Dropped Kerb
- Extent of Public Highway
- Existing Footway
- Proposed Footway

FIGURE 9.9

Harp Hill Pedestrian Linkages

DRWG No: H628/05 REV: A

Date: 26/06/2020

Scale: 1:500 @ A2

NOTES

1. Based on Topographical Survey undertaken by Ruxton Surveys shown in Drawings 18169/01–03 dated November 2018, supplemented by Detail OS Mapping.

2. Site Layout based on Drawing Number 333.P.3.9 Rev E, by Robert Hitchins, dated 01/08/2019.

3. Footway/cycleway link to be constructed in accordance with the latest version of LTN 1/20.

4. Toucan Crossing to be designed in accordance with Traffic Signs Manual Chapter 6.

KEY

- Existing Footway / Cycleway
- Proposed Footway / Cycleway
- Corduroy Paving
- Tactile Paving
- Traffic Signal

N

WHADDON ROAD

PRIORS ROAD

HILLVIEW ROAD

Play Area

Shelter

Existing bus stop.

Cyclists to join carriageway at this point to link with existing signposted cycle route to town centre.

Existing footway to be widened to facilitate a 3.5m shared footway/cycleway

Priors Road/Redmarley Road signal controlled junction

Indicative 0.5m wide safety hatching at private drive locations

R4m

R4m

Existing footway to be widened to facilitate a 3.5m shared footway/cycleway

Proposed relocated bus stop with new shelter (street light relocated to side of bus shelter)

Existing dropped kerb access

43m forward visibility to primary signal

Existing bus stop flag

Proposed bus shelter

Public Highway boundary

Footway/Cycleway link into site

43m forward visibility to primary signal

Existing Toucan crossings

Existing shared footway/cycleway

Existing cycleway ends. Cyclists are required to rejoin carriageway

Sainsbury's Superstore

0m 10m 20m 30m 40m 50m

Scale 1:500

FIGURE 9.10

B4075 Priors Road Pedestrian/Cycle Linkages

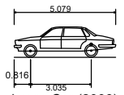
DRWG No: H628/08 REV: A

Date: 13/07/2021

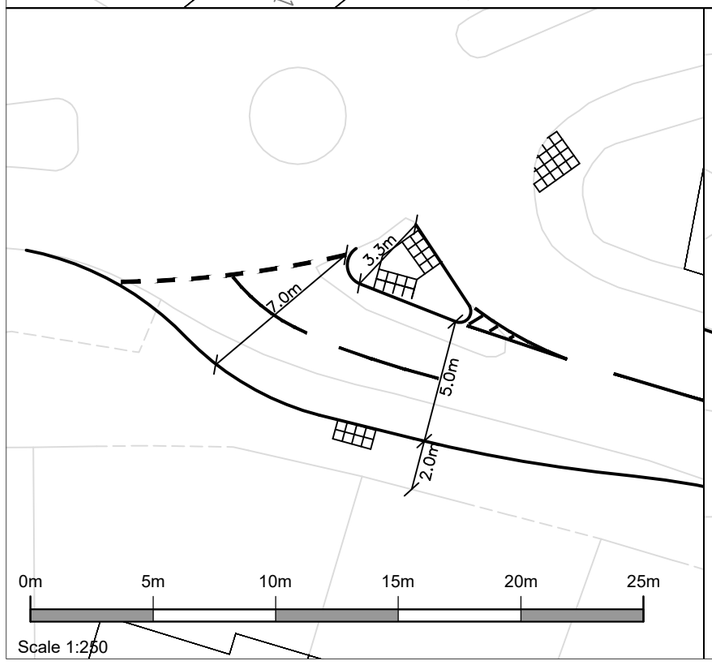
Scale: 1:500 @ A2

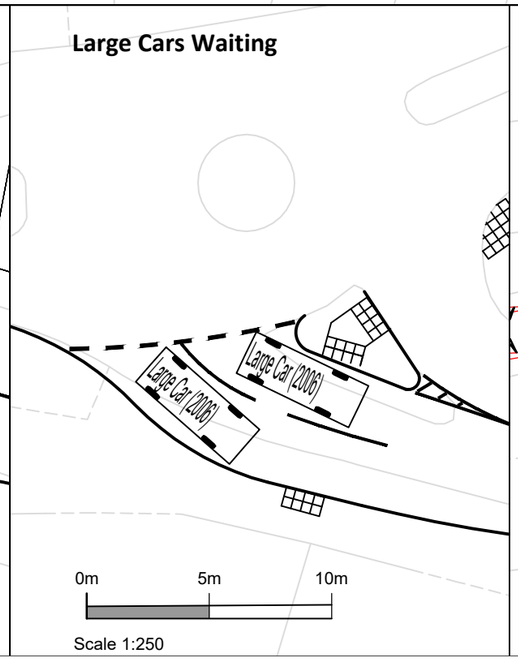
NOTES

1. Road markings are approximate.



Large Car (2006)	
Overall Length	5.079m
Overall Width	1.872m
Overall Body Height	1.525m
Min Body Ground Clearance	0.310m
Max Track Width	1.831m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.900m





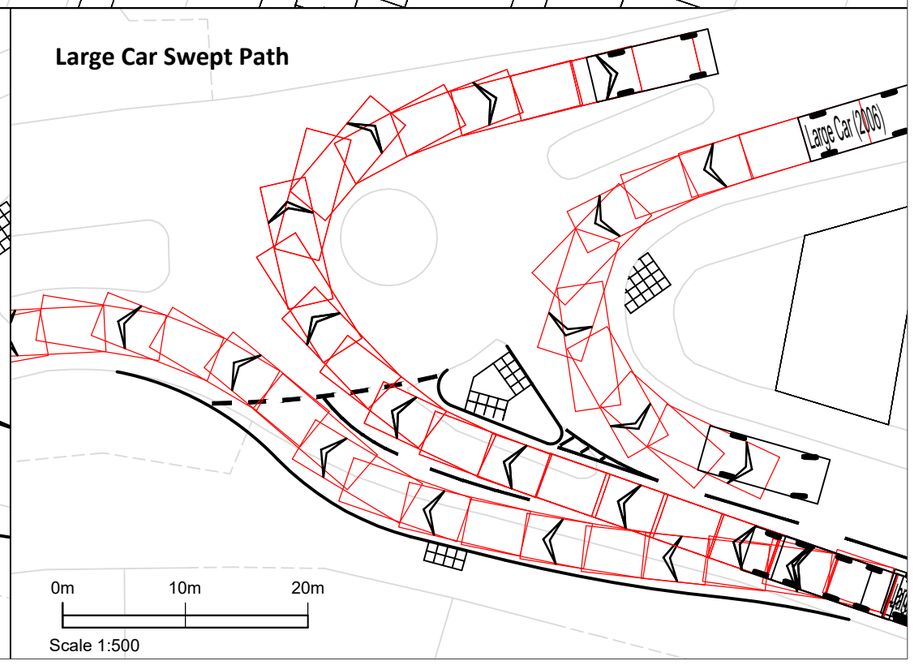


FIGURE 9.11

Potential widening to Harp Hill approach to B4075 Priors Road / Harp Hill Roundabout

DRWG No: H628/04 REV: C

Date: 12/07/2021

Scale: As Shown @ A3

APPENDIX 2

LAND AT OAKLEY FARM, BATTLEDOWN, CHELTENHAM

PREPARED BY PEGASUS GROUP | AUGUST 2021
P18-0847_07AB | ROBERT HITCHINS LTD.

ENVIRONMENTAL STATEMENT
NON TECHNICAL SUMMARY

RobertHitchins
The Complete Development Solution

Pegasus Group

CONTENTS

Introduction

This Non-Technical Summary (NTS) summarises the findings of the Environmental Statement (ES) which has been prepared to accompany a planning application for development of up to 250 residential dwellings l with associated public open space, sustainable drainage systems (SuDS),access and infrastructure (the "Proposed Development") on land at Oakley Farm, Cheltenham (the "Application Site" or "Site").

The Application Site is situated within the administrative area of Cheltenham Borough Council(CBC). The location of the Application Site is shown on **Figure 1** of this NTS.

The ES comprises a series of studies which have been commissioned to address the environmental issues which are considered pertinent to the construction and operational phase of the Proposed Development.

The full findings of these studies and planning application documents will be available to view at the Council's offices and via Cheltenham Borough Council's website once the planning application has been registered. For details of where and when it can be viewed please contact -

Planning
Cheltenham Borough Council
Municipal Offices
Promenade
Cheltenham
Gloucestershire
GL50 9SA

Or via their website which has an online enquiries form.

Additional copies of the NTS (no charge), ES Volumes 1 (Main Report) and ES Volume 2 (Figures and Appendices) (£120) are available from Pegasus Group. The complete ES can also be obtained in digital CD format for £10. Postage is payable upon all orders. For copies of any of these please contact Pegasus Group, Pegasus House, Querns Business Centre, Whitworth Road, Cirencester, Gloucestershire, GL7 1RT. Tel: 01285 641717, Email: Cirencester@pegasusgroup.co.uk. When ordering, please quote reference P18-0847.

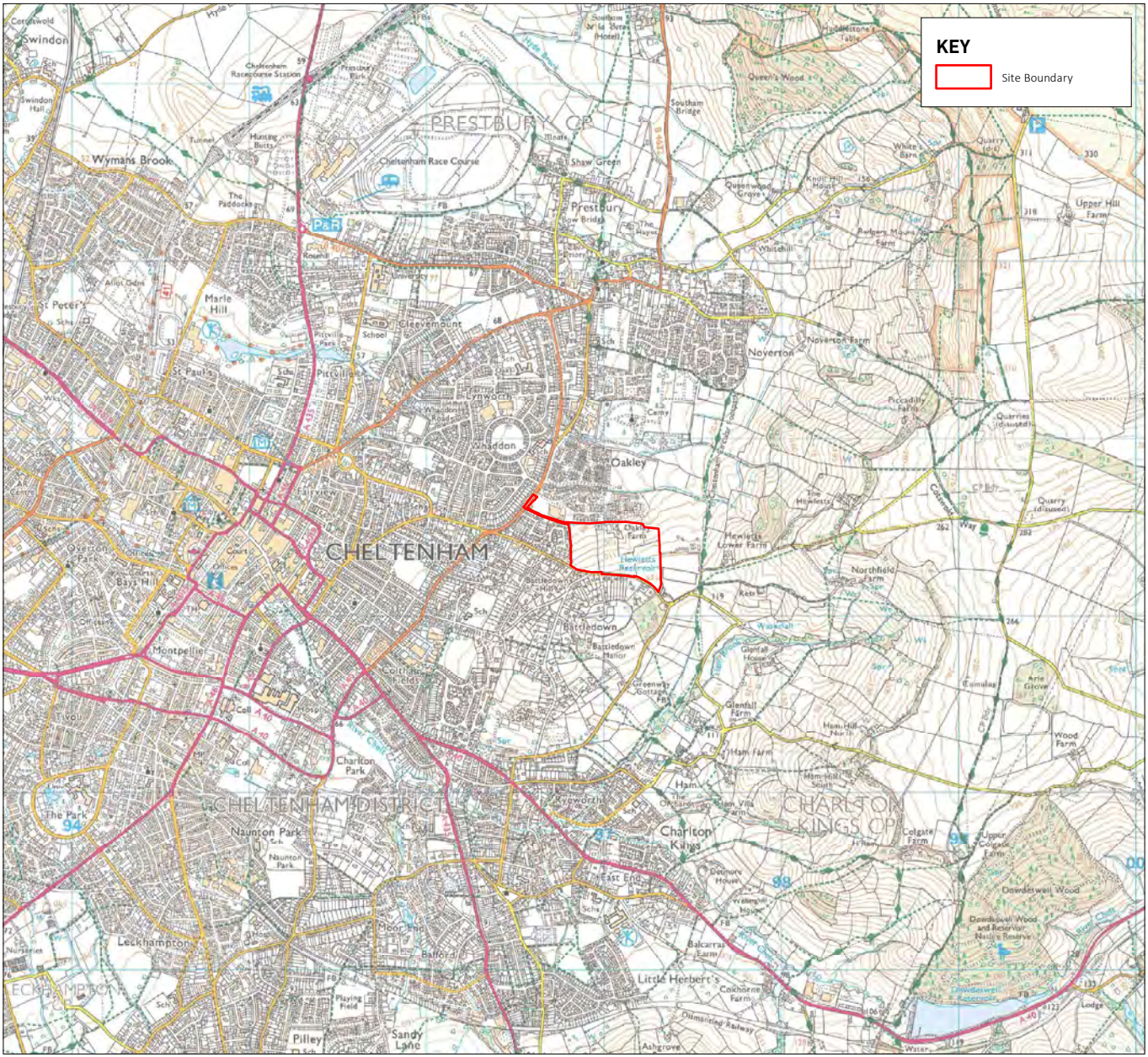


FIGURE 1: SITE LOCATION PLAN

Application Site & Context

The Site comprises 15.29 hectares of predominantly agricultural land and a series of six open fields that are bounded by hedgerows and mature trees. The former farmstead of Oakley Farm is located towards the northern boundary of the Site and is accessed by a single track from the west.

To the east the site is bound by Hewlett's Reservoir. The Site is bound to the south by Harp Hill Road and to the west by Wessex Drive both of which are established residential areas. The Site is bounded to the north by the former GCHQ Oakley site which has recently been redeveloped for residential purposes with Pillowell Close, Brockweir Close and Fairford Road situated adjacent to the northern boundary of the Site and Bream Court and Birdlip Road to the north east of the site.

The location the Application Site is shown on **Figures 1** and the planning application boundary is shown on **Figure 2**.

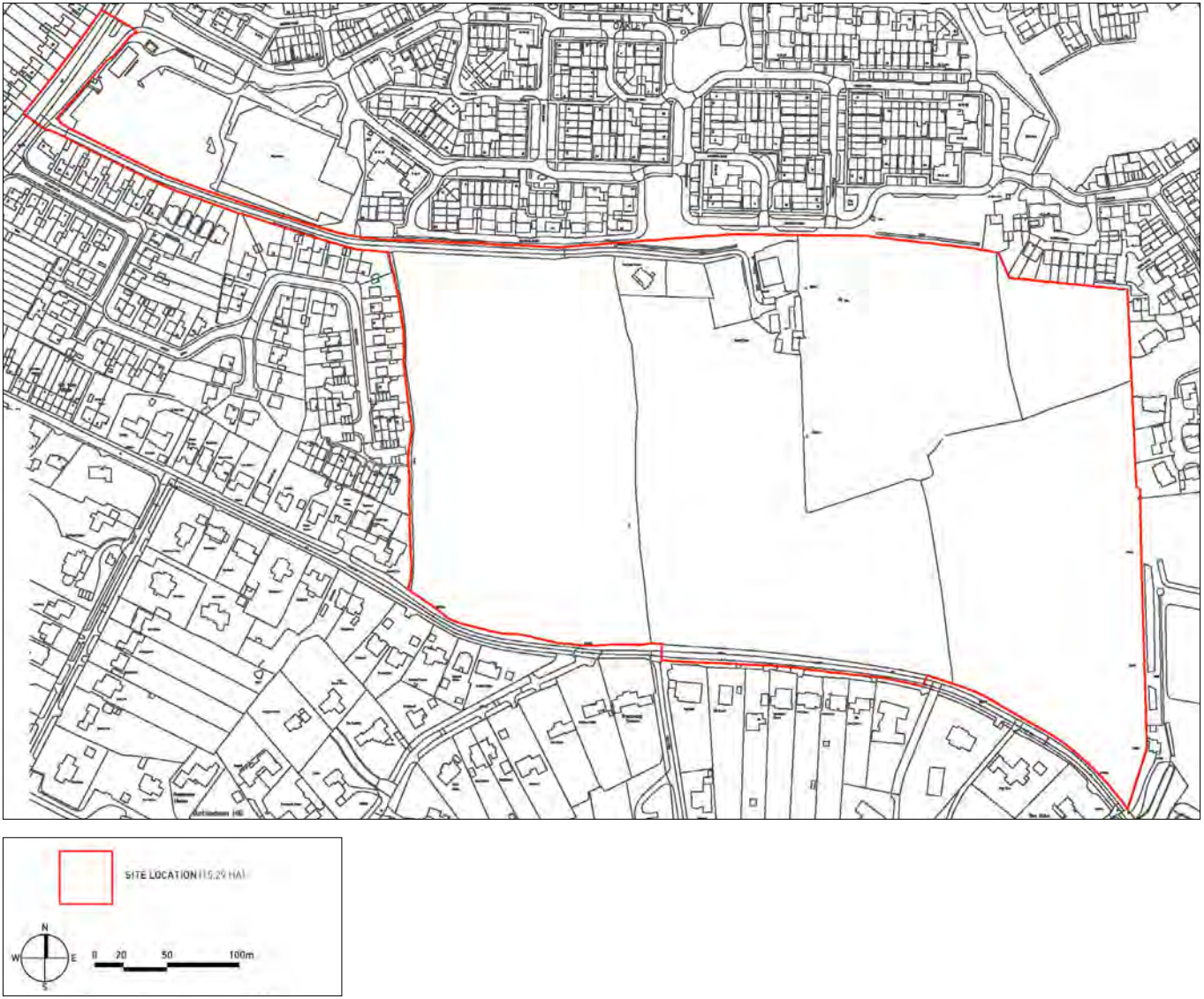


FIGURE 2: APPLICATION SITE BOUNDARY

The Proposed Development

The outline planning application is for up to 250 resdiential dwellings with vehicular access from Harp Hill. The Proposed Development is shown on the Parameter Plans at **Figures 3** to ***6***

Alternatives

The ES identifies the main alternatives to the Proposed Development that have been considered and the reasons for selecting the chosen option. This includes consideration of the 'no development scenario' and alternative designs. It is also noted that the 'No Development' alternative would result in a loss of opportunity for providing much needed residential development and affordable housing provision within Cheltenham

The constraints and opportunities presented by the Application Site have been utilised to inform and structure the development proposals. The constraints and opportunities are as follows:

Constraints

- Main vehicular access from Harp Hill;
- Existing hedgerows and trees;
- Adjacent residential amenities and listed structures;
- Existing site levels;
- Retain existing significant and specimen trees, hedgerows and other landscape features;
- Provide a landscape buffer along the southern slopes of the site to protect long distant views from the Cotswold escarpment and views from dwellings on Harp Hill;
- Protect and maintain the routes of the existing public rights of way running along the boundaries of the site;
- Maintain views across the scheme from Harp Hill towards the Cotswold Escarpment; and
- Contain built development within the northern portion of the site where the topography is lower.

Opportunities

- Provision of sustainable development which can accommodate up to 250 dwellings (including affordable housing) supported by amenity space and new infrastructure;
- Enhance footpaths and cycleways within the Application Site and provide linkages with existing routes;
- Enhance ecological habitats;
- Provision of amenity green space, informal open space and play areas;
- Provide appropriate Sustainable Drainage Systems and attenuation areas;
- Reduce greenhouse gas emissions through location of residential development near to existing services that reduce the need to travel, promotion of sustainable transport options and cycle / pedestrian linkages, and consideration of green infrastructure, ecological enhancements and SuDs to provide resilience to climate change.
- Make use of efficient use of land through the application of appropriate densities;

- Create quality architecture that takes cues from locally desirable vernacular, considers local design guidance and responds positively to the surrounding character of adjacent built form and its AONB location;
- Provide green infrastructure enhancements that build positively upon the local character and existing landscape structures and integral part of the development;
- Provide new connections including pedestrian access points and new footpath routes that provide access to land that was not previously publicly accessible;
- Create a new woodland belt that will provide biodiversity enhancements an improvements to the local Green Infrastructure Network; and
- Create publicly accessible playspaces for the benefit of new and existing residents within the local community.

FIGURE 3: LAND USE PARAMETER PLAN

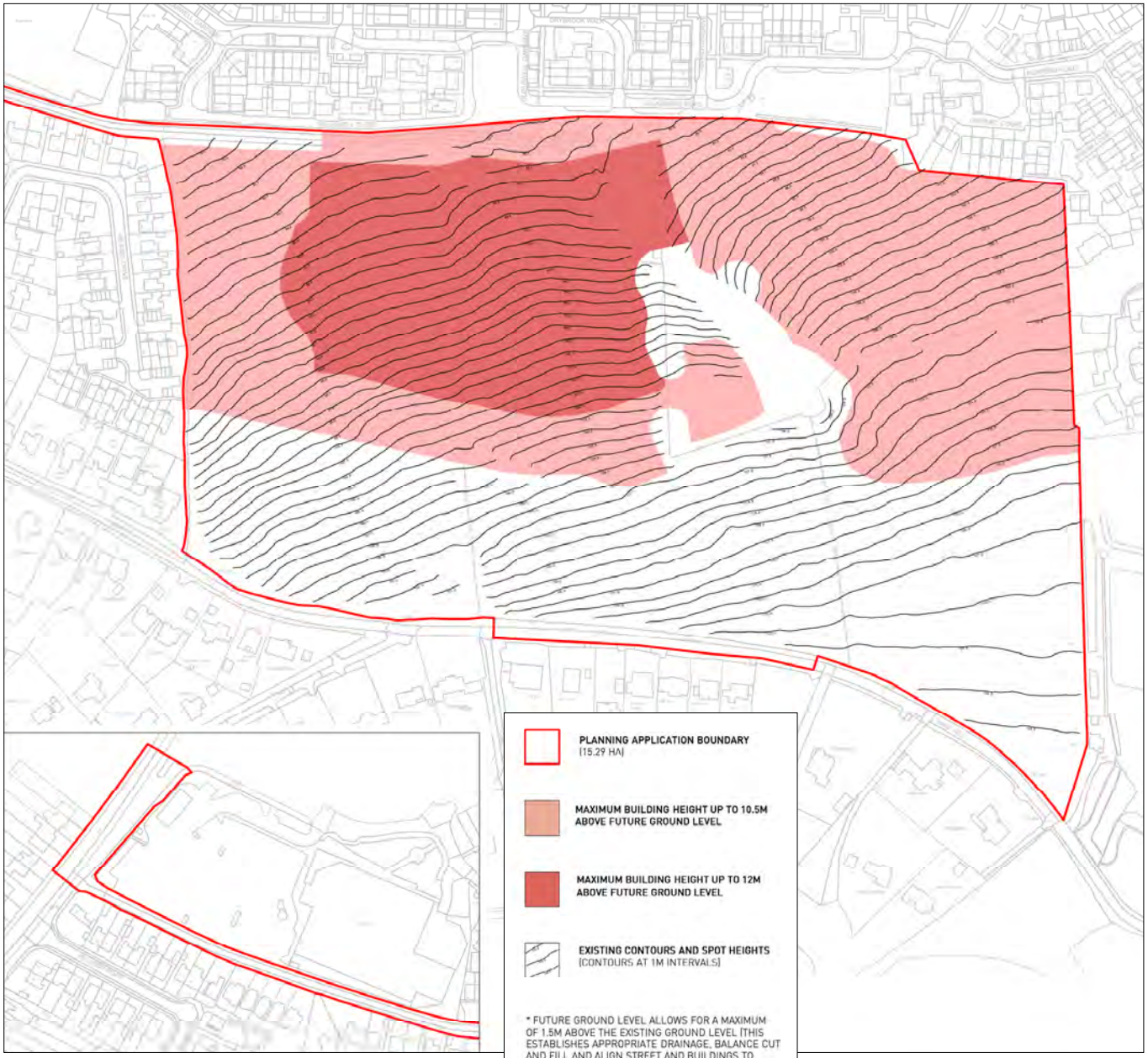


FIGURE 4: BUILDING HEIGHTS PARAMETER PLAN

FIGURE 5: GREEN INFRASTRUCTURE PARAMETER PLAN

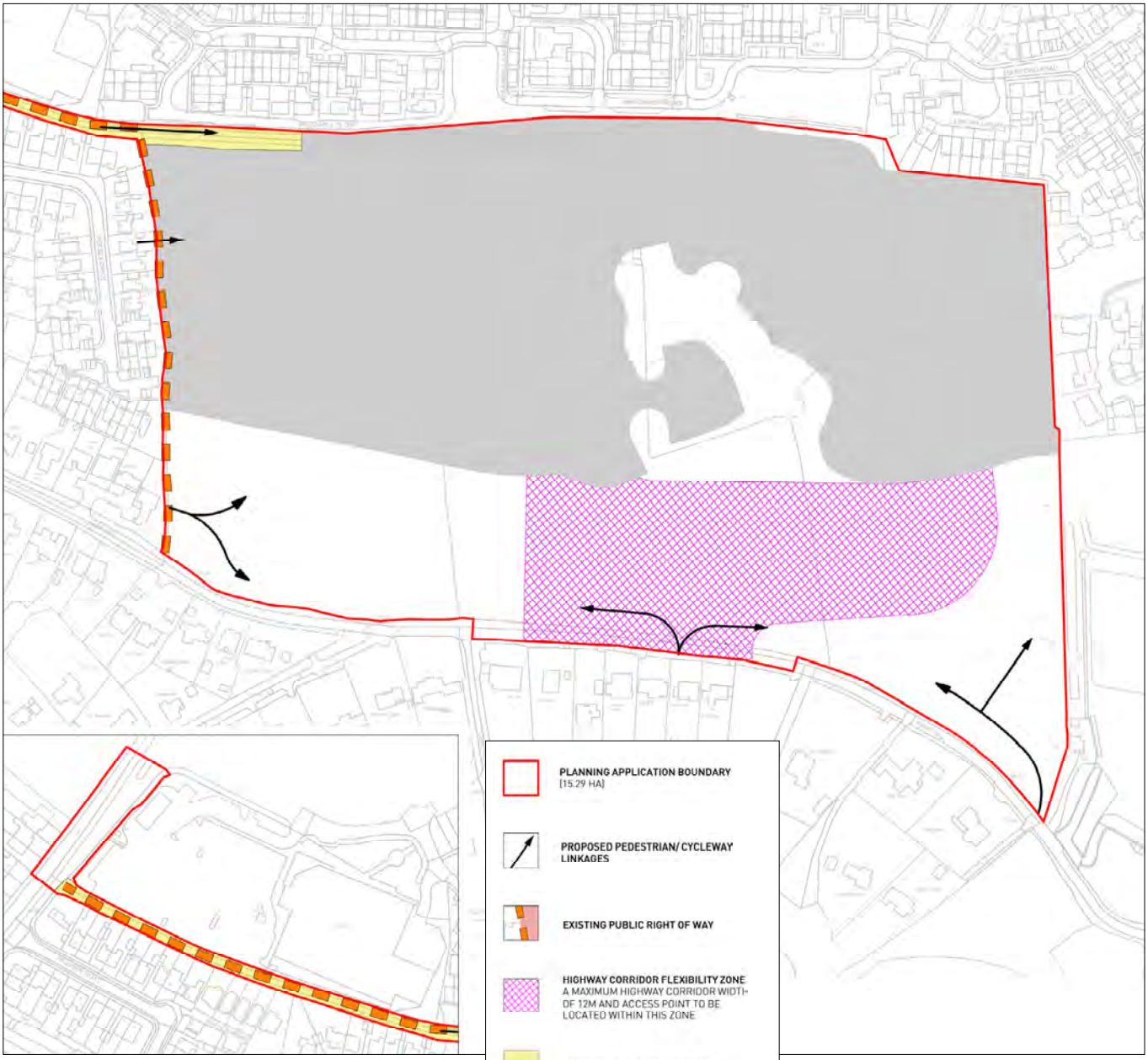


FIGURE 6: ACCESS & MOVEMENT PARAMETER PLAN

Environmental Assessment

The following sections provide non-technical summaries of the various studies which have been undertaken as part of the EIA.

SOCIO ECONOMICS

Baseline Conditions

Cheltenham is expected to experience a population growth. It is expected to see a stronger growth in the ageing population than it is noted nationally, coupled with a notable decrease in working age population.

The proposed development will provide a housing to accommodate future population growth as well as stimulate local economic activity.

There is currently sufficient educational and medical capacity to serve the existing community. Upon delivering this development, it is likely that the area will be able to accommodate the population growth arising from the proposal. There is capacity across both primary and secondary schools in the statutory distance from the site and also capacity within GP surgeries.

Likely Significant Effects

The socio-economic effects of the Proposed Development can be summarised as follows:

- Provision of 250 residential units, demolition of existing buildings, vehicular access from Harp Hill and open space and landscaping
- Provision of approximately 91 additional jobs, with additional 64 indirect jobs and 36 induced jobs during the construction phase in the construction sector;
- Accommodation for a population of circa 568 people, of which 199 are estimated to be new to the area;
- New houses and services within the area to address the existing deprivation;
- Provision of planned housing (including affordable housing) of a range of types, sizes and tenures to meet local and district-wide housing needs;
- A £7.8M of gross income, of which £2.7M is likely to be new to the area, which will support local services;
- An increase in the local economy;
- An overall provision of 8.8 ha of green space.

LANDSCAPE & VISUAL

The site consists of a north sloping area of former agricultural land on the existing settlement edge of Cheltenham.

There is no public access to the land although a public right of way is located along the entire western site boundary linking Harp Hill to Priors Road.

Site features consist of sloping former pasture, derelict former farmstead, established hedgerows, hedges and a number of mature trees protected by Tree Preservation Orders. The sloping topography is also a distinctive feature of the study site which forms part of the northern lower slope to Battledown Hill.

The landscape and visual effects of the development proposals will result in the loss of sloping pasture which makes a contribution to local landscape character and visual amenity. The harm will be limited by the extent to which the area is already influenced by existing development, mitigation through retained vegetation and natural topography and the separation of the study site from the wider escarpment landscape and wider Area of Outstanding Natural Beauty (AONB). The development proposals retain the features which make the greatest contribution and have the highest sensitivity, limiting potential adverse impacts. This confirms that the study site has capacity to accommodate development whilst conserving the wider landscape character and scenic beauty of the AONB.

BIODIVERSITY

Ecological surveys have been undertaken at the Application Site, between January 2018 and October 2019

The Application Site comprises six semi-improved grassland fields, which are separated by woodland and hedgerow. There are a series of old farm buildings on the Site, with one of these buildings being demolished in October 2019.

There are no statutory designated sites of nature conservation interest located within or immediately adjacent to the site. The nearest statutory designated site is Cleeve Common Site of Special Scientific Interest (SSSI) that lies approximately 2.7km north-east of the Application Site and is designated, as it is one of the most extensive areas of limestone grassland in the Cotswolds. It is of importance both for its grassland, and for its geological and physiographical features. This statutory designated site is separated from the Application Site by residential development and extensive areas of open countryside and agricultural land.

The Proposed Development will not effect any of these statutory or non-statutory designated sites.

Effects on Habitats

The development proposals will lead to the loss of semi improved grass land and sections of hedgerow from the landscape. However, the loss to habitat will be more than offset through the creation of habitats of equal or greater value, included within areas of open green space, and planted with species of known value to wildlife.

There will be losses to the hedgerows to allow access roads and the new homes and some of these are considered to be 'important' under the Hedgerows Regulations 1997. However, the majority of the existing hedgerows will remain. There is one mature Oak tree with an occasionally used summer day roost used by a single Noctule bat. This tree is to be retained within the Proposed Development.

Effects on Fauna

Bats – Considerable levels of bat surveys have taken place on the Site over the past 12 months to determine if they are present and how they use the Site. This survey work has resulted in the following findings.

1. None of the buildings on the site were used as bat roosts
2. Only one old oak tree has been used a bat roost for Nocule Bats. This tree is being retained in the design of the Site
3. There is evidence of Common Pipistelles, Soprano Pipistrells and rarer bat species using the site to forage. These species are mainly using the woodland areas within the site, which are on the whole being retained as green corridors within the Proposed Development.

Badgers – there are no badger setts on the Site. There is evidence that badgers use the fields to feed and travel to other areas. The presence of the proposed housing will not stop badgers being able to move about the local area, and the Site is surrounded by other agricultural land so food resources will not diminish for the local badger population.

Birds – There was no especially notable bird use of the site. The loss of land will reduce the breeding area for local bird populations but will not effect the bird populations.

Invertebrates – there will be a loss of habitats for the local invertebrate population, but the majority of the woodland and the southern areas of the semi grassland are to be retained in the proposed development therefore resulting in a minimal effect on the local population.

Mitigation and Enhancement

Although this Proposed Development will result in loss of areas of semi improved grassland, the majority of the woodland, hedgerow and trees are being retained within the final design of the Site. Areas of grassland that are being left will be enhanced with various species planting that offer a greater ecological diversity.

Summary

Where it is considered that there is a reduction in potential habitat for protected species, the development proposals will ensure that these are compensated for by replacement habitat of equal size and greater quality.

Following mitigation and enhancement measures, overall impacts are considered to be positive at the site to European level and will ensure no net loss in biodiversity terms.

CULTURAL HERITAGE

There are six listed buildings close to the site:

- No 1 Reservoir (Grade II listed, HB1)
- No 2 Reservoir (Grade II listed, HB2)
- Pavilion at Hewlett's Reservoir (Grade II listed, HB3)
- Gates, Gatepiers and Boundary Walls at Hewlett's Reservoir (Grade II listed, HB4)
- Stone Lodge at Hewlett's Reservoir (Non-designated Heritage Asset, HB5)
- Agricultural Buildings at Oakley Farm (Non-designated Heritage Asset, HB6)

The archaeological assets considered were:

- Battledown Camp (Scheduled Monument, ARCH1)
- A single probable Prehistoric feature (Non-designated asset, ARCH2)
- Three small pits, undated (Non-designated asset, ARCH3)
- Ditch, probably Post-Medieval (Non-designated asset, ARCH4)
- Shallow linear feature, probably a furrow (Non-designated asset, ARCH5)

Likely Effects

There will be a change to the setting of the identified built heritage resources in the Construction Phase. For the listed buildings near the site this change will not be significant, as the interest of these assets is derived principally from them being feats of architecture and engineering in the nineteenth century, and from their group value. The effects will all be temporary in nature at the Construction Phase. The effect to the Stone Lodge at Hewlett's Reservoir will not be significant.

The total demolition of the Agricultural Buildings at Oakley Farm during the Construction Phase will affect the assets, however due to the low value of these buildings this will not be significant.

During the Operational Phase the setting of the listed buildings will be permanently altered, due to the further loss of their rural setting causing an effect to the listed buildings. However, given that the buildings principally derive their value from their architecture and engineering, in addition to their group value, this will not cause a significant effect. As with the Construction Phase of development, the effect on the non-designated Stone Lodge at Hewlett's Reservoir will not be significant. The Operation Phase of the Proposed Development will not cause any further effects to the Agricultural Buildings at Oakley Farm as their loss will only be during the Construction Phase.

The setting of the Battledown Camp Scheduled Monument will be affected to a very minor extent during the Construction Phase and will also be affected during the Operational Phase. The extent of

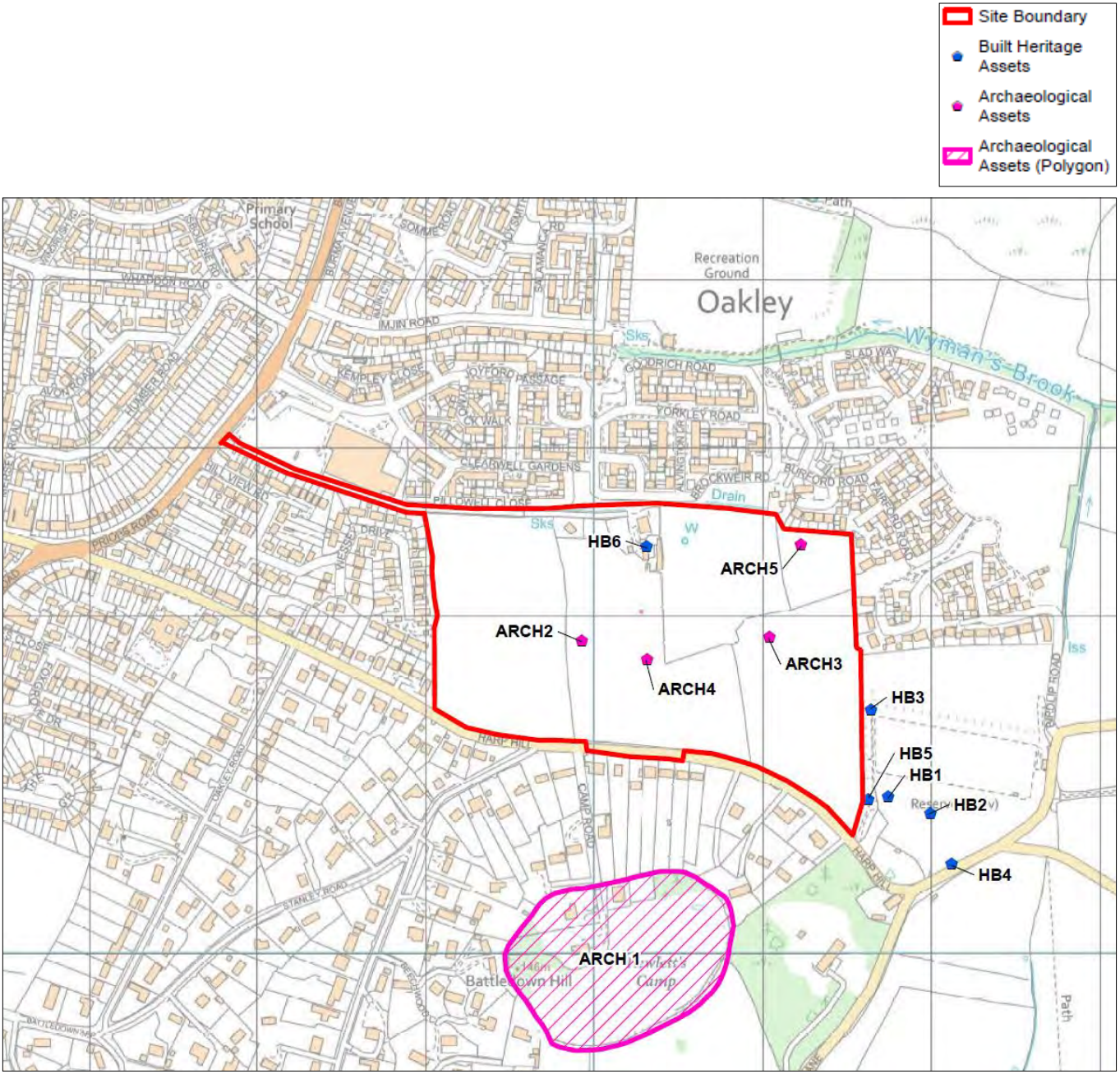


FIGURE 7: HERITAGE ASSETS

this change will, however, be negligible in terms of affecting the heritage significance of the monument.

All effects on the buried archaeological assets will take place during the Construction Phase. Any archaeological assets are likely to be destroyed by the construction process, but the assets are considered to be of low to negligible sensitivity on account of their state of preservation, lack of dating evidence, and lack of interpretation.

Mitigation and Enhancement

Mitigation has already been designed into the Proposed Development, with there being a buffer of open space proposed between the listed buildings and the edge of built development. This has already been considered in relation to the effects on the asset.

A programme of building recording for the Agricultural Buildings at Oakley Farm would record their importance and would help to reduce the effects.

The low level of effect on the Battledown Camp Scheduled Monument indicates that no mitigation is required.

The very limited buried archaeological resource identified within the Application Site, and its identified low significance, indicates that further mitigation is not required.

AIR QUALITY

The Application Site lies within the borough-wide Air Quality Management Area declared by CBC for exceedances of the annual mean nitrogen dioxide objective. Monitoring undertaken by the Council shows that concentrations of nitrogen dioxide within the study area have been below the objective in recent years.

Likely Significant Effects

Construction activities were shown to be associated with a High risk of dust impacts, without mitigation but with the proposed mitigations in place dust is no longer an issue.

The assessment showed that the effect of additional road traffic emissions on air quality at existing residential properties is 'not significant' and is therefore acceptable; air quality for future residents of the Proposed Development was also shown to be acceptable.

Mitigation and Enhancement

A Dust Management Plan (DMP) will be implemented at the Application Site during construction to minimise emissions. The DMP will be integrated into a Code of Construction Practice or the Construction Environmental Management Plan. This will be secured by planning conditions and may require monitoring.

The assessment has demonstrated that the overall effect of additional road traffic emissions generated by the Proposed Development will be 'not significant'. Specific mitigation measures are

not therefore required. The Proposed Development will, however, include a number of design features and enhancements to encourage future residents to make sustainable and lower emission travel choices, and these will provide further benefits for local air quality. Best practice and design features include:

- Setting back of the proposed properties from roads by at least 7m;
- Provision of a Travel Information Pack to all new residents of the development setting out information on walking and cycling routes, local cycle hire schemes, bus and rail timetables, car sharing schemes, along with details of how to claim for the purchase of a monthly bus ticket or towards the purchase of a bicycle or cycle safety equipment; and
- Provision of pedestrian and cycle access to the new development, including secure cycle parking for each dwelling.

Conclusion

Overall, the effects of the Proposed Development on local air quality have been found to be 'not significant'.

NOISE AND VIBRATION

Baseline Conditions

A series of noise surveys were carried out to ascertain the noise levels around the Application Site, which have been used as the basis of the current assessment to identify potential effects.

Noise levels within the Proposed Development were generally low and principally influenced by distant road traffic travelling along surrounding roads and occasional light aircraft operating into Gloucestershire Airport during daytime periods.

Likely Significant Effects

The construction of the Proposed Development has the potential to give rise to short term adverse effects upon existing noise sensitive receptors surrounding the site. Appropriate mitigation and control measures will be adopted during construction to ensure any potential effects were minimised.

Road traffic on the roads within and surrounding the Proposed Development will change as a result of the occupation and operation of the completed scheme and other committed developments in the surrounding area. The assessment indicates that the additional road traffic would result in no significant adverse effects.

Mitigation and Enhancement

No additional noise mitigation measures have been identified in addition to those which would be incorporated into the design of the Proposed Development and considered at detail design stage.

Conclusion

In summary, with appropriate mitigation and control measures adopted during the construction of the Proposed Development, potential noise and vibration effects would be reduced to an acceptable level, thus ensuring the Application Site is suitable for a residential development.

HYDROLOGY, FLOOD RISK AND DRAINAGE

The Application Site is considered to be in an area of low to moderate sensitivity in terms of the water environment. The entirety of the Application Site is located in Flood Zone 1 (lowest risk of fluvial flooding).

The construction of the Proposed Development will generally have a negligible effect on the water environment however during construction in the short-term there is a possible risk of temporary minor adverse effects on water quality.

The Proposed Development will be safe from flooding, that flood risk will not be increased downstream, and overall flood risk in the area will be reduced.

The use of Sustainable Drainage Systems (SuDS) will manage and reduce flood risk and will ensure that there is no adverse effect on water quality. The effects of the Proposed Development on flooding and surface water drainage are considered to be minor beneficial.

The foul sewage from the development can be accommodated, subject to confirmation from Severn Trent Water of any improvements required which will be secured by the Applicant and Severn Trent Water. The effect of the development on the existing foul sewerage infrastructure is therefore considered to be negligible.

The cumulative effect of existing, approved, and proposed development in the area has been assessed and is considered to have a negligible to minor beneficial effect on Hydrology, Drainage, and Flood Risk.

Overall the development is considered to have a negligible to minor beneficial effect on Hydrology, Drainage and Flood Risk.

GROUND CONDITIONS AND CONTAMINATION

Various environmental issues have been considered and assessed in terms of their likely impact upon human health, controlled waters and the surrounding ecosystem. The risks have been assessed by consideration of the "source-pathway-receptor" concept, the behaviour of potential contaminants within the environment, current and foreseeable legislation, and the views of and good practices expected by the environmental regulators.

A single potential impact and risk to human health has been identified relating to both construction (development) and operational (completed development) phases (asbestos associated with the former farm buildings). There are not considered to be any cumulative effects relating to contaminated land arising from the Proposed Development and other known cumulative sites in the vicinity.

Pre-mitigation effects have been assessed and the type and description of an appropriate mitigation strategy outlined, again relating to the construction and operation phases of the development. On the basis that the required mitigation strategy is complied with, all potential impacts are considered to be 'insignificant'. There are not considered to be any residual impacts.

Should any additional impacts come to light during the construction process, then these should be assessed accordingly by this Practice and appropriate mitigation measures delineated and undertaken, subject to Local Authority approval.

Transport and Access

The Application Site is located north of Harp Hill, approximately 3km east of Cheltenham town centre. Cheltenham Footpath 86, a Public Right of Way, routes along the western boundary connecting Harp Hill with the B4075 Priors Road, via the existing farm access. The farm access extends eastwards from the B4075 Priors Road along the northern extent of the Application Site.

Collision data have been obtained from Gloucestershire County Council for the roads in the vicinity of the Application Site over a 5-year period. There were no collisions recorded within the study area over the five year assessment period, which includes Harp Hill, the B4075 Priors Road in the vicinity of the Application Site, and the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Mini Roundabout.

The nearest bus stops are located to the north west of the Application Site in the vicinity of Sainsburys on Priors Road and in the vicinity of the Community Centre on Whaddon Road. Cheltenham Spa Railway Station is located approximately 4.6km from the centre of the Application Site and provides a variety of rail links to destinations across the country.

Likely Significant Effects

Construction activities will include the building of the residential dwellings plus the civil engineering works associated with the construction of the new infrastructure, including the new site access junction and internal development roads, cycling and walking links, drainage attenuation features, and landscaping. It is estimated that on a typical day there may be in the order of 7 HGV trips per day (14 two-way HGV vehicle movements).

The effect of the Proposed Development in 2024 and 2031 with 250 dwellings occupied has been assessed, including on Harp Hill and the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Mini Roundabout. Where necessary mitigation for these highways linkages are included as part of the Proposed Development as described below.

Mitigation and Enhancement

Mitigation measures will be implemented during construction in the form of controls imposed by planning conditions, health and safety legislation requirements and good construction site practices. As part of a Construction Management Plan, a construction vehicle routing regime for access to the construction site will be identified and agreed with the local highway authority to ensure that drivers of construction related vehicles do not use inappropriate routes.

The new site access junction on Harp Hill and the potential emergency access on the B4075 Priors

Road will be designed in accordance with current standards and guidance to ensure that it is safe and suitable. Other mitigation and enhancement measures proposed as part of the design of the Proposed Development include:

- A shared pedestrian / cycleway link between the Proposed Development and Priors Road along the route of the existing farm access. Further pedestrian linkages are proposed to Harp Hill with cycle linkages to Harp Hill proposed via the new site access junction.
- Works to Priors Road to include the provision of a controlled Toucan crossing facility on Priors Road and a section of shared footway/cycleway on the western side of the carriageway to link with the existing signposted cycle route towards the town centre via Whaddon Road
- An Residential Travel Plan to encourage travel by sustainable modes.
- Improvements comprising the widening of the Harp Hill approach to the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout which will enable two cars to align side by side at the stop line to increase capacity.

It is considered that these proposed measures would result in a Minor –Moderate Beneficial and Moderate – Major Beneficial effect, respectively, in terms of pedestrian and cycle movements on Harp Hill and Priors Road.

If required, a proportionate contribution will be made towards enhancement to bus services in the area.

With mitigation, the Magnitude of Change on the Harp Hill approach to the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout reduces from High (increase) to Low (decrease) in the AM peak hour and reduced from Low (increase) to Low (decrease) in the PM peak hour. The effect on this junction with mitigation would be Minor to Moderate Beneficial in the AM peak hour and Minor to Moderate Beneficial in the PM peak hour.

Conclusion

It is concluded that with the implementation of the mitigation and enhancement measures outlined, including the Interim Residential Travel Plan aimed at encouraging travel by sustainable modes, the additional traffic demand would be safely and satisfactorily accommodated on the local transport network.

The overall residual effect of the Proposed Development in transport terms is likely to be generally Minor Adverse to Minor - Moderate Beneficial.

Summary

The ES demonstrates that there are no overriding environmental constraints which would preclude the Proposed Development on the Application Site.

The design of the Proposed Development has taken account of the likely significant environmental effects (alone and in-combination with other cumulative sites) and where necessary, mitigation measures form an integral part of the Proposed Development to ensure that the environment is suitably protected.

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