Document 5.12

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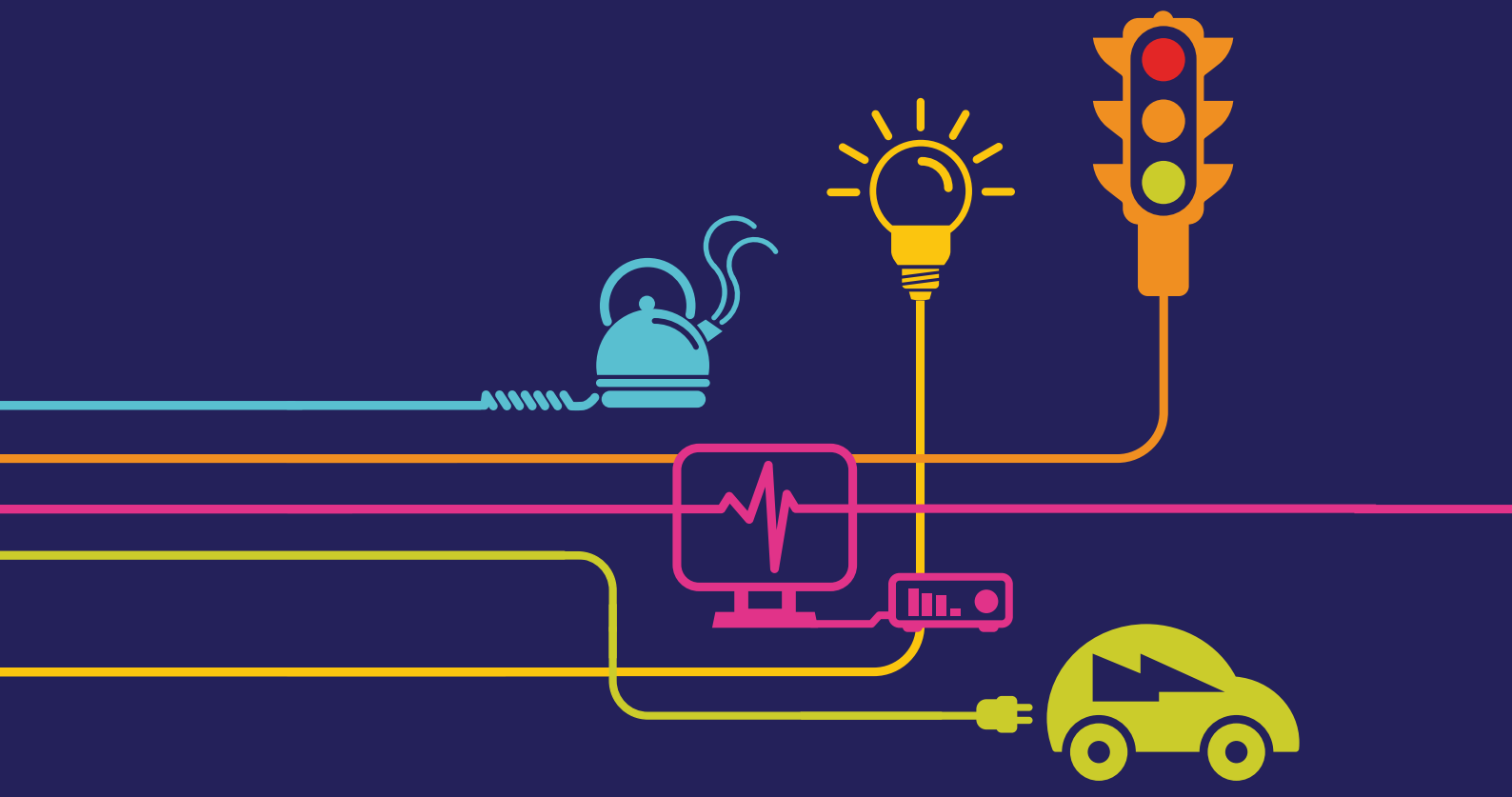
# Environmental Statement Traffic and Transport

## Hinkley Point C Connection Project

*Regulation 5(2)(a) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009*



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**Hinkley Point C Connection Project**

# ENVIRONMENTAL STATEMENT – MAY 2014

## VOLUME 5.12.1, CHAPTER 12 – TRAFFIC AND TRANSPORT

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**APPENDICES (VOLUME 5.12.2)**

Appendix 12A: Sensitive Traffic and Transport Receptors

# 12 TRAFFIC AND TRANSPORT

## 12.1 Introduction

12.1.1 This chapter of the Environmental Statement (ES) provides an assessment of the potential effects of the traffic associated with the Proposed Development during the construction, operation and decommissioning phases of the works. This chapter includes the identification of sensitive receptors, Public Rights of Way (PRoW), roads and access points likely to be affected by the Proposed Development. This chapter then considers the likely environmental effects on the transport network.

12.1.2 A description of the Proposed Development is provided in **Volume 5.3.1** and illustrated at **Volume 5.3.3, Figures 3.1 – 3.6.** This chapter is supported by a number of figures and appendices provided after the main text of this chapter **Volume 5.12.1**. To assist the reader, some figures are presented as insets within this chapter. This chapter should be read with these figures and appendices available for reference as they assist the understanding of the descriptions and assessments presented in the text.

12.1.3 This chapter is supported by a Transport Assessment (TA) (**Volume 5.22**) and a Draft Construction Traffic Management Plan (CTMP) contained within the Draft Construction Environmental Management Plan (CEMP) at **Volume 5.26.5**.

12.1.4 The TA has been produced to provide a full assessment of the likely impacts of the construction traffic associated with the Proposed Development during all phases of the works and should be read alongside this ES.

12.1.5 The Draft CTMP sets out in detail the mitigation measures proposed as well as discusses methods of monitoring and management as the scheme is constructed.

**Project Engagement**

***EIA Scoping***

12.1.6 As part of the scoping phase of the Environmental Impact Assessment (EIA), National Grid prepared a Scoping Report (April 2013) setting out the proposed approach to EIA in respect of the Proposed Development, including the identification of assessment methods for each of the EIA topics to be assessed.

12.1.7 The Scoping Opinion is provided at **Volume 5.5.2, Appendix 5A**. A summary of the Scoping Opinion representations received (relevant to EIA) and National Grid's responses are summarised at **Volume 5.5.2, Appendix 5B**. A summary of the main Scoping Opinion representations received in relation to traffic and transport are presented in the table below.

Table 12.1 Summary of the Main Traffic and Transport Scoping Representations Received

| Representation | Response |
|---|---|
| A key consideration in the traffic and transport assessment will be the delivery of abnormal loads, in particular, the super grid transformer to the Sandford substation site and the suitability of the existing strategic road network to accommodate the transport of such infrastructure. | An abnormal indivisible load (AIL) Report has been produced and is described in **Volume 5.12.1** and included as **Volume 5.22.2, Appendix 22D.** |
| The SoS notes the statement in the Scoping Report that once construction is completed the temporary access tracks will be removed and the ground reinstated by removing stone and trackways. Consideration should be given in the ES to removal of these temporary haul roads and reinstatement of this land and the existing transport network. The ES should clearly identify any access roads which are to be retained beyond the construction phase and provide details of ongoing maintenance of these roads. | The removal of the haul roads and subsequent reinstatement of the ground, post construction, is addressed in **Volume 5.3.1 and Volume 5.3.2**, and all ES environmental topic chapters (**Volumes 5.6 to 5.16)** in the sub section "Construction Effects" |
| The SoS welcomes the commitment in the Scoping Report to the consideration of the potential effects of the proposed development on Public Rights of Way (PRoW). However, the ES should clearly identify all potentially affected PRoW and set out impacts on them, including the need for any stopping up or diversion orders, and what mitigation would be appropriate in the short, medium and long term. | Effects on PRoW are addressed in **Volumes 5.6.1, 5.7.1, 5.12.1 and 5.15.1.** There is also a PRoW Management Plan provided at **Volume 5.26.6**. |
| There could be significant disruption during the construction phase (including removal of redundant infrastructure) and road closures and diversions which need to be agreed with the Council Network Management. | The Proposed Development activities and components are described in **Volume 5.3.1**. All construction effects in relation to Traffic and Transport, anticipated as part of the development are discussed in detail throughout **Volume 5.12.1** including any traffic management measures required. |
| A full Construction Management Traffic Plan (CTMP) and Traffic Incident Management Plan (TIMP) should be provided. | These documents are provided within the Draft CTMP (**Volume 5.26.5**). |

| Representation | Response |
|---|---|
| The scope of the TA was provided to the HA, JMP and the Local Planning Authorities (LPAs) as part of the response to the draft Scoping Report Transport chapter comments. These need to be taken into account and included in the subsequent TA. | Relevant Local Authorities were consulted in the development of the TA provided as Supporting Document, **Volume 5.22** of the ES. |

### *Statutory Stage 4 Consultation*

12.1.8 Statutory Stage 4 Consultation took place over a period of eight weeks between 3 September and 29 October 2013 in accordance with the Planning Act 2008. Statutory and non-statutory consultees and members of the public were included in the consultation. Various methods of consultation and engagement were used in accordance with the Statement of Community Consultation (SoCC) including letters, website, public exhibitions, publicity and advertising, inspection of documentation at selected locations and parish and town council briefings.

12.1.9 National Grid prepared a Preliminary Environmental Information Report (PEIR) which was publicised at this consultation stage. This included a chapter which looked to identify and discuss the preliminary effects associated with the potential increases in road traffic from the Proposed Development.

12.1.10 National Grid sought feedback on the environmental information presented in that report. Feedback received during Statutory Stage 4 Consultation was considered by National Grid and incorporated where relevant in the design of the project and its assessment and presentation in this ES.

12.1.11 A summary of the Statutory Stage 4 Consultation representations received (relevant to EIA) and National Grid's responses are summarised at **Volume 6.1** (Consultation Report). A summary of the main Statutory Stage 4 Consultation representations received in relation to traffic and transport is presented in the table below.

Table 12.2 Summary of the Main Traffic and Transport Statutory Stage 4 Consultation Representations Received

| Representation | Response |
|---|---|
| The Councils consider that the consultation material supplied to date requires more<br><br>details relating to the TA, CTMP and a CMS as these will form the key elements of the DCO submission | **Volume 5.22** (TA) and **Volume 5.26.5** (Draft CTMP) were agreed in principle with JMP Consultancy (JMP) on behalf of the local highway authorities affected prior to submission of the completed assessments and documentation. |

| Representation | Response |
|---|---|
| The consultation document contains a range of information relating to the proposed highway accesses, only some of which have been subject to discussion with the various local highway authorities. It is not possible at this stage for approval in principle to be given to all the proposed accesses due to the limited amount of information that has been provided for the purposes of this consultation. All proposed access arrangements will need to be subject to detailed technical audits | **Volume 5.12.1 and Volume 5.22** (TA) detail the final bellmouth locations which were agreed in principal with JMP on behalf of the Local Authorities prior to the submission of the completed assessments and documentation. |
| The number of PRoW affected by the proposed development is considerable. For the paths affected National Grid proposes "path management" for paths which will be unavailable for up to six months. This is despite a number of the paths being used as access routes/haul roads for works traffic resulting in alterations to the surface of those paths. Paths are suggested for formal closure with a diversion being provided where possible.<br><br>There are limited details in relation to the impacts on the PRoW network for those paths affected by the dismantling of the existing 132kV line. | Effects on PRoW are detailed in **Volume 5.15.1** as well as being discussed within this chapter. In addition, a PRoW Management Plan detailing the affected PRoW and the management procedures is provided as supporting document **Volume 5.26.6.** |
| The impact assessment is still incomplete, and therefore a full commentary on the acceptability of the proposed mitigation cannot be given at this stage. | A Draft CTMP has been produced, consulted upon and submitted, setting out proposed mitigation for traffic and transport as part of the DCO submission. This is found at supporting document **Volume 5.26.5.**<br><br>Mitigation is also discussed in section 12.8 of this Chapter. |

### *Draft ES and Supporting Documents*

12.1.12 The Draft ES and a large number of the ES supporting documents were provided to a number of statutory and non-statutory bodies over a period of two weeks between 3 and 17 February 2014. This process of engagement (over and above that required by the statutory consultation process) was undertaken to provide an opportunity for these bodies to influence the assessment documents prior to their finalisation to accompany the Development Consent Order (DCO) application.

12.1.13 A summary of the Draft ES representations received (relevant to EIA) and National Grid's responses are summarised at **Volume 5.5.2, Appendix 5C.** A summary of the main Draft ES representations received in relation to traffic and transport are presented in the table below.

Table 12.3 Summary of the Main Traffic and Transport Draft ES Representations Received

| Representation | Response |
|---|---|
| It is noted that given the amount of information received, the LAs have not been able to conduct a full assessment as to the validity of these results.<br><br>However, the amount of congestion on the network during the future scenario provides the LAs with concerns. This will need to be managed through either restrictions on the number of vehicles travelling at peak times, physical measures or a combination of both. | **Volume 5.22** (TA) identifies through assessment where junctions capacity is an operational issue in the existing and future year assessment scenarios. Where a potential capacity issue has been identified National Grid has suggested vehicle restrictions as mitigation. These are to be agreed with the LPAs/ HA. |
| It is noted that workers / deliveries may start on site up to one hour before / after the core working hours. This will need to be a discussed on a site by site basis due to the sensitivity of some roads which are close to residences. | Extended working hours outside of the identified core hours would have to be discussed and agreed with the relevant LPA. If a specific issue is raised then the working hours will be discussed on a site by site basis. Working hours will be secured via a DCO Requirement.<br><br>The purpose of the 1 hour extension is for 'start up' work. No plant will be operated during these one hour periods. Vehicle movements to the site will be outside peak periods and therefore delivery of materials and staff movements would not be detrimental to the operation of the LRN or SRN. The 1 hour extension is described in more detail in the Draft CTMP (**Volume 5.26.5**) which will be secured and implemented via a DCO Requirement. |
| Reference should be made to the need for condition surveys prior to undertaking works and reinstating. | The need for conditions surveys to be undertaken prior to construction works and reinstating has been included within **Volume 5.22** (TA) and **Volume 5.26.5** (Draft CTMP). |
| The core hours identified in the report are between 07:00-19:00. North Somerset Council has requested that there be no HGV traffic during peak hours, or at a minimum no more than 30 two-way movements during peak hours, as noted in section 9.4.17 – reference to this should be made here. | Any restrictions on any vehicle movements will be agreed with the relevant LPAs and will be included within the CTMP. National Grid, the LPAs and the HA are currently in discussions regarding content and mitigation which will be included within and secured via **Volume 5.26.5** (Draft CTMP). |
| The A38 has now been mentioned, but a section detailing the features along this potential diversion route (the same as the sections for each link) should also be included (even though it is not part of the intended route). | This diversion route will be included within an Incident Management Plan which will be included within the **Volume 5.26.5** (Draft CTMP). |

| Representation | Response |
|---|---|
| Mitigation section is weak and does not include any reference to the junctions identified as overcapacity in Section 12 and how the impact of this will be mitigated. | Mitigation section has been amended. National Grid are in discussion with and will continue to engage with the relevant Highways Authorities and Highways Agency during the examination of the DCO in order to agree a final version of this Draft CTMP prior to the DCO being determined. The final **Volume 5.26.5** (and compliance with it) will be secured as a Requirement of the DCO. National Grid, the LPAs and the HA are currently in discussions regarding mitigation which will be secured via **Volume 5.26.5**. |
| Somerset County Council believe, that given the temporary nature of the project and the existing physical constraints at a number of the identified junctions, it is not unreasonable to assume that construction traffic management (non-physical measures) could be found to be the most appropriate method of mitigation in the majority of locations (subject to a full audit of the modelling work). Two key junctions have however been identified where for a number of reasons physical measures might be deemed an appropriate means of mitigation. The identified junctions as referenced within the Curtins TA are:<br>• (4) A39 Puriton Hill/Bath Road<br>• (6) A39 Bath Road/Woolavington | No physical measures/ temporary or permanent highway improvement schemes are proposed with the exception of Factory Lane and where TTM are proposed. |
| We note a commitment to managing the volume of trips in the peak hours upon the local road network and consultation being undertaken with Local Planning Authorities on this matter. Given the scale of forecast trips it is essential that the impact and mitigation of these trips is also considered for the SRN. Restricting trips accessing the SRN in peak hours, as well as the local roads, is considered an essential mitigation measure to minimise the impact of this development | National Grid are committed to working with the local authorities and Highways Agency to limit the impacts of the Proposed Development in line with current national, regional and local transportation policy. It is explicit throughout the CTMP that consultation will be undertaken with the local authorities and the HA.<br><br>It is considered that the HGV vehicle movement restrictions which will be applied to the LRN will have a positive mitigation effects on the SRN. Peak period HGV restrictions on the LRN will be experienced on the SRN. HGVs may be required to travel some distance on the SRN and restrictions on the use of the SRN are likely to be detrimental to the delivery of materials and the progress of the construction works. |

| Representation | Response |
|---|---|
| The draft ES identifies a number of links in NS, some of which pass by sensitive receptors including schools, which exceed Rule 2 of the IEMA guidance. The draft ES refers to mitigation within the CTMP particularly in regard to severance, pedestrian amenity, pedestrian delay, driver delay etc but no detailed mitigation has been provided to address the impact. It is also noted that the draft ES cites the 'temporary nature of the development' to support only a slight impact but the TA will need to clarify the duration of the temporary impact and this will need to be consistent with the draft ES | **Volume 5.22** (TA) and **Volume 5.26.5** (Draft CTMP) focus on managing out the impacts of the development through the implementation of management tools and vehicle movement restrictions, where vehicle movement restrictions are based on existing and future levels of capacity.<br><br>The latest version of **Volume 5.22** (TA) provides detailed analysis of the 'temporary nature of the Proposed Development' i.e. the construction traffic through the provision of annual traffic profiling analysis. |

***Other Engagement***

12.1.14 A series of meetings have taken place to discuss the proposals with the affected Local Authorities and the Highways Agency. These included the following:

- meeting with all Parties – 25 April 2013;
- meeting with Bristol City Council (BCC) – 24 May 2013;
- meeting with Somerset County Council (SCC) – 20 May 2013;
- meeting with North Somerset Council (NSC) – 22 May 2013;
- meeting with JMP on behalf of the Joint Councils – 17 May 2013.
- meeting with SCC – 18 June 2013;
- meeting with NSC – 11 July 2013;
- meeting with all Parties – 15 August 2013;
- meeting with all Parties – 15 October 2013;
- meeting with all Parties – 4 November 2013; and
- meeting with JMP – 11 November 2013;
- meeting with all Parties – 21 November 2013;
- meeting with all Parties – 13 January 2014; and
- meeting with all parties - 6 February 2014.

12.1.15 In addition to the above, weekly teleconferences have been held between National Grid, their highways consultants Mott MacDonald and Curtins and the Joint Councils and their highways consultants JMP on a weekly basis throughout December and January.

12.1.16 The key focus of the consultation meetings was to discuss the scope of the documents to accompany the DCO application, agreeing the highway links to be used by construction traffic and agreement in principle on the location and form of the Proposed Development bellmouths.

12.1.17 The meetings held with the Local Authorities and/or their representatives to discuss the key aspects of the predicted traffic and transport associated with the Proposed Development. These took place throughout the preparation of this chapter as well as the production of the TA and Draft CTMP.

12.1.18 In addition, seven technical notes were submitted for review and agreement prior to the submission of the DCO application. These set out key aspects of the Proposed Development in regards to transport such as traffic generation and traffic distribution.

12.1.19 Where comments were provided these were incorporated into the proposals wherever possible. These particularly related to the location of access positions and the proposed construction routes (see **Volume 5.22.3, Figure 22.1**) to be used by the construction traffic.

12.1.20 Subsequently, the scope of the ES and TA was agreed along with the construction access routes to be used (subject to the appropriate mitigation), and the location and form of the proposed vehicle accesses (in principle).

## 12.2 Policy and Legislation

12.2.1 Discussions with the Local Authorities enabled a full list of policy and legislation to be established for consideration throughout the development of the ES and TA. These have been split into national policy and local policy, and discussed in relation to the Proposed Development below:

### National Policy and Guidance

12.2.2 Relevant national policy and guidance includes:

- National Policy Statements (NPS);
- National Planning Policy Framework (NPPF); and
- Department for Transport (DfT) Circular 02/13, The Strategic Road Network and The Delivery of Sustainable Development, 2013.

#### *National Policy Statements (NPSs)*

12.2.3 The principal guidance for examination of the application is that provided by Overarching National Policy Statement for Energy (EN-1) and National Policy Statement for Electricity Networks Infrastructure (EN-5).

12.2.4 The energy NPSs set out national policy against which proposals for major energy projects will be assessed by the National Infrastructure Directorate (NID) within the Planning Inspectorate. NID will use NPSs in its examination of applications for development consent, and Ministers will use them when making decisions.

12.2.5 NPS EN-1 is directly relevant to this chapter and the relevant sections and how they have been addressed are summarised in the table below.

Table 12.4 Summary of NPS EN-1 Requirements Relevant to Traffic and Transport

| Para | Requirement | ES Section | Compliance Assessment |
|---|---|---|---|
| 5.13.3 | If a project is likely to have significant transport implications, the applicant's ES should include a transport assessment, using the NATA/WebTAG methodology stipulated in Department for Transport guidance, or any successor to such methodology. | A TA is provided at **Volume 5.22** | Section 12.1: A TA has been produced in order to provide a full assessment of the likely impacts of the construction traffic associated with the Proposed Development during all phases of the works. The TA has been produced in accordance with DfT guidance and standards of assessment and should be read alongside this ES. |
| 5.13.3 | Applicants should consult the Highways Agency and Highways Authorities as appropriate on the assessment and mitigation. | Section 12.1 of this Volume; the TA at **Volume 5.22** and the Draft CTMP at **Volume 5.26.5** | Section 12.1 and **Table 12.1/12.2** of this chapter. Sections 5 and 6 of the Draft CTMP describe how appropriate discussions have been held and will continue to be held as appropriate. |
| 5.13.4 | Where appropriate, the applicant should prepare a travel plan including demand management measures to mitigate transport impacts. | A TA is provided at **Volume 5.22** | Due to the nature of the development, Travel Plans (TPs) will not be provided for each specific are of development. An Indicative Framework Travel Plan (FTP) has been included within the TA which sets out a number of proposed sustainable travel planning initiatives. |
| 5.13.4 | The applicant should also provide details of proposed measures to improve access by public transport, walking and cycling, to reduce the need for parking associated with the proposal and to mitigate transport impacts. | Draft CTMP at **Volume 5.26.5** | A travel planning section is referenced in section 12.2 of this Volume and section 6 of the Draft CTMP (**Volume 5.26.5**). Travel planning measures and initiatives are promoted to increase access the site on-foot or by bicycle are limited. |

| Para | Requirement | ES Section | Compliance Assessment |
|---|---|---|---|
| 5.13.6 | A new energy NSIP may give rise to substantial impacts on the surrounding transport infrastructure and the IPC should therefore ensure that the applicant has sought to mitigate these impacts, including during the construction phase of the development | **Volume 5.12.1** and Draft CTMP at **Volume 5.26.5** | A mitigation strategy (including the construction phase) has been discussed in consultation with the LPAs as contained within section 12.6 and 12.7 of this Volume. Sections 5, 6 and 7 of the Draft CTMP (**Volume 5.26.5**). |
| 5.13.10 | Water-borne or rail transport is preferred over road transport at all stages of the project, where cost-effective. | TA at **Volume 5.22** | The TA has considered all viable modes of transport and as appropriate water-borne and rail trips have been considered as contained in section 12.2 of this Volume. |
| 5.13.11 | The IPC may attach requirements to a consent where there is likely to be substantial HGV traffic that:<br><br>● control numbers of HGV movements to and from the site in a specified period during its construction and possibly on the routing of such movements;<br><br>● make sufficient provision for HGV parking, either on the site or at dedicated facilities elsewhere, to avoid 'overspill' parking on public roads, prolonged queuing on approach roads and uncontrolled on-street HGV parking in normal operating conditions; and<br><br>● ensure satisfactory arrangements for reasonably foreseeable abnormal disruption, in consultation with network providers and the responsible police force. | Likely Requirements are included in the DCO and in section 12.8 of this Volume; the TA at **Volume 5.22** and the Draft CTMP at **Volume 5.26.5** | All construction traffic routes to the site have been agreed with the Local Authorities. Discussions are currently ongoing in regards to a number of peak hour HGV restrictions. Measures have been taken to ensure no parking occurs on local public roads and all abnormal load deliveries will consult with the Local Authorities and the Police. |

***National Planning Policy Framework (NPPF)***

12.2.6 The NPPF sets out the current national transport planning policy and outlines the important role that transport policies have to play in facilitating sustainable development. However the NPPF does not set policy for testing the acceptability of nationally significant infrastructure projects.

12.2.7 From the outset, the Minister for Planning's Foreword lays the foundations for current policy thinking:

*"The purpose of planning is to help achieve sustainable development…Development means growth. We must accommodate the new ways by which we will earn our living in a competitive world. We must house a rising population, which is living longer and wants to make new choices. We must respond to the changes that new technologies offer us. Our lives, and the places in which we live them, can be better, but they will certainly be worse if things stagnate."* (Ref. 12.2)

12.2.8 Paragraph 14 states that at the heart of NPPF is a:

*"…presumption in favour of sustainable development, which should be seen as a golden thread running through both plan making and decision making."* (Ref. 12.2)

12.2.9 For decision making this means granting permission unless:

*"…any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies."* (Ref. 12.2)

12.2.10 The NPPF Planning Practice Guidance has recently been updated (6 March 2014). The updated guidance relates to Travel Plans, Transport Assessments and Statements in relation to decision making. The updated transport planning practice guidance is contained in paragraphs 32 and 36 of the NPPF Planning Practice Guidance as detailed below.

12.2.11 Paragraph 32 of the NPPF states that:

*"Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe."* (Ref. 12.2)

12.2.12 In principle, the NPPF supports the development of low carbon energy and sustainable development. The Proposed Development would not run contrary to the policies relating to transport in the NPPF.

12.2.13 Throughout the NPPF and other national and local policy and guidance, Travel Plans are frequently referenced. Paragraph 36 of the NPPF states that:

*"All developments which generate significant amounts of movement should be required to produce a Travel Plan."* (Ref. 12.2)

12.2.14 A Framework Travel Planning Statement has been produced for the Proposed Development and is included within the accompanying TA (**Volume 5.22**).

***Circular 02/13 The Strategic Road Network and The Delivery of Sustainable Development, 2013***

12.2.15 Circular 02/13 demonstrates the way in which the Highways Agency will engage with communities and the development industry to deliver sustainable development. Paragraph 12 states that:

*"…most efficient use of the limited available capacity on the strategic road network, and because additional physical capacity is difficult, costly and takes time to provide, the Highways Agency will engage in the Local Plan process to reduce the potential for creating congestion on the strategic road network.."* (Ref.12.3)

12.2.16 Paragraph 17 states that the Highways Agency will:

*"…work with local authorities and developers to identify opportunities to introduce travel plan measures for individual developments and groups of development that will support sustainable transport choice."* (Ref. 12.3)

12.2.17 This is of additional relevance to the accompanying TA, with its Travel Planning section.

12.2.18 Paragraph 45 notes that:

*"…developers must ensure all environmental implications associated with their proposals, are adequately assessed and reported so as to ensure that the mitigation of any impact is compliant with prevailing policies and standards."* (Ref. 12.3)

12.2.19 A full assessment of the environmental implications of the Proposed Development has been made in this ES.

12.2.20 National Grid has continued to ensure that the Highways Agency is well consulted throughout the development and planning process.

**Local Policy and Guidance**

12.2.21 Relevant local policy (see **Volume 5.4.2, Appendix 4A**) and guidance considered includes:

- West Somerset Council Local Plan 2012 to 2032 (2012);
- Hinkley Point C Project Supplementary Planning Document (2011) (a joint document prepared by SDC and WSC);
- Sedgemoor Core Strategy 2006-2027 (2011);
- PPS1 Supplement Study: Planning and Climate Change (2010);
- Bridgwater Vision (2009);

- Somerset Future Transport Plan 2011-2026 (2011);
- North Somerset Replacement Local Plan (2007);
- North Somerset Council Core Strategy (2012);
- West of England Joint Local Transport Plan 3 2011-2026 (a joint document prepared by NSC, BCC and SGC);
- The Bristol Local Plan (1997);
- Bristol Development Framework Core Strategy (2011);
- Adopted 2nd Review Gloucestershire Structure Plan (1991-2011);
- South Gloucestershire Local Plan (2006); and
- West of England Joint Local Transport Plan 3 2011-2026 (shared with NSC and BCC).

12.2.22 A number of the guidance and policy documents have been discussed below. These are likely to have the greatest influence on the Proposed Development due to the geographical locations of the construction routes and bellmouths

12.2.23 Like the NPPF, local planning policy does not set policy for testing the acceptability of nationally significant infrastructure projects.

12.2.24 A number of the local planning policies identified above (North Somerset Local Plan Policy T7 and South Gloucestershire Local Plan Policy T6) relate to the preservation of the amenity and safety of PRoW and other forms of access. PRoW and other public accesses have been identified as part of the baseline environment and included as part of the assessment. Where the Proposed Development is considered to have an adverse effect on access (including PRoW), mitigation is proposed, including diversion routes proposed during construction, which is detailed at **Volume 5.26.6**.

12.2.25 The remaining policies (Sedgemoor District Core Strategy policy D10 and South Gloucestershire saved Local Plan policy T12) consider the traffic impacts of development. This is also a theme which runs through the Local Transport Plans, which provide a range of strategic objectives for transport. As part of the Traffic Assessment (**Volume 5.22**), the impacts of construction traffic on local roads and public amenity have been assessed and proposals to reduce the effects of construction are detailed in the Draft CTMP (**Volume 5.26.5**).

***West of England Joint Local Transport Plan 3 2011-2026***

12.2.26 The West of England Joint Local Transport Plan 3 was approved by South Gloucestershire Council on 15th December 2010, Bristol City Council and North Somerset Council on 18th January 2011, and Bath and North East Somerset Council on 20th January 2011. It aims to achieve an:

*"…affordable, low carbon, accessible, integrated, efficient and reliable transport network to achieve a more competitive economy and better connected more active and healthy communities."* (Ref. 12.4)

### *Somerset's Future Transport Plan 2011 — 2026*

12.2.27 Somerset's Future Transport Plan 2011 — 2026 (FTP) replaced Somerset County Council's (SCC) Second Local Transport Plan (LTP2) in April 2011 and sets out a long-term strategy for helping to deliver transport priorities up until 2026.

12.2.28 The FTP contains the following aims:

- *"Help communities help themselves with regard to transport improvements;*
- *Assisting people to make smarter travel choices;*
- *Assisting people in being more active by providing more opportunities to travel in a healthy way;*
- *Manage the effect transport-related noise has on communities;*
- *Work with developers to ensure they take in to account the way people travel, and how people travel to access services;*
- *We will help hauliers choose the most appropriate routes and work to improve communication between communities and the hauliers that serve them; and*
- *Encourage people to cycle and make more trips on foot."* (Ref. 12.5)

### *Hinkley Point C Project Supplementary Planning Document (SPD)*

12.2.29 The Hinkley Point C SPD, whilst not directly applicable to its proposed connection (the Proposed Development) recognises that the development of a nuclear power station is of national importance. However, there are concerns about the impact on the highway network, and paragraph 1.3 states that:

*"Given the scale of development and intensity of construction activity connected with the project, any strategies should seek to avoid unacceptable impacts on landscape, the natural environment, highways infrastructure, the quality of life for local residents, and impacts in terms of inward investment by other business sectors*." (Ref. 12.6)

12.2.30 The Proposed Development would not be contrary to policies relating to transport within the SPD. There are also mitigation strategies throughout the ES and TA which seek to avoid unacceptable impacts on the surrounding environment, highway infrastructure, local businesses and quality of life for surrounding residents in their communities.

### *Bridgwater Vision (2009)*

12.2.31 The Bridgwater Vision document sets out a clear aim for the area:

*"To develop a 'spatial" vision for Bridgwater in order to bring about place transformation and help to create distinctiveness with a re-vitalised image and economic base, effectively repositioning the town."* (Ref. 12.7)

12.2.32 Central to this strategy is the completion of seven projects. These comprise:

Project 1 – Northgate/Docks Renaissance;
Project 2 – The Clink;
Project 3 – Station Gateway;

Project 4 – Westgate;
Project 5 – Bridgwater Riverside;
Project 6 – Celebration Mile; and
Project 7 – The River.

12.2.33 None of the projects are directly affected by the construction access route in terms of their geography, as they are all situated to the south of the proposed construction access route. These are long term projects with implementation periods of up to 30 years, and therefore there should be minimal conflict between construction traffic.

12.2.34 Bridgwater Vision supports the general principles of sustainable development and of low carbon energy. There are no policies relating to transport which would be contrary to the Proposed Development.

***North Somerset Council Core Strategy***

12.2.35 Of the policies within the North Somerset Core Strategy, of particular relevance to Transport and the Proposed Development is CS10: Transport and Movement. It states:

*"Travel management policies and development proposals that encourage an improved and integrated transport network and allow for a wide choice of modes of transport as a means of access to jobs, homes, services and facilities will be encouraged and supported."* (Ref. 12.8)

12.2.36 It outlines the following schemes of relevance to the Proposed Development:

- *"M5 Junction 19 improvements;*
- *Reopening of the Portishead to Bristol line for passenger services, or its use for bus rapid transit; and*
- *Junction 21 Bypass or Relief Road."* (Ref. 12.8)

12.2.37 In addition, Policy T/10 of the North Somerset Replacement Local Plan is focused on safety, traffic and the provision of infrastructure associated with development. It is a policy to ensure new development does not prejudice highway safety. The highway safety impact is considered in section 12.4 of this chapter.

## 12.3 Method

**Approach and Guidance**

12.3.1 The need for an environmental impact assessment of the traffic and transport effects of the Proposed Development is highlighted in several documents and guidance notes. The Department for Transport's (DFT's) document, "Guidance on Transport Assessments" (2007) states:

*"The environmental impacts of any significant development need to be addressed. This might include it being covered by a separate Environmental Statement (ES), which involves an assessment of a development's potential environmental implications, including those that are transport related. This will help ensure the impacts and the scope for mitigating them are properly addressed."* (Ref. 12.9)

12.3.2 In addition the 'Guidelines for the Environmental Assessment of Road Traffic' produced by the Institute of Environmental Assessment (IEA) (now the Institute of Environmental Management (IEMA)) in 1993 has been taken into account. (Ref. 12.10)

12.3.3 The 1993 IEA guidelines recommend that the environmental effects listed in Table 2.1 of the guidelines may be considered important when considering traffic from an individual development. These include:

- severance;
- driver delay;
- pedestrian delay;
- pedestrian amenity;
- accidents and safety; and
- hazardous loads.

12.3.4 There are a number of other potential effects relating to the traffic generated by a development. These include effects associated with noise, vibration, visual impact, air quality, ecological effects and heritage and conservation. These are considered in other chapters of the ES relating to that specific discipline. Inter-relationships of potential effects are also considered within section 12.6.

12.3.5 With regard to the remaining effects, the guidelines states that the following rules should be used as a screening process to delimit the scale and extent of the assessment:

*'Include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%); and Include any other specifically sensitive areas where traffic flows have increased by 10%, or more.'* (Ref. 12.10)

12.3.6 The IEA guidelines go on to state that any increases in traffic flows of less than 10% are generally accepted as having no discernible environmental impact as daily variance in traffic flows can be of equal magnitude.

12.3.7 The 30% threshold relates to the level at which humans may perceive change and there may therefore be an effect. Effects above this level therefore do not necessarily suggest that there is a significant impact, only that further consideration is required to assess the significance.

**Study Area**

12.3.8 For this assessment the study area has been defined by identifying those links or geographic locations where development traffic would be required to access.

12.3.9 In this instance this includes the M5 Motorway at key junctions in proximity to the Proposed Development and all other public highway links identified for use by the Proposed Development and also any PRoW crossed or affected by the Proposed Development. Further details of the locations included within the study area are set out under the baseline below.

**Methodology**

12.3.10 To establish a baseline position, traffic data has been collected at key locations and proposed traffic routes within the study area. The locations for the collection of traffic data were identified and agreed through discussions with the relevant Planning Authority during the scoping process. The locations where data has been collected is shown in **Volume 5.22.3, Figure 22.2**.

12.3.11 The data was collected in 2013 and a growth factor applied to this for a number of future assessment scenarios so that any traffic generated by the Proposed Development can be assessed against it.

12.3.12 All traffic data has been collected within June, a neutral month, as specified by guidance set out by the DfT GTA document, which states:

*"The traffic data should reflect the normal traffic flow conditions on the transport network (e.g. non-school holiday periods, typical weather conditions etc.) in the vicinity of the site, and should be valid for the intended purposes. It should also take account of holiday periods in tourist areas, where peaks could occur in periods that might normally be considered non-neutral. The recommended periods for data collection are spring and autumn, which include the neutral months of April, May, June, September and October."* (Ref. 12.11)

12.3.13 To understand the likely potential effects that the Proposed Development's construction traffic would have during the tourist season, additional summer counts were conducted at selected locations agreed with the LPAs for a week beginning 8 August 2013.

12.3.14 In addition to the collection of baseline traffic data, the location and volume of the likely increases in traffic as a result of the Proposed Development have been assessed. Those receptors that may be affected by the increases in vehicular activity have been considered.

12.3.15 Following this, an assessment, in line with current guidance, has been undertaken identifying the likely effects of the severance, driver delay, pedestrian delay, pedestrian amenity and highway safety on local identified receptors.

12.3.16 With regard to severance, The IEA guidelines indicate that traffic flows would have to increase by more than 30% in order for a 'slight' change in severance to occur, 60% for a 'moderate' change to occur and 90% for a 'substantial' change to occur. (Ref. 12.8).

12.3.17 The scale of fear and intimidation experienced by receptors along the identified access routes is subjective and influenced by the volume and the type of vehicle but also the level of protection available, such as having a property set back from the highway, wide footways and screening by vegetation. This has been discussed in regards to any identified sensitive receptors within the baseline section of this chapter.

12.3.18 Driver delay can occur as a result of increased traffic flows on the network as a result of the Proposed Development. This generally occurs at junctions where there are additional turning movements. As part of the TA which accompanies this ES, junction capacity assessments have been undertaken following an assessment of the potential traffic flows related to the construction of the Proposed Development.

12.3.19 With regard to pedestrian delay and amenity, changes in the volume, composition or speed of traffic may affect the ability of people to cross roads leading to delays for pedestrians. The IEA guidance indicates that a two-way link flow of approximately 1,400 vehicles per hour broadly equates to a 10 second pedestrian delay in crossing a road. Based on the above guidance the actual delay can be calculated for each link.

12.3.20 Furthermore, pedestrian and cyclist delay and amenity is considered with regard to any footways or cycle ways that have to be temporarily closed or diverted due to the construction of the Proposed Development. In addition, cyclist amenity is considered in regard to traffic flows in order to take account of any potential adverse effects of increased HGV traffic on roads where there are no cycle facilities.

**Method for Assessing Significance**

12.3.21 **Table 12.5** sets out the criteria by which any potential effects will be assessed.

Table 12.5 Assessment Criteria

| **Impact** | **Assessment Criteria** | | | |
|---|---|---|---|---|
| | **Negligible** | **Minor** | **Moderate** | **Major** |
| Severance | Increase in total traffic flows of 30% or under (Or increase in HGV flows under 10%) | Increase in total traffic flows of 30% – 60% (Or increase in HGV flows over 10% based on the sensitivity of the receptors) | Increase in total traffic flows of 60% - 90% (Or increase in HGV flows over 10% based on the sensitivity of the receptors) | Increase in total traffic flows of 90% and above. (Or increase in HGV flows over 10% based on the sensitivity of the receptors) |

| Impact | Assessment Criteria | |
|---|---|---|
| Pedestrian Delay | Total traffic flows under 1,400 vehicles per hour. | This will be assessed on a case by case basis subject to the sensitivity and vulnerability of the receptor. |
| Pedestrian Amenity | This will be assessed on a case by case basis using professional judgement subject to the sensitivity and vulnerability of the receptor/pedestrian route identified. | |
| Fear and Intimidation | This will be assessed on a case by case basis using professional judgement subject to the sensitivity and vulnerability of the receptor/pedestrian route identified. | |
| Driver Delay | This will be assessed on a case by case basis using professional judgement subject to the sensitivity and vulnerability of the receptor and the results of any capacity assessments/traffic modelling undertaken as part of the TA. | |
| Highway Safety | This will be assessed against national averages and trends to identify if the existing accident rate is greater than the national averages. Furthermore an assessment has been undertaken to identify any significant correlations in the accident data obtained. | |

12.3.22 IEA Guidance for the Environmental Assessment of Road Traffic suggests two broad rules which could be used as a screening process to delimit the scale and extent of and assessment, these being:

- include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%); and
- include any other specifically sensitive areas where traffic flows have increased by 10% or more.

12.3.23 The Assessment Criteria detailed in **Table 12.5** sets out the two main considerations with specific regard to increases in: (a) total traffic; and (b) HGV traffic.

12.3.24 The Assessment Criteria sets two thresholds for raising the significance of effect on any link, these being:

- an increase of 30% in total traffic in 30% intervals from 0 -30%, 30 -60%, 60 – 90% and >90% representing the assessment criteria from negligible to major; and
- 10% increase in HGV traffic.

12.3.25 This Assessment Criteria therefore allows for simultaneous assessments to be conducted or for any link, whereby either total traffic (including HGV is the primary assessment factor) or alternatively HGV traffic is considered.

12.3.26 Where total traffic is low, HGV traffic may have increased by 10% or above on a link and therefore raising the assessment criteria from negligible to minor, minor to moderate or moderate to major from the existing environmental value (sensitivity) classification of a link.

12.3.27 Environmental values (sensitivity) of receptors and links are discussed below.

***Sensitivity of Receptors***

12.3.28 The sensitivity of a particular receptor can be defined by the degree to which it responds to a change in its environment. In this assessment this will predominantly relate to the effects of an increase in road traffic on a particular receptor.

12.3.29 Within the IEA guidance, the following groups of people/places are identified as being susceptible to changes in traffic conditions:

- people at home;
- people at work;
- children, elderly and disabled persons;
- sensitive locations such as hospitals, churches, schools, historical buildings;
- pedestrians;
- cyclists;
- open recreational spaces;
- sites of ecological/nature conservation value; and
- sites of tourist/visitor attraction. (Ref. 12.10)

12.3.30 **Table 12.6** shows a range of receptors and their sensitivity to an increase in traffic. These have been classified as being negligible, minor, moderate and high in line with the Guidelines for the Environmental Assessment of Road Traffic (Ref. 12.10).

Table 12.6 Sensitivity of Receptors

| **Receptor** | **Sensitivity** |
|---|---|
| Schools, colleges, playgrounds, retirement homes. | High |
| Congested junctions, shops/businesses, pedestrians/cyclists, areas of ecological/nature conservation value, residential properties close to the carriageway. | Moderate |
| Sites of tourist/visitor attraction, places of worship, residential areas set back from the highway with screening. | Minor |
| Those people and places located away from the affected highway link. | Negligible |

12.3.31 In addition to those receptors identified above and at the request of the LPAs, hospitals, GP surgeries and playing fields have been included as sensitive receptors.

12.3.32 An assessment has been undertaken looking at the quantity and classification of the sensitivity of receptors along each of the highway links which will be used during the construction of the Proposed Development. Based on the quantity and

classifications each link has been given an overall sensitivity classification, i.e. negligible, minor, moderate or high. These are included with baseline descriptions of the highway links affected below.

**Significance of Effect**

12.3.33 This is described within the Design Manual for Roads and Bridges (DMRB) Volume 11, Section 2, Part 5 (2008). It states:

*"The significance of the effect is formulated as a function of the receptor or resource environmental value (or sensitivity) and the magnitude of project impact (change).'*

*"The approach to assigning significance of effect relies on reasoned argument, professional judgement and taking on board the advice and views of appropriate organisations."* (Ref. 12.11)

12.3.34 **Table 12.7** below has been used to help define the significance of effects.

Table 12.7 Determining the Significance of Effects

| | **Magnitude of Effect (Degree of Change)** | | | | | |
|---|---|---|---|---|---|---|
| **Environmental Value (Sensitivity)** | | No Change | Negligible | Minor | Moderate | Major |
| | High | Neutral | Negligible/ Slight | Slight/ Moderate | Moderate/ Large | Large/Very Large |
| | Moderate | Neutral | Negligible/ Slight | Slight | Moderate | Moderate/ Large |
| | Minor | Neutral | Negligible | Negligible/ Slight | Slight | Slight/ Moderate |
| | Negligible | Neutral | Neutral | Negligible/ Minor | Negligible/ Slight | Slight |

12.3.35 The significance of the effects relate to the following as described within the DMRB Volume 11, Section 2, Part 5:

- *"Very Large – Only adverse effects are assigned this level of significance. These effects are generally, but not exclusively, associated with sites or features of international, national or regional importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or a feature of local importance may also enter this category.*
- *Large – These beneficial or adverse effects are considered to be very important considerations and are likely to be material in the decision making process.*
- *Moderate – These beneficial or adverse effects may be important, but are not likely to be key decision making factors. The cumulative effects of such factors*

*may influence decision-making if they lead to an increase in the overall adverse effect on a particular resource or receptor.*

- *Slight - These beneficial or adverse effects may be raised as local factors. They are unlikely to be critical in the decision making process, but are important in enhancing the subsequent design of the project.*
- *Neutral – No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error."* (Ref. 12.11)

## 12.4 Baseline Environment

12.4.1 The baseline highway and traffic environment has been described for each of the eight development Sections in the following text. The highway routes to be used during construction have been identified, discussed and their environmental sensitivity highlighted along with the identification of any specific sensitive receptors. A full list of these sensitive receptors is included at **Volume 5.12.2, Appendix 12A.** All construction routes referred to in the following paragraphs are shown on the routeing plans shown in **Volume 5.22.3, Figure 22.1**.

12.4.2 PRoW that would be affected by the Proposed Development have also been identified and discussed. All of the PRoW referred to in the following paragraphs are shown on the plans contained within **Volume 5.26.6**.

**Section A – Puriton Ridge**

12.4.3 Section A extends across Puriton Ridge from Bridgwater Substation north to Woolavington Hill. Figures showing the extent of each Section are provided at **Volume 5.1.2, Figure 1.1**.

12.4.4 Within Section A (and for the majority of the Proposed Development) the M5 Motorway follows a north to south alignment approximately parallel to the Proposed Development. The M5 forms part of the Strategic Road Network (SRN) and provides national highway connections to the Proposed Development.

12.4.5 From the M5 the highway links listed in the table below would be used to access the Proposed Development. Details of the links' (receptors') environmental sensitivity is also shown. These highway links form part of the proposed vehicle routeing strategy for the Proposed Development. From these routes access would be gained to individual bellmouths serving the Proposed Development. **Table 12.8** shows the highway links to be used during construction in Section A.

Table 12.8 Section A Highway Links to be Used during Construction

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| A39 Puriton Hill | TPLO-001 | Minor | Sedgemoor |
| Bath Road (South, Section A) | TPLO-002 | Minor | Sedgemoor |
| Bath Road (East, Section A) | TPLO-003 | Minor | Sedgemoor |

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| Woolavington Hill | TPLO-004 | High | Sedgemoor |

12.4.6 The A39 Puriton Hill connects to the M5 at Junction 23. The proposed 400kV overhead line crosses the A39 Puriton Hill on the southern side of Puriton Ridge.

12.4.7 The proposed 400kV overhead lines pass over the A39 Puriton Hill as well as King's Sedgemoor Drain – an artificial drainage channel which diverts the River Cary to discharge into the River Parrett at Dunball.

***Puriton Hill (Ref. TPLO-001)***

12.4.8 The A39 Puriton Hill connects the M5 via junction 23 to a number of proposed construction bellmouths within Section A. The road forms part of the proposed construction route for Proposed Development traffic and has been classified as a receptor of minor sensitivity for the reasons discussed below.

12.4.9 There are few individual receptors located in proximity to the A39 Puriton Hill. There are a number of houses of mixed type to the north of the carriageway in Puriton adjacent to Junction 23 of the M5. These are accessed off roads such as Hillside and Riverton Road. However, these properties are approximately 100m at their nearest points to the construction route, and are screened by vegetation along the northern side of the carriageway. Sunshine Pre-School is located on Riverton Road, approximately 180m from the carriageway at its nearest point. The building is well screened from the construction traffic by buildings and vegetation. Puriton Primary School and The Church of St Michael and All Angels lie approximately 275m and 500m north of the carriageway at their nearest points. There is a single property closer to the carriageway at approximately 50m, but this is again well screened by vegetation. It is considered that the majority of school pupils will reside in Puriton and not have to walk on Puriton Hill when arriving to or leaving the school. For any pupils who may walk to school living in Down End, there is a pedestrian footbridge to the north of J23 of the M5 which would be used in preference to Puriton Hill.

12.4.10 Further south east along Puriton Hill, there are a small number of residential properties with access off the southern side of the carriageway. These properties have walls or fences fronting the road, with vegetation again often present. It is considered that there will be a slight adverse effect on pedestrian access to Puriton from the residential properties, as walkers will have to cross the construction route. In addition, there is a Bed & Breakfast guesthouse which fronts the carriageway next to the residential properties. After passing a priority junction with Hillside, there is a large residential property on the northern side of the carriageway, set back approximately 25m from the road and well surrounded by vegetation. Finally Knowle Hall, currently home to 'Bibic' (a children's charity), is passed to the east of the carriageway before the A39 continues as Bath Road from a priority junction. At its closest point, Knowle Hall is approximately 225m from the carriageway, and has

its own access road. Knowle Hall is well screened by thick vegetation immediately to the east of the carriageway. It is also considered that there will be a slight adverse effect on pedestrian access to Knowle Hall from the adjacent bus stops, as walkers may have to cross the construction route from the bus stop on the southern side of the carriageway.

12.4.11 In summary, Puriton Hill is a key local distributor road with very few residential properties that access off it in the vicinity of the Proposed Development. In addition, in most cases these are set well back from the carriageway with screening.

***Bath Road (South, Section A) (Ref. TPLO-002)***

12.4.12 The A39 Bath Road (South) links the A39 to proposed construction bellmouth VQ043R-BM01 (Type 2). The road is part of an identified construction route, and has been given a minor sensitivity classification due to the number and type of receptors identified along it.

12.4.13 There are a small number of detached houses which front the carriageway in proximity to the Proposed Development. These properties are either fenced or hedged off from the road, and are generally well screened by vegetation.

***Bath Road (East, Section A) (Ref. TPLO-003)***

12.4.14 The A39 Bath Road (East) links Puriton Hill to a number of construction bellmouths within Section A via other construction access roads, but provides no direct links to a construction bellmouth. The road forms part of the proposed construction traffic routeing strategy and has been given a moderate sensitivity classification due to number and type of receptors identified along it.

12.4.15 There are a small number of detached houses to the south of the carriageway adjacent to the junction with Puriton Hill. At this location there is intermittent screening in the form of hedges on the southern side of the carriageway. From here the road passes The Knowle Inn to the north of the carriageway, and a storage facility to the south. Continuing east, the road passes a large residential property on the northern side of the carriageway, set back approximately 15m from the road and well screened by walls and vegetation. There are a small number of detached properties which front the carriageway on the southern side. The construction route then passes New Road and Bawdrip Lane, both of which lead into Bawdrip. The residential properties on these roads are approximately 100m from the A39 at the nearest point. In the centre of Bawdrip, St Michael and All Angels Church and Kingsmoor Primary School are approximately 400m and 500m south of the carriageway respectively. It is considered that the majority of Kingsmoor School attendees will reside in Bawdrip itself, and will not walk along Bath Road (East). There are some residential properties along Bath Road which are within walking distance of the school. Most of these properties are on the southern side of the carriageway and so the road will not need to be crossed. There are however a small number on the northern side of the highway.

12.4.16 Approaching the priority junction with the B3141 Woolavington Hill, there are a small number of large detached residential properties on the northern side of the carriageway. These all have their own access drives, and are set back from the carriageway by approximate distances of between 20m and 80m. These properties are screened by walls and vegetation. Finally to the south of the carriageway

approaching the junction with Woolavington Hill, there are a small number of mixed housing types fronting the carriageway. Here, there is intermittent screening from the carriageway in the form of hedges and fences.

***Woolavington Hill (Ref. TPLO-004)***

12.4.17 The B3141 Woolavington Hill links the A39 to a number of construction bellmouths within Section A, but provides no direct links to a construction bellmouth. The road is part of the proposed construction traffic routeing strategy and has been given a high sensitivity classification due to the number and type of receptors identified along it. These have been described below.

12.4.18 Adjacent to the junction with Bath Road and to the east of the road, the carriageway passes a Fuelling Station and The Fairways Caravan Park. The caravans are well screened from the surrounding highway network by vegetation. Travelling north along Woolavington Hill, the construction route passes allotments situated approximately 60m from the carriageway to the west at the nearest point. The allotments are screened by a hedgerow along the carriageway and a further line of vegetation along the allotments themselves. In Woolavington, there are a large number of residential properties on both the eastern and western sides of the carriageway. The housing types are mixed, as is the level of screening alongside the carriageway.

12.4.19 At the southern end of Woolavington the road is regularly lined with vegetation, however as the carriageway continues north, there is progressively less green screening at the front of properties towards the centre of Woolavington, with the vegetation reappearing as the road progresses to northern areas of the town. Properties which front the carriageway have either a wall, fence, or hedge throughout the construction access route through Woolavington. Travelling in a northerly direction from the A39, the route also passes The Prince of Wales Public House and Woolavington Village Primary School to the west before the road continues as the B3141 Lockswell. It is considered that there will be a slight adverse effect on pedestrian access from one side of the carriageway to the other. The Public House fronts the carriageway and has a beer garden alongside which is screened from the road by a hedgerow, whereas the school lies approximately 250m from the carriageway on Higher Road. It is considered that the majority of Woolavington Village Primary School attendee's will live in the village itself. The majority of residential properties throughout Woolavington are on the western side of Woolavington Hill, and so in this case pupils will not have to cross the road. For those needing to cross the carriageway, there is a Zebra pedestrian crossing complete with dropped kerbs, tactile paving and flashing indicator beacons adjacent to the Higher Road/Woolavington Road junction.

***Traffic Flows***

12.4.20 In order to assess the baseline traffic flows along the construction access routes, a number of Automatic Traffic Counters (ATCs) were placed across the Proposed Development Sections. Due to the size of the network, the ATCs were placed at different periods between 4 June 2013 and 28 June 2013. This resulted in three ATCs (ATC numbers 1-3) being placed in Section A for a week.

12.4.21 ATC 1 was situated on the A39 Puriton Hill, to the south of the centre of Puriton. ATC 2 was placed on the A39 Bath Road, adjacent to the junction with Puriton Hill. ATC 3 was. ATC 3 was situated on Woolavington Hill. All the ATCs in Section A were placed along proposed construction routes (see **Volume 5.22, Figure 22.1**). **Table 12.9** shows the Annual Average Daily Traffic (AADT) flows by vehicle class for the ATCs in Section A. The classes are Light Goods Vehicles (LGVs), and Heavy Goods Vehicles (HGVs). The table includes the following:

- 24hr traffic flows for the total amount of traffic;
- 24hr traffic flows for the total amount of HGVs;
- 18hr traffic flows for the total amount of traffic; and
- 18hr traffic flows for the total amount of HGVs.

Table 12.9 AADT Baseline Neutral Day AADT Traffic Flows in Section A

| **ATC – Construction Access Route** | | **Neutral Day AADT Flows** | | | |
|---|---|---|---|---|---|
| | | **24hr Total Traffic** | **24hr HGVs** | **18hr Total Traffic** | **18hr HGVs** |
| 1 | Puriton Hill | 13,868 | 1,972 | 13,479 | 1,865 |
| 2 | A39 Bath Road | 12,562 | 1,11 | 12,280 | 1,073 |
| 3 | Woolavington Hill | 4,588 | 427 | 4,507 | 417 |

12.4.22 In addition to the neutral flows, there were also a selected number of counts taken during the summer to help inform construction traffic effects during the tourist season. These additional counts included ATC1 on Puriton Hill. **Table 12.10** shows the average weekday summer flows by vehicle class for ATC1.

Table 12.10 Baseline Average Summer Weekday Traffic Flows in Section A

| ATC – Construction Access Route | | Average Summer Flows | | | |
|---|---|---|---|---|---|
| | | 24hr Total Traffic | 24hr HGVs | 18hr Total Traffic | 18hr HGVs |
| 1 | Puriton Hill | 13,918 | 1,791 | 13,522 | 1,704 |

12.4.23 The summer counts in **Table 12.10** show a total increase of 50 vehicles (0.4%) at ATC 1.

12.4.24 In addition to the above, traffic data has been obtained from the HA TRADS service for the M5 on a neutral weekday in April 2013. **Table 12.11** shows the AADT flows for the total number of vehicles at Junctions 24 and 23 of the M5.

12.4.25 Table 12.11 AADT M5 TRADS Flows in Section A

| ATC – M5 TRADS Data | AADT Flows | |
|---|---|---|
| | 24hr Total Traffic | 18hr Total Traffic |
| J24 | 52,317 | 50,082 |
| J23 | 52,430 | 50,025 |

***Cycling***

12.4.26 National Cycle Route 3 travels through Chedzoy, Bawdrip and Crossington but is not crossed by the existing overhead lines, or the Proposed Development.

12.4.27 National Cycle Route 3 connects Land's End to Bristol. The route north of Bridgwater crosses the Somerset Levels, Mendip Hills and the Chew Valley utilising mainly country roads. National Cycle Route 33 connects Bristol and Seaton and provides links to Clevedon, Weston-Super-Mare, Bridgwater and Chard.

***Walking***

12.4.28 A review of the PRoW has indicated that a total of 13 designated PRoW would be crossed by the Proposed Development in Section A as follows:

- BW/3/1
- BW/8/10
- BW/8/9
- BW/8/19
- BW/2/5
- BW/2/2
- BW/2/3
- BW/2/13
- BW/2/12
- BW/2/44
- BW/28/1
- BW/2/46
- BW/28/2

12.4.29 During June 2013, count surveys were conducted on key PRoW during 08.00 – 18.00hrs. Within Section A two PRoW were surveyed which include the footway along the King Sedgemoor Drain adjacent to Peasey Farm, reference BW 2/3 and the PRoW to the north of Knowle.

12.4.30 The footway along the King Sedgemoor Drain indicated that two adult pedestrians, 14 adult dog walkers and two child dog walkers totalled 18 users over the 12 hour period.

12.4.31 At Knowle the survey found a total of two adult pedestrians and seventeen adult dog walkers totalled 19 users of the PRoW over the 12 hour period.

12.4.32 A separate PRoW Management Plan has been produced; this contains further details of PRoWs that would be affected by the Proposed Development together with proposed management procedures to minimise the effects. The PRoW Management Plan is **Volume 5.26.6**.

***Public Transport – Bus***

12.4.33 The number 19 operates a hail and ride service every 2 hours, Mondays to Saturdays from Bridgwater to Street along the A39 Bath Road. Furthermore, the A39 is utilised by the 375 and X75 bus service (Wells to Bridgwater) which operates hourly Monday-Saturday with extra services during peak times, and a reduced service on Sundays and bank holidays.

12.4.34 The number 37 also runs from Puriton through Woolavington. The frequencies of these services are shown in **Table 12.12**.

Table 12.12 Bus Frequencies in Section A

| Service | Route | Approximate Peak Frequency | | |
|---|---|---|---|---|
| | | Mon - Fri | Sat | Sun/Hols |
| 19 | Bridgwater – Chedzoy – Moorlinch – Ashcott – Street | Every 2 Hours | Every 2 Hours | - |
| 37 | Bridgwater - Puriton - Woolavington - Street - Glastonbury - Wells | Hourly | Hourly | - |
| 375 | Wells – Bridgwater (via Glastonbury) – Street – Woolavington | 30 mins | Hourly | Every 2 Hours |
| X75 | Bawdrip – Wells (via Wells Bus Station) – Street – Glastonbury – Coxley – Upper Coxley | Hourly | - | - |
| 619 | Badgworth – Bridgwater College | 1 Return College Service | - | - |
| 755 | Wedmore - Taunton | 1 Tuesday Morning Service | - | - |

***Public Transport – Rail***

12.4.35 The closest rail connections are in Bridgwater approximately 2km from the existing overhead lines at its closest point in Section A. Bridgwater Railway Station is located on the Bristol to Taunton Line, with Highbridge and Burnham being the preceding station to the north, and Taunton the following station to the south. No rail connections would be crossed in this Section.

**Section B - Somerset Levels & Moors South**

12.4.36 Section B extends from Woolavington Road north to the Mendip Hills Area of Outstanding Natural Beauty (ANOB).

12.4.37 Throughout Section B the M5 follows a north to south alignment to the west of the Proposed Development. The proposed 400kV overhead line and existing 132kV overhead line to be removed lie to the east, less than 50m from the motorway at its closest point.

12.4.38 The highway links listed within the table below all form part of the construction traffic routeing strategy within Section B. The environmental sensitivity of the links is shown and discussed in the text below. **Table 12.13** shows the highway links to be used during construction in this Section.

Table 12.13 Section B Highway Links to be Used during Construction

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| B3139 Lockswell | TPLO-005 | High | Sedgemoor |
| B3141 Causeway | TPLO-006 | Minor | Sedgemoor |
| B3141 Church Road | TPLO-007 | Moderate | Sedgemoor |
| B3139 Mark Road | TPLO-008 | Minor | Sedgemoor |
| Bennett Road | TPLO-009 | Minor | Sedgemoor |
| Bristol Road (A38, Section B) | TPLO-010 | Minor | Sedgemoor |
| A38 Turnpike Road | TPLO-011 | Moderate | Sedgemoor |

12.4.39 In addition to the above links that will form the primary construction routes to the Proposed Development a number of additional highway links would be crossed by construction traffic using the Proposed Development's haul road. These have been listed in **Table 12.14** and also discussed below.

Table 12.14 Section B Highway Links Crossed during Construction

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| Unnamed Lane to the west of Causeway | TPLO-006a | Negligible | Sedgemoor |
| Woolavington Road | TPLO-006b | Minor | Sedgemoor |
| Middle Moor Drove | TPLO-006c | Negligible | Sedgemoor |
| Burtle Road | TPLO-006d | Minor | Sedgemoor |
| Southwick Road | TPLO-007a | Minor | Sedgemoor |
| Butt Lake Road | TPLO-007b | Minor | Sedgemoor |
| Mark Causeway | TPLO-007c | Minor | Sedgemoor |
| Unnamed track off Harp Road | TPLO-007d | Minor | Sedgemoor |
| Northwick Road | TPLO-007e | Minor | Sedgemoor |

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| Vole Road | TPLO-007f | Negligible | Sedgemoor |
| Pill Road | TPLO-007g | Minor | Sedgemoor |
| Hams Lane | TPLO-010a | Negligible | Sedgemoor |
| Webbington Road | TPLO-010b | Minor | Sedgemoor |

***Lockswell (Ref. TPLO-005)***

12.4.40 Lockswell links the B3141 to a number of proposed construction bellmouths within Section B, but there are no direct links to a construction bellmouth along the carriageway itself. The road is part of an identified construction route, and has been given a high sensitivity classification due to the type and location of receptors identified along it.

12.4.41 There are a number of mixed residential properties lining Lockswell between Woolavington Hill and Causeway. These are generally well screened by walls, hedges, fences and vegetation. The carriageway also passes the Blessed Virgin Mary Woolavington place of worship, and Jessops Village Store to the east. The grounds within the place of worship front the construction route, but these are screened by a wall and by vegetation. The shop fronts the construction route, with a footway approximately 1m wide between it and the carriageway.

***B3141 Causeway (Ref. TPLO-006)***

12.4.42 Causeway links the B3141 to a number proposed construction bellmouths within Section B. The road has been given a minor sensitivity classification based on a review of the sensitivity of receptors identified along it. The receptors are discussed below.

12.4.43 At the northern edge of Woolavington, there are a small number of large detached residential properties which front Causeway on both sides. These are often set back from the carriageway by approximately 15-30m and are well screened by vegetation and by walls or fencing. An agricultural and storage facility is located to the east and west of the carriageway respectively. Both are set back approximately 50m from the road and are screened by vegetation. Further north, the carriageway passes an agricultural building approximately 175m to the east at its nearest point. Before reaching the junction with Church Road and Burtle Road, Causeway passes an additional two agricultural buildings to the west, both of which are approximately 125m from the carriageway at their nearest points.

12.4.44 Along the carriageway itself, there is construction bellmouth C-ZGA4-BM01 (Type 1). This provides access to a haul road which would run along an unnamed lane to

the west of Causeway, before heading south. It would serve the proposed 400kV overhead line to the west and south west.

***Unnamed Lane to the West of Causeway (Ref: TPLO-006a)***

12.4.45 The unnamed lane to the west of Causeway comprises a single lane, two-way track with an approximate width of 3m.

12.4.46 The unnamed lane to the west of Causeway forms part of the proposed haul road. The road has been given a negligible sensitivity classification as there are no receptors in the vicinity.

***Woolavington Road (Ref: TPLO-006b)***

12.4.47 Woolavington Road comprises a single lane, two-way carriageway with an approximate width of 6m. There are small ditches at either of the carriageway sides at intermittent points along the road.

12.4.48 Woolavington Road is crossed by the proposed haul road at construction bellmouth numbers C-ZGA4-BM04 (Type 3) and C-ZGA4-BM05 (Type 3). The road has been given a minor sensitivity classification due to the sensitivity, type and location of nearby receptors. At the point where the proposed construction access road would cross Woolavington Road, it passes units on the east and west. This includes KRG Transport Ltd. The properties are generally well screened by vegetation.

***Middle Moor Drove (Ref: TPLO-006c)***

12.4.49 Middle Moor Drove comprises a single lane, two-way carriageway with an approximate width of 3m.

12.4.50 Construction bellmouth C-ZGA13-BM01 (Type 2) is situated off Middle Moor Drove. The road has been given a negligible sensitivity classification as there are no receptors in the vicinity.

***Burtle Road (Ref. TPLO-006d)***

12.4.51 Burtle Road comprises a single lane, two-way carriageway with an approximate width of 3.5m.

12.4.52 Burtle Road crosses the path of the haul road to the east of causeway at construction bellmouth numbers C-LD9-BM02 (Type 3) and C-LD9-BM03 (Type 3). The road has been given a minor sensitivity classification as there are a small number of residential houses of mixed type and agricultural buildings adjacent to the junction with Church Road and White Hose Lane. The houses are well screened by walls, vegetation and hedges.

***B3141 Church Road (Ref. TPLO-007)***

12.4.53 The construction traffic route along the B3141 Church Road runs north from the junction with Burtle Road and Causeway, up through East Huntspill until the route bears west down Mark Road.

12.4.54 The road has been given a high sensitivity classification due to the type and location receptors identified along it. These have been discussed below.

12.4.55 The road passes a number of residential properties throughout East Huntspill. Some are screened by hedges, other vegetation, fences or walls whilst others front on to the carriageway. Some properties are set around 10m or 15m back from the road whilst others are close to the carriageway. The construction traffic route also passes The Crown Inn, East Huntspill Village Hall, Superior powders factory and the Basonbridge Inn on the eastern side of the carriageway. On the Western side of the carriageway the road passes East Huntspill All Saints place of worship and East Huntspill Primary School with associated playing fields. The Church is situated approximately 10m from the road and is screened by a wall and by vegetation. The school lies on New Road, approximately 75m from the carriageway at the nearest point. There are several other buildings screening the school from Church Road. It is considered that the majority of East Huntspill Primary School attendee's will live in the village itself. Most residential properties throughout East Huntspill are on the western side of the B3141, and so in this case pupils will not have to cross the road. There are however a small number on the eastern side of the highway.

12.4.56 Moving north west from East Huntspill there are additional residential properties situated on the western side of the carriageway, adjacent to Newmans Lane. These are generally well screened by vegetation. Finally, as the road approaches Watchfield and the junction with Mark Road, there are additional agricultural buildings on the western side of the carriageway. At the junction with Mark Road, there are a small number of residential properties which are well screened by vegetation and hedges.

12.4.57 It links the M5 via Mark Road and the A38 and provides no direct access to construction bellmouths. However, along Factory Lane to the east, there is a proposed haul road leading from Church Road.

***Southwick Road (Ref. TPLO-007a)***

12.4.58 Southwick Road is crossed by the proposed haul road at construction bellmouth numbers C-LD10-BM15A (Type 3), C-LD10-BM16A (Type 3), C-LD10-BM17A (Type 3), and C-LD10-BM18A (Type 3). It has been given a minor sensitivity classification as there are a small number of large detached residential properties on either side of the carriageway adjacent to the bellmouths. These are screened by vegetation. There is also an agricultural building to the north of the carriageway which has its own access road. At its closest point, the buildings are approximately 85m from the carriageway.

***Butt Lake Road (Ref. TPLO-007b)***

12.4.59 Butt Lake Road is also crossed by the proposed haul road at construction bellmouth numbers C-LD10-BM13 (Type 3) and C-LD10-BM14 (Type 3). It has been given a minor sensitivity classification as there are a small number of large detached residential properties on the eastern side of the neighbouring Yardwall Road. At the closest point, these properties are approximately 35m from Butt Lake Road, and are screened by hedges and by other vegetation. Towards the priority junction with Mark Causeway, there are also two agricultural buildings on the western side of the carriageway.

***Mark Causeway Ref. TPLO-007c)***

12.4.60 Mark Causeway is also crossed by the proposed haul road at construction bellmouth numbers C-LD10-BM11 (Type 3) and C-LD10-BM12 (Type 3). It has been given a minor sensitivity classification as there are a small number of large properties to the east and west of the bellmouth. At the closest point, these properties are over 100m from the bellmouth, and are screened by hedges and by other vegetation.

***Unnamed Track off Harp Road (Ref. TPLO-007d)***

12.4.61 The Unnamed Track off Harp Road is situated approximately180m north of Mark Causeway. It is crossed by the proposed haul road at construction bellmouth numbers C-LD10-BM09 (Type 3) and C C-LD10-BM10 (Type 3). It has been given a minor sensitivity classification due to the sensitivity, type and location of receptors. Adjacent to the junction with Harp Road, Coombes Cider Mill Caravan Park is to the west of the carriageway, and agricultural buildings to the south. The caravan park is well screened by vegetation along the road.

***Northwick Road (Ref. TPLO-007e)***

12.4.62 Northwick Road is crossed by a proposed haul road at construction bellmouth numbers C-LD10-BM07 (Type 3) and C-LD10-BM08 (Type 3). It has been given a minor sensitivity classification due to the sensitivity, type and location of receptors. There are a small number of large detached residential properties on the southern side of the carriageway, but these are at a sufficient distance from the proposed construction bellmouths. The properties are also well screened by hedges and by other vegetation.

***Vole Road (Ref. TPLO-007f)***

12.4.63 Vole Road is crossed by a proposed haul road at construction bellmouth numbers C-LD10-BM05 (Type 3) and C-LD10-BM06 (Type 3) and has been given a negligible sensitivity classification due to the sensitivity, type and location of receptors. At the site where the proposed haul road is due to cross Vole Road, there are no properties within approximately 350m.

***Pill Road (Ref. TPLO-007g)***

12.4.64 Pill Road is crossed by a proposed haul road at two points. Crossing one is at construction bellmouth numbers C-LD10-BM04 (Type 3) and C-LD10-BM03 (Type 3), and crossing two at construction bellmouth number C-LD10-BM02 (Type 3). The road has been given a minor sensitivity classification due to the sensitivity, type and location of nearby receptors. Adjacent to the construction bellmouths at crossing one, there is a single detached residential property approximately 100m to the west. The property is well screened by vegetation and trees.

***B3139 Mark Road (Ref. TPLO-008)***

12.4.65 The construction traffic route along the B3139 Mark Road runs west from the junction with Church Road, until it reaches Bennett Road in the east of Highbridge. The road provides no direct links to a construction bellmouth along its carriageway. The road has been given a minor sensitivity classification due to the receptors located along it, as discussed below.

12.4.66 Adjacent to the junction with Church Road, there are residential properties on the north side of the carriageway. These are well screened by vegetation and walls. Further west there are a small number of large detached residential properties on the southern side of the carriageway, followed by New House Farm Caravan Park. The caravans are well screened by buildings and vegetation. Opposite the caravan park on the northern side of the carriageway, there is a single detached house which fronts the road. There is fencing and vegetation which screens the property from Mark Road. Continuing west, there are a small number of additional detached residential properties on both sides of the carriageway. These are screened by fencing and hedges or vegetation, however, in some instances they front the road with little screening. In amongst these residential properties, there are some industrial and agricultural premises.

12.4.67 Towards the M5, premises currently housing Highbridge Commercials lies screened from the carriageway by vegetation and an access road. Having crossed the M5, Mark Road continues to a roundabout with Bennett Road and Commerce Way. Here, an agricultural building and industrial property lies to the north of the carriageway, with a large industrial premises currently housing Bespoke Manufacturing Ltd to the south. All properties are well screened from the carriageway by vegetation.

***Bennett Road (Ref. TPLO-009)***

12.4.68 The construction traffic route along Bennett Road runs north from the roundabout with Mark Road until it reaches the A38 Bristol Road in the east of Highbridge. The road provides no direct links to a construction bellmouth along its carriageway. The road has been given a minor sensitivity classification due to the location and type of receptors identified along it.

12.4.69 Bennett Road runs through an industrial area to the east of Highbridge, and as such there are a number of industrial premises lining both sides for the length of the carriageway. These include premises occupied by Clifton Joinery, David Salisbury Conservatories, Jewsons, Smithbrewer Ltd, Isleport Foods Ltd, Somerset Garden Machinery, and Cases Ltd. Some of the buildings are set back from the road by as much as approximately 100m, whilst others are in close proximity to the carriageway. The units are generally well screened by vegetation, with the majority having trees between the premises and the carriageway. In addition to the industrial units, there are some detached residential properties off Isleport Road to the east, and Lakeside to the West of the construction traffic route. The closest property off Isleport Road is approximately 100m from the carriageway at its closest point, and it is well screened by vegetation. On Lakeside, the closest property is approximately 230m away.

***Bristol Road (A38, Section B) (Ref. TPLO-010)***

12.4.70 The construction traffic route along the A38 Bristol Road runs north east from the roundabout with Bennett Road, up through Rooks Bridge and Tarnock, until it continues as the A38 Turnpike Road.

12.4.71 The road has been given a minor sensitivity classification due to the type and location of receptors. The A38 continues as Bridgwater Road, and then is again named Bristol Road as the construction route passes through Sidcot in Section C.

12.4.72 Adjacent to the roundabout with Bennett Road, there is a semi-detached residential building on the western side of the carriageway. The building is screened by a hedge and other vegetation. Continuing in a north easterly direction, there are additional terraced residential properties on the western side of the carriageway. On the eastern side of the carriageway lies The Oaktree speedway racing track and Burnham Golf Range. These are well screened from the road by vegetation. Continuing north east, a small number of detached properties front the carriageway. Walls lie between the properties and the road.

12.4.73 There are more detached residential properties on either side as the carriageway progresses, along with some industrial and agricultural buildings. The residential properties are well screened by vegetation. Adjacent to J22 of the M5, the road passes Edithmead Leisure Park and Homes and Rose Cottage Farm Children's Nursery off Windmill Close. The buildings and caravans in the centre are well screened from the carriageway by vegetation surrounding the complex. As the road continues towards a priority junction with Harp Road and Brent Street, West Country Motorhomes sales is on the eastern side of the carriageway and a single detached residential property on the western side. The residential property is separated from the carriageway by a wall.

12.4.74 At the junction with Brent Street/Harp Road, there is the Fox and Goose Hotel and Restaurant, a petrol filling station and a number of residential properties accessed off Brent Road. The Fox and Goose is set back from the carriageway by a grass verge and partially screened by a low wall from the construction traffic. At the nearest point, the closest property is approximately 65m from the carriageway. Hedges and other vegetation screen the residential properties from the carriageway. Continuing north east, the road passes a small number of large detached residential properties off an unnamed access road to the north of the carriageway. At the closest point, the nearest property is approximately 40m from the construction route and the properties and access roads are well screened from the traffic by vegetation.

12.4.75 Opposite the residential properties on the southern side of the carriageway lies Sanders Garden World. The property is screened by a hedge, vegetation, and its customer car park. The actual building is set back approximately 100m from the carriageway. Further along to the east of the carriageway lies Ollie's Café. The property fronts the road and there is no screening from traffic. On the northern side of the carriageway a detached residential property lies approximately 30m from the road, well screened by a hedge and by other vegetation.

12.4.76 Further north east, there are a small number of detached residential properties on the western side of the carriageway. These are screened by thick vegetation and hedges, and are set back from the carriageway by a narrow access road running parallel to Bristol Road. Adjacent to the residential properties is Brent House public house, and some agricultural buildings complete with farm house all set back approximately 15m from the carriageway. The residential property is well screened by vegetation. Approaching the east Brent Roundabout, there is an agricultural building to the west of the carriageway which is also well screened by vegetation. Adjacent to the bridge over the M5, there are a small number of residential properties and an agricultural building in close proximity to the construction route off Old Bristol Road. These are again all well screened by vegetation. Opposite these properties are a small number of industrial units. These are well screened by a hedge lining the carriageway.

12.4.77 Approaching a priority junction with Mendip Road, Bristol Road passes agricultural buildings on the north and south side of the carriageway. These are screened by hedges and other vegetation from the road. Reaching the start of Rooks Bridge, there are a small number of terraced and semi-detached residential properties. These have no screening from the road. Continuing through Rooks Bridge, there are a number of houses of mixed type on either side of the carriageway. The level of screening is varied with some properties being separated from the road by hedges, other vegetation, access roads and fences or walls, whilst others front the carriageway with no screening. Bristol Road also passes a convenience store and a public house. The convenience store is screened by a hedge, whilst the public house fronts the road with little screening.

12.4.78 Finally as Bristol Road Passes through Tarnock, the carriageway passes a small number of detached residential properties, mixed with agricultural buildings and small industrial units. To the south of the carriageway, there is a larger industrial premises, currently occupied by CDS Ltd. The residential properties are well screened from the carriageway by walls and vegetation. Following the priority junction with Church Lane, the A38 continues as Turnpike Road.

***Hams Lane (Ref: TPLO-010a)***

12.4.79 Hams Lane is crossed by the proposed haul road at construction bellmouth numbers 400-UG-BM02 (Type 3) and 400-UG-BM03 (Type 3). The road is rural in nature with few local receptors and as such has been given a negligible sensitivity classification.

***Webbington Road (Ref. TPLO-010b)***

12.4.80 Webbington Road is crossed by the proposed haul road at construction bellmouth number 400-UG-BM04 (Type 3). The road has been given a minor sensitivity classification due to the sensitivity, type and location of nearby receptors. Before reaching Webbington Road, the proposed haul road would cross the River Axe. Adjacent to the construction bellmouths, there is a single detached residential property approximately 80m to the west and a group of agricultural buildings a similar distance to the east. The residential property is well screened by vegetation and trees. Webbington Road forms part of the Mendip Way, which is a long distance pedestrian route running for approximately 48km across the southern edge of the Mendip escarpment.

***Turnpike Road (Ref. TPLO-011)***

12.4.81 The construction traffic route along the A38 Turnpike Road runs north east from Tarnock, through Lower Weare until it continues as the A38 Bridgwater Road. It provides a major link to the southern parts of the Mendip Hills, but no direct links to a construction bellmouth. The road is part of a construction access route, and has been given a moderate sensitivity classification due to the sensitivity, type and location of nearby receptors which are discussed below.

12.4.82 Travelling in an easterly direction, Turnpike Road passes Tanyard Farm Nurseries and West Country Motorhomes sales building on the southern side of the carriageway. Continuing into Lower Weare, the carriageway passes a number of residential properties of mixed type on both sides of the road. These are generally

set back approximately 10m from the carriageway and there are hedges or other vegetation at regular intervals. There are also often walls separating Turnpike Road from the properties. Lying approximately 600m south of the carriageway at its nearest point is Weare Academy First School. Off Old Coach Road, Chestnut House Holiday Cottages is approximately 30m to the north of the carriageway at its nearest point. The cottages are well screened by vegetation between the premises and the road. It is considered that the majority of Weare Academy First School attendee's will live in the village itself to the east, away from Turnpike Road. There are however a small number of residential properties along the carriageway in Lower Weare within walking distance.

12.4.83 On the southern side of the carriageway, the construction route passes a mechanical garage and a petrol filling station, before passing a nursery selling farm produce and finally, out of Lower Weare. Before reaching the junction with Bridgwater Road, the construction route passes an agricultural building to the south of the carriageway. This is screened by a hedge and vegetation. Adjacent to the junction with Bridgwater Road, there are a number of properties to the north of the carriageway off Old Coach Road which lie in close proximity to Turnpike Road. The buildings are well screened by a grassed bank with vegetation and a fence. At the junction, the carriageway also passes The New Inn.

***Traffic Flows***

12.4.84 In order to assess the baseline traffic flows along the construction access routes, a total of 43 ATCs were placed across the Sections. This resulted in six ATCs (ATC numbers 4-9) being placed in Section B along the proposed construction routes for a full week.

12.4.85 ATC 4 was situated on Causeway, to the north of Woolavington town. ATC 5 was placed on the B3139 Mark Road in the village of Watchfield, adjacent to the junction with Woolavington Hill. AT6 3 was situated on the A38 Bristol Road to the north east of Highbridge. ATC 7 was placed on Harp Road, close to the village of Mark. ATC 8 was situated on Southwick Road, off Butt Lake Road to the south of Mark. ATC 9 was also placed on the A38 Bristol Road, but was instead located in Rooks Bridge. ATC numbers 4, 5, 6 and 9 were placed along proposed major construction routes, whilst numbers 7 and 8 were along proposed minor construction routes (see **Volume 5.22.3, Figure 22.1**). **Table 12.15** shows the AADT flows by vehicle class for the ATCs in Section B.

Table 12.15 AADT Baseline Neutral Day AADT Traffic Flows in Section B

| **ATC – Construction Access Route** | | **Neutral Day AADT Flows** | | | |
|---|---|---|---|---|---|
| | | **24hr Total Traffic** | **24hr HGVs** | **18hr Total Traffic** | **18hr HGVs** |
| 4 | Causeway | 3,093 | 252 | 3,037 | 245 |
| 5 | B3139 Mark Road | 3,930 | 302 | 3,861 | 292 |
| 6 | A38 Bristol Road | 13,512 | 1,827 | 13,004 | 1,675 |
| 7 | Harp Road | 3,106 | 269 | 3,059 | 259 |

| ATC – Construction Access Route | | Neutral Day AADT Flows | | | |
|---|---|---|---|---|---|
| | | 24hr Total Traffic | 24hr HGVs | 18hr Total Traffic | 18hr HGVs |
| 8 | Southwick Road | 601 | 39 | 591 | 38 |

12.4.86 In addition, traffic data has been obtained from the HA TRADS service for the M5 on a neutral weekday in April 2013. **Table 12.16** shows the AADT flows for the total number of vehicles at Junction 22 of the M5 obtained from the HA.

Table 12.16 AADT M5 TRADS Flows in Section B

| ATC – M5 TRADS Data | AADT Flows | |
|---|---|---|
| | 24hr Total Traffic | 18hr Total Traffic |
| J22 | 53,794 | 51,354 |

***Cycling***

12.4.87 National Cycle Route 33 travels from Woolavington to East Huntspill in Section B. The Proposed Development would cross over Burtle Road, which forms part of the cycle route. National Cycle Route 33, which connects Bristol and Seaton and provides links to Clevedon, Weston-Super-Mare, Bridgwater and Chard.

***Walking***

12.4.88 A review of the PRoW has indicated that a total of ten designated PRoW would be affected by the Proposed Development in Section B as follows:

- BW/37/13
- BW/37/12
- BW/13/22
- BW/13/28
- AX/23/10
- AX/23/14
- AX/17/12
- AX/21/3
- AX/2/15
- AX/21/7

12.4.89 During June 2013, count surveys were conducted at 11 locations to ascertain an indication of typical off-peak usage of the PRoWs. Each location was surveyed constantly on one day between 08:00 and 18:00.

12.4.90 The footway at Huntspill Moor north of the Huntspill River was surveyed to provide an indication of the usage of PRoW reference BW 13/22 and BW13/28 which form part of National Cycle Route 33. The survey found that 22 adult cyclists and one adult dog walker totalled 23 users over the 12 hour period.

12.4.91 A separate PRoW Management Plan has been produced; this contains further details of PRoWs that would be affected by the Proposed Development together

with proposed management procedures to minimise the effects. The PRoW Management Plan is **Volume 5.26.6**.

***Public Transport - Bus***

12.4.92 In the vicinity of the Proposed Development, bus stops are located along the A38. The A38 is utilised by the 102 service (Weston-Super-Mare to Puriton) which runs twice daily Monday-Friday, and three times a day on Saturdays. Bus stops are also located along the B3139. The frequencies of these services are shown in **Table 12.17**.

Table 12.17 Bus Frequencies in Section B

| Service | Route | Approximate Peak Frequency | | |
|---|---|---|---|---|
| | | Mon - Fri | Sat | Sun/Hols |
| 37 | Bridgwater – Puriton – Woolavington – Street – Glastonbury – Wells | Hourly | Hourly | - |
| 78 | Portishead – Clevedon – Weston-Super-Mare – Lympsham – Bridgwater | 1 Return College Service | - | - |
| 79 | Weston-Super-Mare – Lympsham – Bridgwater | 1 Return College Service | - | - |
| 102 | Weston-Super-Mare – Bridgwater (via East Brent) – Burnham – Highbridge – Puriton | 90 mins | Three services | - |
| 619 | Badgworth – Bridgwater College | 1 Return College Service | - | - |
| 620 | Cheddar – Bridgwater | 1 Return College Service | - | - |
| 670 | Wookey Hole – Wells – Burnham | Hourly | Hourly | - |
| 755 | Wedmore – Taunton | 1 Tuesday Morning Service | - | - |

***Public Transport – Rail***

12.4.93 The closest rail connections to the site are at Highbridge approximately 4km to the west of the Proposed Development at its closest point. No rail connections would be crossed in this section of the route.

## Section C - Mendip Hills

12.4.94 Section C extends through the Mendip Hills. The Proposed Development would cross the Lox Yeo River and the A371 before crossing the A368 at Sandford.

12.4.95 **Table 12.18** below shows the highway links to be used during construction in Section C.

Table 12.18 Section C Highway Links to be Used during Construction

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| A38 Bristol Road (Section C) | TPLO-012 | Moderate | North Somerset |
| New Road (Section C) | TPLO-013 | Minor | North Somerset |
| A368 Dinghurst/Greenhill/Towerhead Rd | TPLO-014 | Moderate | North Somerset |

12.4.96 In addition to the above links that would form the primary construction routes to the Proposed Development a number of additional highway links would be crossed by construction traffic using the Proposed Development's haul road. These have been listed in **Table 12.19** and also discussed below.

Table 12.19 Section C Highway Links to be Crossed during Construction

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| Castle Hill | TPLO-014a | Negligible | Sedgemoor |
| Max Mill Lane | TPLO-014b | Negligible | North Somerset |

### *A38 Bristol Road (Section C) (Ref. TPLO-012)*

12.4.97 The A38 Bristol Road links the Proposed Development in Section C across the Mendip Hills AONB. The road has been given a moderate sensitivity classification due to the sensitivity, type and location of nearby receptors which are discussed below.

12.4.98 Continuing north from the junction with Turnpike Road, the carriageway passes a small number of residential and agricultural buildings. These are generally well screened by vegetation. The route then passes a number of detached residential dwellings off Wavering Down Rise. At the closest point, these properties are approximately 50m from the carriageway. The properties are at a raised level and

are screened by a grassy bank, vegetation and walls. Continuing northwards, the carriageway passes two large detached residential properties. Again, these are well screened by vegetation. Residential properties on Winscombe Hill lie approximately 160m to the west of the carriageway, and are well screened from the construction traffic by thick vegetation. It is considered that there will be a slight adverse effect on pedestrian access from these properties to amenities on Old Coach Road in Cross.

12.4.99 Adjacent to the priority junction with Winscombe Hill there is a fuel filling station and garage. Further north also on the western side of the carriageway is a large detached residential property which is well screened by walls and vegetation. Continuing northwards, there are a number of large detached residential properties on the eastern side of the carriageway, with an additional two properties on the western side. These are set back via private access roads between approximately 30m and 100m from the carriageway, and are screened by vegetation. The road then passes the Premier Inn Bristol Airport and Netherdale Camping and Caravan site on the east of the carriageway. Both are screened by vegetation. Before reaching the priority junction with Sidcot Lane, Fountain Lane and Bristol Road, there are additional large detached residential properties off both sides of the carriageway. These are again set back from the road, and are well screened by vegetation.

Continuing north from the Sidcot Lane/Fountain Lane/Bristol Road junction, the carriageway passes through Widscombe and Sidcot. Here the construction route passes a number of detached residential properties, before passing Sidcot School and the Religious Society of Friends Quakers place of worship. This section of the A38 is heavily lined by trees and vegetation, so the residential properties are well screened from the carriageway. Although the school is close to the road, it is surrounded by a wall and vegetation, so is also well screened. The place of worship lies approximately 100m from the carriageway on Oakridge Lane, and so there are a number of buildings and plenty of vegetation between the building and the carriageway. It is considered that the majority of Sidcott School attendee's will live to the west in Sidcott itself. This would require crossing the A39 Bath Road at the signalised junction at Sidcott lane. Here there is a pedestrian crossing point complete with dropped kerbs and tactile paving.

12.4.100 As Bristol Road continues in a north easterly direction, there are a number of additional residential properties and agricultural buildings before the route reaches the village of Star. Again, the residential properties are well screened from the construction traffic by vegetation on either side of the carriageway. As the route continues through Star, there are detached residential properties on either side of the carriageway which are mostly screened by vegetation and walls. The carriageway also passes The Starr Inn, which fronts the road on the northern side of the carriageway. There is an additional residential property and storage unit to the north of the carriageway, both of which are screened from the road by a hedgerow and other vegetation, before the A38 continues as New Road, following a priority junction. The A38 is renamed Bristol Road in Section D.

***New Road (Section C) (Ref. TPLO-013)***

12.4.101 The A38 New Road links the Proposed Development in Section C across the Mendip Hills AONB, but provides no direct links to a construction bellmouth as there are none within the AONB. It follows from the A38 Bristol Road across the

Section boundary into Section D. The road forms part of a proposed construction access route, and has been given a minor sensitivity classification due to the sensitivity, type and location of nearby receptors as discussed below. Section C ends at the priority junction with Skinners Lane.

12.4.102 Continuing north, the road is lined by thick trees and other vegetation which screen a number of large detached residential properties off Doleberrow from the construction traffic. Before the junction with Skinners Lane, there are a small number of terraced houses on the eastern side of the carriageway. These are not screened by vegetation, and instead front the road. New Road continues through Section D.

***Castle Hill (Ref. TPLO-014a)***

12.4.103 Travelling south into Section C from Towerhead Road, later discussed in Section D, the proposed haul road crosses the A371 Castle Hill adjacent to the village of Winscombe at construction bellmouth numbers 400-UG-BM09 (Type 3) and 400-UG-BM08 (Type 3). The A371 Castle Hill is approximately 7m wide and formed of a single lane in each direction. It connects to the A38 in Winscombe and with the A370 to the west of the M5 close to Weston-Super-Mare. The A370 provides access to the M5 via Junction 21. Where the bellmouths cross, there are no properties in the vicinity of Castle Hill, and so the road has been given a negligible sensitivity classification.

***Max Mill Lane (Ref. TPLO-014b)***

12.4.104 Continuing south west, Max Mill Lane is a narrow road approximately 4m wide with no footway provision. It is crossed by the proposed haul road at construction bellmouth numbers 400-UG-BM07 (Type 3) and 400-UG-BM06 (Type 3). The carriageway provides access to local farms and agricultural fields, and there are no properties within approximately 500m of the construction bellmouths. There are no properties in the vicinity of the bellmouths on Max Mill Lane, and so the road has been given a negligible sensitivity classification to reflect this.

12.4.105 The haul road continues south to join the A38 Bristol Road in Section B, as previously described.

***Traffic Flows***

12.4.106 In order to assess the baseline traffic flows along the construction access routes, a total of 43 ATCs were placed across the Sections. This resulted in 1 ATC (ATC number 10) being placed in Section C for a full week.

12.4.107 ATC 10 was situated on the A38 New Road, to the south of the village of Churchill. ATC 10 was placed along a proposed major construction route (see **Volume 5.22.3, Figure 22.1**). **Table 12.20** shows the AADT flows for Section C.

Table 12.20 AADT Baseline Neutral Day AADT Traffic Flows in Section C

| ATC – Construction Access Route | | Average Summer Flows | | | |
|---|---|---|---|---|---|
| | | **24hr Total Traffic** | **24hr HGVs** | **18hr Total Traffic** | **18hr HGVs** |
| 10 | New Road | 11,997 | 1,035 | 11,393 | 981 |
| 11 | Dinghurst Road | 7,425 | 684 | 6,914 | 659 |

12.4.108 In addition to the neutral flows, there were also a selected number of counts taken during the summer to help inform construction traffic effects during the tourist season. These additional counts included ATC10. **Table 12.21** shows the average weekday summer flows by vehicle class for ATC10.

Table 12.21 Baseline Average Summer Weekday Traffic Flows in Section C

| ATC – Construction Access Route | | Average Summer Flows | | | |
|---|---|---|---|---|---|
| | | **24hr Total Traffic** | **24hr HGVs** | **18hr Total Traffic** | **18hr HGVs** |
| 10 | New Road | 12,013 | 1,097 | 11,420 | 1,031 |

12.4.109 The summer counts in **Table 12.21** show a total increase of 16 vehicles (0.1%) at ATC 10.

***Cycling***

12.4.110 National Cycle Route 26 passes through Winscombe. It connects Yatton to Axbridge and Cheddar and follows a disused railway line. As such the route is mainly off-road with short on-road sections. The Proposed Development does not cross the cycle way, however, to the north of the Mendip Hills AONB it comes within 500m.

***Walking***

12.4.111 A review of the PRoW has indicated that a total of nine designated PRoW would be crossed by the Proposed Development in Section A as follows:

- AX/21/7
- AX/29/28
- AX/3/21
- AX/29/14
- AX/29/16
- AX/3/4
- AX/3/1
- AX/3/53
- AX/3/22

12.4.112 During June 2013, count surveys were conducted at 11 locations to ascertain an indication of typical off-peak usage of the PRoWs. Each location was surveyed constantly on one day between 08:00 and 18:00.

12.4.113 The bridleway at Mendip Way in Webbington was surveyed to provide an indication of the usage of PRoW reference AX 15/1 and AX 15/3. The survey found that 23

adult pedestrians, 30 adult cyclists and one adult dog walker totalled 54 users over the 12 hour period.

12.4.114 A separate PRoW Management Plan has been produced; this contains further details of PRoWs that would be affected by the Proposed Development together with proposed management procedures to minimise the effects. The PRoW Management Plan is **Volume 5.26.6**.

***Public Transport – Bus***

12.4.115 There are bus stops along the A371 within Section C. First Bus and Bakers Coaches jointly operate the 121 service (Weston-Super-Mare to Bristol) along the A371. The 126 also runs a regular service along the A38 throughout Section C. The frequencies of these services are shown in **Table 12.22.**

Table 12.22 Bus Frequencies in Section C

| Service | Route | Approximate Peak Frequency | | |
|---|---|---|---|---|
| | | Mon - Fri | Sat | Sun/Hols |
| 121 | Weston-Super-Mare – Langford – Bristol Airport – Bristol Centre | Every 2 Hours | Every 2 Hours | Every 2 Hours |
| 126 | Weston-Super-Mare – Wells (Via Locking, Winscombe, Axbridge, Cheddar) | Hourly | Hourly | 4 Services |

***Public Transport – Rail***

12.4.116 The closest rail connections to the site are at Weston Milton approximately 6km to the north west of the Proposed Development. Weston Milton Railway Station is located on the Bristol to Taunton Line, with Worle being the preceding station to the north east, and Weston-Super-Mere the following station to the south west. No rail connections would be crossed in this Section of the route.

**Section D - Somerset Levels & Moors North**

12.4.117 Section D comprises the area from the Mendip Hills north to Tickenham Ridge. The highway links to be used to access the Proposed Development during construction are listed in **Table 12.23** below.

Table 12.23 Section D Highway Links to be Used during Construction

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| New Road (Section D) | TPLO-015 | Minor | North Somerset |
| Bristol Road (B3139) | TPLO-016 | Minor | Sedgemoor |

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| Stock Lane | TPLO-017 | High | North Somerset |
| Dinghurst Road | TPLO-018 | High | North Somerset |
| Pye Corner | TPLO-019 | Minor | North Somerset |
| Greenhill Road | TPLO-020 | High | North Somerset |
| Station Road | TPLO-021 | Minor | North Somerset |
| Towerhead Road | TPLO-022 | Negligible | North Somerset |
| The Unnamed Section of the A370 and Somerset Avenue | TPLO-023 | High | North Somerset |
| May's Green Lane | TPLO-024 | Moderate | North Somerset |
| Ettlingen Way | TPLO-025 | Minor | North Somerset |
| Central Way | TPLO-026 | Minor | North Somerset |
| Unnamed Section of the B3133 | TPLO-027 | Minor | North Somerset |
| Davis Lane | TPLO-028 | Minor | North Somerset |
| Manmoor Lane | TPLO-029 | High | North Somerset |
| Kennmoor Road | TPLO-030 | Minor | North Somerset |
| Nailsea Wall | TPLO-031 | Moderate | North Somerset |
| Northern Way | TPLO-032 | Minor | North Somerset |
| Clevedon Road | TPLO-033 | High | North Somerset |
| Stock Way North | TPLO-034 | High | North Somerset |
| Stock Way South | TPLO-035 | High | North Somerset |
| Mizzymead Road | TPLO-036 | High | North Somerset |
| Queens Road | TPLO-037 | Minor | North Somerset |
| Hannah More Road | TPLO-038 | Minor | North Somerset |

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| St Mary's Grove | TPLO-039 | Moderate | North Somerset |
| Engine Lane | TPLO-040 | Minor | North Somerset |
| Blackfriars Road | TPLO-041 | Minor | North Somerset |
| North Street | TPLO-042 | Moderate | North Somerset |
| Hanham Way | TPLO-043 | Minor | North Somerset |

12.4.118 In addition to the above, those highway links that would be crossed by the Proposed Development's haul road have been listed in the table below.

Table 12.24 Section D Highway Links to be Crossed during Construction

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| Mead Lane | TPLO-022a | Negligible | North Somerset |
| Drove Way | TPLO-022b | Negligible | North Somerset |
| Dolemoor Lane | TPLO-022c | Negligible | North Somerset |
| Havage Drove | TPLO-024a | Minor | North Somerset |
| North Drove | TPLO-031a | Negligible | North Somerset |
| North Drove | TPLO-043a | Negligible | North Somerset |
| Church Lane | TPLO-043b | Minor | North Somerset |

12.4.119 At the southern edge of Section D the Proposed Development passes the M5 approximately 3.5km to the east. Here, there are proposals for a Sandford 400/132kV Substation, with associated work area and compound/laydown area off Nye Road. The main construction access is proposed to be off the A368 Station Road. Approximately 1km north west of Sandford, the Proposed Development continues in a northerly direction as overhead lines rather than underground cable routes. The Proposed Development continues as two separate lines, as the proposed route for 132kV overhead line continues north east for approximately 3km crossing over Havage Drove until it reaches an existing western power distribution

132kV overhead line. The proposed route for 400kV overhead line continued north east, where it passes over Drove Way.

***New Road (A38, Section D) (Ref. TPLO-015)***

12.4.120 The A38 New Road links the Proposed Development in Section D to areas across the Mendip Hills AONB to areas in Section C, but provides no direct links to a construction bellmouth from the carriageway itself. The road has been given a minor sensitivity classification following a review of local receptors.

12.4.121 Continuing north from the priority junction with Skinners Lane, there are a number of detached residential properties on both sides of the carriageway. The properties are well screened by walls or fences, and by hedges or vegetation. At the junction with Bristol Road, Dinghurst Road and Bath Road, the carriageway also passes a Fish and Chip takeaway shop. Here, the A38 continues as Bristol Road.

***Bristol Road (B3139) (Ref. TPLO-016)***

12.4.122 The A38 and B3133 Bristol Road link the Proposed Development in Section D to areas across the Mendip Hills AONB to areas in Section C, but provides no direct links to a construction bellmouth from the carriageway itself. The road has been given a minor sensitivity classification due to the sensitivity, type and location of receptors along it.

12.4.123 Continuing north east from the junction with New Road, the carriageway passes through a residential area in the east of Churchill containing a number of mixed residential properties predominantly on the northern side of the carriageway. The houses are often set back approximately 25m from the road, and have walls, hedges, fencing and vegetation for screening from the construction traffic. Here the carriageway also passes a number of guest houses such as the Windsor House Hotel, The Mendip Gate Guesthouse, and Woodpeckers B&B.

12.4.124 There are also public houses along the road, with the Churchill Inn and Stag & Hounds also passed. Honeytree Day Nursery lies on the northern side of the carriageway as Bristol Road continues for a short distance as the B3133. The nursery is fenced off from the carriageway, and is set back approximately 25m from the road. Churchill Church of England Primary School lies approximately 200m north of the carriageway, with a number of residential properties in-between. Opposite Honeytree Day Nursery, there is a fuel filling station with an associated Budgens convenience store. The store is screened from the carriageway by a hedge. It is considered that the majority of Churchill Church of England Primary School attendee's will live in the properties within the immediate vicinity of the school to the south. However it is appreciated that some pupils may reside in properties to the east in Langford, or to the south/west of the signalised junction with the A368. Properties in Langford would be accessed via the roundabout with Langford Road and Stock Lane, which has dropped kerbs and tactile paving. The signalised junction with the A368 has pedestrian crossings, and is complete with tactile paving and dropped kerbs.

***Stock Lane (Ref. TPLO-017)***

12.4.125 The B3133 Stock Lane links the Proposed Development in Section D to Congresbury via Brinsea Road, but provides no direct links to a construction

bellmouth from the carriageway itself. The road has been given a high sensitivity classification following a review of local receptors.

12.4.126 Continuing northbound from the junction with Bristol Road, the carriageway passes a small number of detached residential properties to the west side of the road. These properties are screened by hedges and other vegetation, and are set back approximately 15m from the carriageway. Further north on the eastern side of the carriageway, there is a single detached residential property followed by a small group of terraced properties. These are all screened from the road by walls, with vegetation present in parts. At the priority junction with Jubilee Lane, there is an access road to Bristol University Veterinary Services campus which lies to the east of the carriageway as close as 40m in parts. The university buildings are surrounded by a brick wall, and there is also vegetation along the carriageway to screen the campus from the construction traffic. Also adjacent to Jubilee Lane, there are a small number of detached residential properties off the carriageway which are screened by walls and vegetation.

12.4.127 Continuing northwards, there are a small number of additional mixed residential properties which are generally screened by walls and vegetation. One property has its eastern walls in close proximity to the construction route, and here the property is not screened from the carriageway. At this point further to the west of the road, the construction route passes a large factory and industrial premises currently occupied by Monaghan Mushrooms, Langford. The premises are well screened from the construction traffic by vegetation.

12.4.128 Further north, another detached residential property in close proximity to the construction route has no screening from traffic. Being on the eastern side of the carriageway, the west walls of the property front the road. Still on the eastern side of Stock Lane further to the north, there are additional residential properties which are set back from the carriageway and screened by vegetation and walls. East of these properties are a number of industrial and storage units, all of which are set back from the road, and screened from the carriageway by vegetation and the previously discussed residential buildings. Continuing northwards, there are a small number of detached residential properties which are screened by walls or fences and vegetation. On the western side of the carriageway lies Miltons Hotel. As Stock Lane bends to the west, the construction route passes a single detached residential property and the Churchill Substation. The residential property is screened from the carriageway by fencing and vegetation.

12.4.129 As the road continues west, it passes The Secret Garden Nursery & Playschool as well as The Elms nursing home and The Wilfred Leonard care home on the northern side of the carriageway. All of these properties are partially screened by walls and vegetation. Up until the B3133 continues as Brinsea Road, there are a number of residential properties on each side of the carriageway which are screened from the road by walls or fences, hedges and vegetation. The construction access route terminates at the proposed Churchill substation at the junction with Iwood Lane.

***Dinghurst Road (Ref: TPLO-018)***

12.4.130 The A368 Dinghurst Road links the Proposed Development in Section D to the A38, but provides no direct links to a construction bellmouth from Dinghurst Road

itself. The road has been given a high sensitivity classification following a review of local receptors.

12.4.131 Heading west from the junction with the A38, the carriageway passes Bartholomew's Beautiful Barns - Somerset Self Catering Holiday Cottages on the northern side. The property is well screened by tall hedging. Continuing west, the road passes a small number of residential properties and The Nelson Arms public house on the southern side of the carriageway. Both are screened by trees and vegetation.

12.4.132 As the road continues through Churchill, it passes the Churchill Methodist Church on Font Street, approximately 40m from the carriageway at its nearest point. The church is screened from the carriageway by vegetation and other buildings. Continuing west until the A368 continues as Pye Corner, the carriageway passes a number of large residential properties on both the northern and southern sides. Although most are well screened from any construction traffic by hedges, other vegetation and walls, there are instances where external walls have no screening from the carriageway.

***Pye Corner (Ref: TPLO-019)***

12.4.133 The A368 Pye Corner links the Proposed Development in Section D to the A38 via Dinghurst Road, but provides no direct links to a construction bellmouth from the carriageway itself. The road has been given a minor sensitivity classification following a review of local receptors.

12.4.134 Heading west from Dinghurst Road, the carriageway passes a large vegetable growing plant to the north. To the south, there are residential properties and a ski centre. The residential properties are screened from the carriageway by walls and vegetation, and the ski centre is well set back from the road. Continuing past the plant to Greenhill Road, there are large residential properties to the north and south of the carriageway. These are screened by trees and other vegetation.

***Greenhill Road (Ref: TPLO-020)***

12.4.135 The A368 Greenhill Road continues west from Greenhill Lane through Sandford until a junction with Station Road. It provides no direct links to a construction bellmouth from the carriageway itself. The road has been given a high sensitivity classification following a review of local receptors.

12.4.136 There are a number of residential properties on the north and south side along the length of the carriageway. The majority of the properties are set back from the carriageway and well screened from any construction traffic by hedges, walls, fences and other vegetation. However, there are instances where properties are situated relatively close to the road with little or no screening.

Approximately 120m west of the junction with Greenhill Lane, there is a Lawnmower shop to the north of the carriageway. This is set back approximately 10m from any future construction traffic and screened by trees and vegetation. Approximately 400m east of the junction with Station Road, Sandford Primary School lies on the northern side of the carriageway. The pupil entrance is located off Greenhill Road. The building itself is set back approximately 15m from the carriageway, and is screened by a wall and some vegetation. It is considered that the majority of attendee's at Sandford Primary School will reside in properties along

or roads off Greenhill Road. It is accepted that some pupils will have to cross the carriageway.

12.4.137 Adjacent to the junction with Station Road, there is a motorcar dealership. Humphry Motor Company lies on the northern side of the carriageway. It is slightly set back from the road, but has no screening from any construction traffic.

***Station Road (Ref: TPLO-021)***

12.4.138 The A368 Station Road continues west from the junction with Greenhill Road through the western end of Sandford until the carriageway continues as Towerhead Road. It provides no direct links to a construction bellmouth from the carriageway itself. The road has been given a minor sensitivity classification following a review of local receptors.

12.4.139 Adjacent to the junction with Greenhill Road, there are residential properties to the north, and the All Saints Church to the south of the carriageway. The residential properties are screened by a large wall, and the church by fencing and vegetation. Continuing west on the northern side of the carriageway, the Thatchers Cider factory extends until Station Road. Opposite the factory are additional residential properties. The properties are well screened form any construction traffic by a mixture of walls and vegetation.

12.4.140 Before the A368 continues as Towerhead Road from Mead Lane, the carriageway passes and additional residential properties on both sides of the carriageway. The properties are screened from the construction access route by fencing and vegetation.

***Towerhead Road (TPLO-022)***

12.4.141 The A368 Towerhead Road has already been discussed in the Section C baseline analysis, as it marks the C/D Section boundary. The road has been given a minor sensitivity classification due to the sensitivity, type and location of receptors.

12.4.142 Adjacent to the construction bellmouths, is an industrial unit screened by vegetation to the east. Approximately 200m to the west, there are a small number of detached residential and agricultural buildings. These are well screened from the proposed haul road by vegetation and trees.

12.4.143 The carriageway links directly to construction bellmouth 400-UG-BM10 (Type 1) with a haul road to the south through Section C, and to bellmouth number 400-UG-BM11 (Type 1) which marks the origin of a haul road to the north through Section D.

***Mead Lane (Ref. TPLO-022a)***

12.4.144 Travelling north into Section D from Towerhead Road, the proposed haul road crosses Mead Lane adjacent to the north of Sandford at construction bellmouth numbers 400-UG-BM12 (Type 3) and 400-UG-BM13 (Type 3). For approximately 340m from Station Road it serves residential properties, then agricultural properties further north. At the point where the haul road would cross Mead Lane, the carriageway takes the form of a narrow path. There are no properties in the vicinity at this point, and so the road has been given a negligible sensitivity classification.

***Drove Way (Ref. TPLO-022b)***

12.4.145 Continuing north east, the proposed haul road crosses Drove Way approximately 1km to the north of Sandford at construction bellmouth numbers C-LD39-BM04 (Type 3) and C-LD39-BM05 (Type 3). At the point where the haul road would cross Drove Way, the carriageway is approximately 5m wide. There are no properties in the vicinity at this point, and so the road has been given a negligible sensitivity classification.

***Dolemoor Lane (Ref. TPLO-022c)***

12.4.146 Continuing north, the proposed haul road crosses Dolemoor Lane approximately 900m south of the A370 Weston Road at construction bellmouth numbers C-LD39-BM03 (Type 3) and C-LD39-BM02 (Type 3). At the point where the haul road would cross Dolemoor Lane, the carriageway takes the form of a narrow path. There are no properties in the vicinity at this point, and so the road has been given a negligible sensitivity classification.

***The Unnamed Section of the A370 and Somerset Avenue (Ref. TPLO-023)***

12.4.147 The A370 Somerset Avenue links from J21 of the M5 to Congresbury, providing a link to the Proposed Development across Section D. It provides no direct links to a construction bellmouth from the carriageway itself. The road has been given a high sensitivity classification following a review of local receptors.

12.4.148 Heading east from J21, Somerset Avenue passes Greencrest Caravan storage to the north of the carriageway, and Doubleton Holiday Farm Cottages to the south of the carriageway. The holiday cottages are well screened from the traffic by vegetation, fencing and walls. Continuing north east, there are a number of large detached residential properties on either side of the carriageway. These are well screened by vegetation and walls or fences, and are often set back from the carriageway by up to 50m.

As the road continues in a north easterly direction, there are a number of mixed residential properties on the eastern side of the carriageway. These are generally well screened from traffic by walls, fences, hedges or other vegetation. Here the road also passes the Golden Phoenix Chinese Restaurant at the junction with May's Green Lane. As the road continues to Hewish, the carriageway passes The Full Quart Public House, Discover More Camping and Caravan Sales unit, and St Anne's School all on the northern side of the carriageway. Excluding a low stone wall and wire fence, there is no screening from the construction traffic at the school and the playground fronts the carriageway. Due to the lack of residential properties within an acceptable walking distance of St Anne's School, it is considered that most pupils will not walk to school. However, there may be a small number of pupils residing in properties off the A370. It is accepted that some pupils may have to cross the carriageway.

12.4.149 As the road continues away from the M5, there are a number of industrial and retail units on either side of the carriageway. The units include Car Sales, a Hydroponics Specialists, and general storage and distribution. These are often set back from the carriageway, and are always screened by fencing, or hedges and other vegetation.

12.4.150 As the carriageway reaches Weston Road it passes two detached residential properties and an industrial unit currently occupied by Incatext Ltd on the northern side of the carriageway. The houses are well screened from the road by hedges and other vegetation.

12.4.151 Here, the carriageway also passes a traveller settlement to the south known as Moorland Park. The site is set back approximately 125m from the A370, At this point; the route terminates at construction bellmouth C-LD53-BM01 (Type 2) and C-LD39-BM01 (Type 2).

***May's Green Lane (Ref. TPLO-024)***

12.4.152 May's Green Lane runs from the A370 south through May's Green until reaching Puxton Road. The road has been given a moderate sensitivity classification following a review of receptors located along it.

12.4.153 The carriageway passes a number of detached residential properties before passing an industrial unit adjacent to the priority junction with Puxton Road. Although some of these are well screened from the road by hedges and other vegetation, some residential properties are situated in close proximity to the carriageway and have no screening from the construction traffic.

12.4.154 The carriageway terminates at construction bellmouth AT29-BM01 (Type 2) with a haul road to the south. For a short section of approximately 400m, the haul road runs along Havage Drove.

***Havage Drove (Ref. TPLO-024a)***

12.4.155 The proposed haul road continues along Havage Drove between tower references AT28R and AT29R. As the route goes east, the construction traffic would pass Boxbush Motors vehicle yard on the south side of the carriageway. Before Havage Drove turns south, a single residential property is passed on the southern and northern side of the carriageway. Both are screened from the construction route by trees and other vegetation. As the carriageway heads south, it passes another single residential property to the east, which is also well screened by vegetation. The road has been given a minor sensitivity classification.

***Ettlingen Way (Ref. TPLO-025)***

12.4.156 Ettlingen Way heads west from J21 of the M5 to a roundabout with Central Way. The road provides no direct links to a construction bellmouth along the carriageway itself. The road has been given a minor sensitivity classification, for the reasons discussed below.

12.4.157 Heading west from J21, there are a number of industrial units occupied by companies such as Roland DG Ltd, Fineline Lighting Ltd, Travis Perkins Trade and Bits from Bytes Ltd. to the north of the carriageway. These units are also screened from the carriageway by thick vegetation. Approaching the roundabout with Central Way, the carriageway passes a number of residential properties off the neighbouring Gulliford's Bank. Set back approximately 30m south of the carriageway at the nearest point the properties are well screened by a thick row of vegetation.

***Central Way (Ref. TPLO-026)***

12.4.158 Central Way heads south west the roundabout with Ettlingen Way join the B3133 at a roundabout junction with Southern Way. The road provides no direct links to a construction bellmouth along the carriageway itself. It has been given a minor sensitivity classification following a review of local receptors.

12.4.159 The carriageway passes a large number of residential properties of mixed type, but as the carriageway is well lined with trees and other vegetation and the properties are separated from the road by fences and walls, they are well screened from the construction route. There are also grass verges on either side of the road meaning that the properties are set back from the construction route. Here the carriageway also passes Yeo Moor Infant and Yeo Moor Junior School, which lie approximately 150m to the west. Although the school fields are in relatively close proximity to the construction route, they are well screened by trees, a hedge and other vegetation. It is considered that the majority of attendee's at the Infant and Primary Schools will reside in properties within the immediate vicinity of the schools, and to the west. However, it is accepted that some pupils may have to cross Central Way to reach properties in the east. They would do so via footways leading east to Porlock Close and on to Somerton Road, where there is a pedestrian crossing island complete with illuminating bollards, dropped kerbs and tactile paving.

***Unnamed Section of the B3133 (Ref. TPLO-027)***

12.4.160 The B3133 continues south from the roundabout with Southern Way and Central Way until it reaches Kenn Road. The road provides a link to the Proposed Development from J20 of the M5 via Central Way, but provides no direct links to a construction bellmouth along the carriageway itself. The road has been given a minor sensitivity classification for the reasons discussed below.

12.4.161 As the B3133 continues southbound the roundabout with Central Way, it passes a large number of residential dwellings of mixed types, as well as other properties on the local residential streets. Most of the houses are well screened from the carriageway by vegetation and separated from the road by walls or fences. The properties which do not have any form of screening are set back from the carriageway and separated by a grass verge. Adjacent to the roundabout with Central Way is a Tesco store with fuel filling station. This is well screened from the carriageway by vegetation.

12.4.162 As the road continues out of Clevedon, the carriageway passes Riverside Holiday Homes and Warrens Holiday Village to the west. The parks are well screened by thick vegetation from the road, and the nearest plot lies approximately 75m from the carriageway. Adjacent to the holiday parks, the construction route splits down Davis Lane to the east.

12.4.163 Adjacent to the bridge over the M5, there are a number of industrial units to the east of the carriageway. These are occupied by companies such as Gordano Ltd, Cablecom Networking, Harleys, Oaklands Automotive, and Yeates. Here, there is also the Avon & Wiltshire Mental Healthcare unit. The units are all well screened from the carriageway by vegetation and a fence. After crossing the M5, the carriageway passes a single large detached property to the north of the road. The property is well screened by trees and other vegetation, and is set back

approximately 45m from the carriageway with an access road named Kenn Road also providing screening.

***Davis Lane (Ref. TPLO-028)***

12.4.164 To the south of Clevedon, Davis Lane forms part of the construction access route off along the B3133. After crossing the M5 the route also links to Manmoor Lane. Manmoor Lane connects the major access route to the B3130 Tickenham Road in the north. At a junction with Kennmoor Road and Nailsea Road, the route splits south down Kennmoor Road and east along Nailsea Wall. The road has no direct links to a construction bellmouth from the carriageway itself, and has been given a minor sensitivity classification following a review of local receptors.

12.4.165 From the B3133, Davis Lane passes the previously described industrial units to the south of the carriageway that lie to the east of the B3133. Continuing east, the road passes an equestrian centre which is situated approximately 125m south of the carriageway, and further a cluster of agricultural buildings a similar distance south of the road.

***Manmoor Lane (Ref. TPLO-029)***

12.4.166 Manmoor Lane forms part of a construction access route off Davis Lane and the B3133 Tickenham Road. The road has no direct links to a construction bellmouth along the carriageway itself. The road has been given a high sensitivity classification due to it forming part of the popular Avon Cycleway.

12.4.167 From Davis Lane until Tickenham Road, Manmoor Lane passes only a small number of properties mainly on the west of the carriageway. As the road passes Moor lane, a local arts and crafts centre is passed situated on Moor Lane. Approximately 100m from the carriageway at its nearest point, the buildings are also screened from the road by vegetation. Still on the western side of the carriageway, the road passes a small number of detached residential properties off private unnamed access tracks. These are well screened from the carriageway by vegetation and walls. Here, there are also some holiday cottages, again screened by a wall and vegetation. Before crossing the M5 and proceeding to Tickenham Road, the carriageway passes an agricultural building which is again screened by hedges and vegetation.

***Kennmoor Road (Ref. TPLO-030)***

12.4.168 Carrying on south from Davis Lane, Kennmoor Road forms part of the designated construction access. The road directly links to construction bellmouth C-LD70-BM01 (Type 1) and C-LD62-BM01 (Type 2), where the construction access route terminates. Proposed haul roads continue north east and south west from the respective construction bellmouths. The road has been given a minor sensitivity classification for reasons discussed below.

12.4.169 From Davis Lane heading south, Kennmoor Road passes a small number of residential properties and agricultural buildings on both sides of the carriageway. As the road is well lined with vegetation, these properties are screened from the construction traffic. Before the road reaches a priority junction with Kenn Street, which is a minor construction access, it passes The Limes Bed and Breakfast to the

east. This is well screened from the carriageway by vegetation. Continuing southwards past Kenn Street, the carriageway passes two clusters of agricultural buildings before continuing as part of the minor construction route, where it passes a further two cluster of agricultural buildings before forming a priority junction with Ham Lane. The agricultural buildings are generally well fenced and screened from the carriageway by vegetation.

***Nailsea Wall (Ref. TPLO-031)***

12.4.170 Carrying on east from Davis Lane, Nailsea Wall forms part of a construction access route off the B3133. It links directly to construction bellmouth C-LD74-BM01 (Type 2) where the construction access route terminates. Here, the construction traffic would head north east along a proposed haul road. The road has been given a high sensitivity classification as it also forms part of the Avon Cycleway.

12.4.171 From Davis Lane to the construction bellmouth, the carriageway passes a small number of detached residential properties to the south of the carriageway. These are mostly well screened by vegetation, although one property fronts the road without any screening between itself and the carriageway.

***North Drove (Ref: TPLO-031a)***

12.4.172 The haul road crosses North Drove at bellmouths C-LD74-BM02 (Type 2), C-LD74-BM03 (Type 2), C-LD74-BM04 (Type 2) and C-LD74-BM05 (Type 2). Where the bellmouths cross the carriageway, there are no properties in the vicinity and so the road has been given a negligible sensitivity classification.

***Northern Way (Ref. TPLO-032)***

12.4.173 Northern Way heads north east from the roundabout with the B3133 and Central Way to re-join the B3133 on Tickenham Road at a priority junction at the start of Section E. The road provides a link to the Proposed Development from J20 of the M5 via Ettlingen Way, but provides no direct links to a construction bellmouth from the carriageway itself. The road has been given a minor sensitivity classification due to the sensitivity, type and location of nearby receptors which are discussed below.

12.4.174 From the roundabout with Southern Way and the B3133, the carriageway passes a large number of mixed residential properties. As the carriageway is well lined with trees and other vegetation and the properties are separated from the road by fences and walls, they are well screened from the construction route. There are also grass verges at certain points on either side of the road meaning that the properties are set back from the construction route.

***Clevedon Road (Section D) (Ref. TPLO-033)***

12.4.175 The B3130 Clevedon Road runs south from the D/E Section boundary at Tickenham Hill, down through northern parts of Nailsea to a junction with Stock Way North. Although the road provides no direct access to a construction bellmouth from the carriageway itself, it does provide a link to various Proposed Construction Accesses in Nailsea. The road has been given a high sensitivity classification for reasons discussed below.

12.4.176 Heading south east from the priority junction with the B3128 Tickenham Hill, there are a number of residential properties on both sides of the road. Although some of the properties are screened by walls and vegetation, there are some external walls of other properties which directly front the road.

12.4.177 As the road continues to bend south towards Nailsea, it passes a number of residential properties to the west of the carriageway. These properties are relatively unscreened from the construction traffic. As the carriageway crosses the Land Yeo River, there are a number of residential properties hidden by a screen of thick trees and vegetation. There is also the Elm Tree Cottage Bed and Breakfast, which is set back approximately 60m from the carriageway down a private access road, and Jacklands Fishing Lakes angling business which is also set back from the carriageway. Both properties are well screened from the carriageway by trees and vegetation.

12.4.178 The Land Yeo River rises on Dundry Hill and supplies Barrow Gurney Reservoirs before flowing through various villages to Clevedon where it drains into the Bristol Channel.

12.4.179 Continuing south and adjacent to a priority junction with Pound Lane, the carriageway passes a fire station on the western side of the road. Along Pound Lane, Ravenswood School and Kingshill Church of England Primary School is situated approximately 160m and 200m west of the B3130 respectively. The playing fields are closer to the carriageway, and are approximately 80m away at the nearest point. The schools are well screened by trees and other vegetation, and also by other buildings. It is considered that the majority of attendee's at the Infant and Primary Schools will reside in Nailsea to the south. Pedestrian crossings are present at the signalised junction with Stock Way North, complete with tactile paving and dropped kerbs. However, it is accepted that some pupils may have to cross Clevedon Road to reach properties in the south east.

12.4.180 As the road reaches the northern edge of the town of Nailsea, it passes a number of semi-detached residential properties on the eastern side, and bungalows on the western side of the carriageway. The properties are well screened by vegetation, and are set back from the carriageway. The road then passes a petrol filling station with associated car sales garage to the west. The building is set back approximately 8m from the road.

12.4.181 Passing Southfield Road, the carriageway has terraced housing to the west, and bungalows to the east. The large number of bungalows along this route is likely to attract an elderly population, which is more vulnerable to developments and construction traffic. The bungalows are well screened by vegetation and hedging, whereas the terraced properties are not. They are however set back approximately 10m from the carriageway.

12.4.182 On the approach to the priority junction with Stock Way North, there are bungalows set back from the road by a grass verge. These also have vegetation screening the properties from the construction traffic. Passing Westway, there are additional detached residential properties on both sides of the carriageway. Off neighbouring roads, there is an ICT shop to the west and Southfield Church to the east. Both are approximately 50m from the carriageway at their nearest point, and are screened from the road by surrounding buildings and vegetation.

12.4.183 At the priority junction with Stock Way North, the western side of the carriageway is faced by a car park. Again, this car park is screened by trees, a hedge and a wall. On the eastern side of the carriageway, there are a series of detached residential properties. These are screened by either walls or fences, and vegetation.

***Stock Way North (Ref: TPLO-034)***

12.4.184 The construction access route continues west from a priority junction with Clevedon Road along Stock Way North until a min-roundabout junction with Stock Road South. The road provides no access to a construction bellmouth from the carriageway itself. The road has been given a high sensitivity classification due to the sensitivity, type and location of nearby receptors as discussed below.

12.4.185 To the south east of the carriageway adjacent to the priority junction with Clevedon Road, there are a number of shops and facilities within the Crown Glass Shopping Centre. This includes health and beauty shops, a public library, high street banks, a betting shop, a pharmacy, supermarkets, cafes and a number of independent shops. The shops are generally well set back from the carriageway, and there are tees and a car park screening them from the construction traffic. Further west on the south side of the carriageway, the road passes a library and Christchurch Nailsea. Both are set back from the edge of the carriageway and are well screened by walls and vegetation.

12.4.186 To the north of the carriageway, there is a garden and a number of retirement properties adjacent to the mini-roundabout junction with Stock Way South. These are both well set back from the carriageway, and have walls and vegetation screening them from any construction traffic.

12.4.187 Also adjacent to the mini-roundabout junction but on the southern side of the carriageway, there are a number of residential properties situated off Christchurch Close and Sycamore Close. These have little screening from any construction traffic, but are set back approximately 10m from the carriageway by a grass verge and paved walkway.

***Stock Way South (Ref: TPLO-035)***

12.4.188 The construction access route continues south east the min-roundabout junction with Stock Road North to a mini-roundabout junction with Mizzymead Road. The road provides no access to a construction bellmouth from the carriageway itself. The road has been given a high sensitivity classification due to the sensitivity, type and location of receptors as discussed below.

12.4.189 To the south east of the carriageway adjacent to the roundabout junction with Stock Way North, the carriageway passes additional residential properties residential properties situated off Christchurch Close and Sycamore Close, as previously described for Stock Way North. Again, these have little screening from any construction traffic but are set back approximately 10m from the carriageway by a grass verge and paved walkway. On the opposite side of the carriageway, there are additional residential properties. These are generally well screened from any construction traffic, and are situated approximately 15m from the carriageway with the exception of one property, which lies close to the road and has no screening.

12.4.190 As the road bends to the east, it passes the Crown Glass Shopping Centre and car park as described as being located to the south of Stock Way North. In addition to

the previously described institutions, this includes accountants' offices and The Glass House public house. They are generally well set back from the carriageway, and there are tees and other vegetation screening them from the construction traffic.

12.4.191 To the south of the carriageway, the construction traffic would pass residential properties situated off Valley Gardens and Valley Close. These are well screened from the construction access route by thick vegetation and trees. Adjacent to the mini-roundabout with Mizzymead Road, there is also Nailsea Police Station to the south of the carriageway. The building is well screened by trees and other vegetation.

***Mizzymead Road (Ref: TPLO-036)***

12.4.192 The construction access route continues south from the mini-roundabout junction with Stock Way South to a priority junction with Queens Road. The road provides no access to a construction bellmouth from the carriageway itself. The road has been given a high sensitivity classification due to the sensitivity, type and location of nearby receptors as discussed below.

12.4.193 Adjacent to the mini-roundabout, the carriageway passes Nailsea School to the east. Although the buildings are generally well set back from the carriageway and screened by vegetation from any construction traffic, there are a number of pedestrian and vehicular accesses to the school from Mizzymead Road. It is considered that the majority of attendee's at Nailsea School will reside in properties within the immediate vicinity. It is accepted that some pupils may have to cross Mizzymead Road to reach properties in the west. To aid this there is a Zebra crossing complete with dropped kerbs, tactile paving and flashing indicator beacons adjacent to the entrance.

12.4.194 Along the full length of the western side of the carriageway to the priority junction with Queens Road and along the eastern side of the carriageway to the south of the school is lined by residential properties. These are generally well screened from the construction access route by fences, vegetation and walls.

***Queens Road (Ref: TPLO-037)***

12.4.195 Queens Road continues west from Mizzymead Road until it meets a priority junction with Hannah More Road. At this point, the construction access route splits along Hannah More Road to the south and continues along Queens Road to a Junction with North Street and Hanham Way. The road provides no access to a construction bellmouth from the carriageway itself. The road has been given a moderate sensitivity classification due to the sensitivity, type and location of nearby receptors as discussed below.

12.4.196 West from the junction with Station Road, there are a number of residential properties on both sides of the carriageway. Residential properties continue along the length of the road. The properties are very well screened from any construction traffic by fencing and walls and thick vegetation until the access continues past Mizzymead Road to the junction with North Street and Hanham Way. Here, the properties are still generally screened by vegetation and walls, but to a lesser extent.

***Hannah More Road (Ref: TPLO-038)***

12.4.197 Hannah More Road continues south from Queens Road, passing Blackfriars Road where the construction access route splits west, and continues to St Mary's Grove. The road provides no access to a construction bellmouth from the carriageway itself. The road has been given a minor sensitivity classification due to the sensitivity, type and location of nearby receptors as discussed below.

12.4.198 Heading south from the junction with Queens Road, the carriageway passes some offices to the west and a number of residential properties to the east. Both are well screened from the carriageway by vegetation and walls. The carriageway also passes Grove Junior School, Hannah More Infants School and playing fields along St Mary's Grove approximately 600m, 500m and 300m to the east respectively. Although it is considered that the majority of pupils will reside in Nailsea to the north east of the school, some may have to cross the construction route along Hannah More Road or St Mary's Grove as described below. Continuing south, the construction access route would pass additional residential properties on the east which is again screened by walls and fencing. To the west the road passes the West End Trading Estate, which has a number of units including Brabantia adjacent to the carriageway. The trading estate is well screened from any construction traffic by vegetation.

12.4.199 Heading south from the trading estate until the priority junction with St Mary's Close, there are residential properties on both sides of the carriageway. These are well screened from the proposed construction access route by walls, fencing and vegetation.

***St Mary's Grove (Ref: TPLO-039)***

12.4.200 St Mary's Grove continues south west from Hannah More Road until a priority junction with Engine Lane. The road provides no access to a construction bellmouth from the carriageway itself. The road has been given a moderate sensitivity classification due to the sensitivity, type and location of nearby receptors as discussed below.

12.4.201 Heading west from Hannah More Road to Engine Lane, the carriageway passes a number of residential properties on both sides. The properties are generally well screened from the proposed construction access route by walls, fences and vegetation. However there are instances where properties have little or no screening, and have external walls located close to the carriageway.

***Engine Lane (Ref: TPLO-040)***

12.4.202 Engine Lane runs north from St Mary's Grove along the westernmost edge of Nailsea town, passing Blackfriars Road until it reaches a priority junction with North Street. The road provides direct access to construction bellmouth W-Route-BM00.1 (Type 1), and W-Route-BM01 (Type 1). The road has been given a minor sensitivity classification for reasons discussed below.

12.4.203 Adjacent to the priority junction with St Mary's Grove, the carriageway passes a single detached residential property on the western side of the road. The property is screened by a wall. Continuing north, there are a number of detached residential properties which line the eastern side of the carriageway for approximately 500m.

The properties are set back from the road by approximately 15m by a front garden. There is a low wall and varying degrees of vegetation screening the properties.

12.4.204 At the northern edge of the residential properties, there are a collection of allotments also on the eastern side of the carriageway. Trees screen the allotments from the construction traffic. Immediately north, there are a number of industrial units currently occupied by businesses such as Gould Autoplates & Signs Ltd, Adroit Print of Nailsea and Kellaway Building Supplies. The units are screened from the carriageway by a wall and intermittently by trees. Adjacent to the priority junction with North Street, there is a residential property on both sides of the carriageway. These are screened from the construction traffic by walls.

***Blackfriars Road (Ref: TPLO-041)***

12.4.205 Blackfriars Road links Engine Lane to Hannah More Road. The road provides no direct access to a construction bellmouth from the carriageway itself. The road has been given a minor sensitivity classification for reasons discussed below.

12.4.206 Along the length of the carriageway there are units on both the northern and southern sides which make up the West End Trading Estate, as previously described.

***North Street (Ref. TPLO-042)***

12.4.207 North Street runs north east from a priority junction with Engine Lane until a priority junction with Hanham Way. The road provides no direct access to a construction bellmouth from the carriageway itself. The road has been given a moderate sensitivity classification for reasons discussed below.

12.4.208 Residential properties line the carriageway along its length on both sides. These properties are mixed in nature, with some being detached whilst others are semi-detached or terraced. In general these properties are well screened from the carriageway by walls and vegetation, however, some are not. Approximately 150m east of the junction with Engine Lane, the carriageway passes a residential property on its southern side which has an external wall fronting the road. Approximately 170m further north east, the road passes another residential property which has an external road fronting the carriageway. In both instances, the properties are on the southern side of the carriageway and unscreened from any construction traffic.

12.4.209 Adjacent to the priority junction with Hanham Lane, the road passes a butcher's and baker's shop. Although practically unscreened from the carriageway, the shop is set back approximately 12m from the road as there is parking provision.

***Hanham Way (Ref. TPLO-043)***

12.4.210 Hanham Way runs north west from a priority junction with North Street until it reaches a junction with Causeway and North Drove. Hanham Way provides direct access to construction bellmouth numbers W-Route-BM01.1 (Type 1) and C-LD76-BM01 (Type 2). The road has been given a minor sensitivity classification for reasons discussed below.

12.4.211 Detached residential properties line the carriageway along for approximately 160m on both sides, where they continue along the southern side of the carriageway until the construction bellmouth. The properties are well screened from the carriageway by fences and vegetation, and there is a grass verge for a section of the road on the western side of the carriageway.

12.4.212 From bellmouth W-Route-BM01.1 (Type 1), a haul road continues north to the B3130 Clevedon Road.

***North Drove (Ref: TPLO-043a)***

12.4.213 North Drove is used as a proposed haul road. The road has been given a negligible sensitivity classification as there are no receptors within the vicinity of the carriageway.

***Church Lane (Ref: TPLO-043b)***

12.4.214 Church Lane is crossed by a proposed haul road at construction bellmouth numbers W-Route-BM03 (Type 3) and W-Route-BM04 (Type 3). The road has been given a minor sensitivity classification for reasons discussed below.

At the construction bellmouths, there is a detached residential property approximately 80m to the west. This is well screened by trees and vegetation. Another 50m further west lies Christ Church Nailsea, also well screened from any construction traffic. Approximately 100m to the east, there is Tickenham Cattery. It is also screened from construction traffic.

***Traffic Flows***

12.4.215 In order to assess the baseline traffic flows along the construction access routes, a total of 43 Automatic Traffic Counts (ATCs) were placed across the Sections. This resulted in 12 ATCs (ATC numbers 11-22) being placed in Section D for a full week.

12.4.216 ATC 11 was situated on the A368 Dinghurst Road, in the village of Churchill. ATC 12 was placed to the north east of ATC 11 on the A38 Bristol Road. ATC 13 was situated on the B3133 Stock Lane, adjacent to the junction with Brinsea Lane south of Congresbury. ATC 14 was placed on the A370 in the village of Hewish. ATC 15 was situated on the A370 Station Road on the northern edge of Congresbury. ATC 16 was placed along Lampley Road, north of Yatton and adjacent to the junction with North End Road and Kenn Road. ATC 17 was situated on Kennmoor Road, to the north of Yatton. ATC 18 was placed to along the B3133 Kenn Road to the south of the junction with Kenn Street. ATC 19 was placed along Kenn Street. ATC 20 was situated along Nailsea Wall to the east of a junction with Kennmoor Road. ATC 21 was placed on the B3133 at the southern tip of Clevedon. ATC 22 was situated along Manmoor Lane adjacent to the junction with Cook's Lane (see **Volume 5.22.3, Figure 22.1**). **Table 12.25** shows the AADT flows by vehicle class for the ATCs in Section D.

Table 12.25 AADT Baseline Neutral Day AADT Traffic Flows in Section D

| ATC – Construction Access Route | | Neutral Day AADT Flows | | | |
|---|---|---|---|---|---|
| | | 24hr Total Traffic | 24hr HGVs | 18hr Total Traffic | 18hr HGVs |
| 11 | Dinghurst Road | 6,907 | 665 | 6,673 | 635 |
| 12 | A38 Bristol Road | 17,204 | 1,380 | 1,6421 | 1,324 |
| 13 | Stock Lane | 6,792 | 661 | 6,640 | 642 |
| 14 | A370 | 18,730 | 1,660 | 18,082 | 1,571 |
| 14 [2] | A370 | 17,015 | 1,188 | 16,360 | 1,116 |
| 15 | Station Road | 19,066 | 1,525 | 18,437 | 1,440 |
| 16 | Lampley Road | 9,965 | 826 | 9,573 | 793 |
| 17 | Kennmoor Road | 3,018 | 133 | 2,977 | 131 |
| 18 | Kenn Road | 10,304 | 871 | 10,111 | 846 |
| 19 | Kenn Street | 811 | 72 | 801 | 70 |
| 20 | Nailsea Wall | 1,820 | 134 | 1,769 | 130 |
| 21 | B3133 | 14,286 | 1,085 | 14,034 | 1,055 |
| 22 | Manmoor Lane | 4,044 | 202 | 3,979 | 197 |

[2]As indicated in the plans, ATC 14 was placed in two separate locations. Both counts have been included.

12.4.217 In addition to the neutral flows, there were also a selected number of counts taken during the summer to help inform construction traffic effects during the tourist season. These additional counts included ATC11, 12 and 15. **Table 12.26** shows the average weekday summer flows by vehicle class for ATC11, 12 and 15.

Table 12.26 Baseline Average Summer Weekday Traffic Flows in Section D

| ATC – Construction Access Route | | Average Summer Flows | | | |
|---|---|---|---|---|---|
| | | 24hr Total Traffic | 24hr HGVs | 18hr Total Traffic | 18hr HGVs |
| 11 | Dinghurst Road | 7,233 | 687 | 6,914 | 659 |

| ATC – Construction Access Route | | Average Summer Flows | | | |
|---|---|---|---|---|---|
| | | 24hr Total Traffic | 24hr HGVs | 18hr Total Traffic | 18hr HGVs |
| 12 | A38 Bristol Road | 17,515 | 1,430 | 16,652 | 1,356 |
| 15 | Station Road | 18,428 | 1,528 | 17,914 | 1,445 |

12.4.218 The summer counts in **Table 12.26** show a 24hr total increase of 326 vehicles (4.7%) at ATC 11, and 311 (1.8%). The summer counts showed a reduction in traffic flow at ATC 15.

12.4.219 Traffic data has been obtained from the HA TRADS service for the M5 on a neutral weekday in April 2013. **Table 12.27** shows the AADT flows for the total number of vehicles at Junction 21 and 20 of the M5 obtained from the HA.

Table 12.27 AADT M5 TRADS Flows in Section D

| ATC – M5 TRADS Data | AADT Flows | |
|---|---|---|
| | 24hr Total Traffic | 18hr Total Traffic |
| J21 | 53,761 | 51,360 |
| J20 | 62,244 | 59,200 |

***Cycling***

12.4.220 National Cycle Route 26 passes through Sandford. It connects Yatton to Axbridge and Cheddar and follows a disused railway line. As such the route is mainly off-road with short on-road sections. The proposed 400kV overhead line crosses the cycleway.

12.4.221 The Proposed Development would also cross National Cycle Route 410 which is also known as the Avon Cycleway. It connects Clevedon with a number of small towns and villages to the south east of Nailsea. The route runs along Nailsea Wall and Manmoor Lane.

***Walking***

12.4.222 A review of the PRoW has indicated that a total of 42 designated PRoW would be crossed by the Proposed Development in Section D as follows:

- AX/29/48
- AX/29/48
- AX/3/42
- AX/24/11
- AX/24/12
- AX/24/13
- AX/3/43
- AX/24/10
- AX/24/7A
- AX/16/22
- AX/16/21
- AX/16/44
- LA/21/28
- LA/21/31
- LA/11/6
- LA/21/40
- LA/21/32
- LA/10/2
- LA/21/37
- LA/13/1
- LA/13/49
- LA/13/50
- LA/13/2

- LA/13/4
- LA/13/6
- LA/13/5
- LA/13/21
- LA/13/44
- LA/13/10
- LA/13/1
- LA/13/8
- LA/13/9
- LA/13/45
- LA/13/1
- LA/16/18
- LA/16/21
- LA/16/20
- LA/16/1
- AX/14/58
- AX/14/59
- AX/14/60
- AX/14/57

12.4.223 During June 2013, count surveys were conducted at 11 locations to ascertain an indication of typical off-peak usage of the PRoWs. Each location was surveyed constantly on one day between 08:00 and 18:00.

12.4.224 The footway off Nye Road to the north of Sandford was surveyed to provide an indication of the usage of PRoW reference AX 29/76 and AX 29/48. The survey found that 45 adult pedestrians, 822 adult cyclists, 9 child cyclists, and 24 adult dog walkers totalled 900 users over the 12 hour period.

12.4.225 A footpath at Ken Moor off Nye Road where it joins the Avonmouth Cycleway (Route 410) to the north of Sandford was surveyed to provide an indication of the usage of PRoW reference AX 29/76 and AX 29/48. The survey found that 6 adult pedestrians, 218 adult cyclists, and 6 adult equestrians totalled 230 users over the 12 hour period.

12.4.226 It is clear from the number of users in Section D that a number of pedestrians, equestrians, and particularly cyclists use PRoW in Section D.

12.4.227 A separate PRoW Management Plan has been produced; this contains further details of PRoWs that would be affected by the Proposed Development together with proposed management procedures to minimise the effects. The PRoW Management Plan is **Volume 5.26.6**.

***Public Transport - Bus***

12.4.228 There are bus stops along the A371. First Bus and Bakers Coaches jointly operate the 121 service (Weston-Super-Mare to Bristol) along the A371. This operates hourly Monday to Saturday and a five daily services on Sundays and bank holidays. There are hourly bus services which run along the A370, including the 1 and 125 to Bristol and Portishead.

12.4.229 There are also bus stops at various points along the B3133, some of which are in the vicinity of the Proposed Development. Hourly services run along this route to Bristol and Clevedon.

12.4.230 Going further north in the Section, there are bus stops at various points along the B3130, some of which are in the vicinity of the Proposed Development. Hourly services run along this route to Bristol and Clevedon. The frequencies of these services are shown in **Table 12.28**.

Table 12.28 Bus Frequencies in Section D

| Service | Route | Approximate Peak Frequency | | |
|---|---|---|---|---|
| | | Mon - Fri | Sat | Sun/Hols |
| 1 | Weston-Super-Mare – Congresbury – Yatton – Backwell – Bristol | Hourly | Hourly | Hourly |
| X1 | Weston-Super-Mare – Congresbury – Backwell – Bristol | 20 mins | 20 mins | - |
| X6 | Bristol – Clevedon | 30 mins | Hourly | - |
| 121 | Weston-Super-Mare – Langford – Bristol Airport – Bristol Centre | Every 2 Hours | Every 2 Hours | Every 2 Hours |
| 126 | Weston-Super-Mare – Wells (Via Locking, Winscombe, Axbridge, Cheddar) | Hourly | Hourly | 4 Services |

***Public Transport – Rail***

12.4.231 The closest railway station to the Proposed Development is Yatton, approximately 1.5km to the east at its closest point to the Proposed Development. Yatton Railway Station is located on the Bristol to Exeter Line, with Nailsea and Blackwell being the preceding station to the north east, and Worle the following station to the south west. No rail connections would be crossed in this section of the route.

**Section E - Tickenham Ridge**

12.4.232 In Section E, the proposed route for 400kV overhead line and the proposed route for the 132kV underground cable will cross the M5 between junctions 19 and 20 close to Clapton-in-Gordano as well as Cadbury Camp Lane, Naish Hill and Caswell Hill.

12.4.233 The highway links in the table below form part of the construction routeing strategy through Section E.

Table 12.29 Section E Highway Links to be Used during Construction

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| Tickenham Road | TPLO-044 | Minor | North Somerset |
| Clevedon Road (Section E) | TPLO-045 | Moderate | North Somerset |
| Cuckoo Lane | TPLO-046 | Minor | North Somerset |
| Whitehouse Lane | TPLO-047 | Minor | North Somerset |

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| Caswell Hill | TPLO-048 | Minor | North Somerset |

12.4.234 No highway links are crossed by haul roads in Section E.

***Tickenham Road (Ref. TPLO-044)***

12.4.235 The B3130 Tickenham Road links the Proposed Development in Section D and J20 of the M5 to the Proposed Development in Section E, but provides no direct links to a construction bellmouth. The road is part of a designated construction route, and has been given a minor sensitivity classification for the reasons discussed below.

12.4.236 From the junction with Northern Way, the carriageway passes a storage unit on the northern side of the road which is screened by a stone wall. Clevedon Hospital is also located approximately 600m to the west, and is well screened by multiple properties. Continuing east, there are three large detached properties to the north of the carriageway which are well screened from the construction route by walls and vegetation. These are set back approximately 50m from the carriageway. After crossing the M5, the carriageway passes a storage unit on the northern side of the carriageway before passing a number of detached residential properties on either side of the carriageway. These are well screened from the road by vegetation and walls. After passing a priority junction with Hill Lane, the B130 continues east as Clevedon Road.

***Clevedon Road (Section E) (Ref. TPLO-045)***

12.4.237 The B3130 Clevedon Road continues east from Tickenham Road into Section E. The road has been given a moderate sensitivity classification for reasons discussed below.

12.4.238 Clevedon Road continues east after the priority junction with Hill Lane. Here the carriageway passes a number of residential properties of mixed type on both sides of the road, as well as other properties on residential streets off Clevedon Road such as Elmtree Avenue and Moor Lane. The residential properties are mostly well screened from the road as the carriageway is well lined with trees and bushes. The houses also have walls and other vegetation between the carriageway and the properties. There are some instances where properties are relatively close to the carriageway but have no screening from traffic. The road also passes Tickenham Church of England Primary School, which is screened off from the carriageway by a wall and by vegetation. It is considered that the majority of attendee's at Tickenham Church of England Primary School will reside in properties to the east or west along the B3130. It is accepted that some pupils may have to cross Clevedon Road to reach residential properties. Dropped kerbs are present at various suitable crossing places.

12.4.239 The road continues past Hillside Motor Company car sales garage and out of the residential area. As the carriageway meanders to the south east, it passes

Tickenham Rabbit Centre to the west, before passing storage units set back from the carriageway to the south. Continuing east, the road passes residential properties and The Starr Inn to the north of the carriageway. The residential properties are screened from the road by vegetation, and the public house fronts the carriageway. The beer garden of The Starr Inn is well screened from the carriageway by vegetation. Before reaching a priority junction with the B3128 Clevedon Road, the carriageway passes an agricultural building as well as some residential properties. All are well screened from the road by vegetation and walls.

12.4.240 As the access route continues north east along the B3128 Clevedon Road until Cuckoo Lane, the carriageway passes a number of mixed residential properties on either side of the carriageway, including additional properties off residential streets such as The Ripple and Summerhouse. The properties are well screened as there is thick vegetation which lines the carriageway. Many of the properties are also set back from the road.

***Cuckoo Lane (Ref. TPLO-046)***

12.4.241 Cuckoo Lane links a number of construction bellmouths to the Proposed Development, but does not provide direct access to a construction bellmouth. The road is part of a designated construction route. Following a review of local receptors the route has been given a minor sensitivity classification.

12.4.242 Between the junction with the B3128 and Whitehouse Lane, Cuckoo Lane passes a small number of large residential properties to the west of the carriageway. All of these properties are well screened from the carriageway by trees, hedges and other thick vegetation.

***Whitehouse Lane (Ref. TPLO-047)***

12.4.243 Whitehouse Lane continues north from Cuckoo Lane to Caswell Hill provides direct access to construction bellmouth numbers W-Route-BM07 (Type 2) and W-Route-BM08 (Type 1). Here, there are haul roads to the south west and north east respectively. The road has been given a minor sensitivity classification due to its relationship with local receptors.

12.4.244 Between the junction with Cuckoo Lane and Caswell Hill, Whitehouse Lane passes a single detached residential property adjacent to the junction with Caswell Hill. The property is well screened from the carriageway by hedges and other thick vegetation, as well as a stone wall.

***Caswell Hill (Ref. TPLO-048)***

12.4.245 Caswell Hill continues north from Whitehouse Lane until the E/F Section boundary at the M5. At the Section boundary, construction bellmouth W-Route-BM09 (Type 1) opens to a laydown area. The road has been given a minor sensitivity classification due to the location and form of local receptors as described below.

12.4.246 Between the junction with Whitehouse Lane and the construction bellmouth, Caswell Hill passes an agricultural building with associated residential property adjacent to the tunnel under the M5, to the north of the carriageway. The property is well screened from the road by hedges and other thick vegetation, as well as a stone wall.

### *Traffic Flows*

12.4.247 In order to assess the baseline traffic flows along the construction access routes, a total of 43 ATCs were placed across the Sections. This resulted in five ATCs (ATC numbers 23-27) being placed in Section E for a full week.

12.4.248 ATC 23 was situated on the B3130 Clevedon Road to the east of Clevedon. ATC 24 was placed on the same road, further east of ATC 23 and north of Nailsea. ATC 25 was situated on the B3128 Tickenham Hill, again to the north of Nailsea. ATC 26 was placed on Whitehouse Lane, south of the junction with Caswell Hill. ATC 27 was situated on Caswell Hill, adjacent to the tunnel under the M5. All the ATCs in Section E were placed along major construction routes (see **Volume 5.22.3, Figure 22.1**). **Table 12.30** shows the AADT flows for the ATCs in Section E.

Table 13.30 AADT Baseline Neutral Day AADT Traffic Flows in Section E

| ATC | | AADT Flows | | | |
|---|---|---|---|---|---|
| | | **24hr Total Traffic** | **24hr HGVs** | **18hr Total Traffic** | **18hr HGVs** |
| 23 | Clevedon Road | 13,404 | 915 | 13,216 | 890 |
| 24 | Clevedon Road | 11,489 | 809 | 11,302 | 788 |
| 25 | Tickenham Hill | 8,927 | 508 | 8,761 | 491 |
| 26 | Whitehouse Lane | 7,271 | 280 | 7,158 | 275 |
| 27 | Caswell Hill | 901 | 55 | 876 | 54 |

### *Cycling*

12.4.249 The Proposed Development would cross National Cycle Route 410 the Avon Cycleway adjacent to the M5. The route forms a large circuit around Bristol, and mostly comprises an on-road route. The Proposed Development would also cross the cycle route adjacent to the junction between Caswell Lane and Caswell Hill.

### *Walking*

12.4.250 A review of the PRoW has indicated that a total of ten designated PRoW would be crossed by the Proposed Development in Section A as follows:

- LA/16/1
- LA/20/84
- LA/20/26
- LA/15/24
- LA/20/91
- LA/20/29
- LA/20/56
- LA/15/20
- LA/15/20
- LA/15/13

12.4.251 A separate PRoW Management Plan has been produced; this contains further details of PRoWs that would be affected by the Proposed Development together

with proposed management procedures to minimise the effects. The PRoW Management Plan is **Volume 5.26.6**.

12.4.252 During June 2013, count surveys were conducted at 11 locations to ascertain an indication of typical off-peak usage of the PRoWs. Each location was surveyed constantly on one day between 08:00 and 18:00.

12.4.253 The footway off Nye Road to the north of Sandford was surveyed to provide an indication of the usage of PRoW reference AX 29/76 and AX 29/48. The survey found that 45 adult pedestrians, 822 adult cyclists, 9 child cyclists, and 24 adult dog walkers totalled 900 users over the 12 hour period.

***Public Transport – Bus***

12.4.254 The B3128 forms part of a local bus route and as such there are a number of stops along this route. Services X7 and 66 run between Temple Meads/Clevedon, Bristol/Walton St Mary, and Congresbury/Nailsea respectively. Services X8 and X9 run express serves from Nailsea to Bristol. The frequencies of these services are shown in **Table 12.31**.

Table 12.31 Bus Frequencies in Section E

| Service | Route | Approximate Peak Frequency | | |
|---|---|---|---|---|
| | | Mon - Fri | Sat | Sun/Hols |
| X5 | Nailsea – Weston-super-Mere | Hourly | - | - |
| X6 | Bristol - Clevedon | 30 mins | Hourly | - |
| X7 | Bristol – Chepstow | Hourly | Hourly | Every 2 Hours |
| X8 | Bristol – Clevedon/Nailsea | 30 mins | 30 mins | Hourly |
| X9 | Bristol - Nailsea | 30 mins | - | - |
| 66 | Congresbury – Nailsea | Hourly | Hourly | - |

***Public Transport – Rail***

12.4.255 The closest railway station to the Proposed Development is Nailsea and Backwell approximately 4km to the south at its closest point. Nailsea and Backwell Railway Station is located on the Bristol to Exeter Line, with the preceding station being either Parson Street or Bristol Temple Meads to the north east, and Yatton being the following station to the south west. No rail connections would be crossed in this section of the route.

**Section F - Portishead**

12.4.256 The highway links in the table below form part of the construction routeing strategy through Section F.

Table 12.32 Section F Highway Links to be Used during Construction

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| Caswell Lane | TPLO-049 | Negligible | North Somerset |
| The Portbury Hundred (Section F) | TPLO-050 | Minor | North Somerset |
| Sheepway | TPLO-051 | Minor | North Somerset |

12.4.257 In addition to the above, those highway links that would be crossed by the Proposed Development's haul road have been listed in the table below.

Table 12.33 Section G Highway Links to be Crossed during Construction

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| Wharf Lane | TPLO-051a | Negligible | North Somerset |

***Caswell Lane (Ref. TPLO-049)***

12.4.258 Caswell Lane provides a short construction access link from Caswell Hill to construction bellmouths C-LD92-BM01 (Type 2) and W-Route-BM10 (Type 1). The road has been given a negligible sensitivity classification as there are no properties within the vicinity of the route.

***The Portbury Hundred (Section F) (Ref. TPLO-050)***

12.4.259 The A369 Portbury Hundred links a number of construction bellmouths to the Proposed Development, and also provides direct access to construction bellmouth numbers C-LD96-BM01 (Type 1) and C-LD95A-BM02 (Type 1). It heads west from J19 of the M5 to a roundabout with Bristol Road, Wyndham Way and Sheepway. The road has been given a minor sensitivity classification following a review of local receptors.

12.4.260 The Portbury Hundred passes no property until after a priority junction with Station Road. After here, the road passes a large industrial estate approximately 100m to the north which is well screened from the carriageway by vegetation.

***Sheepway (Ref. TPLO-051)***

12.4.261 Sheepway heads north east from a roundabout with Bristol Road, Wyndham Way and The Portbury Hundred before re-joining The Portbury Hundred at a priority junction via Station road. It provides access to construction bellmouth W-Route-BM11 (Type 1), W-Route-BM12 (Type 1) and W-Route-BM11.1 (Type 1). All of

these bellmouths have haul roads. The road has been given a minor sensitivity classification following a review of local receptors.

12.4.262 At the roundabout, the carriageway passes a number of mixed residential properties off Conference Avenue and Moor Gate, as well as more properties off Portbury Common to the west of the roundabout, and others in the south east of Portbury town. All the residential properties are well screened from the carriageway by hedges and other vegetation.

12.4.263 As the road continues through Sheepway and on to Station Road, the carriageway passes a number of residential and industrial premises on both sides of the carriageway. It also passes local businesses including a butchery, and Butterflies Catering Equipment Hire. All the properties are well screened from the carriageway by vegetation and walls, and many of the residential properties are well set back from the road.

***Wharf Lane (Ref. TPLO-051a)***

12.4.264 A proposed haul road crosses Wharf Lane at construction bellmouth numbers P-LD99-BM02 (Type 3) and P-LD99-BM03 (Type 3). The proposed haul road to the west of Wharf Lane serves the Portishead Substation. Wharf Lane has been given a negligible sensitivity classification following a review of local receptors.

12.4.265 Where the haul road crosses Wharf Lane, there is a single agricultural property approximately 150m to the south. It is well screened by vegetation.

***Traffic Flows***

12.4.266 In order to assess the baseline traffic flows along the construction access routes, a total of 43 ATCs were placed across the Sections. This resulted in 2 ATCs (ATC numbers 28 and 29) being placed in Section F for a full week.

12.4.267 ATC 28 was situated on Sheepway, in an area also called Sheepway to the west of a large industrial area. ATC 29 was placed on the A369 The Portbury Hundred, adjacent to the junction with Sheepway. Both the ATCs in Section F were placed along proposed major construction routes (see **Volume 5.22.3, Figure 22.1**). **Table 12.34** shows the AADT flows for Section F.

Table 12.34 AADT Baseline Neutral Day AADT Traffic Flows in Section F

| **ATC** | | **AADT Flows** | | | |
|---|---|---|---|---|---|
| | | **24hr Total Traffic** | **24hr HGVs** | **18hr Total Traffic** | **18hr HGVs** |
| 28 | Sheepway | 1,204 | 172 | 1,185 | 169 |
| 29 | The Portbury Hundred | 26,765 | 1,677 | 26,187 | 1,614 |

### *Cycling*

12.4.268 Within Section F, the Proposed Development crosses national cycle route 334, which runs as an on-road route along Sheepway, and national cycle route 24 which comprises an off-road route approximately 75m north of The Portbury Hundred adjacent to Sheepway. Route 334 connects Sheepway to the south western edges of Bristol, and number 24 connects Portishead to the centre of Bristol and then on to North Somerset.

12.4.269 The Alternative Route crosses no additional cycle routes or lanes which have not already been discussed.

### *Walking*

12.4.270 A review of the PRoW has indicated that a total of seven designated PRoW would be crossed by the Proposed Development in Section A as follows:

- LA/15/13
- LA/15/15
- LA/15/22
- LA/15/2/60
- LA/15/2/40
- LA/15/2/20
- LA/15/21

12.4.271 During June 2013, count surveys were conducted at 11 locations to ascertain an indication of typical off-peak usage of the PRoWs. Each location was surveyed constantly on one day between 08:00 and 18:00.

12.4.272 The footway off Gordano Round adjacent to Noah's Ark Zoo Farm was surveyed to provide an indication of the usage. The survey found that one adult pedestrian used the PRoW over the 12 hour period.

12.4.273 The pedestrian footway to link Station Road over the M5 was also surveyed to provide an indication of usage along LA 15/1, LA 15/2 and LA 15/3. The survey found that 38 adult pedestrians, 12 child pedestrians, 58 adult cycles and five adult dog walkers totalled 113 users. The survey showed that the pedestrian bridge across the M5 is well used.

12.4.274 A separate PRoW Management Plan has been produced; this contains further details of PRoWs that would be affected by the Proposed Development together with proposed management procedures to minimise the effects. The PRoW Management Plan is **Volume 5.26.6**.

### *Public Transport – Bus*

12.4.275 There are bus stops on the A369 (The Portbury Hundred). These are well utilised by multiple services which include the 358/359 (Bristol to Portishead) which runs frequent services on weekdays, weekends, and bank holidays.

12.4.276 The 125 runs along The Portbury Hundred frequently Monday to Saturday. The X3 also runs frequently to Bristol. There are additional stops on Sheepway which serve the X3 and X2. The frequencies of these services are shown in **Table 12.35**.

Table 12.35 Bus Frequencies in Section F

| Service | Route | Approximate Peak Frequency | | |
|---|---|---|---|---|
| | | Mon - Fri | Sat | Sun/Hols |
| X2 | Bristol Bus Station – Pill – Portishead – Pill - Bristol Bus Station | 30 mins | 30 mins | Hourly |
| X3 | Bristol Bus Station – Portishead - Bristol – Bus Station | 30 mins | 30 mins | Hourly |
| 125 | Weston-super-Mere – Portishead | Hourly | Hourly | - |
| 777A | Westerleigh Village – St Johns Lane – Portishead Gordano School | 1 Return School Service | - | - |
| 777B | Westerleigh – Whiteladies Road – Portishead Gordano School | 1 Return School Service | - | - |

***Public Transport – Rail***

12.4.277 The closest rail connections to the site are at Avonmouth and Shirehampton, both of which are approximately 3.2km from the Proposed Development at their closest points.

12.4.278 Avonmouth Railway Station is situated on the Severn Beach Line with Shirehampton being the preceding station to the south east, and St Andrews Road the following station to the north.

12.4.279 Shirehampton Railway Station is also situated on the Severn Beach Line with Sea Mills being the preceding station to the south east, and Avonmouth the following station to the north.

12.4.280 No rail connections would be crossed in this Section of the route, although the Proposed Development does cross a disused railway line adjacent to The Portbury Hundred. The disused railway section between Portishead and Portbury (Station Road Bridge) is safeguarded in the North Somerset Replacement Local Plan under policy T/1.

12.4.281 Option B affects no public transport infrastructure additional to that which has already been discussed.

**Section G - Avonmouth**

12.4.282 The highway links in the table below form part of the construction routeing strategy through Section G.

Table 12.36 Section G Highway Links to be Used during Construction

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| Royal Portbury Dock Road | TPLO-051 | Minor | North Somerset |
| Unnamed Track off Royal Portbury Dock | TPLO-052 | Negligible | North Somerset |
| Portbury Way | TPLO-053 | Minor | North Somerset |
| M5 J18A | TPLO-054 | Minor | Bristol |
| Bristow Broadway | TPLO-055 | Minor | Bristol |
| Portway | TPLO-056 | Minor | Bristol |
| West Town Road | TPLO-057 | Minor | Bristol |
| Victoria Road | TPLO-058 | Minor | Bristol |
| King Road | TPLO-059 | Minor | Bristol |
| Crowley Way | TPLO-060 | Minor | Bristol |
| Avonmouth Way | TPLO-061 | Minor | Bristol |
| St Andrew's Road | TPLO-062 | Minor | Bristol |
| Kings Weston Lane | TPLO-063 | Minor | Bristol |
| Smoke Lane | TPLO-064 | Minor | Bristol |
| Poplar Way West | TPLO-065 | Negligible | Bristol |
| Poplar Way East | TPLO-066 | Minor | Bristol |
| Packgate Road | TPLO-067 | Negligible | Bristol |
| Chittening Road | TPLO-068 | Minor | Bristol |
| Severn Road | TPLO-069 | Minor | Bristol |
| Ableton Lane | TPLO-070 | Minor | Bristol |

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| Minor's Lane | TPLO-071 | Negligible | South Gloucestershire/Bristol |

***Royal Portbury Dock Road (Ref: TPLO-052)***

12.4.283 The Construction access route along Royal Portbury Dock Road continues north from J19 of the M5 over a roundabout junction with Portbury Way to an unnamed track. The road does not provide a direct access to a construction bellmouth on the carriageway itself. The road has been given a minor sensitivity classification following a review of local receptors.

12.4.284 Along the length of the carriageway, the route passes a number of industrial units. This includes units occupied by Wiltshire Farm Foods, apetito Ltd., Hampton Printing Ltd. Johnson Control Ltd. and BOCM Pauls Ltd. The units are set back from the carriageway and well screened by trees and other vegetation.

***Unnamed Track off Royal Portbury Dock Road (Ref: TPLO-053)***

12.4.285 The construction access route branches east off Royal Portbury Dock Road along an unnamed track. The track provides access to construction bellmouth P-LD101-BM01 (Type 2). The road has been given a negligible sensitivity classification following a review of local receptors which found that there were no sensitive receptors in the vicinity.

***Portbury Way (Ref: TPLO-054)***

12.4.286 The construction access route branches west off Royal Portbury Dock Road along Portbury Way. The track provides access to construction bellmouth BW-P-BM01 (Type 1). The road has been given a minor sensitivity classification following a review of local receptors.

12.4.287 The carriageway passes a number of industrial units as it continues west and then north towards the construction bellmouth where the route terminates to a haul road. These include units currently occupied by WHSmith, CH Training Solutions, Kerry Ingredients and Flavours and a large ASDA distribution centre. The carriageway is generally well screened by trees and vegetation.

***M5 J18A (Ref. TPLO-054)***

12.4.288 J18A of the M5 links a number of construction bellmouths to the motorway network, but provides no direct access to any particular construction bellmouth from the carriageway itself. The road has been given a minor sensitivity classification based on the location and sensitivity of local receptors.

12.4.289 Between J18A and the A4 dumbbell roundabout to the west, the carriageway passes a number of industrial, storage and distribution, and retail units on either side of the carriageway. These are currently occupied by a number of businesses including A&M Motors Ltd, Moduflex Ltd, Gap Group Ltd, Scania, and Horwood

Homewares Ltd. the buildings are generally well screened from the carriageway by hedgerows and other vegetation.

***Bristow Broadway (Ref. TPLO-056)***

12.4.290 The A4 Bristow Broadway continues south from the dumbbell roundabout to a roundabout with Portway. It links a number of construction bellmouths to the Proposed Development, but provides no direct access to any particular construction bellmouths. The road is part of a designated construction access route, and has been given a minor sensitivity classification as discussed below.

12.4.291 The A4 dumbbell roundabout is joined north to south by unnamed sections of the A4 and the A4 Bristow Broadway and the A4 Portway. Again, there are a large number of industrial and retail units in the vicinity of the roundabouts, with businesses such as Concordia Ltd, Admiral Harding Ltd and Costco currently occupying units. At the northern roundabout, the construction access route continues north west along Crowley Way. Along Crowley Way (ref: TPLO-83) there are more industrial units to the north and south of the carriageway. At the southern roundabout, the access continues southwards down Portway. There are a number of residential properties in the vicinity off residential streets such as Cook Street and Akeman Way. These are screened by vegetation and walls or fencing.

***Portway (Ref. TPLO-057)***

12.4.292 Portway leads south from the southernmost dumbbell roundabout, and links a number of construction bellmouths. It provides no direct access to any particular construction bellmouth from the carriageway itself. The road is part of the designated construction access route, and has been given a minor sensitivity classification.

Heading south from the roundabout to a priority junction with West Town Road where the access route continues, Portbury passes a number of residential properties on neighbouring roads such as Catherine Street and Leeming Way on both sides of the carriageway. Portbury is well lined with vegetation, and the residential roads are set back approximately 15m from the carriageway, behind a screen of trees. To the west off Catherine Street is Avonmouth Primary School, approximately 50m from the carriageway at its closest point. The playground and school field lie further to the west are screened from the road by the school building as well as the vegetation and fencing. It is considered that the majority of attendee's at Avonmouth Primary School will reside in properties to the north and north west of the school, and so would not have to cross the carriageway. However, it is accepted that some pupils may have to cross the A4 to reach properties in the east and south east. They would do so via a pedestrian footbridge over the carriageway to the north, or at the pedestrian crossings complete with tactile paving and dropped kerbs at the signalised junction with West Town Road.

***West Town Road (Ref. TPLO-058)***

12.4.293 West Town Road leads west from the priority junction with Portbury to link a number of construction bellmouths to the wider road network. The road provides no direct access to a construction bellmouth from the carriageway itself. Following a review of local receptors the link has been given a minor sensitivity classification.

12.4.294 West Town Road passes under the M5 before the construction access route joins Victoria Road. It passes storage and distribution units on both sides of the carriageway.

***Victoria Road (Ref. TPLO-059)***

12.4.295 Victoria Road leads north from West Town Road, linking the wider construction access route to construction bellmouth C-LD107-BM01 (Type 1). The road has been given a minor sensitivity classification due to the location, form and sensitivity of local receptors.

12.4.296 Heading north from West Town Road, the carriageway passes a number of industrial, storage and distribution units and docklands on both sides of the carriageway including unit occupied by Ascent Scientific and Mathias and Sons. To the east side of the carriageway before the road turns east onto King Road, the road passes mixed residential properties off streets such as Gloucester road and Richmond Villas. These properties are approximately 100m from the carriageway at their closest points, and are well screened by vegetation. The carriageway also passes the Bristol Docks Ferry Landing.

***King Road (Ref. TPLO-060)***

12.4.297 King Road leads south east from Victoria Road to the roundabout with Crowley Way. It provides no direct access to a construction bellmouth from the carriageway itself. The road has been given a minor sensitivity classification. The classification has been considered following a review of local receptors as discussed below.

12.4.298 On the south side of the carriageway, it passes The Bristol Port Company. To the north, land adjacent to the road is used for storage and distribution. There are small amounts of vegetation screening on both sides of the carriageway.

***Crowley Way (Ref. TPLO-061)***

12.4.299 Crowley Way leads east from the roundabout junction with King Road and St. Andrew's Road to the northern end of the dumbbell roundabout. It provides no direct access to any construction bellmouth from the carriageway itself. The road has been given a minor sensitivity classification due to the local receptors described below.

12.4.300 The duel carriageway passes industrial units to the north and south. These are currently occupied by businesses such as Barry Shaddick Tyres Ltd, UK Storage Company, and Wellington Welding Supplies Ltd. There is little screening from the construction traffic with fencing at certain intervals, although the units are generally set back from the carriageway.

***Avonmouth Way (Ref. TPLO-062)***

12.4.301 Avonmouth Way leads east from the roundabout junction with Crowley Way, Portway and the M5 J18A. The road provides direct access to two construction bellmouths, including G-Route-BM01 (Type 1) and G-Route-BM02 (Type 2). The road has been given a minor sensitivity classification due to the local receptors described below.

12.4.302 Heading east from the roundabout, the carriageway passes a number of industrial units on both the northern and southern side. This includes units occupied by Power-Sprays Ltd, Horwood Homewares Ltd, Stage Electrics, ATS Euromaster Ltd, Bookers, Moduflex Ltd, and Renault Trucks South West Bristol. All of the units are set back from the carriageway, and the majority are well screened by vegetation and trees.

12.4.303 The haul road would cross Kings Weston Lane at bellmouths G-Route-BM03 (Type 3) and G-Route-BM04 (Type 3). Kings Weston Lane is described later in this section as it is part of the construction access route. At the point where the construction traffic would cross, the sensitivity is considered to be negligible as there are no receptors within the vicinity.

***St Andrew's Road (Ref. TPLO-063)***

12.4.304 The A403 St Andrew's Road leads north from a roundabout with the A4 Crowley Way and King Road, until it meets Smoke Lane approximately 2km north. The carriageway itself provides no direct access to any particular construction bellmouth. The road has been given a minor sensitivity classification following a review of local receptors.

12.4.305 Between the roundabout and a priority junction in the north with Kings Weston Lane, where the construction access route splits east, the carriageway passes a number of industrial premises. Here there are a variety of tenants including Avonmouth Fire Station, City Electrical Factors, R C Commercials, Bristol Business Supplies and Industrial Power Distribution. On the western side of the carriageway, it also passes St Andrew's Road railway station. There is some vegetation screening from the carriageway at various points along the road, especially at the railway station.

12.4.306 Proceeding north from the priority junction with Kings Weston Lane the carriageway passes yet more industrial units on its eastern side, and there is a scrap metal yard to the west of Ironchurch Road, which runs parallel to St Andrew's Road. The units to the east are currently occupied by companies such as Glulam Timber Systems Ltd and Severn Servicing, and have little screening from the construction traffic but are set back approximately 12m from the carriageway. The scrap metal yard is well screened from the road by trees and other vegetation.

***Kings Weston Lane (Ref. TPLO-064)***

12.4.307 Kings Weston Lane leads east from a priority junction with St Andrew's Road, providing direct access to construction bellmouth G-Route-BM03 (Type 3) and G-Route-BM04 (Type 3) as it reaches Avonmouth Way. These bellmouths have previously been described in the Avonmouth Way analysis. The road is part of a designated construction route, and has been given a minor sensitivity classification.

12.4.308 The carriageway passes a number of industrial premises on the south and west side of the road as it bends to the south. Here there are a variety of tenants including HD Interactive Solutions Ltd, and Drive Force UK Ltd. There is some vegetation screening from the carriageway at various points along the road, especially at the railway station. The carriageway is screened by vegetation along

its length, and the construction access route terminates as it reached the construction bellmouths before King Weston Lane crosses the M5.

***Smoke Lane (Ref. TPLO-065)***

12.4.309 The A403 Smoke Lane continues north east from St Andrew's Road, over a roundabout junction with Poplar Way West where the construction access route splits south east, until it reaches Chittening Road. There is no access to a construction bellmouth from the carriageway itself. The road has been given a minor sensitivity classification.

12.4.310 As the carriageway continues from St Andrew's Road, there are industrial units on both sides which are currently occupied by Volvo and Bristol Street commercials. Continuing over the roundabout with Poplar Way West, there are additional industrial units and car parking associated with the automobile industry. All the units are screened by walls or fencing and vegetation.

12.4.311 As the carriageway bends to the south east, there are additional industrial units on the north and south sides. To the north, these are currently occupied by companies such as Permagard Products Ltd, Metal contract Management Ltd, and Avonmouth Signs Ltd. To the south is a DHL warehouse, and a Severn Park Fire and Rescue Training Centre adjacent to the junction with Chittening Road. All the units are relatively well screened from the construction traffic by walls and vegetation.

***Poplar Way West (Ref. TPLO-066)***

12.4.312 Poplar Way West runs south east from the roundabout junction with Smoke Lane to a roundabout junction with Poplar Road East. There is no direct access to a construction bellmouth from the carriageway itself. The road is part of a designated construction route, and has been given a negligible sensitivity classification.

12.4.313 As the carriageway continues from the roundabout with Smoke Lane, Poplar Way West passes a large area of vehicle storage associated with Bristol Street Commercials on both sides of the length of the carriageway. These are well screened by hedges and other vegetation.

***Poplar Way East (Ref. TPLO-067)***

12.4.314 Poplar Way East continues south east from the roundabout junction with Poplar Way West to a roundabout junction with Packgate Road. There is no direct access to a particular construction bellmouth from the carriageway itself, but the road forms the access to construction bellmouths off Packgate. The road is part of a designated construction route, and has been given a minor sensitivity classification following the observations made below.

12.4.315 As the carriageway continues south east from the roundabout, Poplar Way East passes industrial units on both sides of the road. The businesses occupying the units include DSV, Unitruck, and Robert Wiseman Dairies. The units are unscreened from the construction traffic.

***Packgate Road (Ref. TPLO-068)***

12.4.316 Packgate Road comprises a small section of construction access route to the north east of the roundabout junction with Poplar Way East. It provides direct access to construction bellmouth C-LD119-BM01 (Type 1). The road has been given a negligible sensitivity classification as it passes only the rear area of the previously described Robert Wiseman Dairies unit on the west side of the carriageway.

***Chittening Road (Ref. TPLO-069)***

12.4.317 The A403 Chittening Road continues north east from Smoke Lane to a priority junction with Severn Road. The road provides a direct access to construction bellmouth Seabank-BM01 (Type 2), as well as providing a link to additional construction bellmouths along Severn Road, Ableton Lane and Minors Lane. The road has been given a minor sensitivity classification.

12.4.318 From Smoke Lane, the carriageway passes the in industrial units previously described as being to the north of Smoke Lane. There is thick vegetation screening from the construction traffic at intermittent intervals. Adjacent to the priority junction with Severn Road, there is an additional unit to the east of the carriageway, and a car park to the west.

***Severn Road (Ref. TPLO-070)***

12.4.319 Severn Road continues south east from a priority junction with Chittening Road. The road provides a direct access to construction bellmouth C-LD121-BM01 (Type 2). The road has been given a minor sensitivity classification due to its relationship with receptors as described below.

12.4.320 For the length of the carriageway, the Able Waste Management Plant is situated on both the northern and southern side of the road. There is some screening from the construction traffic, as there is vegetation on both sides of the carriageway.

***Ableton Lane (Ref. TPLO-071)***

12.4.321 Ableton Lane continues north east from a priority junction with Severn Road. The road provides a direct access to construction bellmouth C-LD124-BM01 (Type 1), as well as providing a link to an additional construction bellmouth off Minor's Lane. The road has been given a minor sensitivity classification.

12.4.322 The carriageway passes the previously described Able Waste Management to the west of the road, and an industrial site with associated vehicle storage to the east. Both are well screened by trees and thick vegetation from the carriageway.

***Minor's Lane (Ref. TPLO-072)***

12.4.323 Minor's Lane comprises a small section of construction access at the most northern part of Section G. It provides direct access to construction bellmouth C-LD127-BM01 (Type 2). The road has been given a negligible sensitivity classification as there are no receptors in the vicinity of the carriageway.

### *Traffic Flows*

12.4.324 In order to assess the baseline traffic flows along the construction access routes, a total of 43 Automatic Traffic Counts (ATCs) were placed across the Sections. This resulted in three ATCs being placed in Section G for a full week.

12.4.325 ATC 30 was situated on Victoria Road, adjacent to the junction with West Town Road. ATC 32 was due to be placed on St Andrew's Road adjacent to the junction with Kings Weston Lane, although this was not completed due to road works. ATC 33 was placed on Kings Weston Lane, adjacent to a junction with Ballast Lane. All the ATCs in Section A were placed along major construction routes (see **Volume 5.22.3, Figure 22.1)**. **Table 12.37** shows the AADT flows for Section G.

Table 12.37 AADT Flows in Section G

| **ATC** | | **AADT Flows** | | | |
|---|---|---|---|---|---|
| | | **24hr Total Traffic** | **24hr HGVs** | **18hr Total Traffic** | **18hr HGVs** |
| 30 | Victoria Road | 2,034 | 629 | 1,928 | 600 |
| 32 | St Andrew's Road | No counts completed due to road works | | | |
| 33 | Kings Weston Lane | 8,054 | 1,214 | 7,540 | 1,173 |

### *Cycling*

12.4.326 Within Section G the Proposed Development again crosses National Cycle Route 24 which in the vicinity of the site comprises an off-road route which runs adjacent to the M5. The route 24 connects Portishead to the centre of Bristol and then on to North Somerset.

12.4.327 The Proposed Development crosses national cycle route 41 twice; firstly adjacent to the M5 in Avonmouth and secondly adjacent to the M49 on Lawrence Weston Road. Route 41 connects the west of Bristol to Avonmouth, and continues up the west coast of England through Gloucester. The Proposed Development also crosses local off-road cycle routes along the A4, and the A403 St Andrew's Road.

12.4.328 The Proposed Development also crosses regional route 10, which runs along Moorhouse lane adjacent to the M49.

12.4.329 The Alternative Route crosses no additional cycle routes or lanes which have not already been discussed.

### *Walking*

12.4.330 A review of the PRoW has indicated that a total of 16 designated PRoW would be crossed by the Proposed Development in Section A as follows:

- LA/15/21
- LA/8/66
- LA/8/67
- LA/8/6
- BCC/17/10
- BCC/6/10
- BCC/5/10
- BCC/4/10
- BCC/4/20

- BCC/554/10
- BCC/555/10
- BCC/555/20
- BCC/556/20
- BCC/555/30
- OAY/11
- ORN/27

12.4.331 During June 2013, count surveys were conducted at 11 locations to ascertain an indication of typical off-peak usage of the PRoWs. Each location was surveyed constantly on one day between 08:00 and 18:00.

12.4.332 The footway providing access to the nature reserve off Sheepway was surveyed to provide an indication of the usage of PRoW reference LA15/15. The survey found that 57 adult pedestrians, four child pedestrians, 36 adult cyclists, two child cyclists, and 24 adult dog walkers used the PRoW over the 12 hour period. It is clear that this is a well utilised PRoW.

12.4.333 A separate PRoW Management Plan has been produced; this contains further details of PRoWs that would be affected by the Proposed Development together with proposed management procedures to minimise the effects. The PRoW Management Plan is **Volume 5.26.6**.

***Public Transport – Bus***

12.4.334 The 40/40A, 41 and 501 buses all run services along Avonmouth Road. The 40 runs daily services, the 41 runs regular services Mondays – Fridays excluding bank holidays, and the 501 runs frequent services on Mondays – Saturdays. The frequencies of these services are shown in **Table 12.38**.

Table 12.38 Bus Frequencies in Section G

| Service | Route | Approximate Peak Frequency | | |
|---|---|---|---|---|
| | | Mon - Fri | Sat | Sun/Hols |
| 40A | Cribbs Causeway – Lawrence Weston – Shirehampton – Blackboy Hill – Bristol Centre | 30 mins (late services) | 30 mins (late services) | 30 mins |
| 41 | Avonmouth – Shirehampton – Blackboy Hill – Bristol Centre | 20 mins | 20 mins | - |
| 501 | Abbey Wood – Avonmouth | Hourly | Hourly | - |
| 777A | Westerleigh Village – St Johns Lane – Portishead Gordano School | 1 Return School Service | - | - |
| 777B | Westerleigh – Whiteladies Road – Portishead Gordano School | 1 Return School Service | - | - |

***Public Transport – Rail***

12.4.335 The closest rail connections to the site are Avonmouth which is situated adjacent to the proposed route for the 400kV overhead line. Avonmouth Railway Station is situated on the Severn Beach Line with Shirehampton being the preceding station to the south east, and St Andrews Road the following station to the north.

12.4.336 The Proposed Development would cross the Severn Beach Line to the north of Avonmouth Station.

**Section H - Hinkley Line Entries**

12.4.337 In this Section, the routes cross Wick Moor Drove at three separate points, and Middle Moor Drove twice before connecting to the proposed new Shurton Substation at the proposed Hinkley Point C Power Station.

12.4.338 Wick Moor Road is formed of a single lane in each direction with an overall carriageway width of approximately 6m. The road is the primary access for Hinkley Point Power Station.

12.4.339 Middle Moor Drove consists of a two-way carriageway approximately 3m in width. It serves as access roads to agricultural land and associated buildings.

12.4.340 The highway links in the table below form part of the construction routeing strategy through Section H.

Table 12.39 Section H Highway Links to be Used during Construction

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| Unnamed Section of A39 (Adjacent to Dunball Roundabout) | TPLO-073 | Minor | North Somerset |
| A38 Bristol Road (Section H) | TPLO-074 | Moderate | North Somerset |
| The Drove | TPLO-075 | Minor | North Somerset |
| Western Way | TPLO-076 | Moderate | North Somerset |
| Homberg Way | TPLO-077 | Moderate | North Somerset |
| Quantock Road | TPLO-078 | Minor | North Somerset |
| New Road (Section H) | TPLO-079 | Negligible | North Somerset |
| Main Road (Section H) | TPLO-080 | Minor | North Somerset |
| Unnamed Section of the A39 (South of Cannington) | TPLO-081 | Minor | North Somerset |

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| High Street (Section H) | TPLO-082 | High | North Somerset |
| Rodway | TPLO-083 | Moderate | North Somerset |
| Withycombe Hill | TPLO-084 | Minor | North Somerset |
| Wick Moor Drove | TPLO-085 | Minor | North Somerset |
| Unnamed Lane off Wick Moor Drove | TPLO-086 | Negligible | North Somerset |

12.4.341 In addition to the above, those highway links that would be crossed by the Proposed Development's haul road have been listed in the table below.

Table 12.40 Section H Highway Links to be Crossed during Construction

| Highway Link | Reference | Sensitivity Classification | Local Authority |
|---|---|---|---|
| Unnamed Track to the North of Wick | TPLO-085a | Negligible | North Somerset |

***Unnamed Section of A39 (Adjacent to Dunball Roundabout) (Ref. TPLO-073)***

12.4.342 From junction 23 of the M5, the A39 heads south west on an unnamed section of the A39 approximately 500m to the Dunball roundabout. There is no access to any construction bellmouths from the carriageway itself. The road has been assigned a minor sensitivity rating due to its relationship with various receptors as described below.

12.4.343 There are a number of detached residential properties to the north of the carriageway in Down End. These properties are well screened from the road by thick vegetation and trees. To the south of the carriageway, there are industrial units including one occupied by Huwden Plant Hire. These are also well screened from the carriageway by trees and thick vegetation.

***A38 Bristol Road (Section H) (Ref. TPLO-074)***

12.4.344 From a roundabout junction with the A39, The A38 Bristol Road heads south in to the centre of Bridgwater until it reached the Cross Rifles Roundabout. There is no access to any construction bellmouths from the carriageway itself. The road has been assigned a moderate sensitivity rating due to its relationship with various receptors as described below.

12.4.345 Heading south from the Dunball Roundabout, the carriageway passes industrial units, a small number of terraced residential properties and The Admirals Table public house to the east. The residential properties have some screening from the carriageway, and the industrial units have good screening in the form of trees and other vegetation. The pub does not have any screening, and there is a seating area in front of the building which faces the road. To the west there is DNA IT Recycling Limited and Wessex Recycling. Both are fenced from the road.

12.4.346 As the road travels over the King's Sedgemoor Drain, there are a number of detached residential properties on the eastern side of the carriageway. The King's Sedgemoor Drain is an artificial drainage channel which diverts the River Cary to discharge into the nearby River Parrett which flows to the west of the carriageway.

12.4.347 The residential properties include some detached properties and some terraced houses. Although the detached properties are screened by vegetation, the terraced properties are generally unscreened from any construction traffic travelling southwards along the carriageway.

12.4.348 Approximately 1km further south, the carriageway passes industrial units to the east and west. These are occupied by Travis Perkins Trading Co. Ltd, Tim Hansford Transport Ltd and The Somerset Willow Co Ltd, The Somerset Willow Co Ltd, and Gerber Juice Co Ltd. Along the carriageway at this point, there is intermittent screening from any construction traffic by trees and vegetation.

12.4.349 As the road continues over a roundabout, the carriageway passes the King Sedgemoor Inn, The Premier Inn Bridgwater hotel, and the Exchange Conference Centre and Health Club on the western side. Here, a hedge and trees screen the buildings from the carriageway. The construction route also passes Butterflies Day Nursery to the west. It is well screened by vegetation, and set back from the carriageway by approximately 40m.

12.4.350 Continuing further south, the road passes a number of residential properties. These are generally semi-detached houses. They are set back approximately 10m from the carriageway, and have hedges, walls and other vegetation to screen them from any construction traffic. The road continues past the Bridgwater Ferry Terminal on the western side of the carriageway as well as offices to the east. Both are set back from the carriageway and have some vegetation screening from any construction traffic.

12.4.351 Continuing south, the road passes additional residential properties on both sides of the carriageway. The houses are a mixture of detached, semi-detached and terraced properties. In general, they are screened from the carriageway by hedges, walls and other vegetation.

12.4.352 The carriageway then passes an industrial park to the west with a number of units occupied by businesses. These include The Fascia Place Ltd, Black Bull Engineering, Volkswagen Bridgwater, Bridgwater Car and Van Hire, Matalan, City Heating Spares, a Petrol filling station and Clearview Windows. All the units are set back from the carriageway, and some have screening from any construction traffic by trees and other vegetation. On the eastern side of the carriageway and for a small section amongst the industrial units, there are a number of semi-detached and terraced residential properties. To the east these are set back approximately 10-15m from the road by the front gardens, which are fenced off from the

carriageway and have vegetation screening the properties to from any construction traffic. The terraced properties on the western side also have front gardens, but these contain less screening as they are set back approximately 4m from the carriageway. The construction access route continues west at the signalised junction with The Drove.

***The Drove (Ref. TPLO-075)***

12.4.353 The A39 The Drove continues west from a signalised junction with Bristol Road, until it reaches a signalised junction with Western Way. There is no access to any construction bellmouths from the carriageway itself. The road has been assigned a minor sensitivity rating due to its relationship with various receptors as described below.

12.4.354 Continuing west from Bristol Road, the road passes industrial units previously described as being to the west of Bristol road on the north of the carriageway. This includes businesses such as Office Furniture Bargains, First Travel and Riders of Bridgwater motorcycle sales. To the south of the carriageway, there are also industrial premises including Dean Motors and Stacey's Motors car sales garage. The carriageway is generally well screened by trees and other vegetation, and there is a grassed verge which sets the units back approximately 7m from the road.

***Western Way (Ref. TPLO-076)***

12.4.355 Continuing north west from a signalised junction with The Drove, the A39 Western Way meets Homberg Way adjacent to the priority junction with Reedmoor Gardens. Here the A39 and designated construction access continue southwest. There is no access to any construction bellmouths from the carriageway itself. The road has been assigned a moderate sensitivity rating due to its relationship with various receptors as described below.

12.4.356 Before the road crosses the River Parrett, the carriageway passes additional units on both sides. These include V & J Superbikes. The River Parrett has its source at the Thorney Mills springs in Chedington, Dorset.

12.4.357 As the carriageway bends west, it passes residential flats off Riverside Close to the south and Standish Street to the north. The properties are approximately 20m from the carriageway at their closest point, set back from the road by a grass verge. Continuing to a signalised junction with Chilton Street, the road passes additional residential properties on both sides of the carriageway. These are screened from any construction traffic by vegetation and walls.

12.4.358 Further east, the road passes a number of detached residential properties on the south side of the carriageway. To the north there is the Chilton Trinity Technology College, with the main access take off Chilton Street. The residential properties are screened from any construction traffic by vegetation and walls. The technology college is well screened by trees, hedges and other thick vegetation. Although the main buildings are set back approximately 60m from the carriageway, there are some school buildings which are closer to the road. It is considered that the majority of attendee's at the Chilton Trinity Technology College will need to cross Western Way. This can be achieved at the Chilton Street/Western Way signalised

junction where there are pedestrian crossings present with dropped kerbs and tactile paving.

12.4.359 Before the A39 continues as Homberg Way, the carriageway passes residential flats off Viscount Square to the south, and semi-detached and terraced housing off Brigg Close to the north. All the residential properties are well screened from any construction traffic by walls, tall hedging and other vegetation.

***Homberg Way (Ref. TPLO-077)***

12.4.360 The A39 continues south west from Western Way as Homberg Way until it goes west along Quantock Road. There is no access to any construction bellmouths from the carriageway itself. The road has been assigned a moderate sensitivity rating due to its relationship with various receptors as described below.

12.4.361 There are a number of residential properties on the north and south sides of the carriageway as Homberg Way continues south west. These are all well screened from any construction traffic by hedges and other vegetation. The residential properties continue to line the southern side of the carriageway past Trinity Way, and are again well screened by vegetation. On the northern side of the carriageway, there are open fields with St George's Church, Wembdon lying approximately 200m from the carriageway at its nearest point.

12.4.362 As the carriageway passes industrial units on the south, there are residential properties to the north of the carriageway off roads such as Orchard Lane and Old Oak Close. These are set back from the road, and have thick vegetation and trees screening them from any construction traffic.

12.4.363 As Homberg Way continues past a signalised junction with Wembdon Rise, the carriageway passes a small number of residential properties off neighbouring roads. These are screened from any construction traffic by vegetation. The road continues approximately 300m south west to a roundabout junction with Quantock Road. Along this section of carriageway, the road is lined with tees and other vegetation, with open fields lying on the other side.

***Quantock Road (Ref. TPLO-078)***

12.4.364 The A39 Quantock Road continues west from the roundabout with Homberg Way, before heading north to meet New Road in a total of approximately 2km. There is no access to any construction bellmouths from the carriageway itself. The road has been assigned a minor sensitivity rating due to its relationship with various receptors as described below.

12.4.365 Heading west from the roundabout, there are a number of residential properties on the northern and southern side of the carriageway. To the north, the properties are situated off Quantock Way and Quantock Meadow, whereas on the southern side they are simply situated off Quantock Road. The properties to the north are set back from the carriageway by their rear gardens, and are well screened by thick vegetation and trees. The properties on Quantock Road are set back approximately 10m from the carriageway by the front gardens of the houses. There is screening from the traffic in the shape of vegetation in these gardens. There are residential properties until the carriageway reaches the Quantock Road Cemetery on the southern side of the road. The cemetery is walled off from the carriageway, and is [partially screened by trees.

12.4.366 Continuing approximately 700m along Quantock Road, the carriageway passes a petrol filling station on the east. There is no screening from any construction traffic. A further 500m north, the carriageway passes a small number of detached residential properties off a private access road and Sandford Hill to the east. Further north, it also passes a single residential property to the west of the carriageway. These properties are set back between approximately 25 and 80m from the road at their nearest points, and they are well screened from any construction traffic by trees and thick vegetation. The A39 then continues north west as New Road.

***New Road (Section H) (Ref. TPLO-079)***

12.4.367 The A39 New Road continues north west from Quantock Road until the A39 continues as Main Road. There is no access to any construction bellmouths from the carriageway itself. The road has been assigned a negligible sensitivity rating as there are no receptors in the vicinity of the length of the carriageway.

***Main Road (Section H) (Ref. TPLO-080)***

12.4.368 After passing the priority junction with Limestone Hill, the A39 continues north as Main Road until it reaches a roundabout junction with an unnamed section of the A39. There is no access to any construction bellmouths from the carriageway itself. The road has been assigned a minor sensitivity rating due to its relationship with various receptors as described below.

12.4.369 Adjacent to the junction with Limestone Hill, the carriageway passes a single detached residential property. The building is well screened from any construction traffic by vegetation. Approximately 250m north, there are retail units situated on the western side of the carriageway, with one currently occupied by Bridgwater Mowers. These are set back approximately 25m from the road by the associated car park, and are partially screened by walls and barrier fencing. Before reaching the roundabout with the unnamed section of A39, the carriageway passes a single detached residential property to the east. It is well screened from any construction traffic by a wall, trees and other vegetation.

***Unnamed Section of the A39 (South of Cannington) (Ref. TPLO-081)***

12.4.370 West from the junction with Main Road, an unnamed section of the A39 continues north as Main Road until it reaches a roundabout junction with High Street. There is no access to any construction bellmouths from the carriageway itself. The road has been assigned a minor sensitivity rating due to its relationship with various receptors as described below.

12.4.371 Travelling west from the roundabout with Main Road, the road passes the rear of a number of detached residential properties to the north off Brownings Road and Hawkers Close. The properties are situated approximately 45m north of the carriageway, and there is thick vegetation and trees screening them from any construction traffic. There are no other properties in the vicinity of the proposed construction access route along the unnamed section of the A39.

***High Street (Section H) (Ref. TPLO-082)***

12.4.372 The designated construction route continues north east to Cannington from the roundabout with the unnamed section of the A39. There is no access to any construction bellmouths from the carriageway itself. The road has been assigned a high sensitivity rating due to its relationship with various receptors as described below.

12.4.373 As the road continues from the roundabout, the carriageway passes a single residential property on both sides of the carriageway. Both are set back approximately 15m from the road and are well screened from any construction traffic by vegetation. Continuing approximately 200m north east, the road passes residential properties off Withiel Drive to the north of the carriageway. These are screened by a wall and vegetation.

12.4.374 Adjacent to the priority junction with Withiel Drive, there is a cemetery to the north of the carriageway which is well screened by a wall with hedge. Continuing east, the road passes a number of semi-detached houses to the north of the carriageway. The properties are screened from the carriageway by a grassy bank, fence and vegetation. Opposite the semi-detached houses on the southern side of the carriageway, there are a number of terraced residential properties and the United Reformed Church. Most of these properties front the carriageway and have no screening from construction traffic, with some external walls being close to the southern extent of the carriageway.

12.4.375 On the northern side of the carriageway, The Rose and Crown public house also fronts the carriageway with no screening from any construction traffic. As the road continues east from the pub, it passes a number of residential properties on both sides of the carriageway. These are generally well screened by walls on the southern side, and walls and vegetation on the northern side of the carriageway for approximately 80m. Then, the level of screening from road traffic is slightly reduced.

12.4.376 The carriageway then passes the Kings Head Inn public house, a Spar convenience shop and a Post Office on the northern side of the carriageway. The entrances to these properties all face the carriageway, and there is no screening from any construction traffic. Continuing east to the priority junction with Rodway, the carriageway passes residential properties on both sides. To the north, it passes a pedestrian access to Bridgwater College, with the buildings set back approximately 75m through the college gardens containing trees and other vegetation. The residential properties are set back approximately 7m from the carriageway, and have screening in the form of walls and some vegetation.

***Rodway (Ref. TPLO-083)***

12.4.377 The designated construction route continues north along Rodway towards Combwich, where the carriageway continues as Withycombe Hill. There is no access to any construction bellmouths from the carriageway itself. The road has been assigned a moderate sensitivity rating due to its relationship with various receptors as described below.

12.4.378 The road passes a number of residential properties on both sides of the carriageway before passing the main access to Bridgwater College to the west. The properties are generally screened from traffic by walls and vegetation. The

college buildings are well set back from the carriageway, and screened by trees and other vegetation. To the east of the road, more residential properties are passed until the grounds of Cannington Golf Club are reached. The residential properties are well screened from the carriageway by walls, fencing and thick vegetation.

12.4.379 Continuing northwards, the carriageway passes the Carrington 18 hole Golf Course to the east, and Carrington Pitch and Putt golf course to the west. The buildings associated with both are set back from the carriageway and are well screened from the traffic by vegetation. Adjacent to the Pitch and Putt course, there are a small number of detached properties which lie approximately 20m from the carriageway on the nearby Belvedere Close. These are well screened from the road by trees and other vegetation.

12.4.380 Passing a priority junction with Park Lane, there are residential properties on both sides of the carriageway. These are generally well screened from the carriageway by trees and vegetation, although some properties have little screening. Continuing further north, the carriageway passes a farm on the eastern side, and a residential property on the western side. Although set back approximately 4m from the carriageway, an external wall from the residential property faces the carriageway without screening. The farm is well set back from the carriageway, and screened by a hedge.

12.4.381 Continuing past a priority junction with Stradling's Hill, the carriageway passes three residential properties on its western side. Although two are well screened by hedges and other vegetation, an external wall of one property faces the carriageway with no screening from the construction traffic. It is also not significantly set back from the road. Continuing northwards, Rodway passes Cannington Grain Store Ltd., which is well screened from the carriageway by tall thick vegetation.

12.4.382 Approximately 350m north of the grain store, the carriageway passes another agricultural building. It is set back approximately 100m from the carriageway. Continuing up to where the designated construction access road continues along Withycombe Hill, the carriageway passes two detached residential properties on the western side of the road. The first is set back approximately 12m from the carriageway by its front garden, and screened by a wall. Continuing north, the second is set back approximately 50m from the road and is well surrounded by trees and thick vegetation.

***Withycombe Hill (Ref. TPLO-084)***

12.4.383 The designated construction route continues north west for approximately 6km along Withycombe Hill towards Wick Moor Drove, where the designated construction route continues. There is no access to any construction bellmouths from the carriageway itself. The road has been assigned a minor sensitivity rating due to its relationship with various receptors as described below.

12.4.384 As the road continues from Rodway, the carriageway passes a small number of residential properties to the north and south. These are well screened by walls and vegetation. As the road bends to the west approximately 500m further, the carriageway passes two residential properties on the northern side of the

carriageway. These are set back from the carriageway and are well screened by vegetation. Approximately 1.5km west, an agricultural unit is passes on the northern side of the carriageway.

12.4.385 As the road bends to the north, the carriageway passes a detached residential property on the east side, before passing agricultural units on the east side. Approximately 1.75km further on the road, the carriageway passes through the area o Wick. Here it passes a single residential property approximately 30m north of the carriageway, which is well screened b thick vegetation and trees. The designated construction access continues north up Wick Moor Drove.

***Wick Moor Drove (Ref. TPLO-085)***

12.4.386 Wick Moor Drove links the Proposed Hinkley Point substation to Withycombe Hill. The road links directly to construction bellmouth VQ3C-BM01 (Type 1), JP3-BM01 (Type 1) and JP1-BM01 (Type 2). The road has been given a minor sensitivity classification due to the receptors as described below.

12.4.387 There is one residential property which lies to the west of the carriageway between Withycombe Hill road and the substation. The house is well screened by a hedge and other vegetation, and is well set back from the carriageway approximately 150m down a private access road.

***Unnamed Track to the North of Wick (Ref. TPLO85a)***

12.4.388 The haul road would cross an unnamed track to the north of Wick. There are no receptors local to the point where the construction traffic will cross, and so the link has been assigned a negligible sensitivity classification.

***Unnamed Lane off Wick Moor Drove (Ref. TPLO-086)***

12.4.389 There is an additional section of designated construction access off an unnamed lane approximately 650m south of the Power Station. The lane links directly to construction bellmouth ZZ7-BM01 (Type 1) and ZG7-BM01 (Type 2). The lane has been given a negligible sensitivity classification due to there being no receptors in the vicinity.

***Traffic Flows***

12.4.390 In order to assess the baseline traffic flows along the construction access routes, a total of 43 ATCs were placed across the Sections. This resulted in 2 ATCs (ATC numbers 39 and 40) being placed in Section H for a full week. ATC 39 was situated on Wick Moor Drove, to the north east of Shurton. ATC 40 was placed on the Unclassified Road North of Wick. ATC numbers 39 and 40 were placed along proposed major construction routes. **Table 12.41** shows the AADT flows by vehicle class for the ATCs in Section H.

Table 12.41 AADT Baseline Neutral Day AADT Traffic Flows in Section H

| **ATC** | | **AADT Flows** | | | |
|---|---|---|---|---|---|
| | | **24hr Total Traffic** | **24hr HGVs** | **18hr Total Traffic** | **18hr HGVs** |
| 39 | Wick Moor Drove | 2,509 | 245 | 2,476 | 240 |

| ATC | | AADT Flows | | | |
|---|---|---|---|---|---|
| | | **24hr Total Traffic** | **24hr HGVs** | **18hr Total Traffic** | **18hr HGVs** |
| 40 | Unclassified Road North of Wick | 236 | 17 | 229 | 15 |

***Cycling***

12.4.391 There is no cycle infrastructure local to the Proposed Development within Section H that is anticipated to be affected due to any physical closures or management.

***Walking***

12.4.392 A review of the PRoW has indicated that a total of seven designated PRoW would be crossed by the Proposed Development in Section A as follows:

- WL/23/110
- WL/23/70
- WL/23/71
- WL/23/61
- WL/23/60
- WL/23/62
- WL/23/64

12.4.393 During June 2013, count surveys were conducted at 11 locations to ascertain an indication of typical off-peak usage of the PRoWs. Each location was surveyed constantly on one day between 08:00 and 18:00.

12.4.394 The alternative PRoW route for the coastal path while The Hinkley Point C Power Station is being constructed was surveyed to provide an indication of the usage of PRoW reference WL23/95. The survey found that six adult pedestrian used the PRoW over the 12 hour period.

12.4.395 The PRoW Management Plan is to be read alongside the baseline assessment of PRoW. This contains more details of the PRoW, including management and mitigation.

***Public Transport - Bus***

12.4.396 The number 14 and 24 buses run along much of the construction access route, and provides a service throughout Bridgwater to Cannington and Combwich. Number 21 and 75 also run from the Dunball Roundabout to the centre of Bridgwater, and on to Taunton. The frequencies of these services are shown in **Table 12.42**.

Table 12.42 Bus Frequencies in Section H

| Service | Route | Approximate Peak Frequency | | |
|---|---|---|---|---|
| | | Mon - Fri | Sat | Sun/Hols |
| 14 | Bridgwater – Wembdon – Cannington – Nether Stowey – Watchet | Hourly | Hourly | - |
| 15 | Bridgwater – Wembdon – Cannington – Nether Stowey – Watchet – Minehead | 1 Afternoon College Service | - | - |
| 21 | Taunton – Bridgwater – Burnham-on-Sea – Weston-Super-Mare | 20 mins | 30 mins | Hourly |
| 24 | Bridgwater – Wembdon – Cannington – Stogursey – Nether Stowey | Hourly | Hourly | - |
| 75 | Burnham-on-Sea – Berrow – Weston-Super-Mare | 30 mins | 30 mins | - |
| X75 | Bridgewater – Woolavington – Street – Glastonbury – Wells | 30 mins | Hourly | - |
| 78 | Portishead – Clevedon – Weston-Super-Mare – Lympsham – Bridgwater | 1 Return College Service | - | - |
| 79 | Weston-Super-Mare – Lympsham – Bridgwater | 1 Return College Service | - | - |

### *Public Transport – Rail*

12.4.397 The closest railway station to the Proposed Development lies in Bridgwater approximately 13km to the east. No rail connections would be crossed in this Section.

### Highway Safety Review – All Sections

12.4.398 As part of the analysis of the surrounding highways network, an investigation into the vehicle accident history has been undertaken. This involves personal injury accident data being obtained for the last five years from Bristol City Council, North Somerset Council, and Somerset County Council. The analysis in the section below reflects all routes to be used by construction traffic. The raw data is included as an Appendix to the TA (**Volume 5.22.2, Appendix 22C**).

12.4.399 As part of the analysis of the surrounding highways network, an investigation into the vehicle accident history has been undertaken. This involves personal injury accident data being obtained for the last five years from Bristol City Council, North Somerset Council, and Somerset County Council. The analysis in the section below reflects all routes to be used by construction traffic. The raw data is included as an appendix to the TA (**Volume 5.22.2, Appendix 22C**). **Table 12.43** shows the total number of accidents by severity and Local Authority.

Table 12.43 Breakdown of Recorded Accidents by Severity and Local Authority

| Severity | Bristol City Council | North Somerset Council | Somerset County Council | Total |
|---|---|---|---|---|
| Slight | 33 | 173 | 126 | 332 |
| Serious | 8 | 19 | 17 | 44 |
| Fatal | 1 | 3 | 2 | 6 |
| Total | 42 | 195 | 145 | 382 |

### *Summary of Accidents*

12.4.400 Following analysis of the personal injury accident data provided, it was found that the majority of accidents were caused by vehicles colliding with the other vehicles when either approaching or joining a junction along a major link.

12.4.401 As the accidents were typically found to cluster around junctions, accident records for all the junctions to be assessed have been analysed and discussed in the following paragraphs. In addition, a review of the specific highway links to be used by construction traffic has been undertaken and any accident clusters or significant correlations in the data discussed.

12.4.402 **Table 12.44** provides a full list of those junctions assessed and details each junction by name and also details its reference.

Table 12.44 Junctions included within the Accident Analysis

| Reference | Junction |
|---|---|
| 1 | M5 Junction 23 |
| 2 | A39/Puriton Hill |
| 3 | A39 Puriton Hill/Hillside |
| 4 | A39 Puriton Hill/Bath Road |
| 5 | A39 Bath Road/Bawdrip Lane |
| 6 | A39 Bath Road/Woolavington Hill |
| 7 | Woolavington Hill/Old Mill Road |
| 8 | Woolavington Hill/Higher Road/Vicarage Road |
| 9 | M5 Junction 22/A38 Bristol Road/B3140 |
| 10 | A38 Bristol Road/Harp Road |
| 11 | A38 Bristol Road/A370 Bridgewater Road |
| 12 | A38 Bristol Road/Rooksbridge Road |
| 13 | Dunball Roundabout (HPC DCO Layout) |
| 15 | Bristol Road/Wylds Road (HPC DCO Layout) |
| 14 | Bristol Road/The Drove (HPC DCO Layout) |
| 16 | Wylds Road/The Drove (HPC DCO Layout) |
| 17 | Quantock Road/Hombery Way |
| 18 | A39/Main Road |
| 19 | A39/High Street |
| 20 | High Street/Fore Street/Rodway |
| 21 | M5 Junction 21 |
| 22 | A370/Cowslip Lane |
| 23 | A370/Maysgreen Lane |

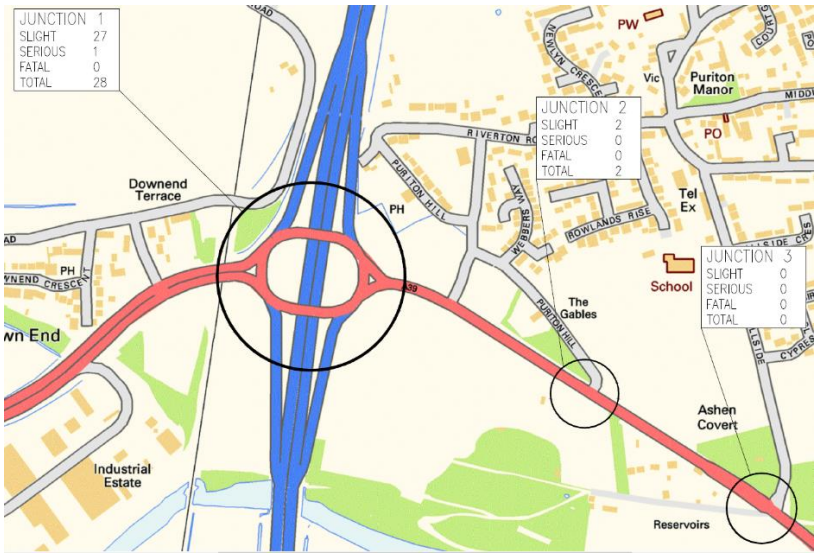
| Reference | Junction |
|---|---|
| 24 | M5 Junction 20 |
| 25 | M5 Junction 20/Central Way/Nothern Way/B3133 Moor Lane |
| 26 | Central way/Kenn Moor Drive |
| 27 | Central Way/Tutton Way |
| 28 | Central Way/B3133/Southern way |
| 29 | B3133/Tutton Way |
| 30 | B3133/Davis Lane |
| 31 | Northern Way/B3130 Tickenham Road |
| 32 | Clevedon Road/B3128 Tickenham Hill |
| 33 | M5 Junction 19 |
| 34 | Royal Portbury Dock Road/Gordno Way/Portbury Way |
| 35 | The Portbury Hundred/Station Road |
| 38 | A403 Chittening Road/Severn Road |
| 39 | A403 Smoke Lane/Poplar Way West |
| 40 | Poplar way west/Poplar Way East/Merebank Road/Moorend Farm Avenue |
| 41 | A403 St. Andrew's Road/Kings Weston Lane |
| 42 | A403 St. Andrew's Road/St. George's Industrial Estate |
| 43 | A403 St. Adnrew's Road/King Road Avenue/Crowley Way |
| 44 | M5/A4/Avonmouth Way |
| 45 | A4 Bristol Broadway/Avonmouth Road/Portway/M5 |
| 46 | A4 Portbury/West Town Road |
| 49 | B3120 Clevedon Road/Stock Way North |
| 50 | Stock Way North/Stock Way South |
| 51 | Stock Way South/Mizzymead Road |

***Recorded Accidents by Geographical Group***

Group 1

12.4.403 Group 1 includes Junctions 1 – 3. The accidents have been represented in **Inset 12.1.**

Inset 12.1: Five Year Accidents at Junctions 1 - 3

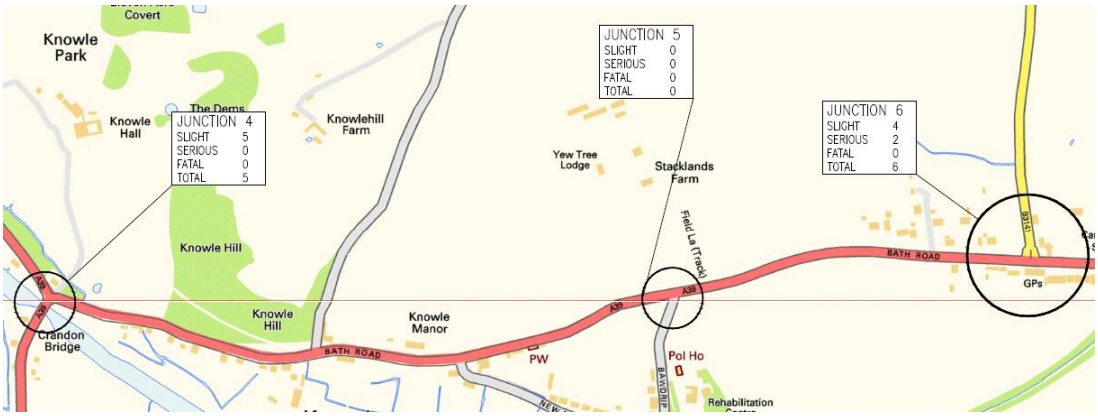



12.4.404 **Inset 12.1** shows that there have been 28 accidents at Junction 1, including one serious accident. There were also two slight accidents at the Junction 2.

Group 2

12.4.405 Group 2 includes Junctions 4 – 6. The accidents have been represented in **Inset 12.2.**

Inset 12.2: Five Year Accidents at Junctions 4 - 6

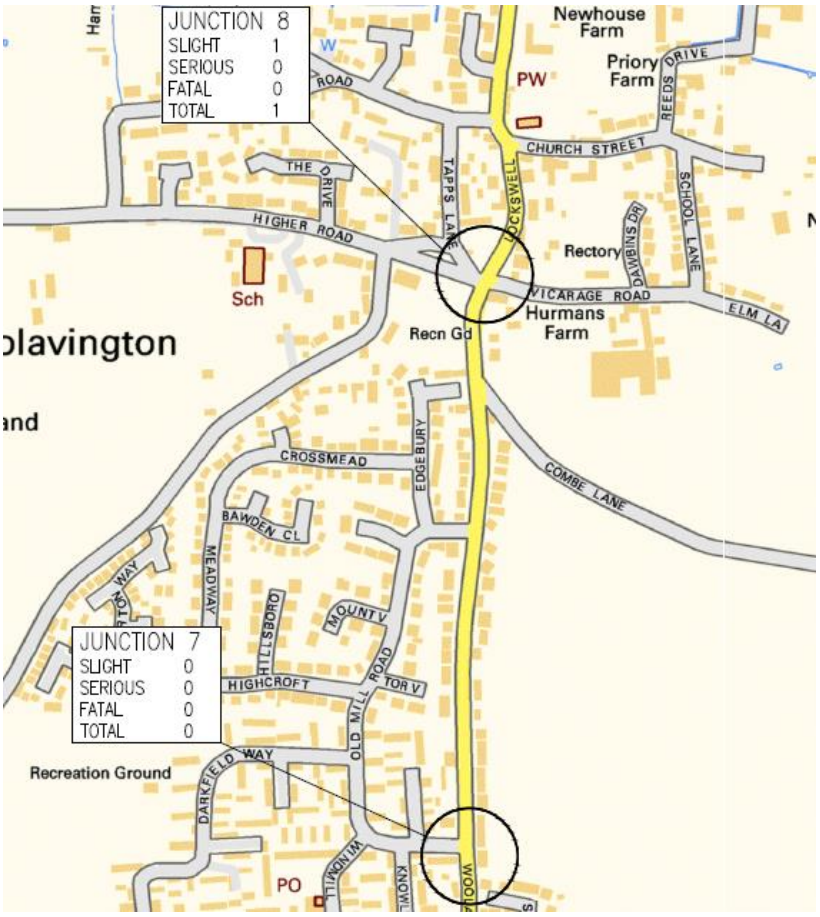



12.4.406 **Inset 12.2** shows that there have been five slight accidents at Junction 4. Moving eastward to junction 6, a total of six accidents occurred within the five year study period. Two of these were serious accidents.

Group 3

12.4.407 Group 3 includes Junctions 7 – 8. The accidents have been represented in **Inset 12.3**.

Inset 12.3: Five Year Accidents at Junctions 7 - 8

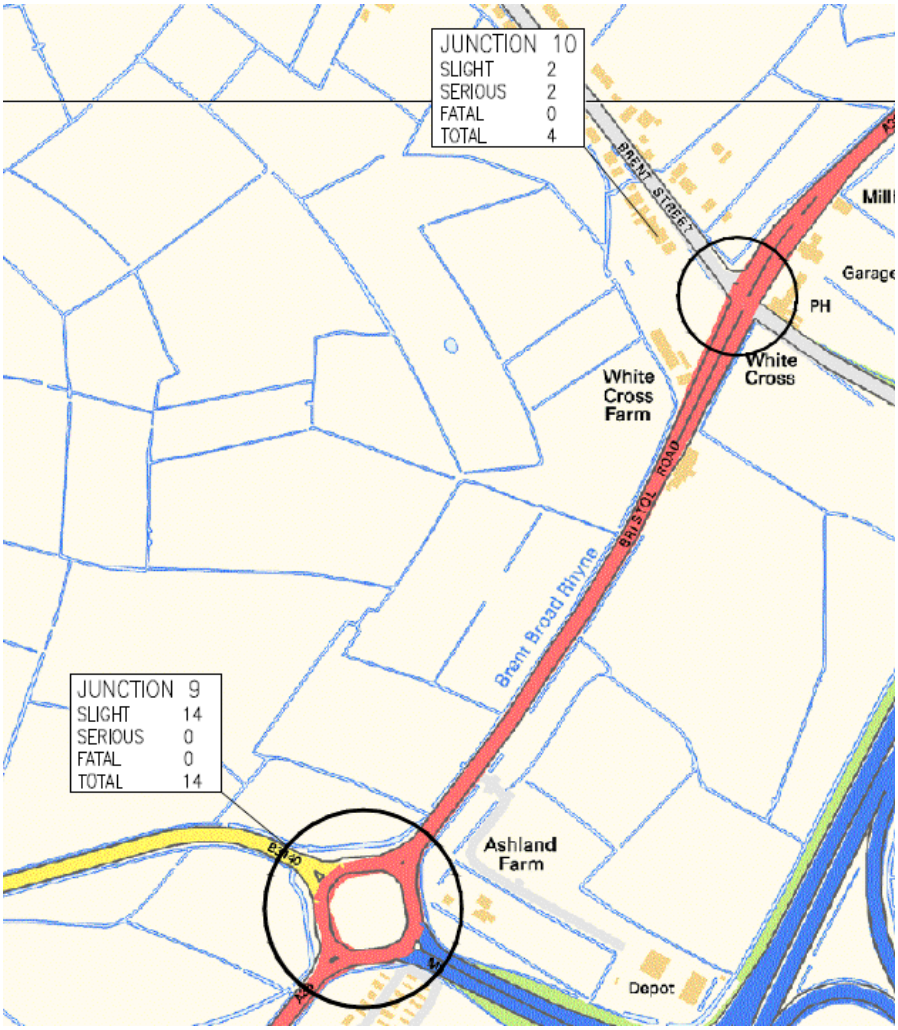



12.4.408 **Inset 12.3** shows that there has been just one single slight accident in the five year study period.

Group 4

12.4.409 Group 4 includes Junctions 9 – 10. The accidents have been represented in **Inset 12.4**.

Inset 12.4: Five Year Accidents at Junctions 9 - 10

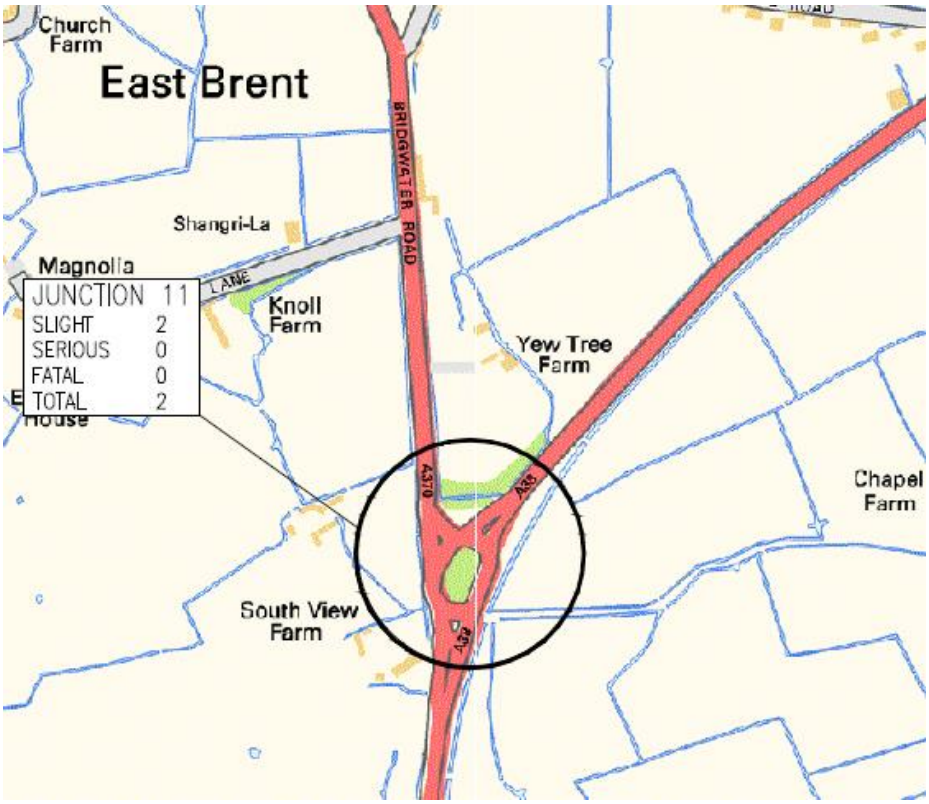



12.4.410 **Inset 12.4** shows that there have been 14 slight accidents at junction 9. To the north, Junction 10 was found to have four accidents, two of these were serious accidents, over the five year study period.

Group 5

12.4.411 Group 5 includes Junction 11 alone. The accidents have been represented in **Inset 12.5**.

Inset 12.5: Five Year Accidents at Junction 11

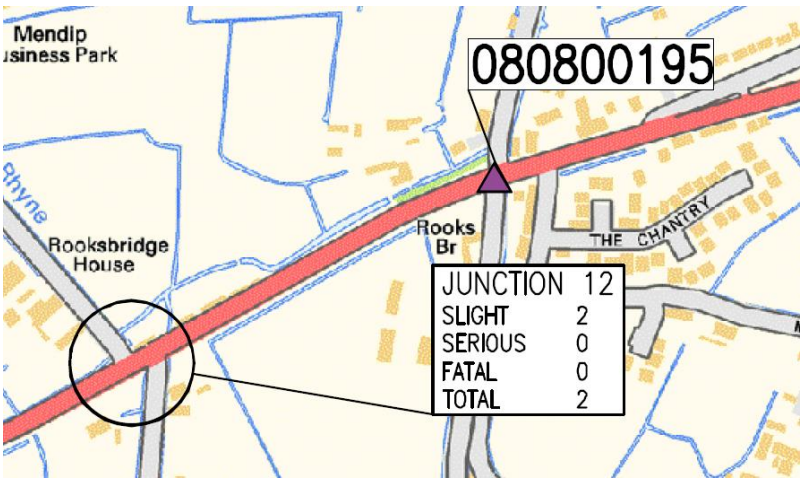



12.4.412 **Inset 12.5** shows that there have been two slight accidents at junction 11 in the five year study period.

Group 6

12.4.413 Group 6 includes Junction 12 alone. The accidents have been represented in **Inset 12.6**.

Inset 12.6: Five Year Accidents at Junction 12

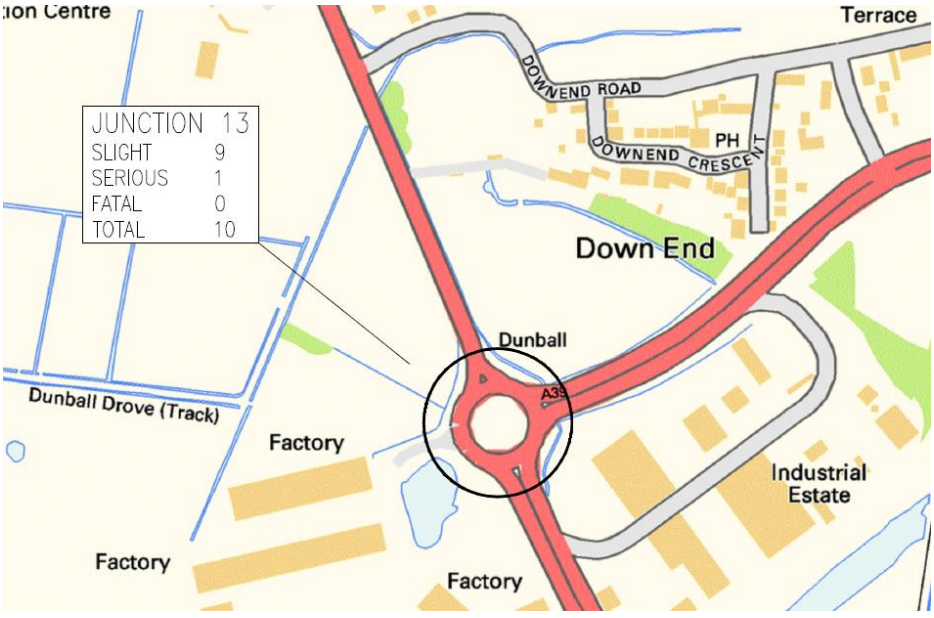



12.4.414 **Inset 12.6** shows that there have been two slight accidents at junction 12 in the five year study period. It also shows the approximate location of Fatal Accident 4 (080800195). Fatal Accident 4 has been described later in the Section.

Group 7

12.4.415 Group 7 contains Junction 13. The accidents have been represented in **Inset 12.7**.

Inset 12.7: Five Year Accidents at Junction 13

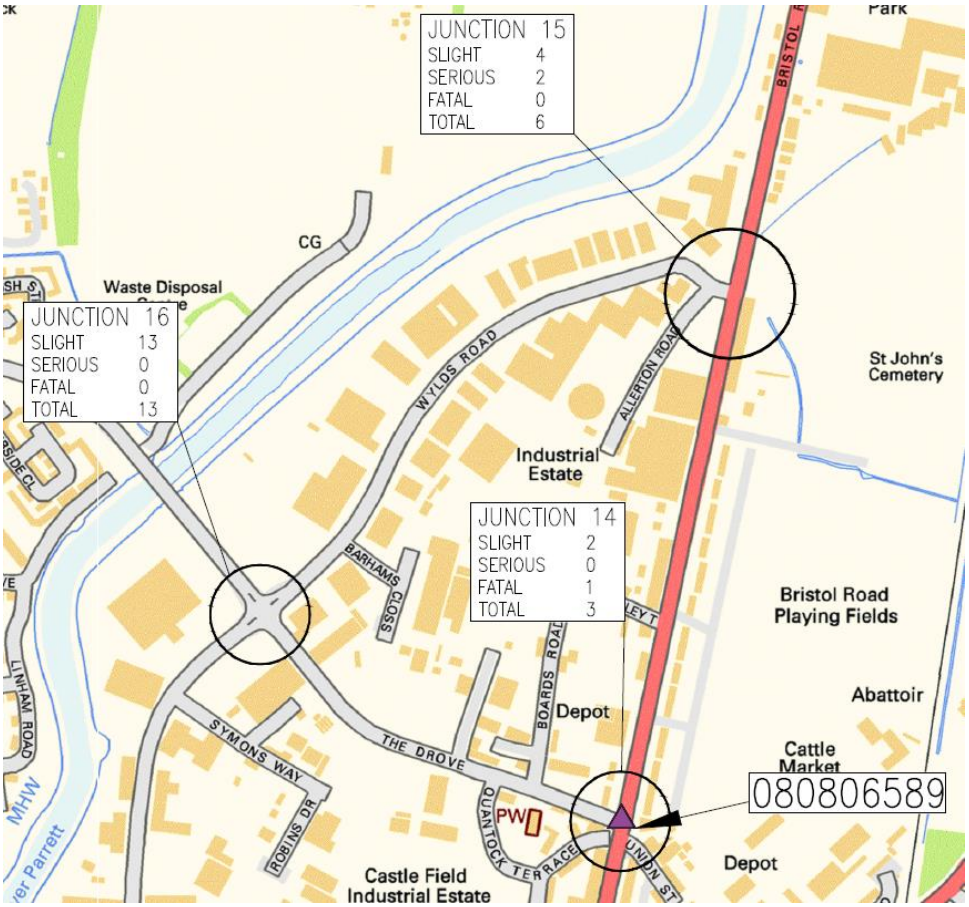



12.4.416 Inset 12.7 shows that there have been nine slight accidents and one serious accident in the five year study period at junction 13.

Group 8

12.4.417 Group 8 includes Junctions 14 – 16. The accidents have been represented in **Inset 12.8**.

Inset 12.8: Five Year Accidents at Junctions 14 - 16

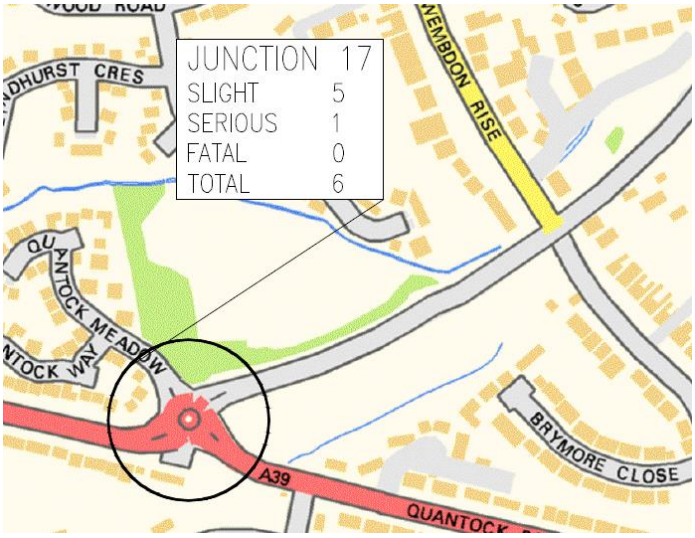



12.4.418 **Inset 12.8** shows that there have been two slight accidents and Fatal Accident 1 (080806589) at junction 14. Fatal Accident 1 has been described later in the Section. There have been a total of four slight and two serious accidents at Junction 15, and 13 slight accidents at junction 16.

Group 9

12.4.419 Group 9 includes Junction 17 alone. The accidents have been represented in **Inset 12.9**.

Inset 12.9: Five Year Accidents at Junction 17




12.4.420 **Inset 12.9** shows that there have been five slight accidents and one serious accident at junction 17 during the five year study period.

Group 10

12.4.421 Group 10 includes Junctions 18 – 20. The accidents have been represented in **Inset 12.10**.

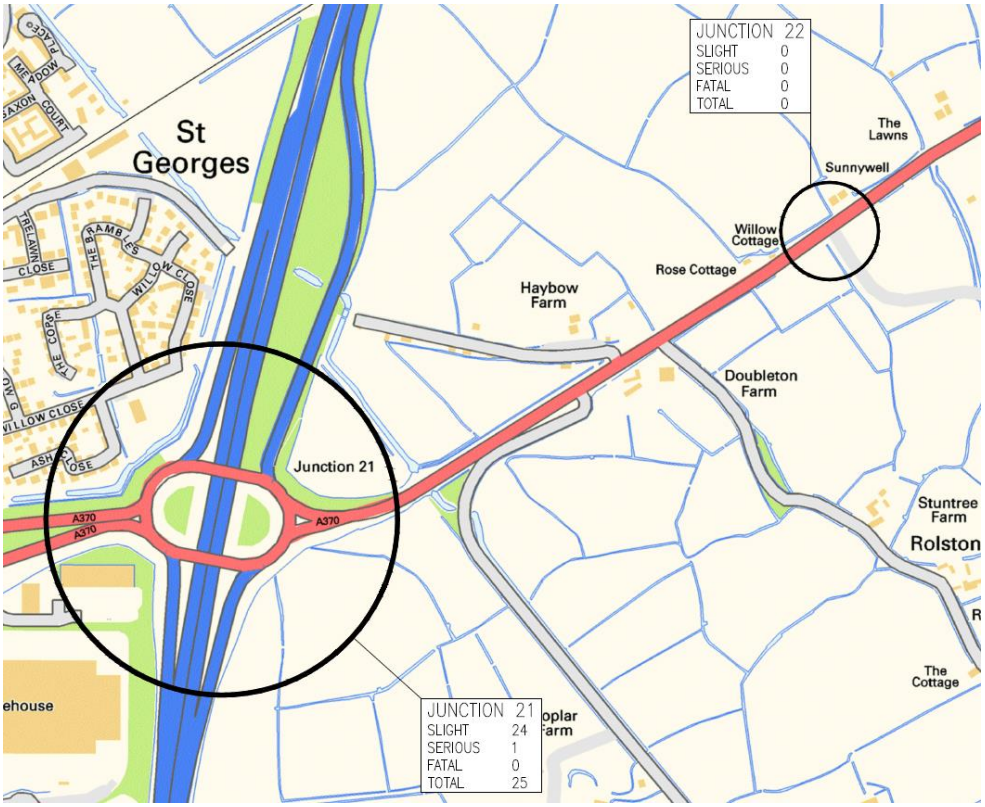
Inset 12.10: Five Year Accidents at Junctions 18 – 20


12.4.422 **Inset 12.10** shows that there have been a total of seven slight accidents at Junctions 18-20. The approximate location of Fatal Accident 2 (101008166) is also shown. Fatal Accident 2 has been described later in the Section.

Group 11

12.4.423 Group 11 includes Junctions 21 – 22. The accidents have been represented in **Inset 12.11**.

Inset 12.11: Five Year Accidents at Junctions 21 - 22

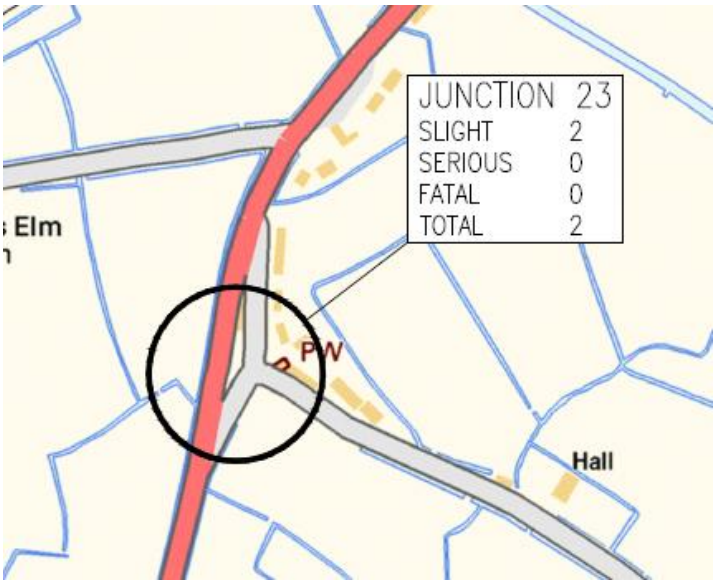



12.4.424 **Inset 12.11** shows that there have been 24 slight accidents and one serious accident at junction 21. To the north east, Junction 22 was found to have no recorded accidents over the five year study period.

Group 12

12.4.425 Group 12 includes Junction 23 alone. The accidents have been represented in **Inset 12.12**.

Inset 12.12: Five year Accidents at Junction 23

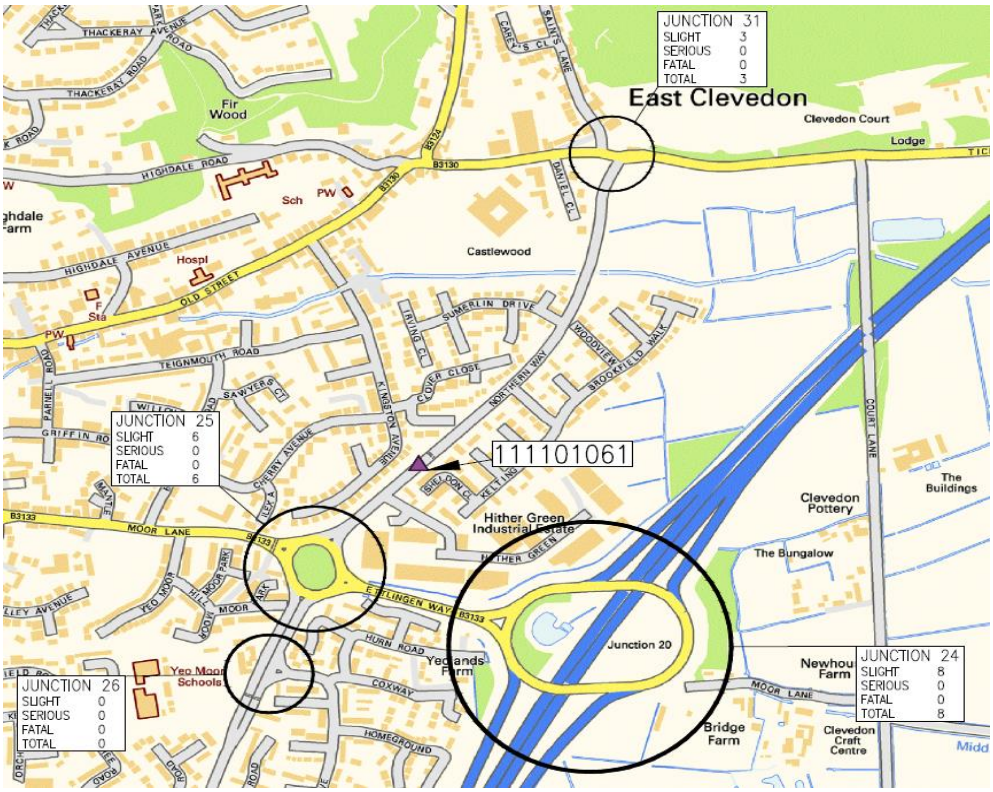



12.4.426 **Inset 12.12** shows that there have been 2 slight accidents at junction 23.

Group 13

12.4.427 Group 13 includes Junctions 24 – 26 and 31. The accidents have been represented in **Inset 12.13**.

Inset 12.13: Five Year Accidents at Junctions 24 – 26 and 31

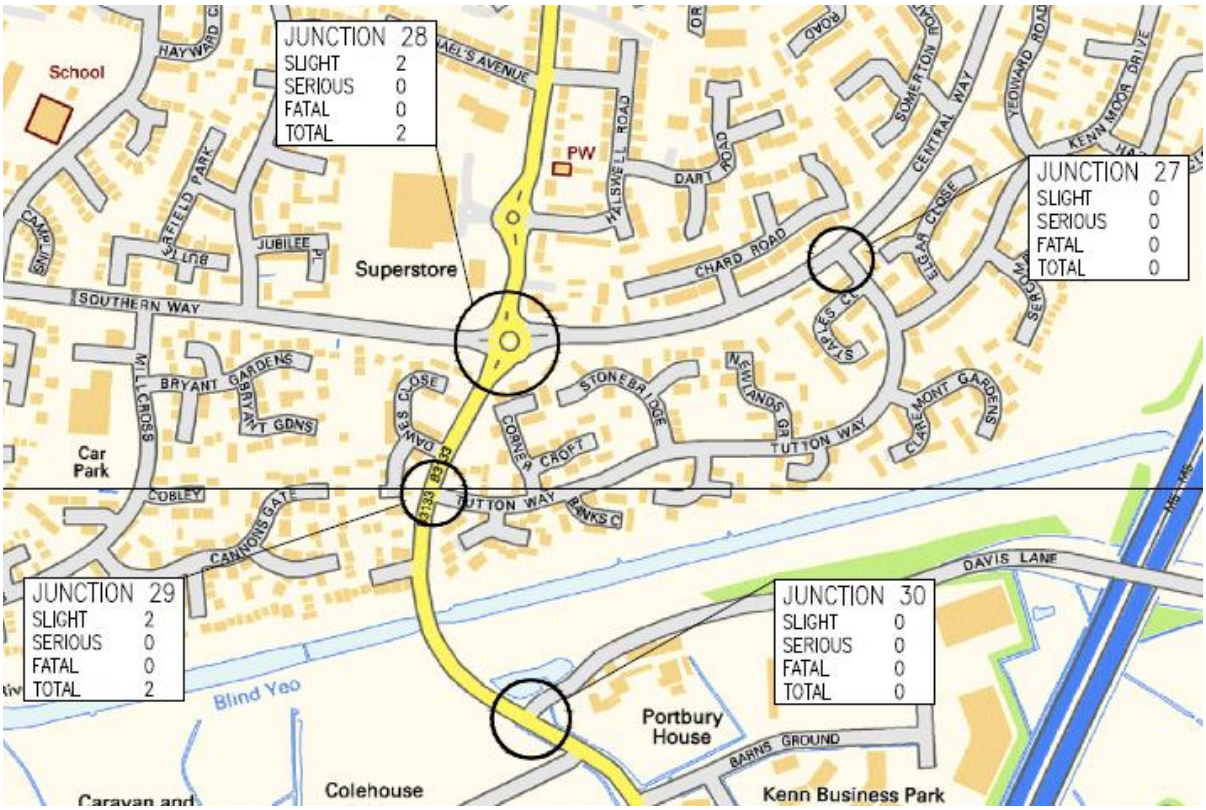



12.4.428 **Inset 12.13** shows that there have been 8 slight accidents at junction 23. A total of a further nine slight accidents were recorded at junctions 25 and 31, whereas there were no recorded accidents at Junction 26 over the five year study period. The approximate location of Fatal Accident 5 (111101061) is also illustrated. Fatal Accident 5 has been described later in the Section.

Group 14

12.4.429 Group 14 includes Junctions 27 – 30. The accidents have been represented in I**nset 12.14**.

Inset 12.14: Five Year Accidents at Junctions 27 - 30

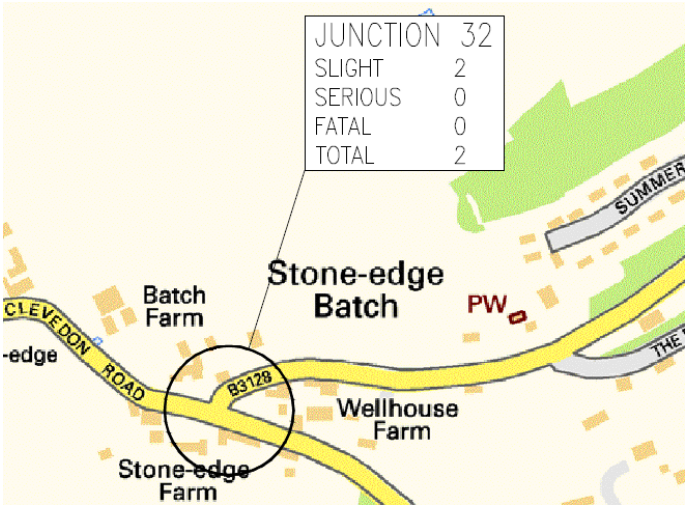



12.4.430 **Inset 12.14** shows that there were a total of four slight accidents recorded. Junctions 27 and 30 had no recorded accidents over the five year study period.

Group 15

12.4.431 Group 15 includes Junction 32 alone. The accidents have been represented in **Inset 12.15**.

Inset 12.15: Five Year Accidents at Junction 32

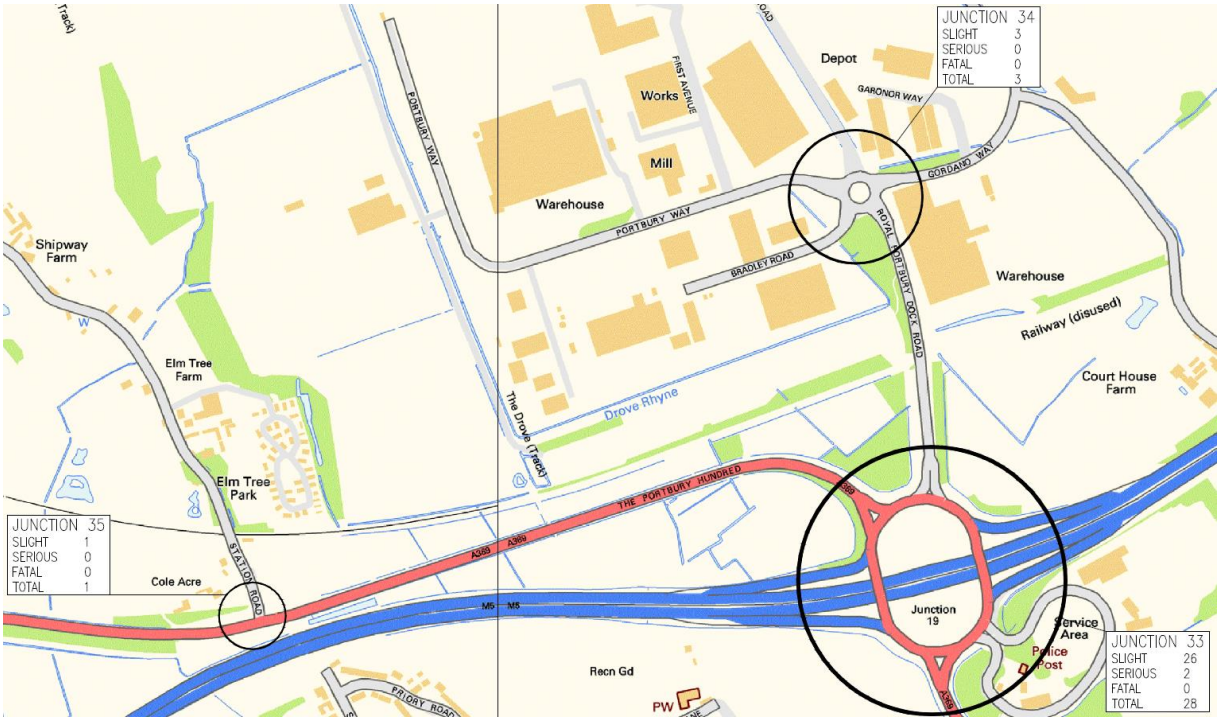



12.4.432 **Inset 12.15** shows that there have been 2 slight accidents at junction 32 over the five year study period.

Group 16

12.4.433 Group 16 includes Junctions 33 – 35. The accidents have been represented in **Inset 12.16**.

Inset 12.16: Five Year Accidents at Junctions 33 – 35

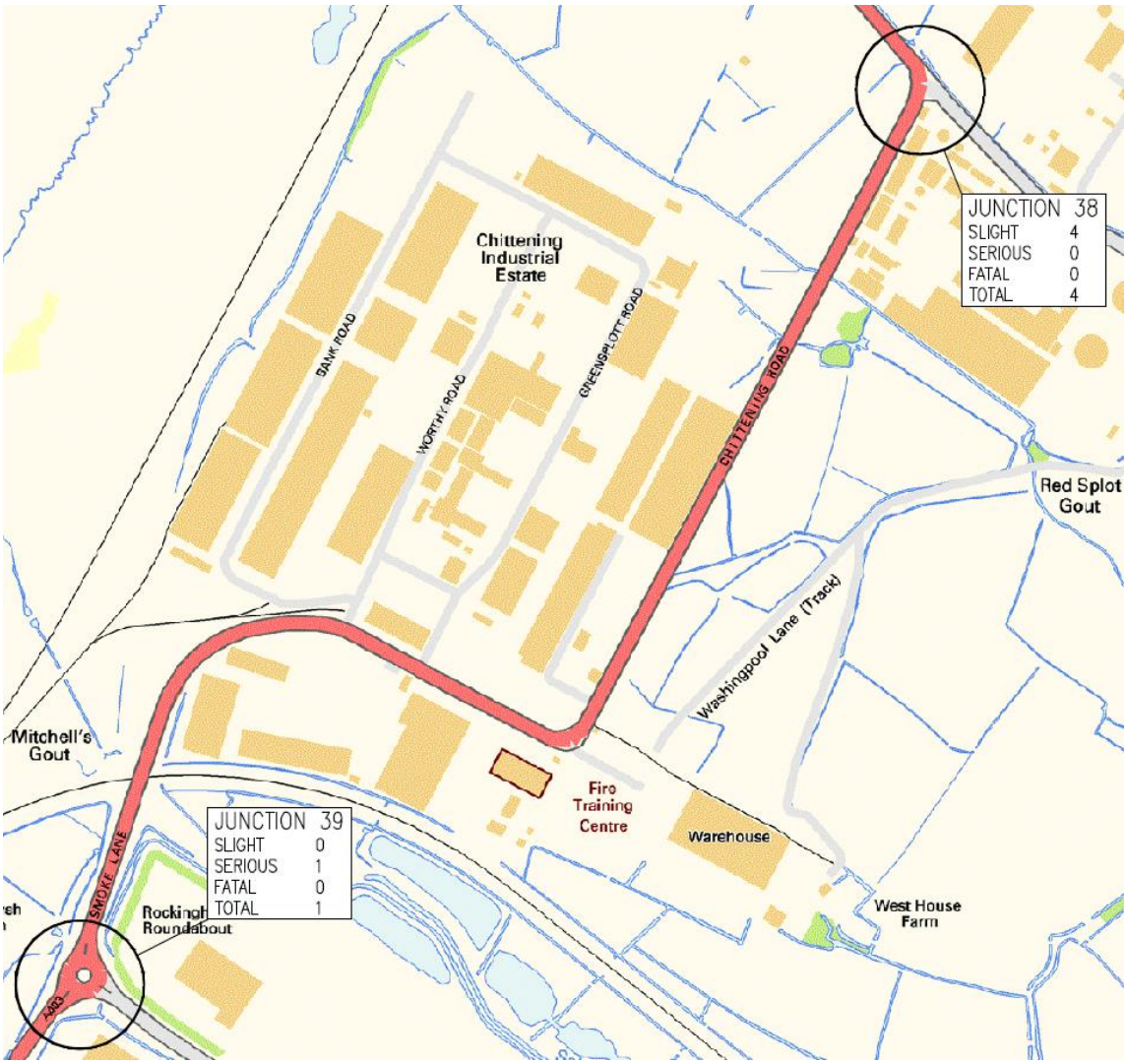


12.4.434 **Inset 12.16** shows that there have been 26 slight and two serious accidents at Junction 33. A total of four slight accidents were also recorded over the five year study period at Junctions 34 and 35.

Group 17

12.4.435 Group 17 includes Junctions 38 and 39. The accidents have been represented in **Inset 12.17**.

Inset 12.17: Five Year Accidents at Junctions 38 – 39

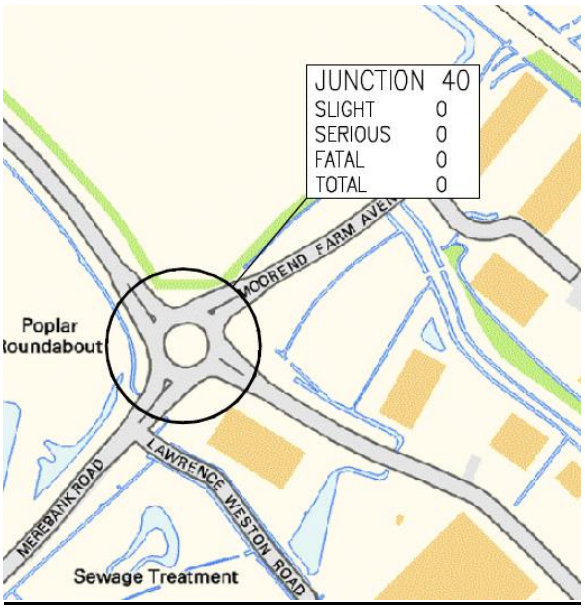



12.4.436 **Inset 12.17** shows that there have been four slight accidents at Junction 38 and one serious accident at Junction 39 across the five year study period.

Group 18

12.4.437 Group 18 contains Junction 40. The accidents have been represented in **Inset 12.18**.

Inset 12.18: Five Year Accidents at Junction 40

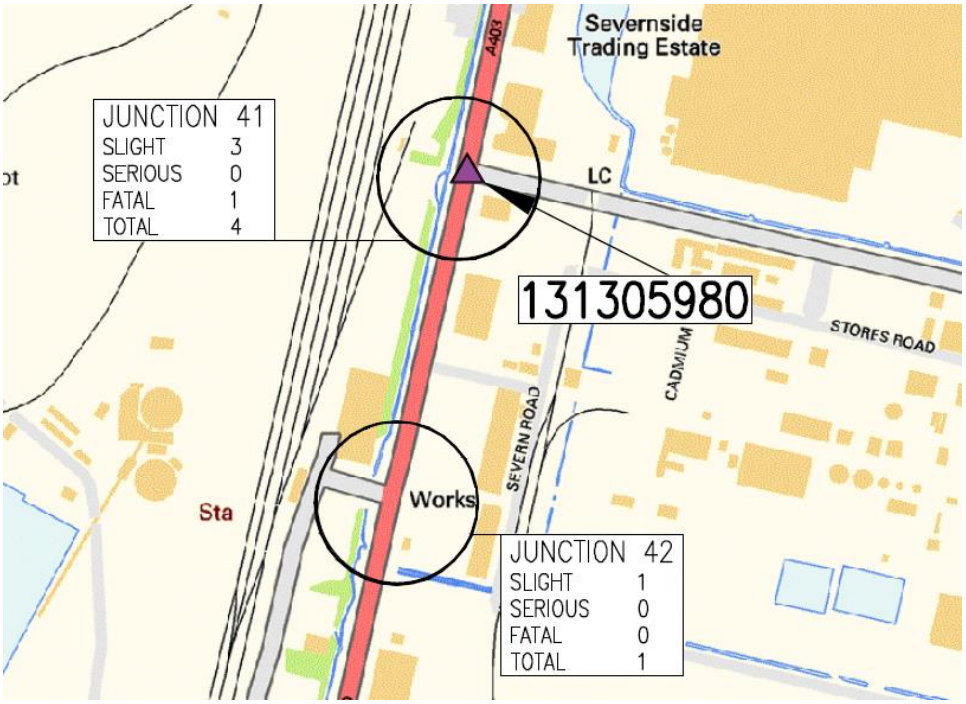



12.4.438 **Inset 12.18** shows that there have been no recorded accidents over the five year study period at Junction 40.

Group 19

12.4.439 Group 19 includes Junctions 41 and 42. The accidents have been represented in **Inset 12.19**.

Inset 12.19: Five Year Accidents at Junctions 41 – 42

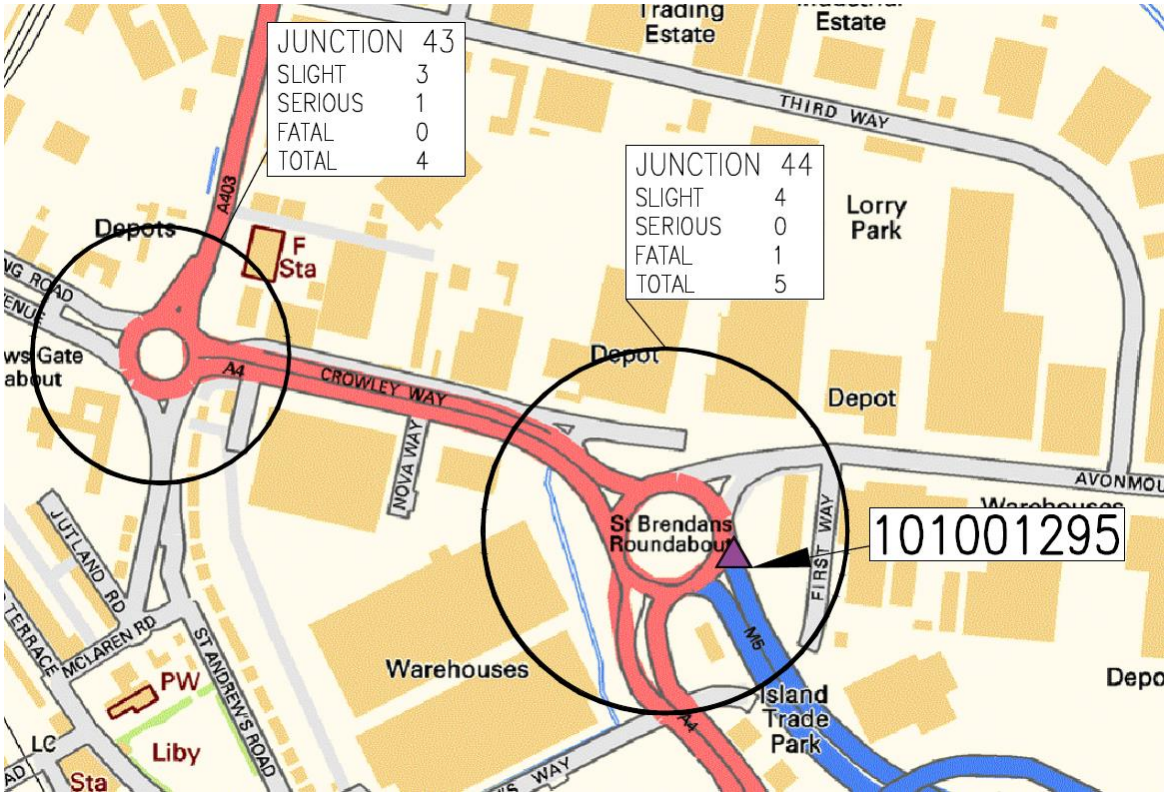


12.4.440 **Inset 12.19** shows that there have been a total of four slight accidents at Junctions 41 and 42 over the five year study period. A fatal accident also occurred at Junction 41. This was Fatal Accident 8 (131305980), which has been described later in this Section.

Group 20

12.4.441 Group 20 includes Junctions 43 – 44. The accidents have been represented in **Inset 12.20**.

Inset 12.20: Five Year Accidents at Junctions 43 – 44

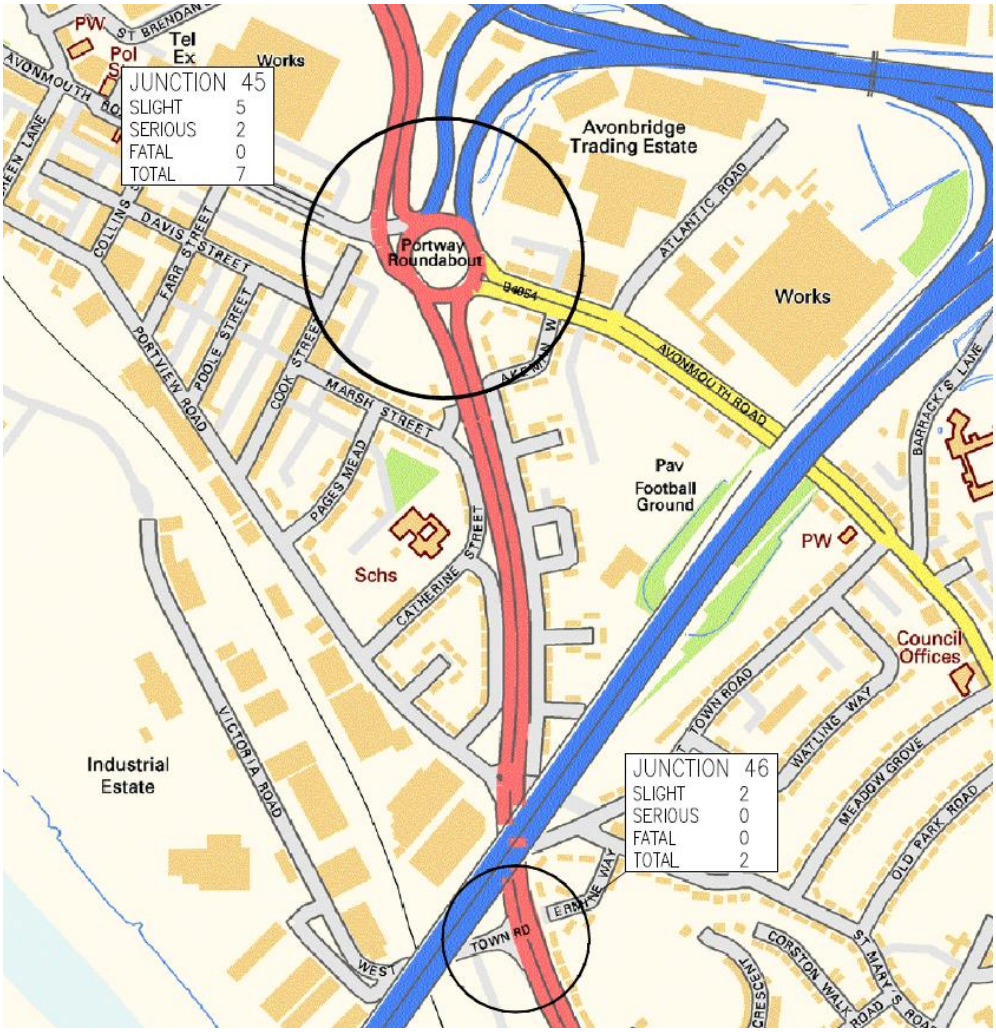



12.4.442 **Inset 12.20** shows that there have been three slight accidents and one serious accident at junction 33. At junction 44, there have been four serious accidents and a fatal accident within the five year study period. This was Fatal Accident 8 (101001295), which has been described later in this Section.

Group 21

12.4.443 Group 21 includes Junctions 45 – 46. The accidents have been represented in **Inset 12.21**.

Inset 12.21: Five Year Accidents at Junctions 45 - 46

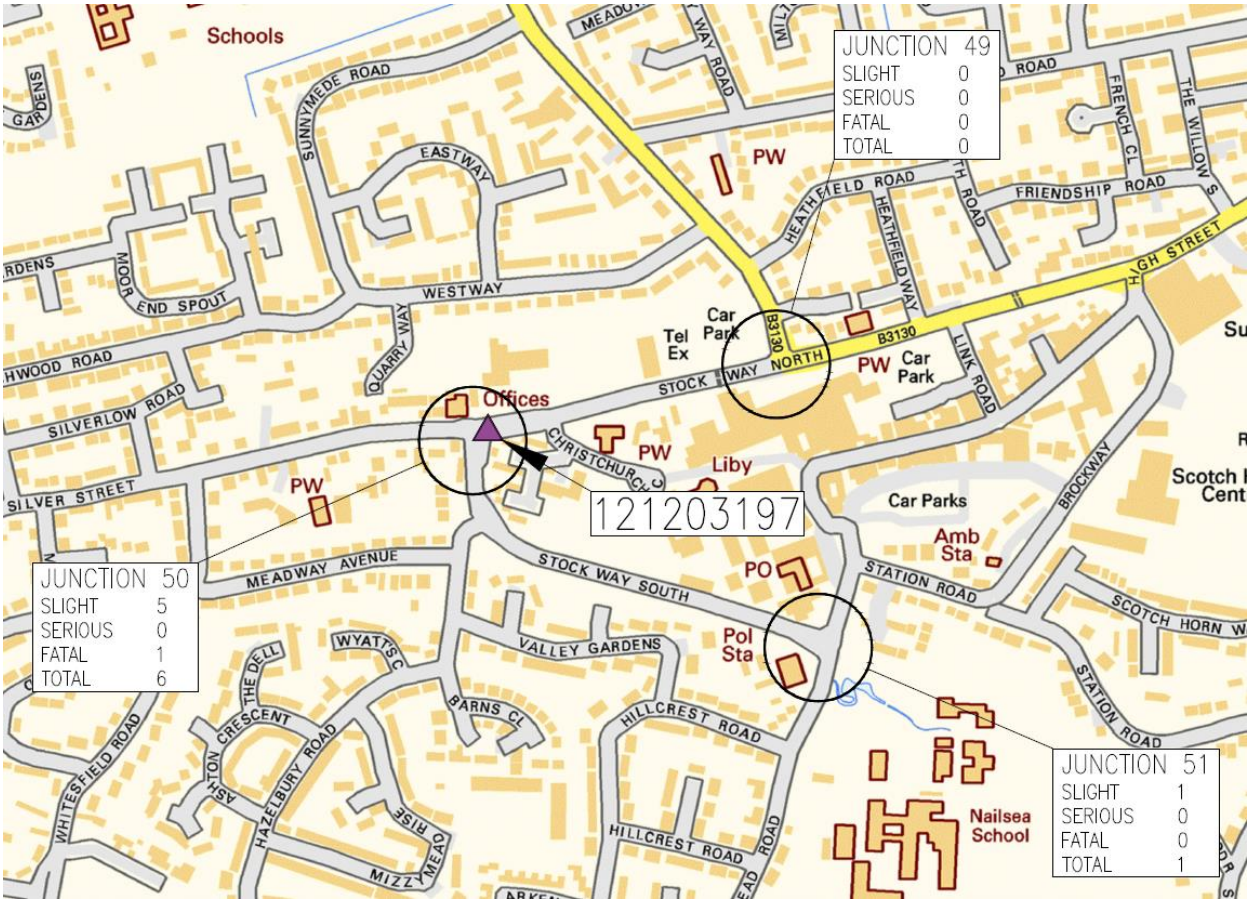



12.4.444 **Inset 12.21** shows that there have been five slight accidents and two serious accidents at junction 45. To the south, Junction 46 was found to have two slight accidents recorded over the five year study period.

Group 22

12.4.445 Group 22 includes Junctions 49 – 51. The accidents have been represented in **Inset 12.22**.

Inset 12.22: Five Year Accidents at Junctions 49 - 51




12.4.446 **Inset 12.22** shows that there have been no recorded accidents at Junction 48. At Junction 49, there have been a total of six accidents over the study period including a single fatal accident. An additional single accident was recorded at Junction 50.

**Recorded Accidents by Link**

***A38 between Junction 22 and 23 of the M5***

12.4.447 A total of 20 slight accidents were recorded on the A38 along with two serious accidents over the five year study period. These accidents all occurred between the junction of Market Street and Junction 22 of the M5 corridor. Accidents were spread along this link with no clustering.

***A38 north of Junction 22 of the M5***

12.4.448 A total of 45 slight accidents were recorded on the A38 north of Junction 22 of the M5, along with ten serious accidents and two fatal accidents over the five year study period. The accidents were spread along the A38 in this location with no significant clustering observed.

***A38 south of Junction 23 of the M5***

12.4.449 A total of nine slight accidents and three serious accidents that were recorded on the A38 over the five year study period. Accidents were spread along this link with

a small cluster of four accidents recorded approximately 450m south of the Dunball Roundabout.

12.4.450 Of these four accidents, two occurred as a result of driver error, with the other two attributed to causational factors other than the road design or layout. The observed clustering does not therefore identify a significant accident problem.

***A38 Bristol Road (Langford)***

12.4.451 There were 12 slight accidents, one serious accident and one fatal accident recorded over the five year study period. The accidents were spread along this link with no significant clustering observed.no significant clustering observed.

***A39 Puriton Hill***

12.4.452 There were a total of 18 slight accidents recorded on the A39 Puriton Hill during the 5 year assessment period with a total of two serious accidents over the same 5 year period. The recorded accidents on the A39 Puriton Hill were observed to be spread along the link between the M5 Junction 23 and Woolavington Hill, with no observed clustering.

***Drove Way/Western Way***

12.4.453 There were ten slight accidents and three serious accidents recorded over the five year study period. The accident analysis indicates that recorded accidents were spread along Western Way with a cluster of five accidents at the junction of Western Way and Chilton Road.

12.4.454 Of these five accidents two involved cyclists being knocked off their bikes, one of which resulted from cyclist error and the other from driver error. There was a single rear end shunt and a single accident resulting from a vehicle turning across an oncoming vehicle. These are both attributed to driver error. The final accident resulted when two mopeds travelling in the same direction came together as they entered the junction to travel north/west. This is again contributed to driver error. No consistent causational factor was present amongst these five accidents with no accidents attributed to the design or layout of the junction

***A370***

12.4.455 A total of 35 slight accidents and four serious accidents recorded over the five year study period. Accidents were spread along the section of the A370 included within the study area with no observed clustering.

***B3130 Clevedon Road***

12.4.456 There were a total of 14 slight accidents recorded on the B3130 Clevedon Road during the five year assessment period. During this period a total of two serious accidents were also recorded with a single fatal accident also recorded. This fatal accident is reviewed later in this chapter.

12.4.457 A review of the location of the accidents illustrates a spread along the B3130 with no observed clustering across the five year period.

***B3128 Tickenham Hill***

12.4.458 There were a total of 11 slight accidents recorded on the B3128 Tickenham Hill over the five year assessment period with an additional 4 serious accidents recorded. A review of the accidents on the B3128 identified that they were spread across the link with no observed clustering of accidents.

***Queens Road***

12.4.459 A total of five accidents were recorded on Queens Road with four slight and a single serious accident recorded over the five year assessment period. The serious accident occurred at the junction with Station Road with the remaining four slight accidents spread across the link. No clustering of accidents was observed.

***Mizzymead***

12.4.460 There were a total three slight accidents recorded on Mizzymead during the five year assessment period. These accidents were spread long Mizzymead with no observed clustering.

***Avonmouth Road***

12.4.461 A total of 4 accidents were recorded on Avonmouth Road during the five year assessment period, all of which were classed as slight in severity. These accidents were observed to have occurred along the length of Avonmouth Road with no observed clustering at any points along the link.

***A4 Portway***

12.4.462 There were three slight accidents recorded on the A4 Portway during the five year assessment period. These accidents were spread along the A4 Portway with no observed clustering of accidents at any single point.

***St. Andrew's Road***

12.4.463 There were 11 slight accidents, three serious accidents and one fatal accident recorded over the five year study period. Observed accidents were spread along St. Andrew's Road with a cluster of four accidents recorded at the junction of St. Andrew's Lane and Third Way.

12.4.464 Of the four accidents recorded at the junction of St, Andrew's Road and Third Way, one involved a rear end shunt, two involved vehicles pulling out from Third Way and colliding with vehicles on St. Andrews's Road and the fourth resulted from an overtaking vehicle on St. Andrew's Road. It is noted that all these accidents occurred in different years and that the four accidents resulted from driver error rather than any factors relating to the design or layout of the junction.

***Stock Lane***

12.4.465 There were seven slight accidents and one serious accident recorded over the five year study period on Stock Lane. These seven accidents were spread along Stock Lane with no observed clustering.

***Smoke Lane***

12.4.466 A total of three slight accidents and one serious accident were recorded over the five year study period. All accidents were spread along Smoke Lane with no observed clustering.

***Severn Road***

There were nine slight accidents recorded over the five year study period. All accidents occurred within 500m of the junction between Severn Road and Smoke Lane with a cluster of four accidents occurring adjacent to the two site access points approximately 230m east of Smoke Lane.

All four of these accidents resulted from driver error with a loss of control contributing to three of the accidents. Of these three, one occurred in icy conditions and one in wet/damp conditions which suggests the conditions were a major factor in the accident. The fourth accident occurred when a vehicle overtook another on the bend of Severn Road causing the vehicle being overtaken to lose control and crash. The accidents suggest that driving conditions were a major factor in two of the crashes with driver error therefore contributing to all of them. No accidents are attributed to the design or layout of the road.

**Fatal Accidents**

12.4.467 In total, there have been 6 fatal accidents across the study area over the five year study period. The fatal accidents have been described below:

***Fatal Accident 1***

12.4.468 The first fatal accident occurred on the A38 Bristol Road heading south towards Bridgwater town centre. One vehicle turned right towards The Drove into an oncoming vehicle.

12.4.469 There is nothing to suggest in the records that highway layout or condition were significant contributory factors to Fatal Accident 1.

***Fatal Accident 2***

12.4.470 The second fatal accident occurred on an unnamed section of the A39 and involved a motorcyclist losing control on a test drive.

12.4.471 There is nothing to suggest in the records that highway layout or condition were significant contributory factors to Fatal Accident 2.

***Fatal Accident 3***

12.4.472 The third fatal accident occurred along the A38 Bristol Road when a vehicle travelling south west toward East Brent collided with a pedestrian who was in the middle of the carriageway.

12.4.473 There is nothing to suggest that highway layout or condition were significant contributory factors to Fatal Accident 3.

***Fatal Accident 4***

12.4.474 Fatal Accident 4 occurred on the on the A38 Bristol Road at junction with Biddisham Lane. A vehicle, travelling at speed around a left hand bend, reacted to two stationary vehicles, lost control and collided with an oncoming vehicle in the opposite lane.

12.4.475 There is nothing to suggest that highway layout or condition were significant contributory factors to Fatal Accident 4.

***Fatal Accident 5***

12.4.476 Fatal Accident 5 occurred on Northern Way when a vehicle veered onto the opposite side of the carriageway and mounted the pavement. In doing so, it collided with a pedestrian.

12.4.477 There is nothing to suggest the highway layout or condition were significant contributory factors to Fatal Accident 5.

***Fatal Accident 6***

12.4.478 Fatal Accident 6 occurred on the B3130 when a vehicle left the carriageway and struck a tree. The records suggest that the driver was distracted in the vehicle.

12.4.479 There is nothing to suggest the highway layout or condition were significant contributory factors to Fatal Accident 6.

***Fatal Accident 7***

12.4.480 The seventh fatal accident occurred on The Portbury Hundred occurred when a motorcycle and car collided.

12.4.481 There is nothing to suggest that highway layout or condition were significant contributory factors to Fatal Accident 7.

***Fatal Accident 8***

12.4.482 The eighth fatal accident occurred on the M5 exit of the Crowley Way junction. A vehicle lost control while exiting a roundabout on the slip road and struck a pedestrian who was standing on the verge waiting for a lift.

12.4.483 There is nothing to suggest that highway layout or condition were significant contributory factors to Fatal Accident 8.

***Fatal Accident 9***

12.4.484 The ninth fatal accident occurred at the Stockway North/Stockway South mini-roundabout junction. A car turning right from Stockway South to Stockway North failed to give way and collided with a cyclist.

12.4.485 There is nothing to suggest that highway layout or condition were significant contributory factors to Fatal Accident 9.

## Comparison to National Average

12.4.486 In order to fully assess the levels of accidents at the junctions identified for assessment, the accident rates at each junction have been compared with national averages.

### *Methodology*

12.4.487 The method for calculating an average annual accident rate for each junction was taken from the Design Manual for Roads and Bridges (DMRB, 2004) Volume 13, Section 1, Part 2, The Valuation of Costs and Benefits, The Valuation of Accidents at Junctions. (Ref. 12.12)

12.4.488 The methodology involves applying the recorded traffic flows to either the Cross Product (C) model, or Inflow (I) model depending on the type of junction. Both models take the same basic form of:

$$A = a\,(f)^b$$

Where: A is the annual number of accidents;

f is a function of traffic flow dependant on the model;

a is a coefficient which varies depending on the junction type, fixed at the national value provided in DMRB; and

$^b$ is a power which varies depending on the junction type, fixed at the national value provided in DMRB.

12.4.489 In the Cross Product model, (f) is the value produced by multiplying the combined inflow from the two major opposing links by the sum of the inflows on the other one or two minor links. Inflows are measured in thousands of vehicles per annual average day.

12.4.490 In the Inflow model, (f) is the value of the total inflow from all links in thousands of vehicles per annual average day.

### *Analysis*

12.4.491 The five year rate has then been compared to the actual accident counts, with the results displayed in **Table 12.45** below.

Table 12.45 National Accident Comparison

| Current Annual Accidents | | | | |
|---|---|---|---|---|
| Junction | Actual Accident Records | DMRB Base Rate | Difference | |
| | | | Count | % |
| 1 | 5.6 | 4.1 | -1.5 | 36.9% |
| 2 | 0.4 | 0.4 | 0.0 | 5.5% |
| 3 | 0 | 1.2 | 1.2 | -100.0% |
| 4 | 1 | 1.9 | 0.9 | -46.6% |
| 5 | 0 | 1.3 | 1.3 | -100.0% |
| 6 | 1.2 | 1.1 | -0.1 | 8.8% |
| 7 | 0 | 0.4 | 0.4 | -100.0% |
| 8 | 0.2 | 0.8 | 0.6 | -75.2% |
| 9 | 2.8 | 4.3 | 1.5 | -34.6% |
| 10 | 0.8 | 1.7 | 0.9 | -51.6% |
| 11 | 0.4 | 1.5 | 1.1 | -73.1% |
| 12 | 0.4 | 1.2 | 0.8 | -67.3% |
| 13 | 2 | 1.1 | -0.9 | 88.0% |
| 14 | 0.6 | 1.4 | 0.8 | -57.8% |
| 15 | 1.2 | 1.7 | 0.5 | -27.8% |
| 16 | 2.6 | 3.8 | 1.2 | -31.6% |
| 17 | 1.2 | 1.7 | 0.5 | -27.7% |
| 18 | 0.6 | 0.6 | 0.0 | -2.7% |
| 19 | 0.6 | 0.5 | -0.1 | 25.1% |
| 20 | 0.2 | 0.2 | 0.0 | 5.5% |
| 21 | 5 | 6.4 | 1.4 | -22.4% |
| 22 | 0 | 1.7 | 1.7 | -100.0% |
| 23 | 0.4 | 0.0 | -0.4 | 0% |
| 24 | 1.6 | 1.9 | 0.3 | -17.4% |
| 25 | 1.2 | 4.6 | 3.4 | -74.0% |
| 26 | 0 | 1.0 | 1.0 | -100.0% |
| 27 | 0 | 0.9 | 0.9 | -100.0% |
| 28 | 0.4 | 3.4 | 3.0 | -88.1% |
| 29 | 0.4 | 0.7 | 0.3 | -41.2% |
| 30 | 0 | 0.7 | 0.7 | -100.0% |
| 31 | 0.6 | 2.7 | 2.1 | -77.9% |
| 32 | 0.4 | 1.3 | 0.9 | -68.7% |
| 33 | 5.6 | 7.2 | 1.6 | -22.4% |
| 34 | 0.6 | 0.3 | -0.3 | 75.6% |
| 35 | 0.2 | 0.6 | 0.4 | -66.1% |

| Current Annual Accidents | | | | |
|---|---|---|---|---|
| Junction | Actual Accident Records | DMRB Base Rate | Difference | |
| | | | Count | % |
| 38 | 0.8 | 0.7 | -0.1 | 21.5% |
| 39 | 0.2 | 0.3 | 0.1 | -39.1% |
| 40 | 0 | 0.2 | 0.2 | -100.0% |
| 41 | 0.8 | 1.2 | 0.4 | -35.5% |
| 42 | 0.2 | 0.0 | -0.2 | 0% |
| 43 | 0.8 | 1.1 | 0.3 | -28.7% |
| 44 | 1 | 3.0 | 2.0 | -66.9% |
| 45 | 1.4 | 3.7 | 2.3 | -62.4% |
| 46 | 0.4 | 1.5 | 1.1 | -73.9% |
| 49 | 0 | 1.1 | 1.1 | -100.0% |
| 50 | 1.2 | 0.2 | -1.0 | 686.2% |
| 51 | 0.2 | 0.3 | 0.1 | -36.9% |

12.4.492 The above table demonstrates that the predicted number of accidents at each junction calculated using the standard DMRB formula are generally significantly greater than the actual recorded accidents.

12.4.493 Only Junction 50 had an increase in actual accidents in comparison to the DMRB predictions. On closer inspection this was a very small increase, and amounted to a total of an additional 0.5 accidents a year (2.5 accidents over five years). This is viewed as an insignificant difference.

12.4.494 **Table 12.46** shows a comparison between the worst case base year including committed development, and the worst case base year plus the Proposed Development.

Table 12.46 Proposed Development Accident Comparison

| Future Situation | | | | |
|---|---|---|---|---|
| Junction | DMRB Worst Case Year Base | DMRB Worst Case Year + Construction Traffic | Additional Annual Accidents | |
| | | | Count | % Increase |
| 1 | 6.4 | 7.1 | 0.7 | 10.9% |
| 2 | 0.5 | 0.5 | 0.0 | 2.9% |
| 3 | 1.3 | 1.3 | 0.0 | 2.6% |
| 4 | 2.0 | 2.1 | 0.1 | 6.7% |
| 5 | 1.4 | 1.4 | 0.0 | 2.3% |
| 6 | 1.2 | 1.3 | 0.1 | 10.2% |
| 7 | 0.4 | 0.5 | 0.0 | 9.1% |
| 8 | 0.8 | 0.9 | 0.1 | 7.1% |
| 9 | 4.7 | 4.9 | 0.3 | 5.7% |
| 10 | 1.7 | 1.7 | 0.0 | 2.9% |
| 11 | 1.6 | 1.8 | 0.1 | 7.7% |
| 12 | 1.3 | 1.3 | 0.1 | 5.6% |

| Future Situation | | | | |
|---|---|---|---|---|
| Junction | DMRB Worst Case Year Base | DMRB Worst Case Year + Construction Traffic | Additional Annual Accidents | |
| | | | Count | % Increase |
| 13 | 2.0 | 2.2 | 0.2 | 9.1% |
| 14 | 1.6 | 1.7 | 0.0 | 2.5% |
| 15 | 1.9 | 1.9 | 0.0 | 2.0% |
| 16 | 4.1 | 4.0 | 0.0 | -0.9% |
| 17 | 1.9 | 3.4 | 1.6 | 83.8% |
| 18 | 0.8 | 0.9 | 0.0 | 3.0% |
| 19 | 0.6 | 0.7 | 0.1 | 17.8% |
| 20 | 0.3 | 0.4 | 0.1 | 29.6% |
| 21 | 7.4 | 8.1 | 0.7 | 9.6% |
| 22 | 1.9 | 2.0 | 0.2 | 8.9% |
| 23 | 0.0 | 0.0 | 0.0 | 0% |
| 24 | 2.2 | 2.5 | 0.3 | 14.5% |
| 25 | 5.2 | 5.4 | 0.2 | 3.6% |
| 26 | 1.1 | 1.1 | 0.0 | 1.6% |
| 27 | 0.9 | 1.0 | 0.0 | 1.6% |
| 28 | 3.8 | 4.0 | 0.1 | 3.3% |
| 29 | 0.7 | 0.8 | 0.0 | 1.9% |
| 30 | 0.8 | 0.8 | 0.1 | 9.8% |
| 31 | 3.3 | 5.0 | 1.7 | 51.2% |
| 32 | 1.4 | 1.4 | 0.0 | 1.9% |
| 33 | 8.4 | 8.6 | 0.2 | 1.9% |
| 34 | 0.4 | 0.4 | 0.0 | 1.9% |
| 35 | 0.6 | 0.8 | 0.1 | 20.0% |
| 38 | 0.8 | 0.8 | 0.0 | 4.6% |
| 39 | 0.5 | 0.5 | 0.1 | 13.6% |
| 40 | 0.3 | 0.3 | 0.0 | 15.6% |
| 41 | 1.4 | 1.4 | 0.0 | 3.0% |
| 42 | 0.7 | 0.7 | 0.1 | 10.4% |
| 43 | 1.4 | 1.4 | 0.0 | 2.9% |
| 44 | 3.7 | 4.1 | 0.3 | 8.4% |
| 45 | 4.5 | 4.8 | 0.2 | 4.7% |
| 46 | 1.7 | 1.7 | 0.0 | 0.2% |
| 49 | 1.2 | 1.2 | 0.0 | 2.3% |
| 50 | 0.2 | 0.2 | 0.0 | 9.3% |
| 51 | 0.4 | 0.4 | 0.1 | 14.5% |

12.4.495 Following a review of the figures in the table above, it is clear that the majority of the junctions have a small increase in annual accident rate. Only Junctions 17 and 31 are forecast to have more than one additional accident per year, with an

additional 1.6 and 1.7 annual accidents respectively. These junctions have a 51.2% and 83.8% increase in accident rates, and the rates would still be comfortably within the predicted DMRB accident rates.

12.4.496 Of those junctions which have a relatively high percentage increase in accident rates in comparison to the other assessed junctions, Junctions 17, 20 and 31 are the most significant and have increases of 81.38%, 29.6% and 51.2% respectively. On closer inspection, this increase only accounts for an additional 1. 6, 0.7 and 1.6 accidents per year, totalling an additional four accidents at the two junctions over a five year period.

12.4.497 The above accident analysis indicates that there will minor increases in the potential for accidents to occur based on the proposed increase in traffic which is in line with DMRB accident rates. The results of the analysis are typical of increases in accident rates on road networks, i.e. typically identifying a correlation between an increase in general traffic and an increase in the probability of accidents. Therein, increases in accident rates on the assessed network are probable based on increases in general or background traffic which is proportionally greater than predicted construction traffic associated with the Proposed Development.

12.4.498 The Proposed Development construction traffic is therefore not considered to have a significant impact on the safety at the junctions or along the highway links that form part of this assessment.

***Conclusion***

12.4.499 In conclusion, it is evident that no junctions assessed have unusually high existing levels of accidents based on the above methodology. After consulting the accident records, there is nothing to suggest that highway layout or condition were significant contributory factors to any of the fatal accidents along the construction access route.

12.4.500 It is therefore considered that the designated construction access network is a suitable route in terms of highway safety records.

## 12.5 Prediction and Assessment of Significance of the Potential Effects

**Introduction**

12.5.1 The primary traffic and transportation effects associated with the Proposed Development would be as a direct consequence of the increase in traffic flows on local roads in the vicinity of the Proposed Development. This refers in particular to HGVs bringing plant and equipment to site. It is during the construction phase that the highest volumes of traffic would be generated.

12.5.2 These vehicle movements would be predominately associated with the installation of accesses (including haul road construction), pylon foundations, pylon assembly and erection, cable installations, access reinstatement, haul road removal and construction employee vehicle movements.

12.5.3 The construction vehicle flows assessed are forecast to cover all elements of construction described at **Volume 5.3.1**.

***Vehicle Trip Generation***

12.5.4 A full breakdown of the vehicles that would require access to the site are included within the TA and include but are not limited to:

- cars;
- light goods vehicles such as vans, 4x4 pick-up vehicles;
- welfare vans/minibuses;
- excavators (JCB);
- hiab/winch tractor;
- tractor and trailers;
- 7 tonne rigid vehicles;
- articulated HGVs;
- low loaders/flatbed heavy goods vehicles; and
- cranes.

12.5.5 National Grid provided the anticipated daily vehicle flows associated with the Proposed Development which were calculated based on the quantities of plant and materials required and also the project programme.

12.5.6 To ensure a robust assessment, an additional 20% in the volume of vehicle movements required was added to the data provided.

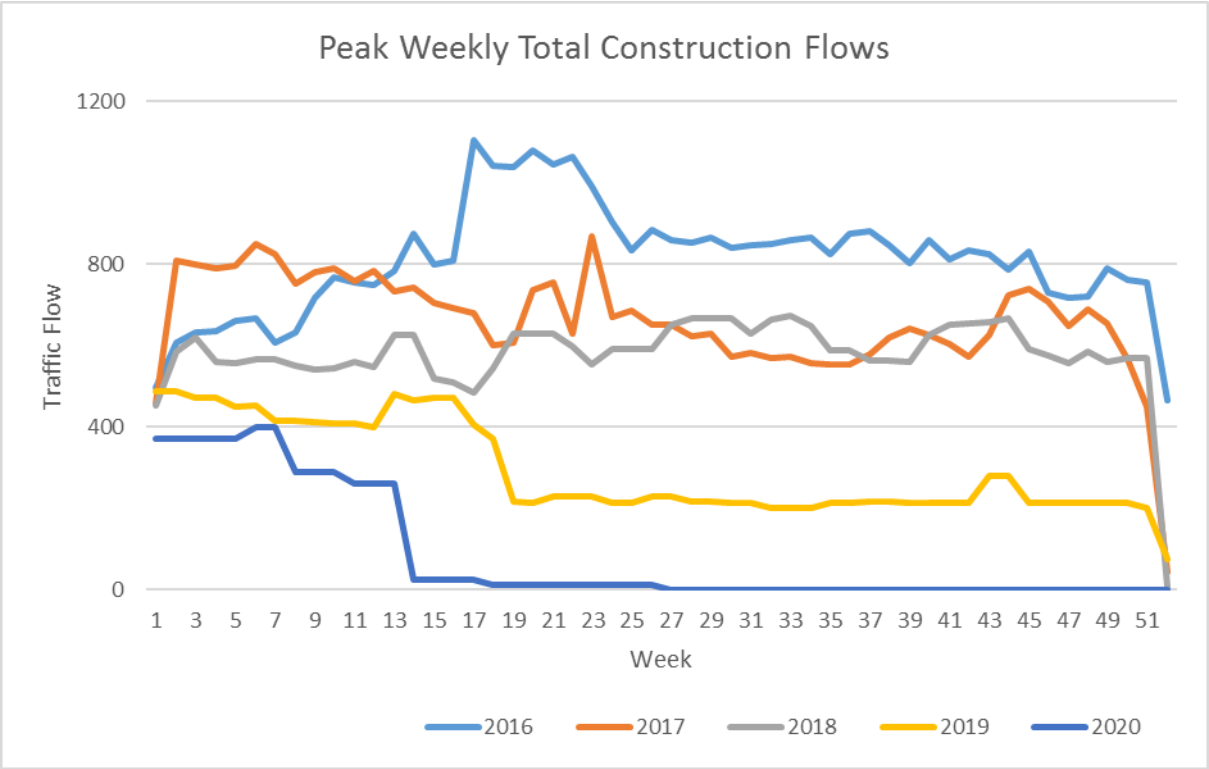
***Vehicle Profiling***

12.5.7 In addition, the peak construction traffic flows throughout the whole construction programme have been used in this assessment to identify any potential environmental impacts. These peak flows do not occur throughout the whole construction programme but fluctuate based on the specific activity taking place.

12.5.8 The highest vehicle flows are expected to occur over a relatively short time period during the early stages of construction after which they are anticipated to reduce significantly.

12.5.9 **Inset 12.23** below shows the profile of vehicles across the whole Proposed Development on a week by week basis during construction.

Inset 12.23: Vehicle Profiling




12.5.10 The number of heavy goods vehicles accessing the various elements of the Proposed Development site will be spread throughout the working day.

***Vehicle Routeing***

12.5.11 It is anticipated that the M5 would be used in most instances by traffic accessing the Proposed Development. From the motorway junction, routes agreed with the Local Authorities and Highways Agency would be used to the individual access points. These routes have been extensively discussed with the Local Authorities and Highways Agency throughout a number of consultation and scoping meetings as set out further above.

12.5.12 The highway links to be used during construction were selected using the following methodology:

- the presence of sensitive receptors;
- the shortest route achievable (from source); and
- economic costs and environmental effects of the, i.e. fuel consumption, air and noise pollution.

12.5.13 In instances where the origin of vehicles is unknown (such as the source of aggregates to be used for the Proposed Development) a number of sensitivity tests have been undertaken to ensure a robust assessment has been undertaken.

12.5.14 Further detail on the volume of vehicles, vehicle profiling, vehicle routeing and sensitivity testing can be found in the accompanying TA (**Volume 5.22**).

12.5.15 A brief description of the three phases of the Proposed Development is provided below highlighting at which phase of the Proposed Development traffic or transport effects are likely to occur.

12.5.16 During operation of the Proposed Development the volume of traffic due to be generated would be minimal with only infrequent vehicle access required.

12.5.17 The traffic generation during decommissioning would be similar to that during construction, however, given that decommissioning would occur so far into the future (60 years plus) its impacts cannot be accurately assessed at this time and a separate study would be required prior to the decommissioning taking place.

***Core Working Hours***

12.5.18 Core working hours will be from 07.00 to 19.00 Mondays to Saturdays and 07.00 and 17.00 on Sundays. National Grid and WPD will require that its contractors adhere to these core working hours for each site as far as reasonably practicable or unless otherwise permitted. Details on the restrictions of the number of construction vehicles travelling along the construction routes are provided in the Draft CTMP **(Volume 5.26.5).**

12.5.19 Piling operations must only take place between 0800 and 1700 hours Mondays to Fridays and 0900 and 1400 on Saturdays, unless otherwise approved by the relevant planning authority.

12.5.20 The following operations may take place outside the working hours referred to in paragraph 12.5.18:

a) the jointing of underground cables;
b) the installation and removal of protective netting across highways, railways lines or watercourses;
c) the completion of operations commenced during the working hours which cannot safely be stopped;
d) oil processing of transformers or reactors in substation and cable sealing end (CSE) compound sites; and
e) the testing or commissioning of any electrical plant installed as part of the authorised development.

12.5.21 The local authorities and surrounding residents will be informed of all works that are known to take place outside of the core working hours no less than 28 days prior to the works.

12.5.22 To maximise productivity within the core hours, National Grid contractors will require a period of up to one hour before and up to one hour after core working hours for start-up and closedown of activities. This will include but not be limited to deliveries, movement to place of work, unloading, maintenance and general preparation works. This will not include operation of plant or machinery likely to

cause a disturbance. These periods will not be considered an extension of core working hours.

12.5.23 Work requiring the temporary closure of major transport infrastructure may be undertaken outside core hours for reasons of safety or operational necessity.

***Construction Phase***

12.5.24 The construction phase is the first in the development process, and would consist of the preparation and delivery of all the construction elements of the project for the construction of the proposed 400kV line, and removal of existing 132kV line. Construction activities would begin with the preparation and installation of the proposed bellmouths and haul road.

12.5.25 Existing field accesses from public highways would need to be widened to give access to construction vehicles, or temporary new accesses may be required. Temporary access tracks would be required to the site of each pylon and may be required to access possible scaffolding sites. For access on agricultural land, temporary tracks would be installed, using crushed stone (MOT Type 1 or similar) with a reinforcing geotextile membrane to protect soils. All temporary access roads would be approximately 4m wide and 300mm-500mm deep.

12.5.26 Temporary tracks would continue along the length of the overhead line as far as possible so that construction traffic can run on dedicated routes and avoid the public highway. This will help reduce the impact on the surrounding highway network.

12.5.27 For lattice pylons steelwork is delivered to site in preparation for tower assembly. It is normal for the steelwork to be delivered on a number of 7 tonne trucks from a central depot, which will have a crane mounted on the rear to allow the steelwork to be off loaded on site. T-pylons would typically be delivered on the rear of an articulated lorry in sections ready for installation.

12.5.28 The next phase of works is where the wires (conductors) are installed. This is usually done in sections of about 10 or more pylons, between two angle towers. Firstly, pilot wires are run out at ground level (and over temporary scaffolding protecting obstacles, roads etc.) along the full length of the section, between the ‘pulling site’ and the ‘tensioning site’ where the new conductor is positioned. The pilot wires are fed through running wheels on the cross arms of all the towers in the middle of the section, and then fed round special machines at the pulling and tensioning sites. In order to keep the wires off the ground, the tensioning site machine stops the wire running freely when the pulling machine ‘pulls’ the pilot wire. This makes sure no damage occurs to property or the wire beneath the section being pulled. The conductors would be delivered to the site by HGV.

12.5.29 Once the overhead line is constructed, the temporary access tracks and working areas at the pylon sites would be removed and the ground reinstated by removing stone and trackways. Soils would be restored to their previous condition. Other surfaces would be reinstated and widened accesses would be restored to their condition at the commencement of the works (including original width).

12.5.30 During the construction of the 400kV underground cables, construction activities would involve the establishment and preparation of the working areas much the same as for the overhead line.

12.5.31 A working area approximately 100m wide would be created along the length of the underground cable route. Within this area vegetation will be cleared and the topsoil stripped and stored within the working area.

12.5.32 Cables would be delivered to site using HGVs wrapped on cable drums. Tractors will then be used to take them to the required location using the haul road.

***Access Locations***

12.5.33 As part of the construction of all elements of the Proposed Development, a number separate access points would be created from the public highway to serve the Proposed Development. These would provide access to the haul road to aid the construction of the new pylons and removal of the old ones, access to lay-down and storage areas, access to the cable trenching working corridor as well providing access to the CSE compounds and substations.

12.5.34 In addition, there would be a number of locations, as described in preceding sections of this chapter, where vehicles would be required to cross the highway. Where possible, existing vehicular access points would be utilised, however, there are a number of locations where a new vehicular access or cross-over would be required.

***Public Rights of Way***

12.5.35 National Grid would keep the majority of PRoW affected by construction open via management during the proposed works. All points where PRoWs cross the Proposed Development would have appropriate signage, which would advise of dates and hours of working. Management will involve the use of staff at those crossing points where and when construction works affect a PRoW. In these instances PRoW users may have to wait for a short period of time whilst the PRoW is in use by the construction team. Users would be instructed to cross the PRoW by National Grid when the PRoW is safe to use.

12.5.36 Where a PRoW has been identified for temporary closure, a temporary diversion has been discussed with the PRoW officers. Signage would be used to advise of the proposed closure advising of proposed dates and specific hours for the closure.

**12.5.37** No permanent PRoW closures are required as part of the Proposed Development and none are sought under the DCO. A full schedule of PRoW that would be affected by the Proposed Development is provided in **Volume 5.26.6, Table 2.2**; the proposed management procedures are also provided at **Volume 5.26.6**.

12.5.38 Those PRoW identified for temporary closure include the following set out in **Table 12.47**.

Table 12.47 PRoW Scheduled for Temporary Closure

| Council Footpath Number | Authority | Component of the Proposed Development Crossing the PRoW | National Grid Reference Points | Section |
|---|---|---|---|---|
| AX/21/3 | Somerset County Council | Underground Cable | 39 To 40 | B |
| AX/2/15 | Somerset County Council | Underground Cable | 39 to 41 | B |
| LA/13/1 | North Somerset Council | Underground Cable | 111 To 112 To 114 To 116 | D |
| LA/13/8 | North Somerset Council | Underground Cable | 112 To 113 | D |
| LA/13/9 | North Somerset Council | Underground Cable | 113 To 114 | D |
| LA/15/20 | North Somerset Council | Underground Cable | 135 To 137 | E |

12.5.39 Where diversions are to be implemented, suitable standards of the alternative route would be agreed with PRoW officers at the relevant Local Authority. More information on PRoW mitigation is found in the accompanying PRoW Management Plan (Volume 5.26.6).

***Stopping Up Orders and Diversions***

12.5.40 As part of the DCO for the Proposed Development, temporary Stopping Up Orders will need to be implemented at certain sections of the local road network. The Stopping Up Orders will facilitate a number of elements of construction.

12.5.41 Typically the Stopping Up Orders will be required during the construction of bellmouths, culverts, temporary bridges or during the laying of cable in the highway where the carriageway is too narrow to allow for vehicles to safely pass the proposed works.

12.5.42 The location of these Stopping Up Orders are shown on the Access and Rights of Way Plans contained within the PRoW Management Plan (**Volume 5.26.6)**.

12.5.43 All of the Stopping Up Orders will be temporary in nature. There will be two Stopping Up Orders in rural areas which will in place for approximately three years, however, these road links are rural links, and have minimal traffic flows. Therefore, it is considered that these Stopping Up Orders will have minimal impacts.

12.5.44 Stopping Up Orders in urban areas will be typically be for between 12 and 36 weeks. However, works on a single link or road will be undertaken in sections to limit the impact of the operation of the roads, traffic movement and impacts on road users.

12.5.45 Diversions will be provided while the Stopping Up Orders are in place. All diversion routes will be in place for the duration of the respective order.

***Traffic Regulation Orders***

12.5.46 Traffic Regulation Orders (TROs) will need to be implemented to facilitate the construction of the Proposed Development. The TROs which will be required include:

- TROs, which may remain in force until suspended or revoked;
- Temporary orders which may last up to 18 months, with extensions available in certain circumstances;
- Temporary orders for road works, the avoidance of danger to the public which may last for up to six months for footpaths, bridleways, cycle tracks/lanes and byways open to all traffic, or up to 18 months on other roads, with extensions available in certain circumstances.

12.5.47 All TROs will be site specific and the type applied for, the extents, designs, layout and durations of the TROs will be agreed by the respective local authority.

12.5.48 During the construction of the Proposed Development, TROs will predominately be used to restrict parking and to temporarily extend speed restrictions in the vicinity of bellmouths and accesses.

***Other Potential Effects***

12.5.49 There are a number of locations along the route where existing 132kV underground cables would be trenched across existing highways or in existing highways. Where this occurs, traffic management would be required. This includes locations at Blackfrias Road, North Street and Hanham Way in North Somerset.

12.5.50 When installing overhead lines across a highway that is not being closed for an extended period of time, scaffolding would be constructed both sides of the obstacle and netting pulled between the two temporary structures. During the installation of the netting a road closure (typically a rolling road block) would be required while the ropes required to install the netting are run across the highway. This work is typically done at night when vehicle flows are at their lowest.

12.5.51 To facilitate access to the Proposed Development, and following discussions with Somerset County Council Highways Engineers, improvements are planned at the junction of Church Road/Factory Lane. The works would be subject to detailed design and are described in detail within the accompanying TA. During the works traffic management would be required.

12.5.52 In addition, as part of the construction of the substation at Sandford, four large abnormal indivisible (AIL) loads would require delivery to the site. These movements are subject to a detailed routeing investigation included as **Volume 5.22.2, Appendix 22D**. In addition, these movements are discussed in greater detail within the sections below.

***Operational Phase***

12.5.53 The overhead line would be subject to annual inspection from the ground or by helicopter. The inspection would identify if there are any visible faults or signs of wear and can also indicate if changes in plant or tree growth or development have occurred which may risk infringing safety clearances. Inspections would confirm when refurbishment is required.

12.5.54 Typically, pylons have a life expectancy of approximately 80 years, the conductors have a life expectancy of 40 - 60 years and the insulators and fittings have a life span of approximately 25 years. However, the lifespan of a pylon may be longer than the anticipated 80 years, depending on its condition and refurbishments.

12.5.55 Refurbishment work would usually be undertaken on one side of the pylon and then the other, so that one side can be kept 'live' and in use. Refurbishment can involve:

- the replacement of all the conductors and earth wire;
- the replacement of insulators and all the steelwork that holds the conductors and insulators in place; and
- painting or replacing the pylon steelwork.

12.5.56 Vehicle access to the Proposed Development would be very infrequent and typically associated with maintenance of the Proposed Development.

12.5.57 The CSE compounds and the substations would have permanent accesses, although they would not generate regular vehicle trips.

***Decommissioning Phase***

12.5.58 If the connection is no longer required at the end of the operational lifespan as detailed in the operational phase description above, the overhead line may be removed as a decommissioning phase. Upon removal much of the material would be taken for recycling. Similar access would be required as outlined for construction.

12.5.59 Fittings, such as dampers and spacers, would be removed from the conductors and transported from the site. The conductors would be cut into manageable lengths or would be winched onto drums in a reverse process to that described for construction. Scaffolding would be used to protect areas of land as in construction. The fittings would be removed from the pylons and lowered to the ground.

12.5.60 Each pylon (lattice or T-pylon) may be dismantled by crane, with sections cut and lowered to the ground for further dismantling and removal from site. Depending on the space available, it may be possible to cut the pylon at the base and then pull the pylon to the ground using a tractor. The pylon can then be cut into sections on the ground.

12.5.61 The underground cables may require replacing in the future. If there is space a new cable route would be constructed alongside the existing cable. If the old cables require removal this process would be similar to the installation.

12.5.62 In addition, decommissioning of the substation at Sandford, four large AIL loads would require removal from the site.

**Highway Effects - Percentage Increases in Traffic Volumes**

12.5.63 Forecasts of the number of vehicles associated with the construction of the Proposed Development have been compared to existing baseline flows to identify any potential increases in daily vehicle flows which can be used to identify those highway links that may be subject to potential adverse environmental effects.

***Percentage Increases in Traffic Volumes***

Section A: Puriton Ridge

12.5.64 The daily, peak, two-way construction flows for each proposed construction route have been tabulated below setting out the sensitivity of the link and the future year baseline flows.

Table 12.48 Section A: Peak Two-Way Construction Vehicle Flows

| Highway Link | Sensitivity Class | Baseline Assessment Year | Two-Way 24hr AADT Flows (Total Traffic/HGVs) | Peak Year Construction Two-Way Flows (Total Traffic) | | Peak Year Construction Flows (HGVs) | |
|---|---|---|---|---|---|---|---|
| | | | | Additional Traffic | Percentage Increase | Additional Traffic | Percentage Increase |
| Puriton Hill | Minor | 2018 | 14,908/2028 | 314 | 2.1 | 78 | 3.8 |
| Bath Road | Minor | 2018 | 13,504/1143 | 134 | 0.9 | 52 | 4.5 |
| Woolavington Hill | High | 2018 | 4,923/439 | 183 | 3.7 | 26 | 5.9 |

12.5.65 **Table 12.48** above shows that Puriton Hill is anticipated to have an increase of approximately 2% in total traffic and 4% in regards to HGV traffic as a result of the Proposed Development.

12.5.66 In comparison there is forecast to be a 1% increase in total traffic and a 4.5% increase in HGV traffic along Bath Road.

12.5.67 The greatest increases in traffic within Section A would be along Woolavington Hill which has been classified as a high sensitivity receptor. Along this link there is forecast to be a peak 3.7% increase in total daily traffic and a 5.9% increase in daily HGV traffic.

Section B: Somerset Levels & Moors South

12.5.68 **Table 12.49** sets out the proposed construction routes within Section B and also the peak construction traffic anticipated to access those routes.

Table 12.49 Section B: Peak Two-Way Construction Vehicle Flows

| Highway Link | Sensitivity Class | Baseline Assessment Year | Two-Way 24hr AADT Flows (Total Traffic/HGVs) | Peak Year Construction Two-Way Flows (Total Traffic) | | Peak Year Construction Flows (HGVs) | |
|---|---|---|---|---|---|---|---|
| | | | | Additional Traffic | Percentage Increase | Additional Traffic | Percentage Increase |
| Causeway | Minor | 2018 | 3,325/259 | 183 | 5.5 | 26 | 10 |
| Church Road/Mark Road | Moderate | 2018 | 4,224/311 | 60 | 1.4 | 28 | 9.0 |
| Bristol Road | Minor | 2018 | 14,526/1,880 | 60 | 0.4 | 28 | 1.4 |

12.5.69 The greatest increases in traffic are likely to be along Causeway. This has been classified as having minor receptor sensitivity along the route and traffic flows are forecast to increase by up to 5.5% in terms of total traffic and 10% in regards to HGV traffic.

12.5.70 These increases can be compared with 1.4% in total traffic along Church Road and Mark Road and 9% in HGV traffic. Church Road and Mark Road have been classified as having a moderate sensitivity.

12.5.71 The most minor impact in Section C is expected to be along Bristol Road, where traffic flows are forecast to increase by less than 1% in terms of total traffic and 1.4% in regards to HGV traffic.

Section C: Mendip Hills

12.5.72 Due to the nature of the construction through Section C the vast majority of vehicle movements would be on the constructed haul road. Vehicles would, however, use the A368 through Sandford to access the proposed substation and laydown area.

Table 12.50 Section C: Peak Two-Way Construction Vehicle Flows

| Highway Link | Sensitivity Class | Baseline Assessment Year | Two-Way 24hr AADT Flows (Total Traffic/HGVs) | Peak Year Construction Two-Way Flows (Total Traffic) | | Peak Year Construction Flows (HGVs) | |
|---|---|---|---|---|---|---|---|
| | | | | Additional Traffic | Percentage Increase | Additional Traffic | Percentage Increase |
| A38 Bristol Road | Minor | 2018 | 12,897/1,064 | 324 | 2.5 | 116 | 10.9 |
| A368 Dinghurst Road | High | 2018 | 7,425/684 | 324 | 4.3 | 116 | 16.9 |

12.5.73 The A38 Bristol Road has been classified as having minor sensitivity. Percentage increases in traffic during the construction of the Proposed Development are predicted to be 2.5% in terms of total traffic and approximately 11% in terms of HGV traffic.

12.5.74 The A368 Dinghurst Road has been classified as having a high sensitivity. Percentage increases in traffic during the construction of the Proposed Development are predicted to be 4.3% in terms of total traffic and approximately 16.9% in terms of HGV traffic.

Section D: Somerset Levels & Moors North

12.5.75 **Table 12.51** sets out the proposed construction routes within Section D and also the peak construction traffic anticipated to access those routes.

Table 12.51 Section D: Peak Two-Way Construction Vehicle Flows

| Highway Link | Sensitivity Class | Baseline Assessment Year | Two-Way 24hr AADT Flows (Total Traffic/HGVs) | Peak Year Construction Two-Way Flows (Total Traffic) | | Peak Year Construction Flows (HGVs) | |
|---|---|---|---|---|---|---|---|
| | | | | Additional Traffic | Percentage Increase | Additional Traffic | Percentage Increase |
| A370 | Minor | 2018 | 20,134/1,708 | 316 | 1.5 | 84 | 4.9 |
| Kennmoor Road | Minor | 2019 | 3,325/138 | 174 | 5.2 | 51 | 36.9 |
| Kenn Road | Minor | 2019 | 11,353/902 | 174 | 1.5 | 51 | 5.6 |
| Nailsea Wall | Moderate | 2019 | 2,005/139 | 174 | 8.6 | 51 | 36.6 |
| B3133 Bristol Road | High | 2019 | 15,741/1,123 | 174 | 1.1 | 51 | 4.5 |
| Manmoor Lane | High | 2019 | 4,456/209 | 174 | 3.9 | 51 | 24.4 |
| B3130 Clevedon Road | High | 2019 | 14,769/947 | 83 | 0.5 | 28 | 2.9 |

12.5.76 The A370 has been classified as being a minor sensitive route. Percentage increases in construction traffic are predicted to be 1.5% in terms of total traffic and 4.9% in HGVs.

12.5.77 Kennmoor Road has been classified as being a route of minor sensitivity. All traffic flows are anticipated to increase by approximately 5%. In regards to HGV traffic, flows are expected to increase by up to 37%, although it must be noted that there is currently a small number of HGVs using this road, and the Proposed Development would only add 51 two-way vehicle movements during peak construction days.

12.5.78 These increases can be compared with up to 1.5% in total traffic along Kenn Road and less than 6% in HGV traffic. Kenn Road has been classified as having minor sensitivity.

12.5.79 Nailsea Wall has been classified as being a route of moderate sensitivity. All traffic flows are anticipated to increase by up to 8.6%. In regards to HGV traffic, flows are expected to increase by up to 36%.

12.5.80 Manmoor Lane has been classified as being a route of high sensitivity. All traffic flows are anticipated to increase by approximately 3.9%. In regards to HGV traffic, flows are expected to increase by up to 24.4%, although it must be noted that there is currently a small number of HGVs using this road, and the Proposed Development would only adding 51 two-way vehicle movements during peak construction days. There are also very few receptors located along this route.

12.5.81 Along the B3133, there is expected to be a less than 1% increase in all traffic, and approximately 3% increase in HGVs specifically. The road is deemed to be of 'high' sensitivity.

Section E: Tickenham Ridge

12.5.82 **Table 12.52** below sets out the proposed construction routes within Section E and also the peak daily construction traffic anticipated to access those routes.

Table 12.52 Section E: Peak Two-Way Construction Vehicle Flows

| Highway Link | Sensitivity Class | Baseline Assessment Year | Two-Way 24hr AADT Flows (Total Traffic/HGVs) | Peak Year Construction Two-Way Flows (Total Traffic) | | Peak Year Construction Flows (HGVs) | |
|---|---|---|---|---|---|---|---|
| | | | | Additional Traffic | Percentage Increase | Additional Traffic | Percentage Increase |
| B3128 Clevedon Road | Moderate | 2019 | 12,658/837 | 95 | 0.7 | 28 | 3.3 |
| Whitehouse Lane | Minor | 2019 | 8,011/290 | | 0.8 | 28 | 6.8 |
| Caswell Hill | Minor | 2019 | 993/57 | 83 | 8.9 | 28 | 49 |

12.5.83 Clevedon Road has been classified as being of moderate sensitivity. All traffic flows are forecast to increase by less than 1%. In regards to HGV traffic, flows are expected to increase by approximately 4%.

12.5.84 These increases can be compared with less than 1% in total traffic along Whitehouse Lane, with up to 7% increase in HGV traffic. Whitehouse Lane has been classified as having minor sensitivity.

12.5.85 Caswell Hill has been classified as a minor receptor route. All traffic flows would be increased by approximately 9%. In regards to HGV traffic, flows are expected to increase by approximately 49%, although it must be noted that there is currently a small number of HGVs using this road, and the Proposed Development is only adding 28 two-way vehicle movements during peak construction days.

Section F: Portishead

12.5.86 Section F includes both the preferred route (Option A) and an alternative route (Option B). Option A runs adjacent to the M5, whilst Option B heads north towards Portishead Substation before returning south east to re-connect with Option A.

12.5.87 Both Option A and Option B would use the same major construction access roads: The Portbury Hundred and Sheepway. This has been shown in **Table 12.53**.

Table 12.53 Section F: Peak Two-Way Construction Vehicle Flows

| Highway Link | Sensitivity Class | Baseline Assessment Years | Two-Way 24hr AADT Flows (Total Traffic/HGVs) | Peak Construction Two-Way Flows (Total Traffic) | | Peak Construction Flows (HGVs) | |
|---|---|---|---|---|---|---|---|
| | | | | Additional Traffic | Percentage Increase | Additional Traffic | Percentage Increase |
| The Portbury Hundred | Minor | 2019 | 29,490/1,737 | 83 | 0.2 | 28 | 1.6 |
| Sheepway | Minor | 2019 | 1,326/178 | 83 | 6.2 | 28 | 15.7 |

12.5.88 The Portbury Hundred has been classified as a minor receptor route. All traffic flows are predicted to increase by less than 1%. In regards to HGV traffic, flows are expected to increase by up to 2%.

12.5.89 Sheepway has been classified as a minor sensitivity. All traffic flows are forecast to increase by up to 6.2%. In regards to HGV traffic, flows are expected to increase by approximately 16%, although it must be noted that there is currently a small number of HGVs using this road, and the Proposed Development is only adding 28 two-way vehicle movements during peak construction days.

Section G: Avonmouth

12.5.90 **Table 12.54** sets out the proposed construction routes within Section G and also the peak daily construction traffic anticipated to access those routes.

Table 12.54 Section G Peak Two-Way Construction Vehicle Flows

| Highway Link | Sensitivity Class | Baseline Assessment Years | Two-Way 24hr AADT Flows (Total Traffic/HGVs) | Peak Construction Two-Way Flows (Total Traffic) | | Peak Construction Flows (HGVs) | |
|---|---|---|---|---|---|---|---|
| | | | | Additional Traffic | Percentage Increase | Additional Traffic | Percentage Increase |
| Victoria Road | Minor | 2017 | 2,165/643 | 184 | 0.8 | 40 | 0.6 |
| King Weston Lane | Minor | 2017 | 8,571/1,240 | 184 | 0.3 | 40 | 0.7 |

12.5.91 Victoria Road has been classified as minor in terms of its sensitivity. All traffic flows are forecast to increase by less than 1%, as are HGV traffic flows.

12.5.92 These increases are reflected along King Weston Lane. All traffic flows are expected to increase by less than 1%, along with HGV traffic flows. The road also has a minor sensitivity classification.

Section H: Hinkley Line Entries

12.5.93 **Table 12.55** sets out the proposed construction routes within Section H and also the peak construction traffic anticipated to access those routes.

Table 12.55 Section H: Proposed Construction Routes

| Highway Link | Sensitivity Class | Baseline Assessment Years | Two-Way 24hr AADT Flows (Total Traffic/HGVs) | Peak Construction Two-Way Flows (Total Traffic) | | Peak Construction Flows (HGVs) | |
|---|---|---|---|---|---|---|---|
| | | | | Additional Traffic | Percentage Increase | Additional Traffic | Percentage Increase |
| Wick Moor Drove | Minor | 2016 | 2588/249 | 467 | 18 | 160 | 6 |
| Whitewick Lane (Unclassified Road North of Wick) | Moderate | 236 | 17 | 61 | 25.8 | 12 | 70.6 |

12.5.94 Wick Moor Drove has been classified as having a minor sensitivity classification. All traffic flows are expected to increase by approximately 18%, whereas the HGV traffic flows are predicted to increase by approximately 2% based on existing 2013 collected data.

12.5.95 Whitewick Lane which is an unclassified road north of Wick has been classified as having a moderate sensitivity classification. All traffic flows are forecast to increase by up to 26%. In regards to HGV traffic, flows are expected to increase by up to 71%, although it must be noted that there is currently a small number of HGVs using this road, and the Proposed Development is only adding 12 vehicles at peak construction days.

***Percentage Increase in Traffic Volumes Summary***

12.5.96 There are a number of situations where the predicted peak daily construction flow is likely to result in an increase of traffic flows greater than 10%. Below 10% traffic increases are generally accepted as having little or no discernible environmental impact and as such these links have not been assessed further.

Section A: Puriton Ridge

12.5.97 Woolavington Hill is classed as a high sensitivity receptor. At its peak daily construction traffic flows at this location would likely reach almost 6% increase in HGVs.

Section B: Somerset Levels & Moors South

12.5.98 Church Road and Mark Road, which are classified as being moderate receptors have likely increases in HGV traffic of 7%. These routes provide access to the villages of Woolavington and East Huntspill where there are clusters of residential properties located in proximity of the construction route.

Section C: Mendip Hills

12.5.99 The A368 Dinghurst Road, which is classified as having a high sensitivity have likely increases in HGV traffic of nearly 17%. However, the total overall traffic flow increase would be only 4%. This route provides links from the B3133 Bristol Road, through Churchill and Sandford.

Section D: Somerset Levels & Moors North

12.5.100 Manmoor Road and Nailsea Wall, classified as having a high and moderate sensitivity respectively, are forecast to have worst case daily increases in HGV traffic of approximately 25% and 37%. However, the total overall traffic flow increase would be less than 10%. These highway links form part of the popular Avon Cycle Way.

Section E: Tickenham Ridge

12.5.101 The B3128 Clevedon Road, Whitehouse Lane and Caswell Hill which have been classified as having a moderate, minor and minor sensitivity respectively are forecast to have peak increases in daily HGV traffic of 3.3%, approximately 7% and 49% respectively. However, the total overall traffic flow increase would be less than 10%.

Section F: Portishead

12.5.102 Sheepway and the Portbury Hundred have been classified as having minor sensitivity with predicted increases in HGV traffic of approximately 16% and2% respectively. However, the total overall traffic flow increase would be less than 10%.

Section G: Avonmouth

12.5.103 Victoria Road and King Weston Lane have been classified as having minor sensitivity with predicted increases in HGV traffic of less than 1% each.

Section H: Hinkely Line Entries

12.5.104 Wick Moor Drove and Whitewick Lane (which is an unclassified road to the north of Wick) have been classified as having minor sensitivity are predicted to receive percentage increases in total traffic approximately 9% and 26% respectively. In regards to HGV traffic percentages increases are predicted to be 6% for Wick Moor Drove and 71% for Whitewick Lane.

***Percentage Increase Conclusions***

12.5.105 There are a number of situations where the predicted peak daily construction flow is likely to result in an increase in HGV traffic flows greater than 10%.

12.5.106 To ensure a robust assessment, where HGV vehicle flows are close to 10% or the highway link has above a moderate environmental sensitivity further assessment has been undertaken which is discussed below.

12.5.107 Those highway links with increases in HGV traffic flows of under 10% are predicted to have **negligible** environmental impacts and have not been assessed further. Traffic flows less than 10% are generally accepted as having no discernable environmental impact.

**Intra-Project In-Combination Traffic Flows**

12.5.108 There is the potential for traffic to use several of the proposed construction routes on a particular day to travel on the strategic road network before leaving onto more local highway links in the vicinity of the Proposed Development.

12.5.109 It is envisaged that the M5 Junctions 23, 22, 21, 20, 19 and 18 would all be accessed by vehicles travelling to and from the Proposed Development's working corridor on a daily basis.

12.5.110 Assessments indicate that there could be approximately 300, peak, daily two-way vehicle movements accessing/egressing each motorway junction. This is likely to result in percentage increases in total traffic of less than 5% based on existing baseline flows.

**Links to the Transport Assessment**

12.5.111 This chapter has identified the highway links likely to be affected by construction traffic accessing the Proposed Development. A further detailed assessment has been undertaken within the accompanying TA looking at potential impacts at specific junctions during identified local highway network peak periods.

12.5.112 The scope of the TA was discussed in detailed and agreed with the LPAs Highways Officers and their appointed representative from JMP.

**Assessment of Highway Effects – General Construction Traffic**

***Severance***

12.5.113 Severance is the perceived division that can occur within a community when it becomes separated by a major traffic artery. Each of those links identified as requiring further investigation has been discussed in regards to severance. The below assessment of severance is based on the predicted total traffic increases, HGV traffic increases as per the assessment criteria detailed in **Table 12.5** and the methodology for determining the significance of effects which is detailed in **Table 12.7**.In the instance of Woolavington Hill and Church Road/Mark Road, these links all have predicted temporary increases in HGV traffic of approximately 6% and 9% and an increase in total traffic under 30%. Based on the impact assessment criteria this would result in a negligible impact, however, given the sensitivity of the receptors (high and moderate), it is considered that there is anticipated to be temporary **slight adverse** effects during peak phases of construction.

12.5.114 The A38 Bristol Road and the A368 Dinghurst Road are both predicted to have an increase is total traffic of 3% and 4% respectively, however, HGV traffic is predicted to increase by 11% and 17% respectively.

12.5.115 The A38 has been classified as being of minor environmental sensitivity and as such, based on the assessment criteria and the sensitivity classification it is

predicted that some **slight adverse** temporary impacts in regards to severance could occur.

12.5.116 The A368 is classified as being of high environmental sensitivity due to the number and type of local receptors being present and is anticipated to see increases in peak HGV traffic of approximately 17% and an increase of 4% in total traffic. Based on the assessment criteria this would result in a negligible impact. As such it is predicted that some temporary, **slight adverse**, environmental impacts associated with severance could occur during peak construction activity.

12.5.117 Kennmoor Road, Nailsea Wall and Manmoor Lane are forecast to have percentage increases in HGV traffic of approximately 37%, 37% and 24% respectively and increases in total traffic of 5%, 9% and 4% respectively. Based on the impact assessment criteria this would result in a negligible impact.

12.5.118 Kenmoor Road has a minor sensitivity class and therefore it is predicted that any potential adverse environmental effects associated with severance would be **slight adverse**

12.5.119 Nailsea Wall has a moderate sensitivity class and therefore it is predicted that any potential adverse environmental effects associated with severance would be **slight adverse**

12.5.120 Manmoor Lane has a high sensitivity class and therefore it is predicted that any potential adverse environmental effects associated with severance would be **slight adverse**

12.5.121 Clevedon Road (B3130) is classified to be high sensitivity with a relatively low predicted increase in HGV traffic (3%) and less than one percent increase in total traffic. Based on the impact assessment criteria this would result in a negligible impact. Therefore it is predicted that any potential adverse environmental effects are envisaged to be **slight adverse** in regards to severance.

12.5.122 Clevedon Road (B3128) is classified to be moderate sensitivity with a relatively low predicted increase in HGV traffic (3%) and less than one percent increase in total traffic. Therefore it is predicted that any potential adverse environmental effects are envisaged to be **slight adverse** in regards to severance.

12.5.123 Caswell Hill is a minor receptor; however, the Proposed Development would increase HGV traffic by approximately 49% with an increase in total traffic of approximately 9%. Based on the impact assessment criteria this would result in a minor impact. As such there is the potential for **slight adverse** temporary effects in regards to severance. There are minimal receptors located along this highway link, it is very rural in nature and relatively lightly trafficked.

12.5.124 Sheepway is also classified as a minor receptor with anticipated peak increases in HGV traffic approximately 16% and a 6% increase in total traffic. Based on the impact assessment criteria this would result in a negligible impact. Given the minor receptor classification any adverse severance effects are forecast to be **slight adverse**.

12.5.125 The unclassified road to the north of Wick is expected to have an increase in HGVs approximately 70% (a total of 12 vehicles) and an increase in total traffic of 26% (61 vehicles). This reflects the rural nature of the road and the few vehicles that regularly access it. Based on the impact assessment criteria this would result in a negligible impact.

12.5.126 Given that the highway link is classified as a minor receptor, any adverse environmental effects associated with severance would be **slight adverse**.

***Driver Delay***

12.5.127 During the peak construction traffic periods it is recognised that some driver delay may occur as an increased number of vehicles turn into and out of the identified access points associated with the Proposed Development.

12.5.128 In addition, some driver delay may occur where traffic management measures are in place at vehicle cross-over locations or where cables are being trenched across a highway.

12.5.129 Furthermore the TA undertaken for the Proposed Development identified that there are a number of existing junctions throughout the study area that are operating at or close to capacity in future assessment scenarios without the Proposed Development traffic.

12.5.130 This is discussed in detail within the TA including quantifying the anticipated level of effect. However, despite the future baseline scenario the proposed Development is shown to have little material impact on the operation of the junctions assessed. As such, any potential adverse effects in regards to driver delay would be **negligible** to **slight adverse**.

12.5.131 There are three instances where the increase in vehicle traffic would exceed 5% (or the sensitivity of the receptor is such that further discussion is required); Sheepway (6% increase in total traffic), Caswell Hill (9% increase in total traffic) and the unclassified road north of Wick (26% increase in total traffic). In these instances it should be noted that the background traffic flows are low and as such any effects are anticipated to be **slight to moderate adverse**.

12.5.132 Any vehicle cross-over positions which require traffic management such as traffic signals are typically on rural lightly trafficked links. As such any driver delay at these locations is forecast to be temporary, **slight to moderate adverse**.

12.5.133 It should also be noted that there is likely to be some driver delay during the trenching of 132kV cables beneath or along the existing highway. Mitigation measures to minimise driver delay have been discussed in section 12.7.

12.5.134 As part of the Proposed Development temporary Stopping Up Orders will need to be implemented at certain sections of the local road network. All of the Stopping Up Orders will be temporary.

12.5.135 Typically, durations of Stopping Up Orders may be longer in rural areas where there are minimal traffic flows and the highway links provide limited local access, therein, the impacts of the Stopping Up Orders on general traffic will be minimal.

12.5.136 In urban areas, Stopping Up Orders may be in place for a number of weeks, however, works conducted in areas of higher traffic flow will be undertaken in sections to limit the impact to general traffic movements.

12.5.137 In addition, diversions will be in place during the period of construction when the Stopping Up Order is in place and any driver delay is forecast to be temporary and **slight to moderate adverse**.

12.5.138 In addition to Stopping Up Orders, TROs will need to be implemented at a number of locations. Primarily these will be used to restrict parking and increase the extent of speed restrictions around site accesses.

12.5.139 It is anticipated that the implementation of TROs would result in **negligible to slight adverse** impacts associated with driver delay.

***Pedestrian and Cyclist Delay***

12.5.140 As indicated within the assessment criteria pedestrian delay is anticipated to be negligible if total traffic flows along a link are under 1,400 vehicles per hour. However, it is acknowledged that changes in the volume, composition or speed of traffic may affect the ability for people or cyclists to cross the road.

12.5.141 Excluding the M5 no highway link used during construction has vehicle flows in excess of 1,400 per hour. As such any temporary adverse environmental impacts are anticipated to be **negligible** in regards to pedestrian delay.

12.5.142 In addition to the above, it has been identified that 115 PRoW would be affected as a result of the Proposed Development. In most instances the affected PRoW would not require temporary closure. In these instances there is anticipated to be the potential for **slight adverse** temporary effects while users of the PRoW (including equestrians) are stopped when construction traffic needs to cross.

12.5.143 At six locations PRoW would be temporarily closed. These are short local routes, with alternative PRoW options available and as such adverse impacts are anticipated to be **moderate adverse**.

12.5.144 Two PRoW are anticipated to be closed and a diversion provided. In this situation it is predicted that some **adverse moderate** environmental impacts may occur in regards to users of those PRoW.

12.5.145 As part of the Proposed Development temporary Stopping Up Orders will need to be implemented at certain sections of the local road network which will include the stopping up of footways and cycle routes, subject to site specific conditions. All of the Stopping Up Orders will be temporary, typically durations will be for a number of weeks however it is anticipated to be much less in some instances.

12.5.146 Alternate pedestrian and cycle routes will be in place during the period of construction when the Stopping Up Order is in place and any pedestrian or cyclist delay is forecast to be temporary, **slight to moderate adverse**.

***Fear and Intimidation***

12.5.147 The scale of fear and intimidation experienced by receptors along the proposed construction routes is subjective and influenced by the volume and type of vehicle,

and also the level of protection available, such as the amount of screening having the receptor set back from the highway, or wide footways.

12.5.148 This was a factor considered in the classification of the sensitivity of the highway routes and the receptors located along them.

12.5.149 As discussed above, there are a number of construction routes that have been classified as high receptors. These include Woolavington Hill (high), Manmoor Lane, Mark Road/Church Road, Bristol Road (B3133), Dinghurst Road (A368) and Clevedon Road (B3130).

12.5.150 In the case of Woolavington Hill, Manmoor Lane, Bristol Road and Clevedon Road (B3130) the predicted peak daily percentage increase in HGVs along these routes is under 10% and therefore any adverse effects are anticipated to be **negligible.**

12.5.151 As discussed above, there are a number of construction routes that have been classified as moderate receptors, these include Nailsea Wall, Clevedon Road (B3128) and Church Road/ Mark Road.

12.5.152 The predicted peak daily percentage increase in HGVs along Nailsea Wall is 37% and therefore any adverse effects are anticipated to be **negligible.**

12.5.153 Clevedon Road (B3128) and Church Road/Mark Road. Nailsea Wall is predicted to be less than 10% and therefore any adverse effects are anticipated to be **negligible.**

12.5.154 In addition to the above, there are also two highway links where the percentage increase in HGVs is anticipated to 49% (Caswell Hill) and 70% (Whitewick Lane). Caswell Hill is classified as having a minor environmental sensitivity while Whitewick Lane has moderate sensitivity. There are limited sensitive receptors along these routes. As such any potential fear and intimidation impacts associated with increases in traffic are anticipated to be **slight adverse.**

12.5.155 Given the programme of the Proposed Development any adverse effects would also be temporary.

***Accidents and Safety***

12.5.156 An analysis of personal injury accident data has been undertaken in the vicinity of the Proposed Development.

12.5.157 No correlations in the data suggest that highway condition, layout or design were significant contributory factors in the pattern of accidents. It is therefore considered that there is unlikely to be any significant increased risk of accidents along the proposed routes that vehicles would take to access the works, particularly with the introduction of mitigation measures.

***Dust and Dirt***

12.5.158 It is possible that some dust and dirt may collect on the wheels and chassis of the vehicles making deliveries to the site.

12.5.159 Without appropriate management, this could lead to some **moderate adverse** environmental impacts on the surrounding local highway network.

***Conclusions***

12.5.160 Given the number of vehicles that would use the identified construction routes to access the works and the temporary nature of the traffic increase, it is considered that there is the potential for some temporary **slight to moderate adverse** effects with regards to transport and the construction of the Proposed Development. Mitigation measures to minimise these effects are discussed in section 12.7.

**Highway Effects - Abnormal Load Movements**

12.5.161 As part of the construction of the Proposed Development at Sandford Substation, there is a requirement to transport large electrical transformers and shunt reactors to the site. These are large indivisible loads weighing up to 170 tonnes. As such they fall outside conventional HGV operating limits and are considered to be abnormal loads.

12.5.162 A separate routeing assessment is being undertaken by ALE, and is available to view in **Volume 5.22.2, Appendix 22D**. It is envisaged the transformers would arrive into Avonmouth Docks by sea and head southbound on the M5.

12.5.163 The movement of abnormal vehicles is controlled by The Motor Vehicles (Authorisation of Special Types) General Order 2003 and subject to management and prior agreement with the Police, the Highways Agency and the relevant Local Authority.

12.5.164 It is envisaged that all vehicles would be escorted by a pilot car and Police escort and be scheduled to travel during off-peak hours where possible. This would ensure the safety of other road users and result in minimal disruption.

***Assessment of Effects - Abnormal Load Movements***

Severance

12.5.165 Due to the temporary nature of the deliveries, the timing of deliveries and the routes likely to be used to transport the loads to the sites any severance effects are anticipated to be **negligible**.

Driver Delay

12.5.166 While the abnormal loads would be delivered during off-peak periods when background traffic is forecast to be at its lowest, due to the size of the components, traffic management measures would be required. These commonly involve rolling road closures or the temporary stopping of oncoming traffic while a turning manoeuvre is made.

12.5.167 There is the potential for short-term, temporary, **moderate adverse** driver delays during the delivery of the abnormal transformer loads.

12.5.168 A Draft CTMP (**Volume 5.26.5**) has been produced to address effects derived from construction traffic movements. This strategy would minimise driver delay.

Pedestrian and Cyclist Delay

12.5.169 As with driver delay, due to the size of the components, some traffic management measures would be required during the delivery of the transformers. This could result in some minor delays to any pedestrians or cyclists travelling along the identified delivery route.

12.5.170 Due to the temporary nature of the deliveries, the timing of deliveries and the routes likely to be used to transport the loads to the sites any effects resulting in pedestrian and cyclist delay are expected to be **negligible**.

Fear and Intimidation

12.5.171 Given the size of the vehicles and the components being transported there is the potential for fear and intimidation to be experienced by receptors along the delivery route. Given the temporary nature of the deliveries, however, it is expected that any effects would be **slight adverse**.

Accidents and Safety

12.5.172 A highway safety review has been undertaken and no correlations in the data suggest that highway condition, layout or design were significant contributory factors in the pattern of accidents.

12.5.173 Given the management and mitigation typically involved in the delivery of such large loads it is not anticipated that there would be any significant increased risk of accidents along the delivery routes.

Dust and Dirt

12.5.174 It is possible that some dust and dirt may collect on the wheels and chassis of the vehicles making deliveries to the site.

12.5.175 Without appropriate management, this could lead to some adverse **minor adverse** environmental effects in regards to amenity on the surrounding local highway network.

***Construction Traffic - Abnormal Vehicle Impact Conclusions***

12.5.176 Given the number of vehicles that would use the identified delivery routes to access the works and the temporary nature of the traffic increase, it is considered that there is the potential for some temporary **slight adverse** effects.

**Operational Effects**

12.5.177 Once operational it is envisaged that the Proposed Development would generate very few vehicle movements and therefore operational effects in regards to traffic and transportation are expected to be **negligible**.

***Indicative Access for Future Maintenance***

12.5.178 As set out in **Volume 5.3.1** and **Volume 5.3.3, Figures 3.5 – 3.6**, National Grid would require infrequent access to ensure the Proposed Development could be appropriately maintained. The access would be typically be made by 4x4 or tractor

trailer and would not typically require any new temporary accesses; however access to tension pylons may require temporary stone roads or aluminium track way to be laid depending on their location. Effects in relation to future maintenance are expected to be **negligible**.

**Decommissioning Effects**

12.5.179 The proposed 400kV overhead line conductors have a design life of 40-60 years; the pylons required for the installation have a design life of 80 years. As such the potential effects associated with the decommissioning of the Proposed Development are difficult to predict at this stage, however, they are likely to be less onerous than the construction phase as less plant and material would be required.

12.5.180 During decommissioning many of the same potential effects as for the construction phase could occur, however, the overall volume of traffic forecast to be required and the time taken to decommission the Proposed Development is anticipated to be much less.

**Construction Programme Sensitivity Analysis**

12.5.181 Consideration has been given to the potential environmental effects of road traffic from the Proposed Development based on the indicative programme set out in **Volume 5.3.1, Table 3.3**.

12.5.182 National Grid acknowledges (see **Volume 5.5.1, section 5.6**) that there may be changes to the programme as a result of DCO consent being granted later than 2015.

12.5.183 Three potential programme scenarios have been provided which are as follows:

- scenario 1 – Commencement March 2016, Completion October 2019;
- scenario 2 – Commencement October 2018, Competition October 2022; and
- scenario 3 – Commencement March 2016, Completion October 2022.

12.5.184 In regard to construction traffic impacts it is anticipated that there will be a negligible change in the significance of effects as described within this chapter as a result of the potential changes to the programme as set out above. The basis of this conclusion is that whilst the programme may change, the predicted construction traffic generated by the Proposed Development and the highway elements of construction will remain the same as that currently predicted.

12.5.185 There may be some minor beneficial impacts as the proposed highway infrastructure improvements associated with local committed developments (Hinkley Point C and Royal Ordnance Factory) are more likely to have been implemented the later construction of the Proposed Development starts.

12.5.186 The proposed highway infrastructure improvements are discussed in detail within the accompanying TA (**Volume 5.22**).

**Climate Change Effects**

12.5.187 It not anticipated that climate change would have any discernable related impacts associated with the traffic and transport from the Proposed Development.

## 12.6 Inter-relationship of Potential Effects

12.6.1 The proposed access arrangements and the increase in vehicle numbers associated with the Proposed Development may trigger environmental effects associated with related disciplines.

12.6.2 These include, but are not limited to, the following:

- landscape and visual effects associated with the built environment, heritage and conservation;
- effects associated with socio-economic factors;
- effects associated with hydrology and drainage; and
- effects associated with noise, vibration and air quality.

12.6.3 All of the highways effects associated with the Proposed Development have been assessed by the individual disciplines outlined above to gain a full understanding of the inter-relationship of effects.

12.6.4 In addition to the above, an amenity effects assessment (see **Volume 5.15.2, Appendix 15J**) has been undertaken which considers effects arising as a result of the inter-relationship of other environmental effects which together could affect the amenity value of receptors during construction, operation and decommissioning.

12.6.5 The assessment has considered likely effects on amenity on various receptors including:

- visitor attractions, PRoW, recreational routes, tourism accommodation and recreational areas; and
- local communities and community facilities (including residential areas, health, education and community gathering).

## 12.7 Mitigation

12.7.1 This section proposes mitigation measures which seek to reduce or remove any adverse effects identified. Mitigation measures will be implemented in accordance with the Draft CTMP and Draft CEMP.

12.7.2 These are summarised below and set out in detail within the Draft CTMP which should be read in conjunction with this assessment.

12.7.3 The objectives of the Draft CTMP are set out in **Table 12.56** below.

Table 12.56 Objectives of the Draft CTMP

| Objective | Description |
|---|---|
| A | Ensure that movements of people and materials are achieved in a safe, efficient, timely and sustainable manner. |
| B | Keep freight and construction traffic to a minimum during network peaks in order to reduce the impact on the highway network during busy periods. |
| C | Ensure that the impact and disruption to the local communities and tourists is minimised. |
| D | Minimise construction trips where possible. |
| E | Ensure the continued monitoring, review and subsequent improvement of the CTMP and mitigation measures contained herein. |
| F | Limit the impacts on the Strategic Road Network (SRN) and Local Road Network (LRN). |
| G | Limit the impacts on the natural and built environment. |

12.7.4 The Draft CTMP provided at **Volume 5.26.5** outlines a number of issues and constraints (see also **Table 12.57** below) identified at the strategic planning and design phase and how it is proposed they are mitigated.

Table 12.57 Issues and Constraints

| No | Issue/Constraint | Mitigated at Stage | Mitigation |
|---|---|---|---|
| 1 | Sensitive, built up areas (villages, towns) to be avoided by temporary construction traffic due to congestion, reduction of safety and air and noise pollution. | Construction route planning stage | Final construction routeing agreed with LPAs |
| 2 | Avoidance, if possible of built up areas to remove conflicts with parking areas and local roads and streetscapes | Construction route planning stage | Final construction routeing agreed with LPAs |
| 3 | Avoidance of narrow rural roads | Construction route planning stage. | Final construction routeing agreed with LPAs |
| 4 | Limited visibility at bellmouths | Bellmouth design stage. | Bellmouth locations and designs agreed with LPAs |
| 5 | Impacts on pedestrian (PRoW), cyclist (National Cycle Network, Sustrans and local routes) and local equestrian routes | Construction route planning and Bellmouth design stages. | Where pedestrian, cyclist and equestrian networks will be impacted by the Proposed Development, re-provision through alternate alignment has been proposed and agreed with LPAs. |
| 6 | Construction traffic impacts on capacity of junctions and links on the construction routes (SRN and local highway network). | Transport and Construction route planning stage, TA capacity analysis, Draft CTMP and mitigation. | Capacity assessments undertaken and results included within the TA. Mitigation proposed including vehicle movement restrictions. |
| 7 | Environmental interests in the local area, i.e. conservation areas, monuments, listed buildings and Sites of Specific Scientific Interest (SSSI) | Mitigation identified in the ES and ES supporting documents (**Volume 5**) and implemented via DCO Requirements and legal agreement. | |

12.7.5 As identified within the TA there are a number of junctions that would be used by the Proposed Development's construction traffic that would be operating over their theoretical capacity. These junctions are as follows:

- (1) M5 Junction 23;
- (2) A39/Puriton Hill;
- (4) A39 Puriton Hill/Bath Road;

- (6) A39 Bath Road/Woolavington Hill;
- (9) M5 Junction 22/A38 Bristol Road/B3140;
- (10) A38 Bristol Road/Harp Road;
- (13) Dunball Roundabout;
- (14) A38 Bristol Road/The Drove;
- (15) A38 Bristol Road/Wylds Road;
- (16) Wylds Road/The Drove;
- (21) M5 Junction 21;
- (25) M5 Junction 20/Central Way/Northern Way/B3133 Moor Lane;
- (28) Central Way/Southern Way;
- (31) Northern Way/B3133 Tickenham Road;
- (32) Clevedon Road/B3128 Tickenham Hill;
- (33) M5 Junction 19; and
- (41) A403 St Andrew's Way/Kings Weston Way.

12.7.6 While the anticipated impacts of the Proposed Development at these locations are for the most part immaterial, and all temporary, National Grid will restrict HGV movements during the peak periods of assessment (08.00 – 09.00 and 17.00 – 18.00) at the junctions listed above. These restricted hours will be secured by a DCO Requirement.

12.7.7 While no specific restriction is proposed on the strategic road network, all vehicles accessing the above junctions will be required to use the SRN therefore limiting the vehicles that can use these junctions during the peak periods identified. This will significantly reduce the volume of constructions vehicles travelling through the SRN junctions that form part of this assessment.

12.7.8 In addition to the above vehicle timing restrictions, and detailed within the Draft CTMP the following mitigation will also be implemented during the construction of the Proposed Development.

- vehicle identification methods;
- use of prescribed construction routes
- implement a traffic Management Group (TMG);
- restriction of HGV movements;
- use of Euro standard IV class HGVs;
- banksmen/presence of personnel at access;
- dispersed timings of HGV movements on the LRN;
- banksmen vehicle movement monitoring;

- Incident Management Plan;
- PRoW Management Plan;
- vehicle wheel cleaning;
- highway condition surveys;
- Temporary Traffic Management Procedures (TTM);
- distribution of communication and promotional material; and
- AIL Movements.

12.7.9 In addition to the mitigation outlined above, traffic routeing and management agreements will be set out and agreed with the relevant Local Authority. It is proposed that these will also take account of other construction activities in the area to avoid potentially unacceptable cumulative adverse effects.

12.7.10 Furthermore, travel planning initiatives will be introduced throughout the Proposed Development area. These are measures that will look to maximise plant and material delivery and encourage construction workers to arrive on-site together and not singularly. There is a Travel Planning section within the accompanying TA (**Volume 5.22**)

12.7.11 A number of additional mitigation measures will be introduced for abnormal load movements. These include:

- police escorts and delivery programmes timed to cause minimal disruption;
- vehicles will be marked as abnormal or long vehicles and where necessary temporary warning signs will be placed at required locations along the roads being used by site traffic; and
- it is also proposed to undertake a full condition survey before and after the delivery of any abnormal load. The condition of the carriageway will be reinstated to the same or better condition following the use of the route. National Grid will undertake surveys where appropriate to an agreed methodology with the relevant Highways Authority.

## 12.8 Residual Effects

12.8.1 Mitigation will be extensive throughout the proposed working corridor and along all construction routes providing access to the Proposed Development. As such it is likely that in a number of circumstances the level of impact would be reduced. However, there are likely to be a number of slight and moderate residual, adverse environmental effects that cannot be fully mitigated. These have been set out below.

12.8.2 These primarily include those relating to severance, driver, pedestrian, cyclist delay and fear and intimidation. However, these effects would be mitigated wherever possible and are only likely to be temporary effects during the construction works and are not associated with the operation of the Proposed Development. Mitigation measures are outlined in section 12.8.

12.8.3 All temporary diversionary routes for pedestrians and cyclists will be agreed with the appropriate Local Authority, ensuring a suitable diversion is delivered.

12.8.4 All anticipated adverse environmental effects have been summarised in **Table 12.58** and **Table 12.59** below.

Table 12.58 Residual Construction Traffic Effects

| **Potential Impact** | **Significance of Impact** | **Mitigation Measure** | **Residual Impact After Mitigation** |
|---|---|---|---|
| Severance | Slight/Moderate | Signage and Delivery Agreements - Timing and Routeing | **Slight/Moderate** |
| Driver Delay | Slight/Moderate | Signage and Delivery Agreements - Timing and Routeing | **Slight/Moderate** |
| Pedestrian, Cyclist, Equestrian Delay | Slight/Moderate | Signage and Delivery Agreements - Timing and Routeing | **Slight/Moderate** |
| Fear and Intimidation | Moderate/Major | Suitable signage | **Moderate** |
| Accidents and Safety | Slight | Signage and Delivery Agreements - Timing and Routeing | **Negligible** |
| Dust and Dirt | Slight | Wheel Washing and Vehicle Sheeting. | **Negligible** |

Table 12.59 Residual Operational Traffic Effects

| **Potential Impact** | **Significance of Impact** | **Mitigation Measure** | **Residual Impact After Mitigation** |
|---|---|---|---|
| Noise | Negligible | None Necessary | **Negligible** |
| Severance | Negligible | None Necessary | **Negligible** |
| Driver Delay | Negligible | None Necessary | **Negligible** |
| Pedestrian and Cyclist Delay | Negligible | None Necessary | **Negligible** |
| Fear and Intimidation | Negligible | None Necessary | **Negligible** |

| Potential Impact | Significance of Impact | Mitigation Measure | Residual Impact After Mitigation |
|---|---|---|---|
| Accidents and Safety | Negligible | None Necessary | **Negligible** |
| Air Pollution | Negligible | None Necessary | **Negligible** |
| Dust and Dirt | Negligible | None Necessary | **Negligible** |

## 12.9 Cumulative Effects

12.9.1 The cumulative assessment is provided at **Volume 5.17** and includes potential cumulative effects of the Proposed Development together with other major development proposals.

12.9.2 The approach to assessing the cumulative traffic and transport effects has been agreed with the Local Authorities and their representatives JMP. It was agreed that the TEMPro model would be used to calculate future growth in background traffic while a number of additional developments predicted future or construction traffic would be added. These developments were identified by the Local Authorities.

12.9.3 TEMPro is a software package published by the Department for Transport (DfT) which allows users to generate growth factors which can be applied to observed traffic data in order to establish forecast future year scenarios. The software produces growth factors based on various input parameters which can be tailored to suit the needs of a particular geographical locations and road type. For the purposes of this assessment, TEMPro has been used to generate growth factors for background traffic.

12.9.4 TEMPro also employs the use of the National Trip End Model (NTEM) forecasts to allow growth factor forecasts to be made based on population, employment, households – by car ownership, trip ends and simple traffic growth factors.

12.9.5 It is anticipated that along key highway links there is the potential for a number of **negligible to minor adverse** effects associated with the combined increases in road traffic. This is discussed in within **Volume 5.17** and further detail provided as part of the accompanying TA (**Volume 5.22**).

## 12.10 Conclusions

12.10.1 The likely residual traffic and transport effects of the Proposed Development are summarised below.

**Construction Effects**

12.10.2 It is anticipated that as a result of the Proposed Development there is the potential for a number of moderate temporary adverse environmental impacts associated with the increase in road traffic following the mitigation measures discussed.

12.10.3 There are not anticipated to be any large or very large adverse effects associated with the increase in road traffic.

12.10.4 It is anticipated that any temporary effects would be during the peak periods of construction when the volume of traffic associated with the Proposed Development would be at its greatest. As discussed within this chapter the peak increase in traffic would only be for a relatively short proportion of the construction of the Proposed Development after which it reduces considerably.

**Operational Effects**

12.10.5 Once operational there is expected to be negligible adverse effects associated with increases in road traffic. This is due to the nature of the Proposed Development and the generation of very few vehicular trips.

**Decommissioning Effects**

12.10.6 It is difficult to predict the effects of the decommission of the Proposed Development at this stage due to its deign life. Despite this it is anticipated that the effects are likely to be less than the construction phase. This is because it is envisaged that less traffic would be generated during the decommissioning of the Proposed Development and the programme is shorter than that of construction.

12.10.7 As a result it is anticipated that there may be some moderate temporary adverse effects in the future with mitigation, however, this should be assessed in detail at the appropriate time.

## 12.11 References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# Appendix 12A – Sensitive Traffic and Transport Receptors

**Volume 5.12.2 Appendix 12A: List of Sensitive Receptors**

| Section | Link | Receptor Type | Sensitivity Classification | Receptor Name |
|---|---|---|---|---|
| A | A39 Puriton Hill | School | High | Sunshine Pre-School |
| | | School | High | Puriton Primary School |
| | | Shop/Buisiness | Moderate | Bed & Breakfast Guesthouse |
| | | Shop/Buisiness | Moderate | Knowle Hall - Bibic Childrens Charity |
| | Bath Road (East, Section A) | Shop/Buisiness | Moderate | The Knowle Inn |
| | | School | High | Kingsmoor Primary School |
| | Woolavington Hill | Shop/Buisiness | Moderate | Fuelling Station |
| | | Shop/Buisiness | Moderate | The Fairways Caravan Park |
| | | Shop/Buisiness | Moderate | The Prince of Wales Public House |
| | | School | High | Woolavington Village Primary School |
| B | Lockswell | Shop/Buisiness | Moderate | Jessops Village Store |
| | B3141 Church Road | Residential Property | Moderate | Residential properties close to the carriageway |
| | | Shop/Buisiness | Moderate | The Crown Inn |
| | | Shop/Buisiness | Moderate | Superior Powders factory |
| | | Shop/Buisiness | Moderate | Basonbridge Inn |
| | | School | High | East Huntspill Primary School |
| | Unnamed Track off Harp Road | Shop/Buisiness | Moderate | Coombes Cider Mill Caravan Park |
| | B3139 Mark Road | Shop/Buisiness | Moderate | New House Farm Caravan Park |
| | | Residential Property | Moderate | Residential properties close to the carriageway |
| | | Shop/Buisiness | Moderate | Industrial premises |
| | Bennett Road | Shop/Buisiness | Moderate | Industrial premises |
| | Bristol Road (A38, Section B) | Shop/Buisiness | Moderate | Burnham Golf Range |
| | | Shop/Buisiness | Moderate | Edithmead Leisure Park and Homes |
| | | School | High | Rose Cottage Farm Children's Nursery |
| | | Shop/Buisiness | Moderate | Country Motorhomes |
| | | Shop/Buisiness | Moderate | Fox and Goose Hotel and Restaurant |
| | | Shop/Buisiness | Moderate | Petrol Fillling Station |
| | | Shop/Buisiness | Moderate | Sanders Garden World |
| | | Shop/Buisiness | Moderate | Ollie's Café |
| | | Shop/Buisiness | Moderate | Brent House public house |
| | | Residential Property | Moderate | Residential properties close to the carriageway |
| | | Shop/Buisiness | Moderate | Convenience Store |
| | | Shop/Buisiness | Moderate | Public house |
| | | Shop/Buisiness | Moderate | Industrial premises |
| | Turnpike Road | School | High | Tanyard Farm Nurseries |
| | | Shop/Buisiness | Moderate | West Country Motorhomes |
| | | School | High | Weare Academy First School |
| | | Shop/Buisiness | Moderate | Chestnut House Holiday Cottages |
| | | Shop/Buisiness | Moderate | Mechanical garage and petrol filling station |
| | | Shop/Buisiness | Moderate | The New Inn |
| C | A38 Bristol Road (Section C) | Shop/Buisiness | Moderate | Mechanical garage and petrol filling station |
| | | Shop/Buisiness | Moderate | Premier Inn Bristol Airport |
| | | Shop/Buisiness | Moderate | Netherdale Camping and Caravan site |
| | | Shop/Buisiness | Moderate | Sidcot School |
| | | Shop/Buisiness | Moderate | The Starr Inn |
| | New Road (Section C) | Residential Property | Moderate | Residential properties close to the carriageway |
| | New Road (A38, Section D) | Shop/Buisiness | Moderate | Fish and Chip takeaway shop |
| | Bristol Road (B3139) | Shop/Buisiness | Moderate | Windsor House Hotel |
| | | Shop/Buisiness | Moderate | The Mendip Gate Guesthouse |
| | | Shop/Buisiness | Moderate | Woodpeckers B&B. |
| | | Shop/Buisiness | Moderate | Churchill Inn |
| | | Shop/Buisiness | Moderate | Stag & Hounds |
| | | School | High | Honeytree Day Nursery |
| | | School | High | Churchill Church of England Primary School |
| | | Shop/Buisiness | Moderate | Fuel filling station |
| | | Shop/Buisiness | Moderate | Budgens convenience store |
| | Stock Lane | College | High | Bristol University Veterinary Services campus |
| | | Residential Property | Moderate | Residential properties close to the carriageway |
| | | Shop/Buisiness | Moderate | Miltons Hotel |
| | | School | High | The Secret Garden Nursery & Playschool |
| | | Retirement Home | High | The Elms Nursing Home |
| | | Retirement Home | High | The Wilfred Leonard Care Home |
| | Dinghurst Road | Shop/Buisiness | Moderate | Bartholomew's Beautiful Barns |
| | | Shop/Buisiness | Moderate | The Nelson Arms public house |
| | Pye Corner | Shop/Buisiness | Moderate | Ski Centre |
| | | Shop/Buisiness | Moderate | Vegetable growing plant |
| | Greenhill Road | Residential Property | Moderate | Residential properties close to the carriageway |
| | | Shop/Buisiness | Moderate | Lawnmower shop |
| | | School | High | Sandford Primary School |
| | | Shop/Buisiness | Moderate | Humphry Motor Company |
| | Station Road | Shop/Buisiness | Moderate | Thatchers Cider factory |
| | The Unnamed Section of the A370 and Somerset Avenue | Shop/Buisiness | Moderate | Greencrest Caravan storage |
| | | Shop/Buisiness | Moderate | Doubleton Holiday Farm Cottages |
| | | Shop/Buisiness | Moderate | Golden Phoenix Chinese Restaurant |
| | | Shop/Buisiness | Moderate | Full Quart Public House |
| | | Shop/Buisiness | Moderate | Discover More Camping and Caravan Sales |
| | | School | High | St Anne's School |
| | | Shop/Buisiness | Moderate | Industrial premises |

**Volume 5.12.2 Appendix 12A: List of Sensitive Receptors**

| Section | Link | Receptor Type | Sensitivity Classification | Receptor Name |
|---|---|---|---|---|
| D | May's Green Lane | Residential Property | Moderate | Residential properties close to the carriageway |
| | Havage Drove | Shop/Buisiness | Moderate | Boxbush Motors vehicle yard |
| | Ettlingen Way | Shop/Buisiness | Moderate | Industrial premises |
| | Central Way | School | High | Yeo Moor Junior School |
| | | School | High | Yeo Moor Infant School |
| | | Playing Fields | High | Playing Fields |
| | Unnamed Section of the B3133 | Shop/Buisiness | Moderate | Tesco store with fuel filling station |
| | | Shop/Buisiness | Moderate | Riverside Holiday Homes |
| | | Shop/Buisiness | Moderate | Warrens Holiday Village |
| | | Shop/Buisiness | Moderate | Industrial premises |
| | | Health Facilities | High | Avon & Wiltshire Mental Healthcare unit |
| | Manmoor Lane | Pedestrians/Cyclists | Moderate | Avon Cycleway |
| | | Shop/Buisiness | Moderate | Local arts and crafts centre |
| | | Shop/Buisiness | Moderate | Holiday Cottages |
| | Nailsea Wall | Pedestrians/Cyclists | Moderate | Avon Cycleway |
| | Clevedon Road (Section D) | Shop/Buisiness | Moderate | Elm Tree Cottage Bed and Breakfast |
| | | Shop/Buisiness | Moderate | Jacklands Fishing Lakes |
| | | School | High | Ravenswood School |
| | | School | High | Kingshill Church of England Primary School |
| | | Shop/Buisiness | Moderate | Car Sales garage and petrol filling station |
| | | Retirement Home | Moderate | Bungalows - likely to attract an elderly population |
| | | Shop/Buisiness | Moderate | ICT shop |
| | Stock Way North | Shop/Buisiness | Moderate | Crown Glass Shopping Centre |
| | | Retirement Home | Moderate | Retirement properties adjacent to the mini-roundabout |
| | Stock Way South | Residential Property | Moderate | Residential properties close to the carriageway |
| | | Shop/Buisiness | Moderate | Crown Glass Shopping Centre |
| | Mizzymead Road | School | High | Nailsea School |
| | Hannah More Road | School | High | Grove Junior School |
| | | School | High | Hannah More Infants School |
| | | Playing Fields | High | School playing fields |
| | | Shop/Buisiness | Moderate | Industrial premises |
| | St Mary's Grove | Residential Property | Moderate | Residential properties close to the carriageway |
| | Engine Lane | Shop/Buisiness | Moderate | Industrial premises |
| | Blackfriars Road | Shop/Buisiness | Moderate | Industrial premises |
| | North Street | Residential Property | Moderate | Residential properties close to the carriageway |
| | | Shop/Buisiness | Moderate | Butchers |
| | | Shop/Buisiness | Moderate | Bakers |
| | Church Lane | Shop/Buisiness | Moderate | Tickenham Cattery |
| E | Tickenham Road | Health Facilities | High | Clevedon Hospital |
| | Clevedon Road | Residential Property | Moderate | Residential properties close to the carriageway |
| | | School | High | Tickenham Church of England Primary School |
| | | Shop/Buisiness | Moderate | Hillside Motor Company |
| | | Shop/Buisiness | Moderate | Tickenham Rabbit Centre |
| | | Shop/Buisiness | Moderate | The Starr Inn |
| F | Sheepway | Shop/Buisiness | Moderate | Butchers |
| | | Shop/Buisiness | Moderate | Butterflies Catering Equipment Hire |
| G | Royal Portbury Dock Road | Shop/Buisiness | Moderate | Industrial premises |
| | Portbury Way | Shop/Buisiness | Moderate | Industrial premises |
| | M5 J18A | Shop/Buisiness | Moderate | Industrial premises |
| | Bristow Broadway | Shop/Buisiness | Moderate | Industrial premises |
| | Portway | School | High | Avonmouth Primary School |
| | West Town Road | Shop/Buisiness | Moderate | Industrial premises |
| | Victoria Road | Shop/Buisiness | Moderate | Industrial premises |
| | Crowley Way | Shop/Buisiness | Moderate | Industrial premises |
| | Avonmouth Way | Shop/Buisiness | Moderate | Industrial premises |
| | Kings Weston Lane | Shop/Buisiness | Moderate | Industrial premises |
| | Smoke Lane | Shop/Buisiness | Moderate | Industrial premises |
| | Poplar Way West | Shop/Buisiness | Moderate | Industrial premises |
| | Poplar Way East | Shop/Buisiness | Moderate | Industrial premises |
| | Packgate Road | Shop/Buisiness | Moderate | Industrial premises |
| | Chittening Road | Shop/Buisiness | Moderate | Industrial premises |
| | Severn Road | Shop/Buisiness | Moderate | Industrial premises |
| | Ableton Lane | Shop/Buisiness | Moderate | Industrial premises |
| H | Unnamed Section of A39 (Adjacent to Dunball Roundabout) | Shop/Buisiness | Moderate | Industrial premises |
| | A38 Bristol Road (Section H) | Shop/Buisiness | Moderate | Industrial premises |
| | | Shop/Buisiness | Moderate | The Admirals Table public house |
| | | Shop/Buisiness | Moderate | King Sedgemoor Inn |
| | | Shop/Buisiness | Moderate | The Premier Inn Bridgwater hotel |
| | | Shop/Buisiness | Moderate | Exchange Conference Centre and Health Club |
| | | School | High | Butterflies Day Nursery |
| | | Shop/Buisiness | Moderate | Offices |
| | | Shop/Buisiness | Moderate | Industrial park |
| | The Drove | Shop/Buisiness | Moderate | Dean Motors |
| | | Shop/Buisiness | Moderate | Stacey's Motors car sales garage |
| | | Shop/Buisiness | Moderate | Office Furniture Bargains |
| | | Shop/Buisiness | Moderate | First Travel |
| | | Shop/Buisiness | Moderate | Riders of Bridgwater motorcycle sales |

**Volume 5.12.2 Appendix 12A: List of Sensitive Receptors**

| Section | Link | Receptor Type | Sensitivity Classification | Receptor Name |
|---|---|---|---|---|
| '' | Western Way | Shop/Buisiness | Moderate | Industrial premises |
| | | College | High | Chilton Trinity Technology College |
| | Homberg Way | Shop/Buisiness | Moderate | Industrial premises |
| | Quantock Road | Shop/Buisiness | Moderate | Fuel filling station |
| | Main Road (Section H) | Shop/Buisiness | Moderate | Retail Units |
| | High Street (Section H) | Shop/Buisiness | Moderate | The Rose and Crown public house |
| | | Shop/Buisiness | Moderate | Kings Head Inn |
| | | Shop/Buisiness | Moderate | Spar convenience shop |
| | | Shop/Buisiness | Moderate | Post Office |
| | Rodway | College | High | Bridgwater College |
| | | Shop/Buisiness | Moderate | Cannington Golf Club |
| | | Shop/Buisiness | Moderate | Carrington Pitch and Putt |
| | | Shop/Buisiness | Moderate | Cannington Grain Store Ltd. |
| | Withycombe Hill | Area of Ecological/ Nature Conservation Value | Moderate | Wick Park Covet |